Design & Access Statement

New Hybrid Theatres

Royal Free Hospital NHS Foundation Trust, Pond Street, London

August 2024

02822_8010

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Issue History

Revision	Date	Initial	Comments
P01	22/08/2024	NDS	FIRST ISSUE - draft for comment
P02	02/09/2024	NDS	Revised draft for approval
P03	16/09/2024	NDS	RIBA Stage 3 - Planning Issue

Contents

Cutaway image of typical proposed Hybrid Theatre

Image of similar facility at Glenfield Hospital, Leicester

1.0 Introduction

This document has been prepared by Hazle McCormack Young LLP (HMY) in support of an application for Full Planning Permission made on behalf of The Royal Free London NHS Foundation Trust (the Trust) for a proposed Hybrid Theatres Extension at the Royal Free Hospital, London.

1.1 Project Overview

HMY were appointed in January 202 by the Trust to review potential options for an extension to the existing theatre department to provide two new 'Hybrid Theatres' on Level 3 of the Royal Free Hospital, London (RFH).

Following this initial feasibility study, a preferred option was developed and initially submitted for Pre-Application Advice in April 2022.

After a period of further design development and review, including amendments addressing comments received from the initial Pre-App, the proposals were again submitted for a second Pre-Application Review in February 2024.

The proposals shown at that review have been refined in greater detail, incorporating measures to address additional comments raised by the Planning Officers and respondents to two ensuing Public Consultation events, and are now presented in greater detail in the documents and drawings accompanying this application.

Purpose of the Proposals

The RFH Vascular Surgery department provides tertiary vascular services to North Central London (NCL) as the Vascular Surgical Hub. This service is a critical co-dependency for major specialist services at the hospital, including Intensive Care Unit (ICU), renal transplantation and cancer care.

The Trust has a single vascular theatre (surgical theatre equipped with advanced medical imaging devices), which does not meet modern space standards, has outdated and obsolete imaging equipment that is unreliable, and cannot meet the demand for complex vascular surgery, leading to regular cancellations or procedures.

The proposed planning application seeks permission for an extension to provide two new 'Hybrid Theatres' and recovery area at the Royal Free at Level 3 adjoining the existing theatres.

The Investment in these new theatres will future-proof the service, ensure recovery from the post-COVID backlog, and enable expansion for the future.

The Business Case approved by RFL Group in August 2023 provides a compelling argument for such an investment, in line with 'Getting It Right First Time' (GIRFT) national programme recommendations, and will enable innovation and upscaling of highly specialist vascular services whilst facilitating translational research in cardiovascular disease, enhancing clinical & academic synergies with the University College London (UCL) Surgical Biotechnology department, as well as expanding national and international training programmes for vascular surgery.

Development of the Proposals

Refurbishment of existing facilities alone is not considered viable, as the capital expenditure and loss of service required to undertake refurbishment is significant and will still result in sub-standard and non-compliant spaces, as the existing building structure and services layouts do not have the flexibility to allow adequately sized rooms to be created.

The size of the existing vascular theatre is compromised by the same considerations, and presents operational limitations, which can only be overcome by new-build accommodation.

Developing new theatre space is essential to provide sufficient floor space for the equipment, and to provide backup in case of systems failures. It also enables the existing theatres to maintain service until the new Hybrid Theatres are operational.

It is also important to maintain adjacency of the new theatres to the existing accommodation to allow them to function efficiently and avoid duplication of supporting facilities.

The proposals and location presented in this report are the result of extensive design and feasibility review, in addition to pre-application discussions with London Borough of Camden (LBoC) Planning, Design and Transport officers. The proposals have also been consulted on publicly, as described in a later section of this report.

A Planning Pre-Application Report was prepared by HMY and submitted by Planning Consultant Montague Evans in April 2022 to Camden Council. Initial written feedback was received from the Council Planning Department (ref. 2022/0308/PRE) on 19 April 2022 with several further points to address and a recommendation for a further Pre-App Meeting.

Subsequent to this consultation further refinement of the clinical brief was made by the Trust, which necessitated changes to the floor plans and impacted the building elevations. The Project Team also further developed the proposals in response to the comments raised, which focused largely on the impact of construction logistics on the local area and the materiality/composition of the elevations.

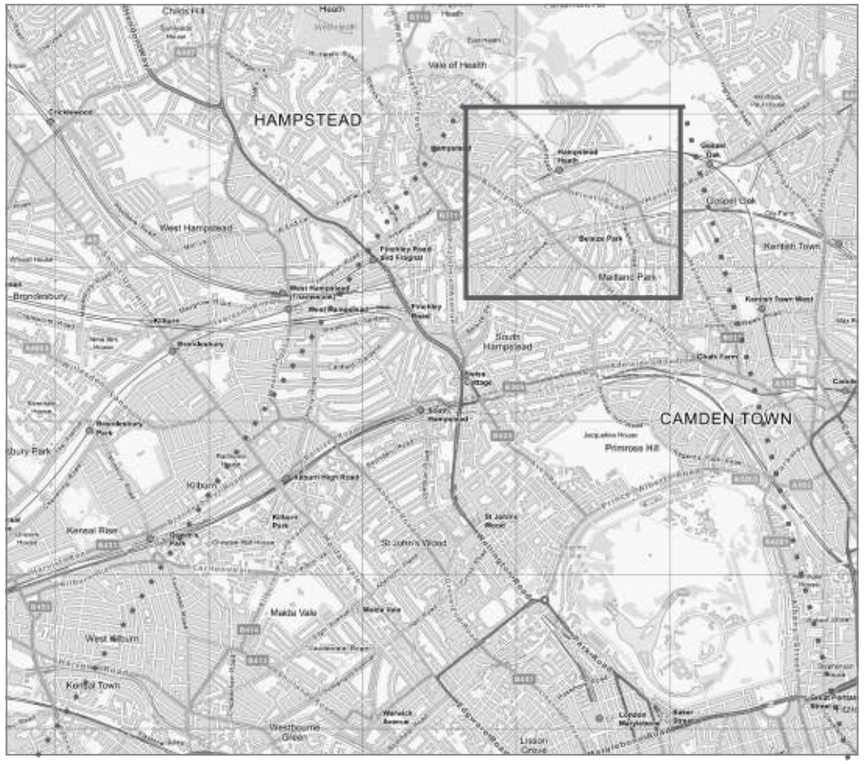
A Supplementary Design Statement was submitted in May 2024 specifically to address a number of these points ahead of a further formal Pre-Application submission.

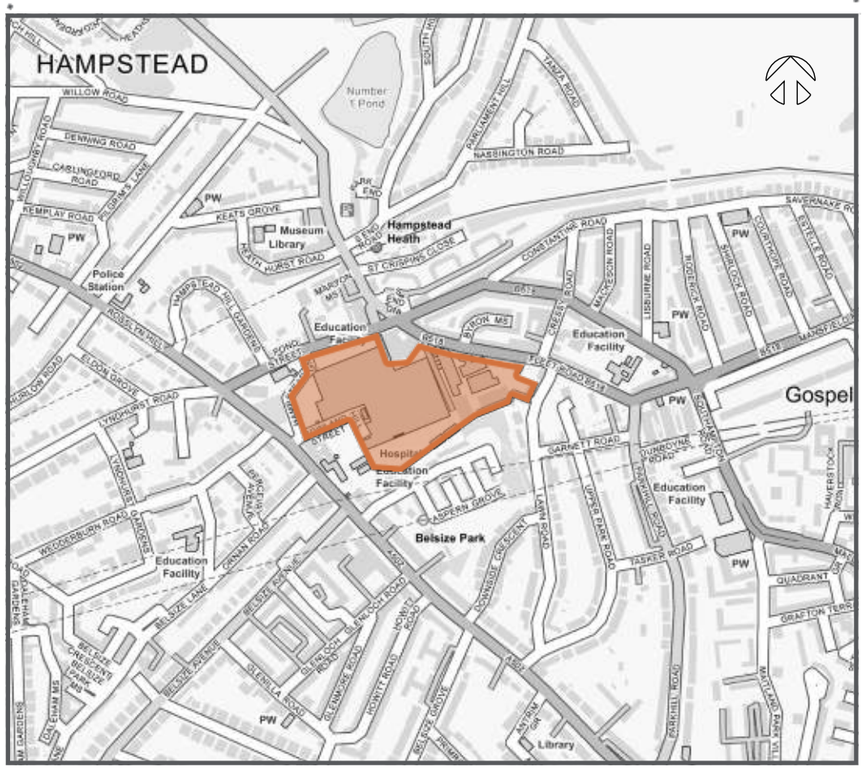
The second Pre-Application Report was prepared and submitted in February 2024. Written feedback was received from Camden Council (ref. 2024/0962/PRE) on 19th June 2024.

An online consultation event was held in June 2024, followed by an in-person event at the hospital in July 2024, from which a range of feedback was collected and fed back into the finalisation of the proposals.

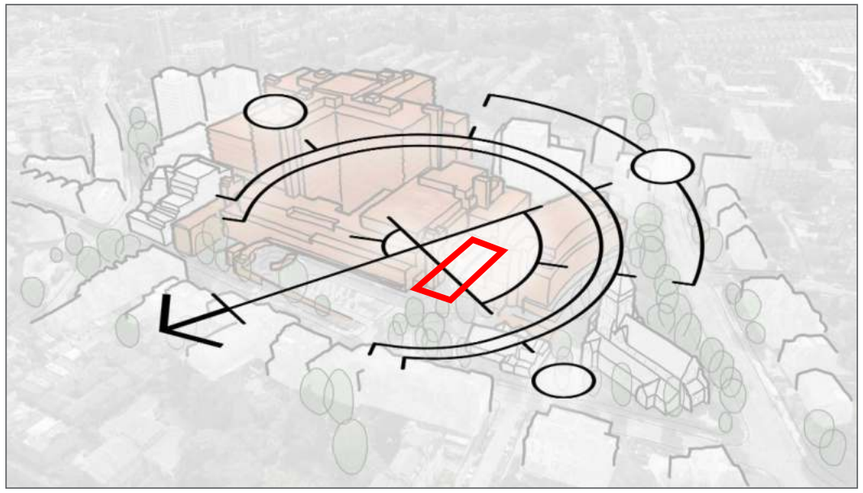
A Design Quality Indicator (DQI) assessment was also undertaken with key stakeholders and the Project Team in June 2024, prior to progressing from the pre-application design toward the final submission.

Within this Design & Access Statement, we have sought to respond to queries raised by both Planning Officers during the discussions leading up to this application, and by the RFH staff and members of the public who took part in the consultation events.

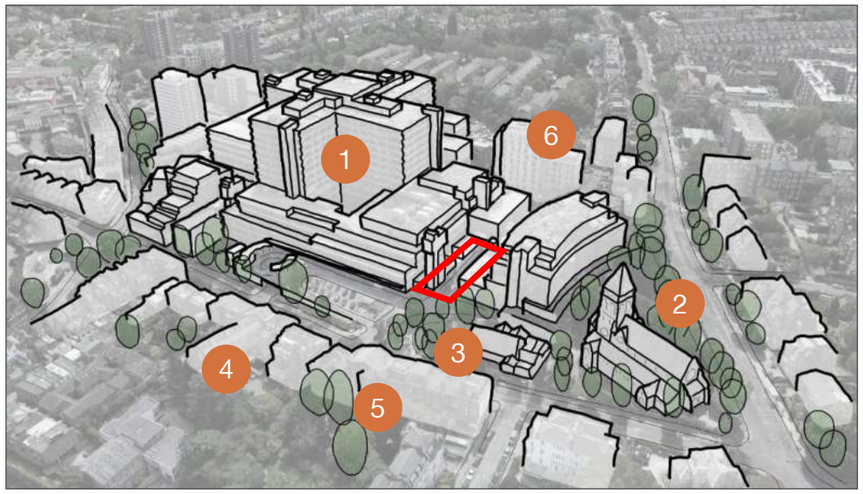




RFL site shaded orange. Maps from OS open source data © Crown Copyright.



Proposals footprint outlined red. Base image from Google Earth.



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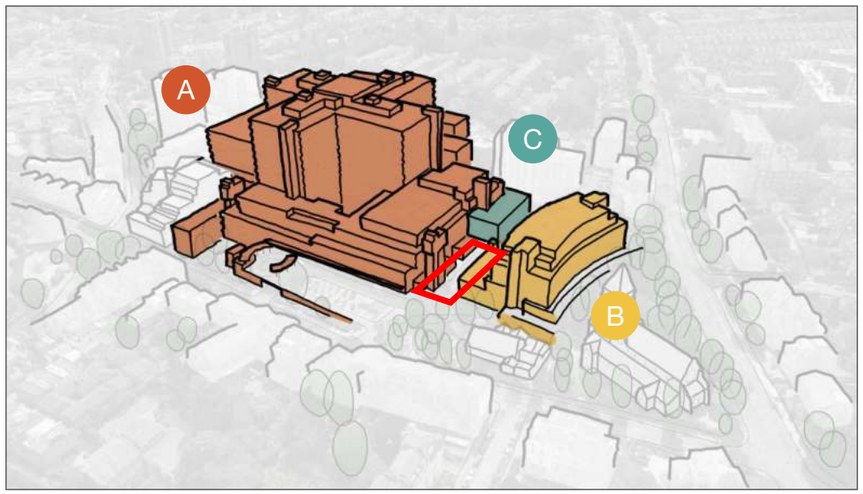


Proposals footprint outlined red. Base image from Google Earth.

2.0 Location/Context

2.1 Site

The Royal Free Hospital or Royal Free London (RFL) is located in north-west London, in the London Borough of Camden on the southern edge of Hampstead Heath, between Hampstead Heath Overground and Belsize Park Underground stations.

The site address is:

Royal Free Hospital,
Pond St,
London

NW3 2QG

The wider hospital site encloses approximately 5.4 hectares; the proposed site area shown on the Location Plan and other drawings encompasses 0.21 hectares.

Surroundings

Royal Free Hospital main building (1)

St Stephen's Church, Rosslyn Hill (deconsecrated) (2)

Hampstead Hill School (independent nursery & pre-prep) (3)

The Armoury (Victorian Drill Hall, community gym) (4)

Residential properties on Pond Street (5)

Belle Vue later living development (completed 2018) (6)

RFL Buildings

Main RFL building (1974) (A)

Pears Building UCL IIT (2021) (B)

Theatre Extension (2014-15) (C)

2.2 Boundary

The proposals site lies between existing buildings on the hospital site, and is enclosed on three sides.

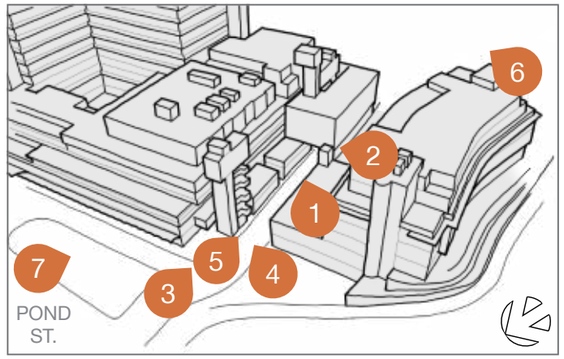
To the north, the proposals site is set back from Pond Street, with the main vehicular and pedestrian access leading to the hospital main entrance lying between the proposals site boundary and the road. On either side of this are located various dropoff and parking areas associated with the hospital main building and the neighbouring Pears Building.

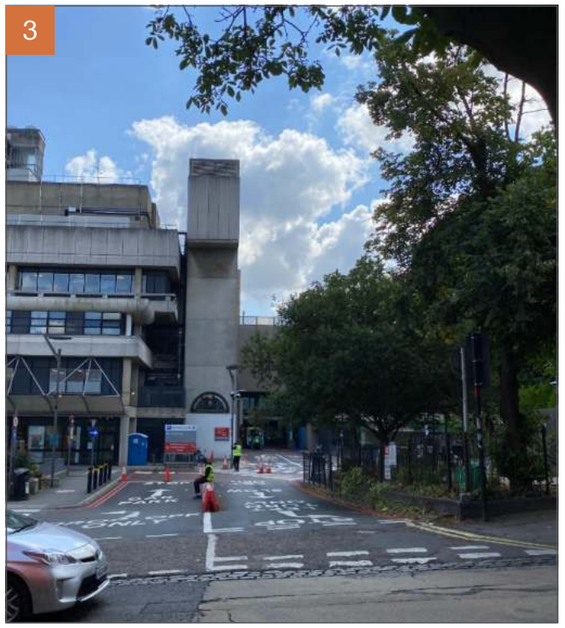
To the east, the proposals site immediately abuts the elevation of the existing original RFL main building, onto which the proposed extension will attach.

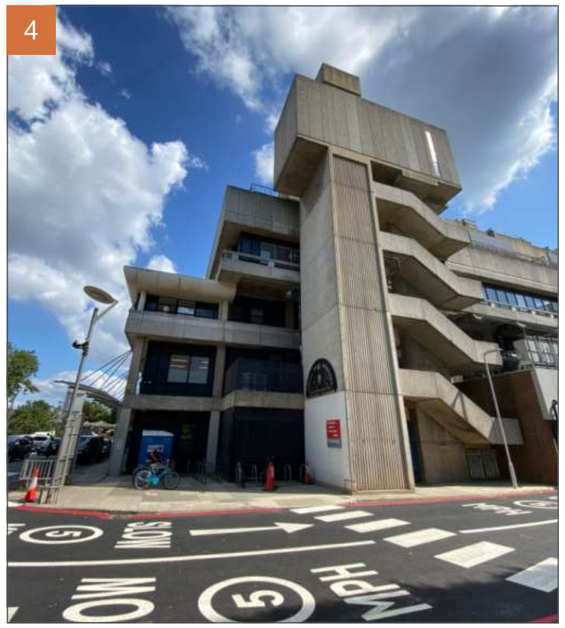
To the south, the proposals site immediately abuts a previous extension over a single-storey element of the original RFL main building.

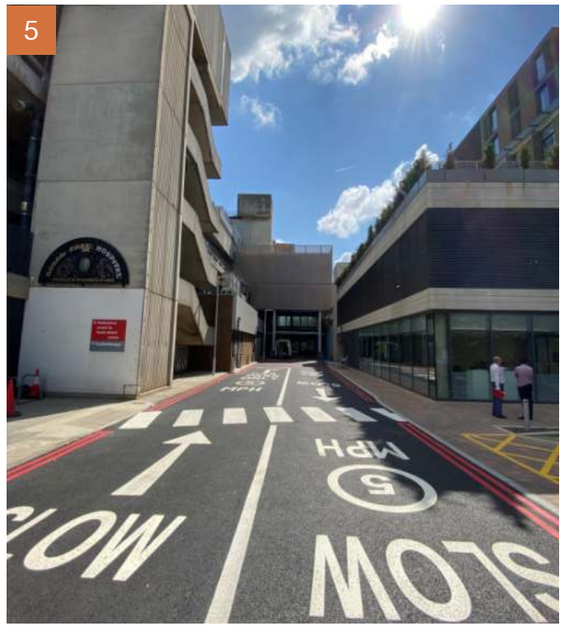
To the west, the proposals site immediately abuts the recently completed Pears Building at ground and first floor, and overlooks a raised garden terrace above.

The closest extent of the proposed extension to the RFL site boundary is 36m to the north and 42m to the south. The closest residential properties are located on Pond Street approximately 47m from the proposed north elevation.









2.3 Existing Buildings/Features

The original RFL main building (completed 1974) is a concrete framed structure consisting a four-storey podium deck with a cruciform central tower of twelve storeys. The structural frame is expressed at the façade with an infill of system glazing and precast concrete balcony balustrade panels. The fourth floor is dedicated to building services plant and is wrapped in solid precast concrete panels.

A number of small masonry extensions occupy the strip of land alongside the existing west elevation at ground floor.

Adjacent to the proposed site, the main building accommodates building services and plant at rooftop and fourth floors, the existing operating theatre department at third floor, office and laboratory space at first and second floors, and the medical imaging department at ground floor.

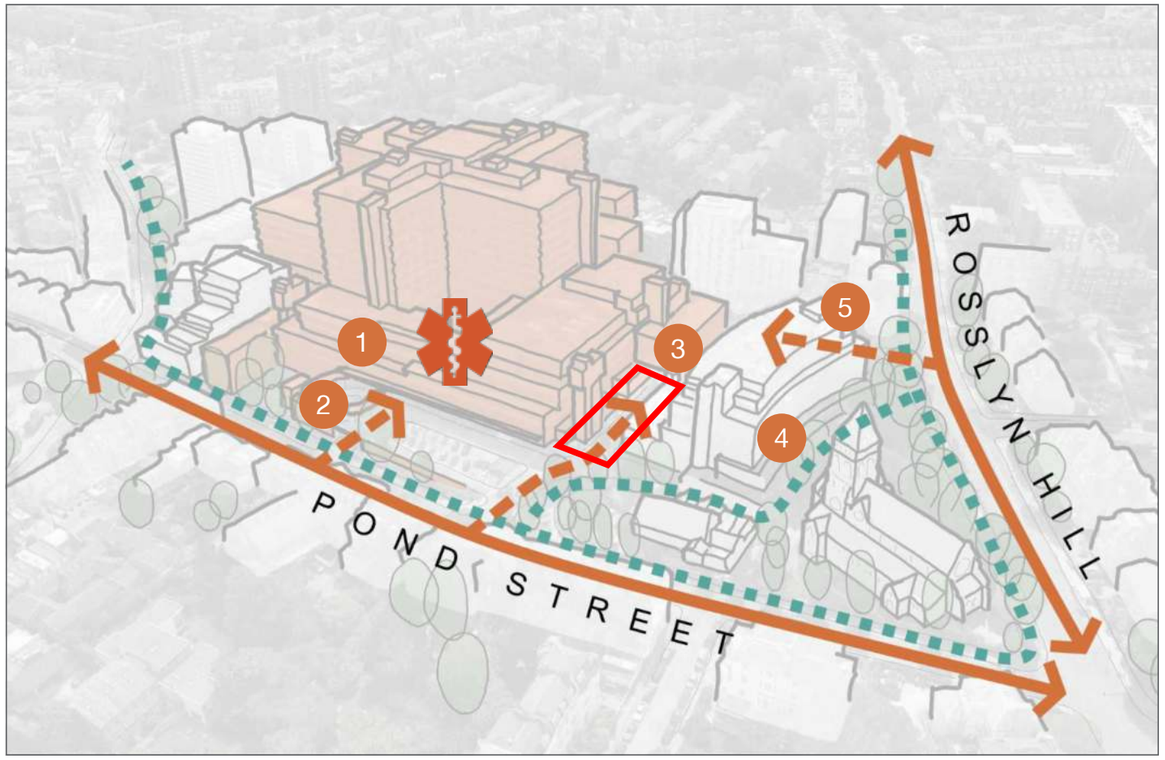
The previous theatre extension (completed 2014-15) sits on top of a single storey part of the original building, consisting a 'box' of insulated metal sandwich panels on a steel frame with an external 'wrap' of panellised tensile cladding. This block has no visible external windows, being hidden behind the cladding.

The theatre extension accommodates two operating theatres, a small recovery ward and associated supporting spaces at third floor, laboratory and plant spaces at first and second floors, and the emergency entrance to the cardiology department at ground floor.

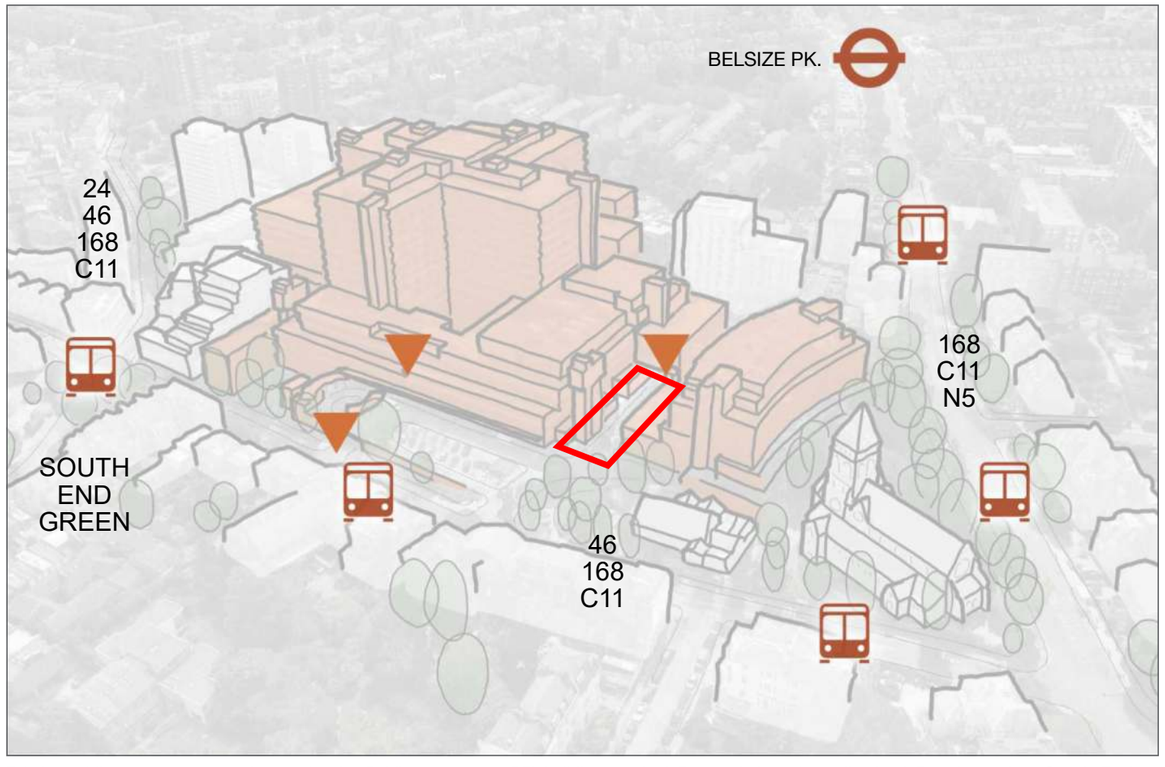
The Pears Building (completed 2021) is a hybrid concrete and steel framed structure consisting a two storey partial basement/podium with a long curving block of five storeys above and stair cores expressed as a masonry 'tower' at each end. It is clad in red brick and reconstituted stone with large punched windows and solar shading louvres. The top of the podium on the east side forms a garden terrace on a level with the main floor of the building.

The Pears Building accommodates lower level car parking and the offices of the Royal Free Charity in the podium, with a combination of office, laboratory and accommodation space above (UCL Institute of Immunology and Transplantation).

1. View from Pears Building roof garden at L02 toward RFH Main Building and Theatre Block L03 & L04.
2. View from Pears Building Roof overlooking gap between Pears and RFH Main Building identified as proposed site. There have been several single storey extensions and alterations made within this area.
3. View from Pond Street looking toward elevation of Pears Building and RFH Main Building, with pedestrian route to Rosslyn Hill from Pond Street in centre of view.
4. View from Pond Street looking toward elevation of RFH Main Building and Theatre Block, with RFH main road access and identified proposed site in centre of view
5. View down existing access with main hospital to left, Pears Building and its car park to right and existing theatre extension at centre.
6. Rear of hospital on access road to car park off Rosslyn Hill/ Haverstock Hill indicating differing building styles and materials used adjacent to and above theatres.
7. View from Pond Street looking southwest, showing principal elevation of RFH Main Building and end elevation of Pears Building, with proposed site between in centre of view.



Existing access/circulation around the site. Vehicular access shown orange, pedestrian blue. Proposals footprint outlined red. Base image from Google Earth.



Existing public transport access close to the site. Public entrances to RFL buildings marked. Proposals footprint outlined red. Base image from Google Earth.

2.4 Site Access

Vehicular

Vehicular access to the proposals site is from the RFL main entrance to surface level parking off Pond Street.

This vehicular entrance to the wider site also gives access to the lower level of the Pears Building car park.

There is additionally nearby vehicular access to the wider hospital site from Pond Street to the below ground A&E entrance/dropoff, and from Haverstock Hill/Rowland Hill Street to rear of the hospital, adjacent premises, and the Pears Building service access/upper level car park.

Pedestrian

Pedestrian access to the proposals site is from the RFL main entrance to surface level off Pond Street via public and internal footpaths, also linking to Hampstead Green footpath between Pears Building and St Stephen's Church leading to Haverstock Hill/Rosslyn Hill. There is also pedestrian access into the rear of the site from the Pears Building car parks and the cardiology entrance at the end of the access road.

An existing internal pedestrian path runs the length of the proposals site on one side, giving access from the cardiology entrance and Pears Building car parks to the front of the site and Pond Street.

Public Transport

Both Pond Street and Haverstock Hill/Rosslyn Hill are on a number of main bus routes served by TfL. Main bus routes and stops on adjacent streets are shown on the adjacent diagram, within a 5-10 minute walk.

A major bus stop/interchange on South End Green is within a 5 minute walk from the site.

Belsize Park Underground station on Haverstock Hill is within a 10 minute walk from the site.

Hampstead Heath Overground station on South End Road is within a 10 minute walk from the site.

1. RFL main public entrance, Pond Street (surface level/ground floor)
2. RFL A&E entrance ambulance dropoff, Pond Street (below ground/lower ground)
3. RFL cardiology emergency entrance, Pond Street (surface level/ground floor)
4. Pears Building main public entrance, Hampstead Green (second floor relative to main building, access from footpath)
5. RFL service access to rear of hospital, Rowland Hill St. (access to main building at ground floor from road)

2.5 Ecology

The proposals site is entirely given over to built form and hardstandings. There is no existing planted/green space or significant habitat within the proposals site.

A Preliminary Bat Roost Assessment has been undertaken and has found that the existing buildings within and immediately adjacent to the proposals site have 'low' suitability to support roosting bats.

The existing buildings are also considered to provide a 'sub-optimal' nesting habitat for birds.

2.6 Acoustics

An Environmental Noise Survey has been undertaken and found that due to the existing hospital plant exposed on rooftops and venting to air from internal plant rooms, there is an existing background noise level on the proposals site reported as around 60dB both during the day and at night.

2.7 Topography

The wider hospital site stands on a gradual slope from west to east down the length of Pond Street. The existing buildings all incorporate semi-basements to take advantage of the level differences created across the site.

The proposals site is generally flat and level at the main 'ground floor' level of the RFL main building.

2.8 Services

Existing mains services supplies to the RFL hospital site are generally located remote from the proposals site.

There are existing internal distribution services buried within the access road including water mains supplying fire hydrants, foul drainage, surface drainage and communications cabling.

The RFL site has its own internal HV distribution network and substations/transformers and generators to deliver power and backup power to the facilities as required, including capacity for redundancy.

2.9 Site Conditions

The site consists entirely built form and hardstanding and has been previously reworked on a number of occasions during construction of the adjacent buildings.

A Stage 1 Preliminary Risk Assessment for Unexploded Ordnance (UXO) has been carried out and has indicated that due to the high density of bombing in the area during WWII and recorded bomb strikes close to the site, a further detailed risk assessment is required.

3.0 Consultations

The proposals have been to a number of reviews and consultations during the design process, encompassing key stakeholders, Planning Officers, other hospital staff, patients, local residents and members of the public.

3.1 Design

DQI Assessment

A Design Quality Indicator (DQI) Assessment was undertaken by an independent Assessor at the end of Stage 2 design development to reaffirm that the proposed extension will deliver the requirements set out by the Trust at the outset and is achieving a high quality of design.

This assessment model is specific to healthcare projects and was launched by the Construction Industry Council (CIC) in 2020.

> "The Design Quality Indicator (DQI) is a process for evaluating and improving the design and construction of new buildings and the refurbishment of existing buildings.
>
> DQI focuses in particular on actively involving a wider group of stakeholders in the design of buildings than is usually the case. It involves not only the design team and constructors, but all those who will use the building, finance it, or be affected by it. At this workshop we were dealing with initial concept designs which enabled the attendees to assess the aspirations of users.
>
> DQI is devised to help stakeholders set targets and track design quality at all key stages of a building's development from Briefing through Design and Handover to Occupation. It plays a fundamental role in contributing to the improved design, long term functionality and sustainability of building projects. To date DQI has been used on over 1,600 projects in 14 years. It has captured the views of thousands of individuals during that time and helped deliver better facilities for clients and users."
>
> DQI Process & Guidance, DQI Report June 2024

The Assessment demonstrated that, despite the challenges of the site and existing building conditions, the proposals developed by the Design Team are delivering well on the Trust's requirements and broader principles of good quality design. The report also recommended that:

- A detailed site phasing and logistics strategy is developed to ensure that the delivery of healthcare services is not impacted, and the impact to vehicular access is appropriately managed;
- Opportunities for improving natural light and borrowed light are to be tested, especially to internal rooms.
- Future flexibility of the second floor space is a positive and avoids need for a future major project to provide this accommodation.
- Project to achieve BREEAM Excellent.

Public Consultations

In advance of submission of a Planning Application, two public consultation events were held to present the project and receive feedback from the wider hospital staff, patients, local residents, and members of the public.

The first event was held virtually on the 25th June 2024. This was advertised on the Trust Website and invitations were extended to key representatives of the local community.

The second event was held in person in the Atrium conference space on the ground floor of the Royal Free on the 24th July 2024. This was advertised on the Trust Website, by letter-drop to around 500 properties in the local area, and invitations were extended to key representatives of the local community including local councillors and MP.

At both events, the proposals themselves were generally positively received, with attendees acknowledging the need and principles underlying the development and generally appreciative of the design and how it addresses the existing buildings. There were few specific design or detail design comments.

The majority of comments focused instead on the construction process, construction management, and the impact of the construction works on the hospital, local traffic and hospital parking.

3.2 Planning

As described in the introduction, the proposals have been presented to the Local Authority for Pre-Application advice twice, and discussed with Planning Officers in some detail.

Following development of the initial proposals at feasibility stage, initial Pre-Application advice was sought from London Borough of Camden (LBoC). A meeting with the Planning Officers was held on 6th April 2022 at which the principles and outline scheme was presented and discussed.

Written feedback was received from LBoC dated 19th April 2022, which included the recommendation to undertake a further Pre-Application submission prior to a full submission for Planning Approval.

A second Pre-Application submission was made at the end of Stage 2 and a further meeting was held with LBoC on 24th April 2024, at which it was advised the planning officers had 'no major comments' and appreciated the design approach assuming a 'worst case' scenario regarding rooftop plant at that stage. It was also generally agreed that the scheme would fall outside of Biodiversity Net Gain requirements due to scale and location.

Further written comment was later provided which noted a number of points of concern. This focused mostly upon the external materials and expression of the proposal, which had changed from the original Pre-Application submission to reduce the scale of remedial work and re-cladding of the existing extension to the original hospital building and to incorporate the rooftop plant enclosure.

The Design Team and Planning Consultant subsequently drafted a number of mini-reports/statements submitted in May 2024 outlining the proposed material selections in more detail and discussing the viability of other options, particularly with regard to technical feasibility and construction logistics.

Formal written feedback by LBoC was provided on 19th June 2024, which was again positive, following correspondence with Officers regarding external materials.

In response to these comments, a draft Construction Management Plan has been prepared and will be submitted with the Application to evidence the logistical considerations and strategy for the construction process that are being developed to minimise disruption caused by the development as far as practicable.

4.0 Design

The proposals presented here are the result of three years of design development, responding to the Trust's operational requirements (which have evolved from the initial requirement during that time), consultation within and beyond the Trust (including key neighbours and local residents), and repeated engagement with Camden Council Officers.

Below, we outline the rationale for the proposed location of the extension, and the way in which the proposals have been developed in response to the feedback given to the Pre-Application submissions and design-related comments, before describing the design itself in more detail.

4.1 Strategic Considerations

The early feasibility stage demonstrated that refurbishment and alteration of existing accommodation is not viable due to the constraints of the existing building, and the impact such works would have on the operation and delivery of the services provided by the Hospital.

Co-location of the new theatres alongside the existing theatre department is critical to the efficient operation and servicing of these facilities.

Space on the Royal Free site is limited, and locating the new theatres distant from the existing department would require floor area in addition to that currently proposed, in order to accommodate supporting spaces (utilities, staff accommodation and storage) that must necessarily be immediately adjacent to the theatres.

Siting the new theatres in the proposed location takes advantage of the existing infrastructure and supporting spaces, reducing the overall scale of the proposed development, and therefore also capital cost and carbon cost.

4.2 Response to Feedback

Several comments and recommendations were made in the feedback received from LBoC Planning Officers following the Pre-Application submissions. The following paragraphs outline the ways in which the design submitted for approval has responded to the design-specific comments.

Scale/Massing

In order to minimise the overall massing, the plant deck has been developed with a stepped section so that rooftop equipment can be located on a lower level and the overall parapet height of the screening kept as low as possible. Duct routes and structure within the enclosed part of the plant deck are also interlaced to minimise the internal height.

Green Walls/Planting

The potential to incorporate green walls, climbing planting or similar was explored and discussed in detail with the Fire Engineer, Building Control professionals, and Green Wall/Urban Greening companies, but is not permitted by the requirements of the Building Regulations and the Building Safety Act, as the entire external envelope must be fully non-combustible:

> "7(2) Subject to paragraph (3), building work shall be carried out so that materials which become part of an external wall, or specified attachment, of a relevant building are of European Classification A2-s1, d0 or A1 (classified in accordance with the reaction to fire classification)."
>
> The Building Regulations 2010, Section 7 (as amended 2022)

> "Regulation 7(2) (of the Building Regulations) is prescriptive so a green wall would not be permitted in a relevant building."
>
> SWECO Building Standards Guidance Note 2 (Green Walls), 2022

The Hospital is designated a 'relevant building' due to its height and use type.

Although the Pears Building incorporates some climbing planting, this was designed and completed before the current regulations came into effect.

Selection of Cladding Materials

Following the initial submission, alternative cladding options including masonry, precast panels and render were reviewed at the request of the Planning Officers. A supplementary technical note was submitted outlining the consequences in terms of technical viability, cost and risk of a range of claddings.

The proposed panel cladding and mesh offer the most technically appropriate, lightweight, and fire-resistant envelope whilst being a complementary material palette to the existing buildings, in order to integrate the extension into the context.

A textured version of the panel cladding material has been adopted to better reflect the existing precast panels of the original RFH main building.

Planning Officers' written advice indicates that this material selection is considered appropriate and is supported.

Colour/Tone of Cladding Materials

Further to the presentation submitted to Camden Council and the written advice response to the second Pre-Application submission, the tone of the proposed panel claddings and louvres has been amended to reflect the colour of the precast panels and in-situ cast concrete of the original RFH main building, so that these read as an extension of the materiality of the hospital rather than reflecting the Pears Building as previously shown.

Sustainability

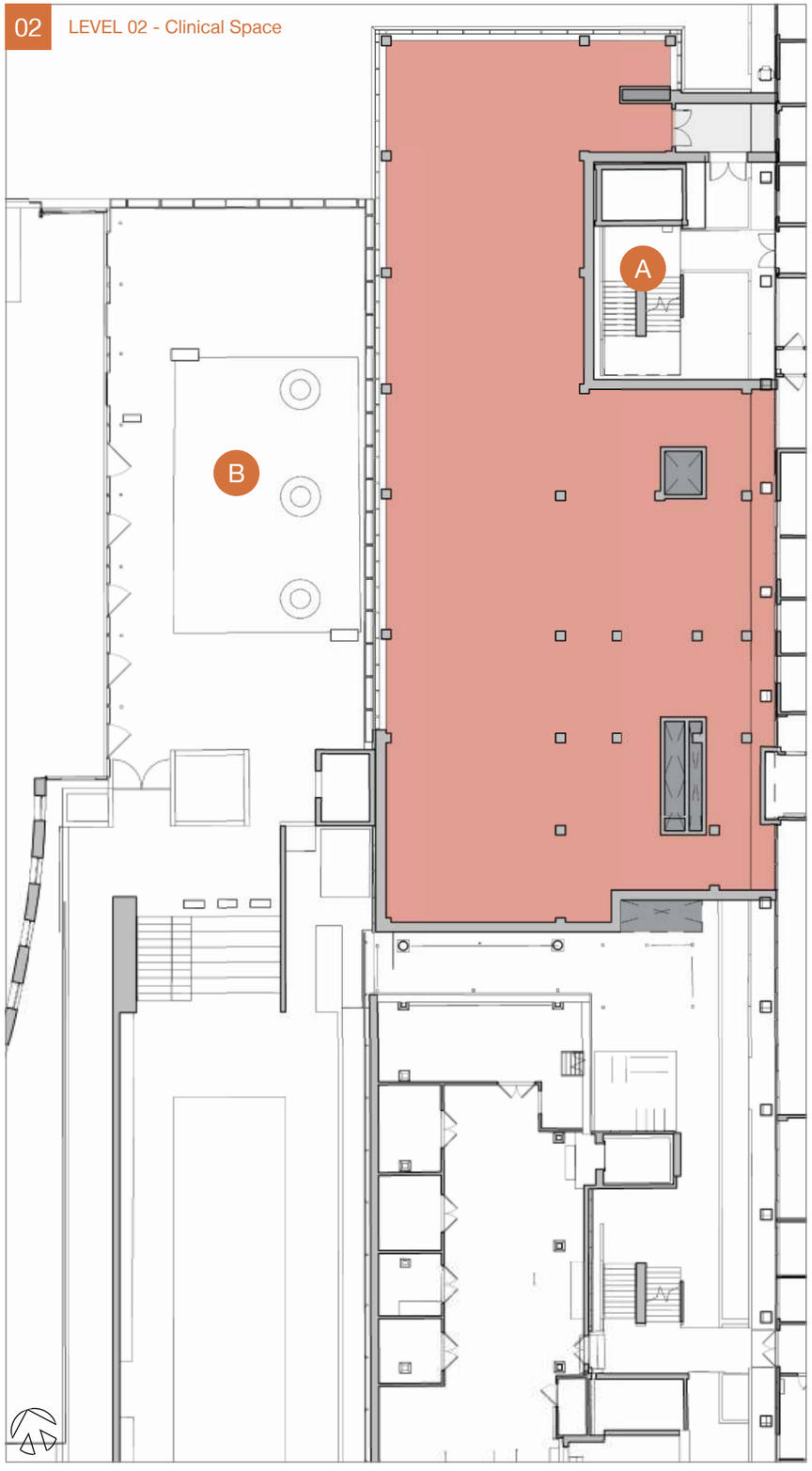
The requirement to achieve BREEAM 'Excellent' was indicated by Planning Officers at an early stage. A specialist consultant has been engaged and has worked with the Design Team as the proposals have been developed to ensure the required pre-planning and pre-construction credits under the BREEAM scheme are being addressed.

Their latest report has indicated that the project is on target to achieve the 'Excellent' rating.

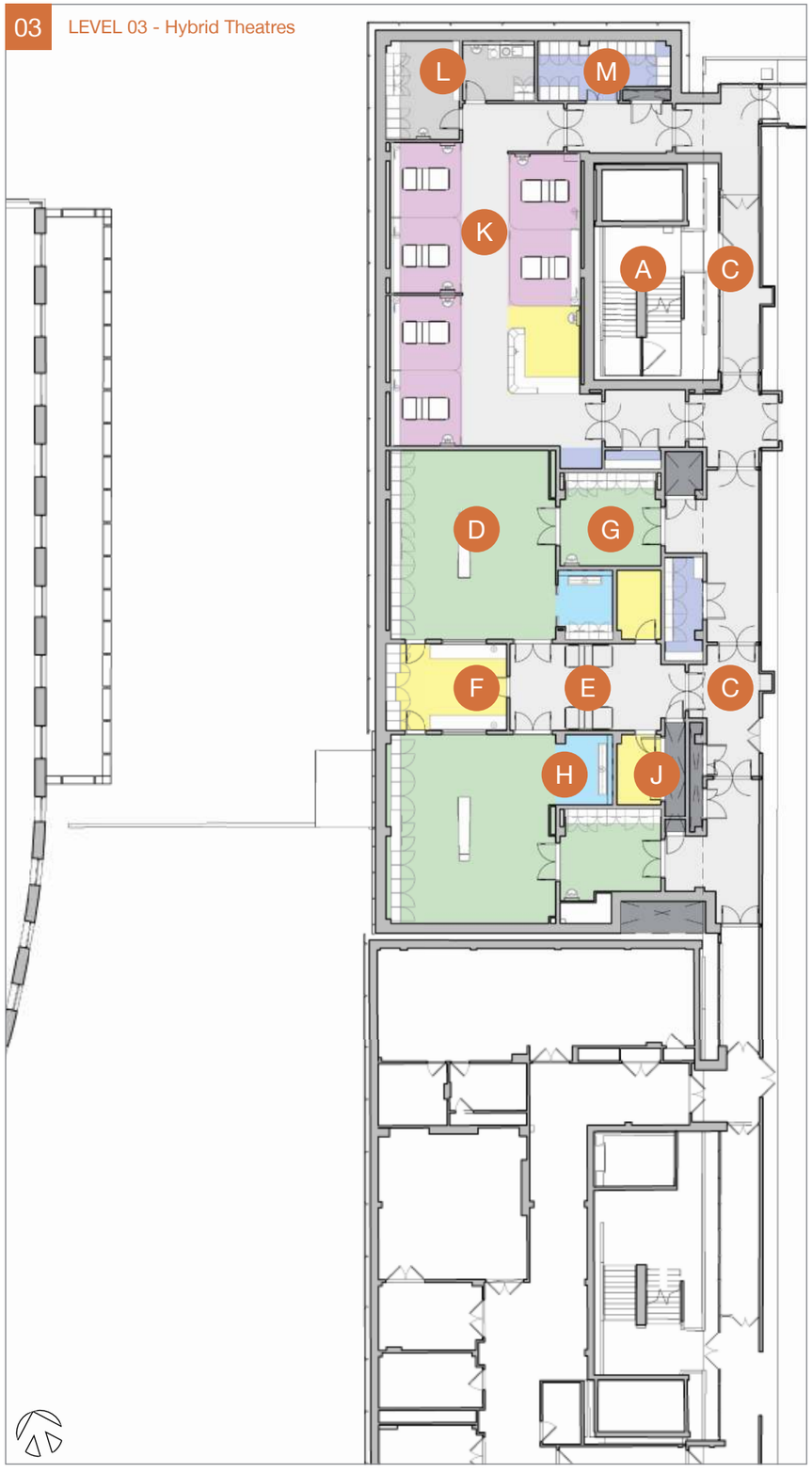
The proposals include Air Source Heat Pumps (ASHPs) as the primary means of space heating/cooling, in combination with the ventilation system.

Solar panels are not proposed as part of the scheme due to the use of exposed roof area for other plant and equipment.

02 LEVEL 02 - Clinical Space



03 LEVEL 03 - Hybrid Theatres



4.3 Use & Amount

Proposals comprise an extension to the existing hospital to provide accommodation at second and third floors supported on columns over the access road, creating an undercroft at ground and first floor. New building services plant is located at roof level in a louvred enclosure screening both internal and external plant areas.

The existing use class of the site is C2 (residential institution). The proposed extension is also entirely of the same use class.

The total new floor area created (including plant rooms) as follows:

1,652m² (GIA floorspace)

1,782m² (GEA floorspace)

New accommodation at third floor will comprise two 'Hybrid' theatres with supporting spaces, 6-bed recovery ward, and associated utility and storage rooms.

New accommodation at second floor is designated as future clinical space yet to be determined. The opportunity is being taken to create this new floorspace as part of the Hybrid Theatre Extension as this is logistically easier and more cost effective than carrying out a further extension project at a later date.

Plant accommodation at roof level will comprise new electrical infrastructure, ventilation and water services within enclosed plant rooms, with air source heat pumps and chiller units externally on top of the plant room screened by the louvre enclosure.

4.4 Layout

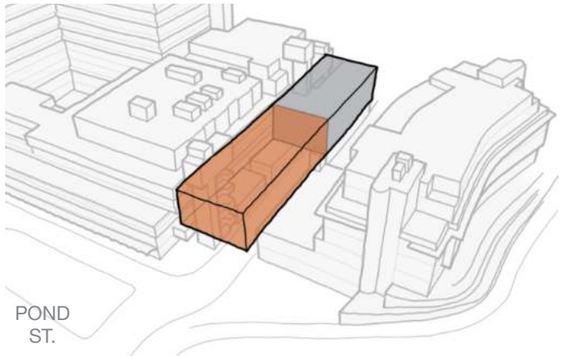
The existing external escape stair [A] on the corner of the RFL main building is being retained, new accommodation will wrap around the stair footprint at each level. The proposed extension fills the space between the existing RFL main building west elevation and the east elevation of the Pears Building podium, leaving the Pears garden terrace [B] intact. The plant deck is stepped back at the main roof parapet level.

A series of services risers are located along the line of the junction between the existing floorplate and the new extension and divide the existing accommodation from the new.

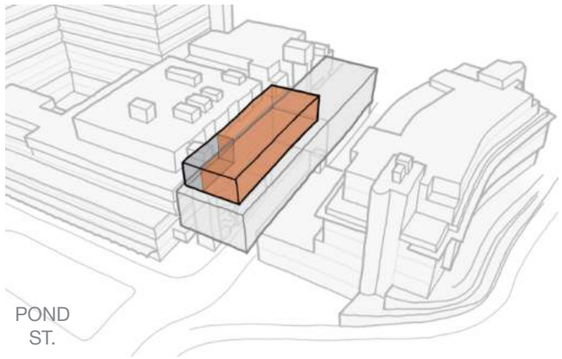
The existing perimeter corridor [C] of the original building is being retained and widened to suit access into the extension.

The main body of the third floor is occupied by the Hybrid Theatres [D], which are laid out as a mirrored arrangement with a central exit corridor [E] and shared control room [F]. Each theatre is entered through an anaesthetic room [G] where patients are prepared to enter surgery. Alongside the anaesthetic rooms are the scrub area [H] for staff preparation and a 'technical room' [J] housing the electrical and digital services which support the imaging equipment in each theatre.

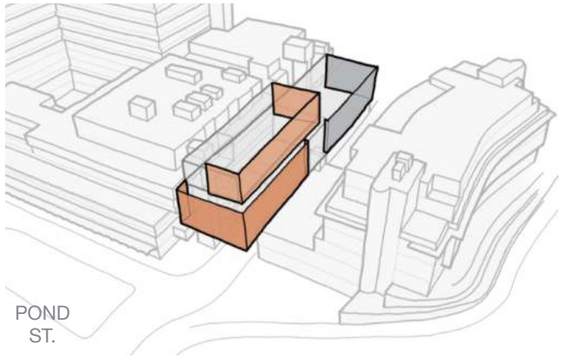
Toward the front (Pond Street) end of the building, a circulation route wraps as a horseshoe around the existing stair giving access to the recovery ward [K] and is associated utility spaces [L], as well as additional storage [M].



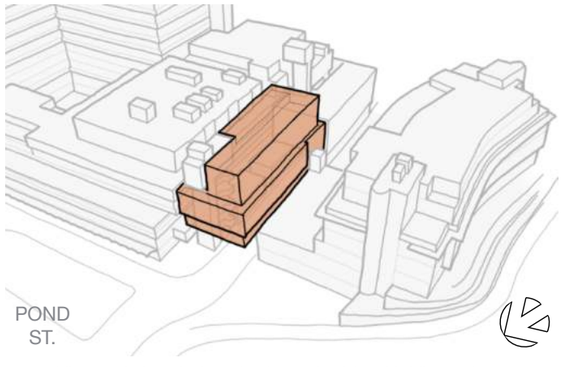
extrusion of the previous extension forward over the access road



set back enclosure of plant deck



wrap to third floor matching previous extension and screening to plant deck



second floor and plant deck set back, emphasising third floor volume

4.5 Scale & Appearance

Scope/Scale

The proposed extension is approximately 43m long and 16m wide, encompassing a total of five storeys (although accommodation is only provided on second and third floor, with rooftop plant).

The proposed floor to floor heights on the main accommodation levels align with the main hospital building to provide flexibility in use and full accessibility. The plant deck is staggered on two half-levels to accommodate routes for ventilation ducting between levels.

The uppermost parapet of the proposed rooftop plant enclosure is intended to be approximately level with the existing roof level of the original RFL main building rooftop plant enclosures. This provides an increased storey height at third floor and within the rooftop plant to accommodate the required services and ventilation ducting serving the Hybrid Theatres.

The scope of rooftop plant required has been the subject of extensive design development, with the aim of minimising the scale of the plant decks required and therefore the overall massing of the proposals. However, the new Hybrid Theatre and Recovery accommodation have a significant ventilation plant requirement in their own right, and in order to 'float' the building over the access road existing plant at low-level serving medical imaging suites must also be relocated to the roof of the new extension.

Massing

The massing of the proposed extension is treated as a suspended 'box' which extrudes the form of the previous theatre extension forward over the access road toward the front of the site, supported on slender columns. The storey-and-a-half height of the third floor accommodating the theatres is expressed as a solid block with the second floor and rooftop plant set back to reduce the overall mass.

Below the new extension, ground and first floor will be a void space to maintain the emergency access route, existing medical imaging spaces and plant, and access to the Pears Building lower car park.

Form/Articulation

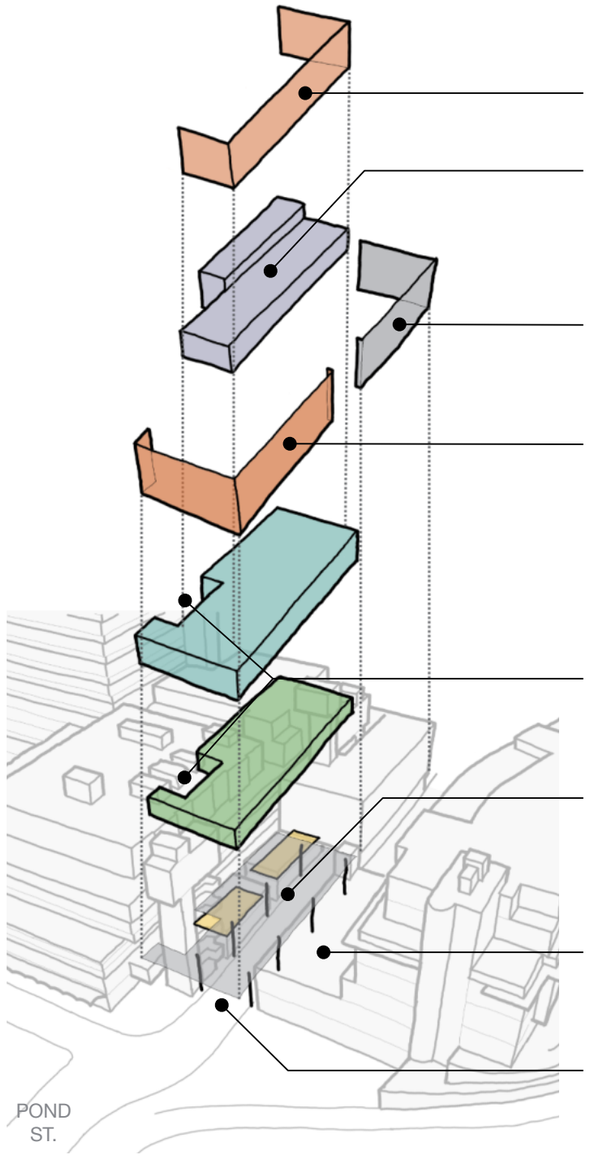
The levels of the soffits, window sills, window heads and parapets of the proposed extension are aligned to the horizontal levels of the existing main building, to establish a familiarity and continuity with the existing fabric. The proposed claddings also pick up on the modularity and rhythm of the existing panellised façades to reinforce this relationship.

The third floor of the proposed extension is wrapped in a tensile rainscreen similar to the existing Theatre Extension, in order to consolidate the appearance of the end elevation of the hospital building as a whole.

The proposed second floor is undercut to diminish the overall mass and reflect the appearance of the existing RFL main building, with a ribbon of system glazing/curtain wall and a horizontal band of solid cladding below to reflect the original glazing and cast concrete balustrade panels.

The rooftop plant is set back from the main façades to reduce its impact, and screened with a continuous louvre cladding system enclosing both the internal plat rooms and the exposed rooftop areas.

Connections to main building and existing theatre extension are recessed with panel cladding and glazing to reinforce the break between elements.



continuous louvre enclosure to plant deck & rooftop plant

rooftop external plant over internal plant deck

Level 4 plant deck/mezzanine to serve new theatres

existing rainscreen/mesh wrap to previous extension

new rainscreen/mesh wrap to extension

Level 3 Theatre Floor extension (Hybrid Theatres)

accommodation wraps existing stair tower

Level 2 Extension overlooking garden

new structural deck/soffit over undercroft

Level 1 existing rooftop plant maintained/reconfigured

Pears Building rooftop garden maintained

Level 0 existing Imaging Dept. accommodation maintained

reconfigured vehicle access around new structural columns

Elevational Treatment

With the implementation of the Building Safety Act and its new requirements, the proposed extension will be considered a 'Relevant Building' and a High Risk Building (HRB), imposing additional constraints upon the design and performance of the external fabric.

Although the potential to incorporate Green Walls or other planting has been investigated as suggested at Pre-Application Consultation, this will not be possible to implement as they will not meet the requirements for limiting fire spread across the surface of the building; even climbing greenery is considered to pose a risk as it can burn and contribute to fire spreading between floors or compartments across the face of the building:

> "Regulation 7(2) is prescriptive so a green wall would not be permitted in a Relevant Building… … a green wall, due to its organic content and sometimes because of the planting medium used, cannot achieve (the necessary) A1 or A2 rating."
>
> SWECO 'Green Walls - Building Standards Guidance Note 2, 2022

Existing planters which form part of the perimeter to the garden terrace of the Pears Building will be retained, as these are limited to a low level and are not considered to pose such risk of fire spread.

It must be noted that although the Pears building incorporates climbing vegetation and other design features, it was designed and completed prior to the Building Safety Act and associated changes to the Building Regulations coming into effect.

The existing cladding of the adjacent theatre extension (1) will be retained but altered/refurbished to suit, as it has been determined that it is neither economic nor technically viable to replace it with an alternative system. It would also represent a significant carbon cost to the project for no material benefit.

The new cladding 'wrap' to the proposed extension (2) will replicate the form & rhythm of this cladding, with a similar material and colour palette. This will match the new extension to the old and create a consistent, harmonious elevation, rather than presenting a mix of clearly different claddings. The material itself is very durable and readily cleaned.

To diminish any visible difference between the existing and new claddings, a separation has been introduced between them which also reconciles the area above the projecting lift shaft of the Pears Building. This delivers two 'blocks' of approximately equal size, balancing the elevation.

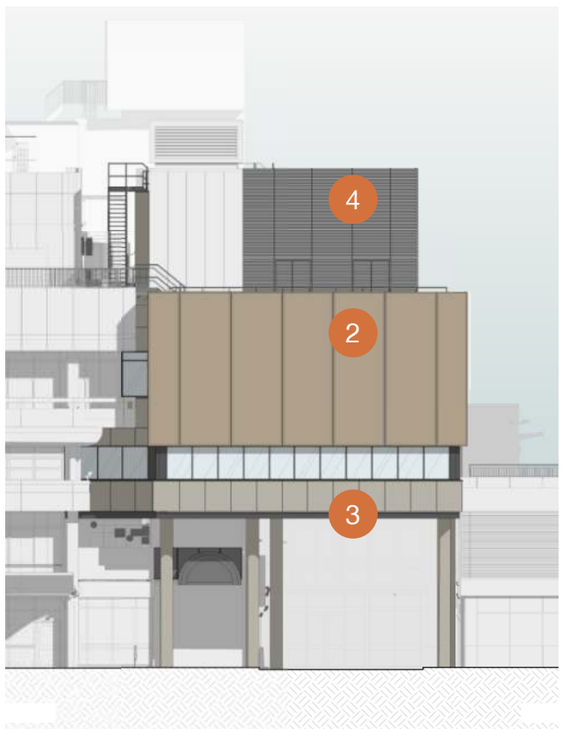
The panellisation of the cladding is also scaled from the proportion of the concrete panels on the original RFL main building, establishing a similarity and relationship between them.

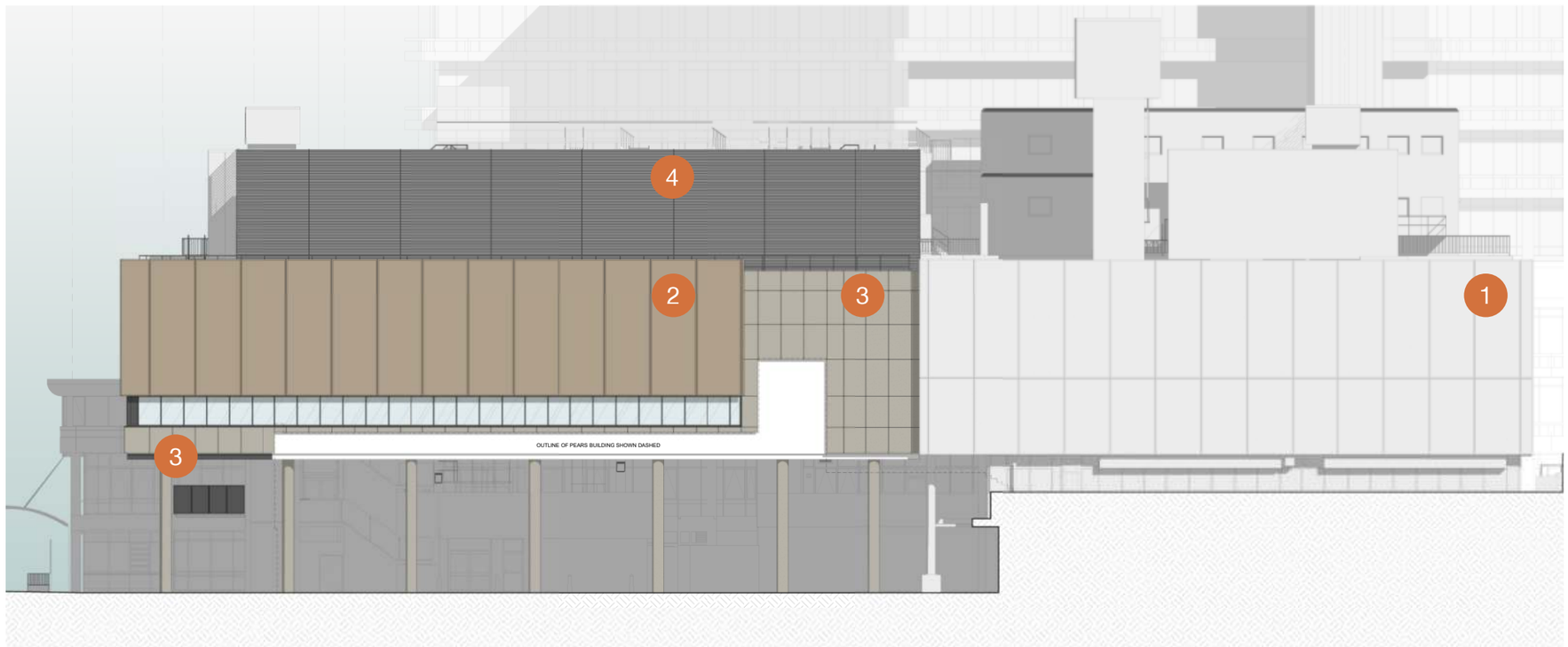
The lower storey of the extension is set back from the line of the wrap cladding, in order to diminish the mass of the building and reinforce the relationships to the cladding systems of the original RFL main building. This panel cladding (3) will match the format and tone of the main building concrete panels. This cladding will flow onto the side elevation and fill the separation between the two wrapped blocks.

Ribbon glazing below and behind the new mesh wrap will provide shaded daylight to the second floor spaces, helping to limit overheating, and reflects the style and pattern of glazing from the original building.

The rooftop plant area will be enclosed in a frameless louvre system (4) in a similar tone to the lower storey panel cladding. This will reflect the louvre systems installed on the adjacent Pears Building, so that the new extension helps to create an aesthetic 'bridge' between the original RFL main building and the Pears Building when viewed as part of the long elevation from the street.

The majority of plant has some level of requirement for air intake/exhaust or general ventilation, therefore forming the whole façade in a louvre system is considered preferable to a flat wall with many varied grille/louvre openings, and reflects the design of the car park and plant levels of the Pears Building.





Proposed building elevations indicating initial material selections

A Frameless Plant Screen Louvre

Proposed for rooftop plant enclosures.

Frameless sheet metal louvre panels (aluminium, zinc or coated steel).

Wide panels with continuous louvres reflecting panellisation of existing balustrades & façade of original hospital building. Form similar to high level louvres to Pears Building façade and rooftop, colour to match rooftop plant enclosure of original hospital building.

B Tensile Fabric Panel

Proposed for main rainscreen wrap to upper storeys.

Stretched coated fabric/mesh with perimeter frames.

Similar to existing Theatre Extension rainscreen cladding.

Increased scale of perforations/mesh reduces accumulation of debris noted with current cladding.

Matching the cladding system used on previous Theatre Extension for visual continuity.

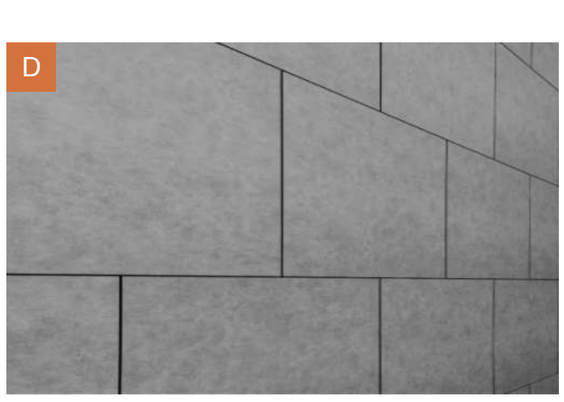
Regular panel widths with vertical emphasis reflecting panellisation of existing balustrades & façade as counterpoint to horizontal emphasis of RFH Main Building massing.

C System Glazing/Curtain Wall

Proposed for ribbon glazing to lower level and links to existing structure

Aluminium or coated steel mullion system with high performance glazing or solid panel infills.

Format and colour to reflect original hospital building glazing. To incorporate ventilation louvres, openable windows etc. as determined by the occupation & services strategy.

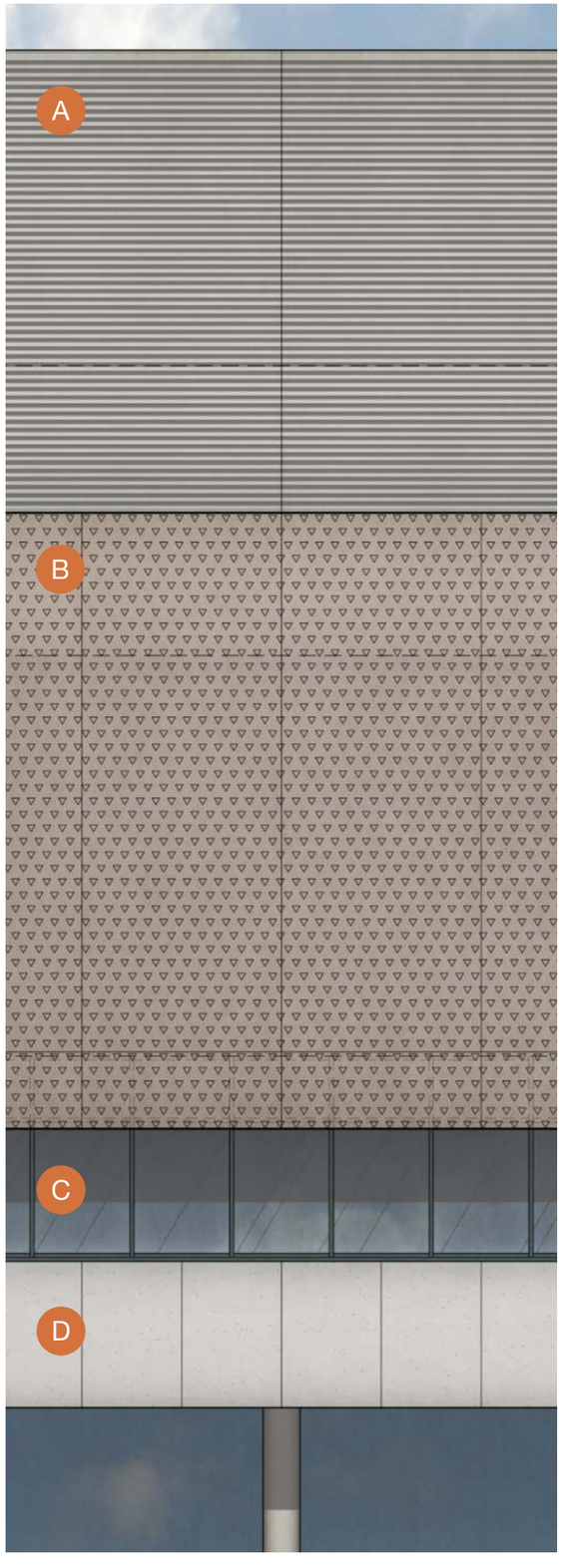


D Textured Fibre Cement/Composite Cladding

Proposed for lower band of lower level on front & side elevation as alternative to solid sheet panels, subject to confirmation of performance to meet required regulations.

Homogeneous pressed panel, face or concealed fixing.

Matt textured mineral finish used to reflect concrete frame & panels of original hospital building.



Materials

The proposed materials have been selected to reflect the existing form and materiality of the various surrounding buildings, with the aim of establishing a relationship between them and the new extension.

Given the contrast between the precast concrete/glass of the original Main Building and the brick/stone of the Pears Building, the selected materials attempt to affect a transition between these two palettes, using a combination of texture, tone and form.

It is also intended that the proposed extension will harmonise and consolidate this area of the site, which currently consists a series of sporadic infills, accumulated external plant and extensions which have developed without any overarching vision.

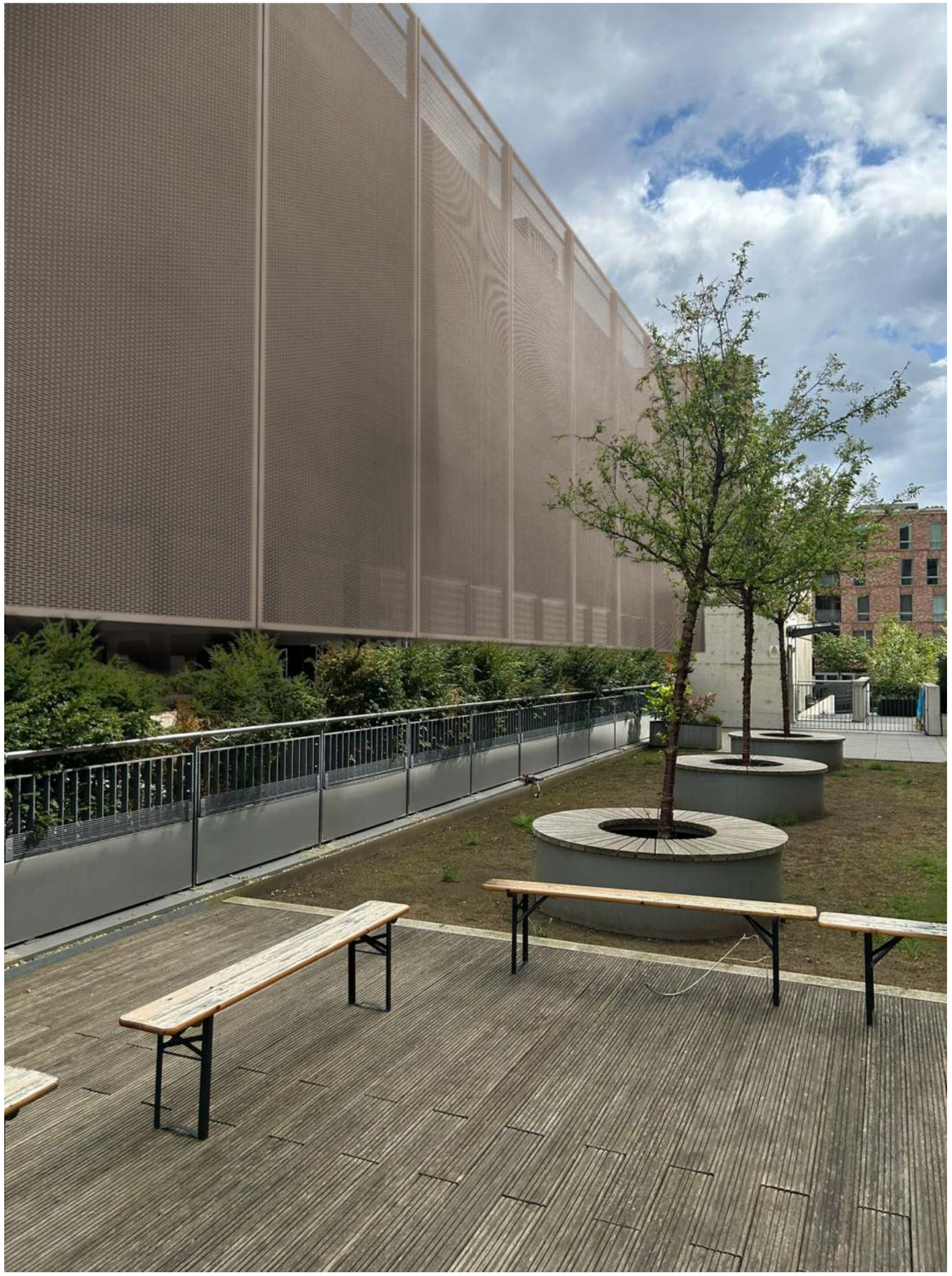
The module of each cladding either copies or uses the proportions of elements of the precast concrete and glass on the Main Building. The rooftop louvre enclosures mirror the brise soliel and ventilation louvres of the Pears Building in both form and tone. The panel cladding of the lower storey also adopts this tone, while the glazing visually replicates the system glazing of the Main Building. The mesh wrap also uses modules taken from the main building, but matches the tone of the previous extension, which moderates between the colder grey concrete of the Main Building and the warmer brick of the Pears Building.

The materials have also been selected to meet the required fire performance and with consideration of sustainability, maintainability, longevity and carbon cost.

4.6 Landscaping

No soft landscaping is proposed as part of the Hybrid Theatre Extension other than making-good of areas disturbed during construction. The existing access road will be made good/ reinstated to maintain access to the cardiology entrance and Pears lower ground floor car park.

Due to the reduced road width, the need for traffic management controlling the road (stop/go lights or similar) is being developed.



proposed view from the Pears Building garden terrace looking toward the extension

5.0 Access

5.1 Inclusive Access

All proposed main accommodation floor levels match the existing hospital floor levels and therefore provide level access. There are existing passenger & bed lifts within the RFL main building serving all floors and the main patient/public entrances all provide level access.

The requirements of Parts K and M of the Building Regulations and NHS England guidance have been observed in the development of the design of the proposed extension and the existing hospital wayfinding and other signage will be extended/updated to encompass the extension.

5.2 Pedestrian & Public Transit

As discussed in a previous section, a range of public transit options are available within 5-10 minute walk of the hospital site.

Transport for London state that:

> "All our bus routes are served by low-floor vehicles, with a dedicated space for one wheelchair user and an access ramp. Buses can also be lowered to reduce the step-up from the pavement."
>
> tfl.gov.uk, "wheelchair access and avoiding stairs", 14/08/2024

It should be noted that Belsize Park underground station does not provide step-free access from the street to the platform. However, Hampstead Heath overground station is fully accessible.

A patient transport service and dropoff area for private hire vehicles are provided on site and will also serve the proposed extension.

5.3 Vehicular Traffic

Vehicle access routes to the site and adjacent car parks will remain unchanged as a result of the extension once completed.

6.0 Sustainability

The proposals have been developed with the target of achieving a highly sustainable design from the outset.

NHS Net Zero Building Standard

The NHS Net Zero Building Standard was published in February 2023, in order to provide guidance for the development and refurbishment of healthcare buildings with a view to delivering a highly sustainable and energy efficient NHS estate .

> "Developed together with healthcare, industry, and sustainability partners, the Standard will support the NHS to get ready for and align with UK Government building requirements, as well as meet its commitments to deliver a net zero health service by 2045. The NHS became the world's first health service to commit to becoming net zero in response to the profound threat to health presented by climate change."
>
> NHS Net Zero Building Standard, 2023,

The Standard significantly exceeds the statutory requirements outlined in Building Regulations and existing Health Technical Memoranda (HTM) guidance used in the planning of healthcare buildings.

Although the feasibility and initial stages of the project were undertaken before the Standard was published, and the full requirements of the Standard will not be achievable due to the existing building condition, the minimum fabric performance and operational requirements of the Standard have been adopted as far as is practical as the design of the proposals has been further developed.

BREEAM

The Pre-Application advice received and the wider aspirations of the Trust have defined a target of BREEAM 'Excellent' for the project.

Developing the design to meet the requirements of the NHS Net Zero Building Standard contributes significantly to achieving this target.

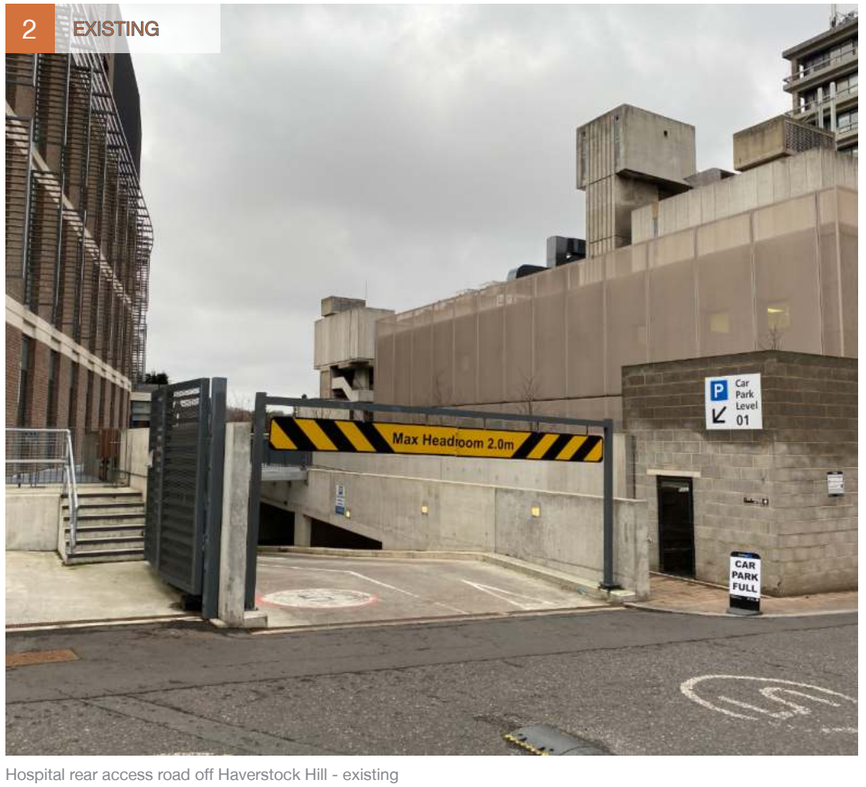
A BREEAM Assessor was appointed early in the development of the design following the feasibility stage to assist in reviewing the design and guiding the Design Team as they have developed the proposals.

The preliminary assessment and reporting undertaken to date indicates that the project is currently on track to achieve BREEAM 'Excellent'.

1 EXISTING

Pond Street Entrance - existing

2 EXISTING



Hospital rear access road off Haverstock Hill - existing

1 PROPOSED

Pond Street Entrance - proposed

2 PROPOSED

Hospital rear access road off Haverstock Hill- proposed

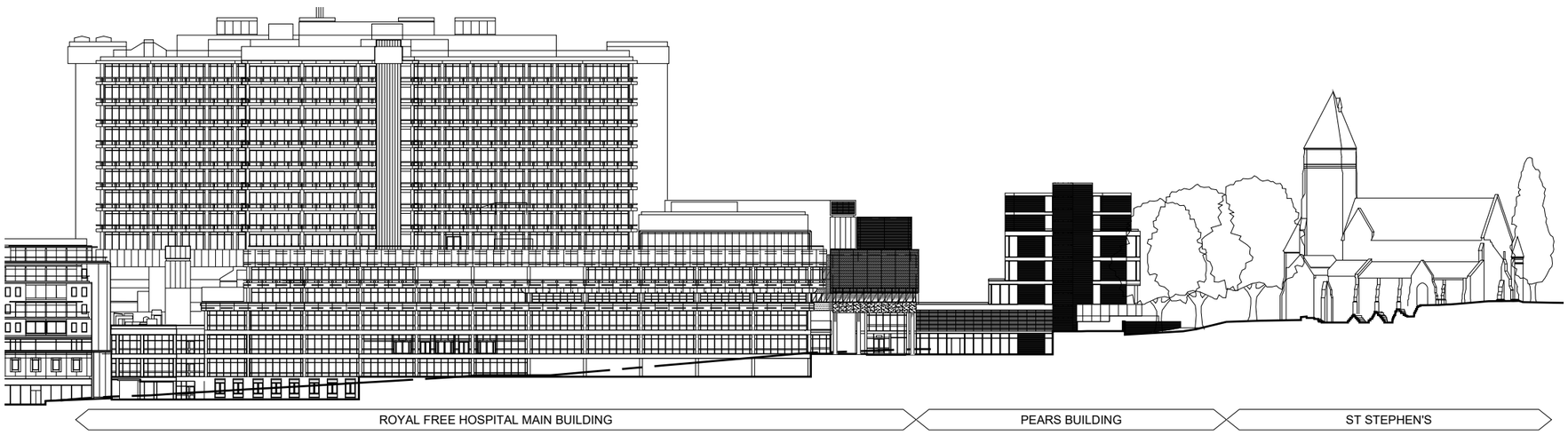
7.0 Visual Impact

7.1 Street Scene

A series of photographs from positioned viewpoints have been taken onto which the proposals have been overlaid, to demonstrate the massing and visual impact from key locations.

The existing vs. proposed images are shown here.

Please note that these are not intended to be ‘photo-realistic’ views but are to give a general impression of the appearance and visual impact of the proposed Hybrid Theatre Extension.



Long Elevation/Section of proposals showing façade of main hospital building including central tower

7.2 Impact on Pears Building/Garden Terrace

The design of the elevation facing the Pears Building is intended to deliver a more cohesive and harmonious appearance than the current outlook from the garden terrace and adjacent rooms.

The existing elevation of the RFL main building is a combination of the original structure with many additions, small extensions and cluttered services installations overlaid which have accumulated incrementally over time.

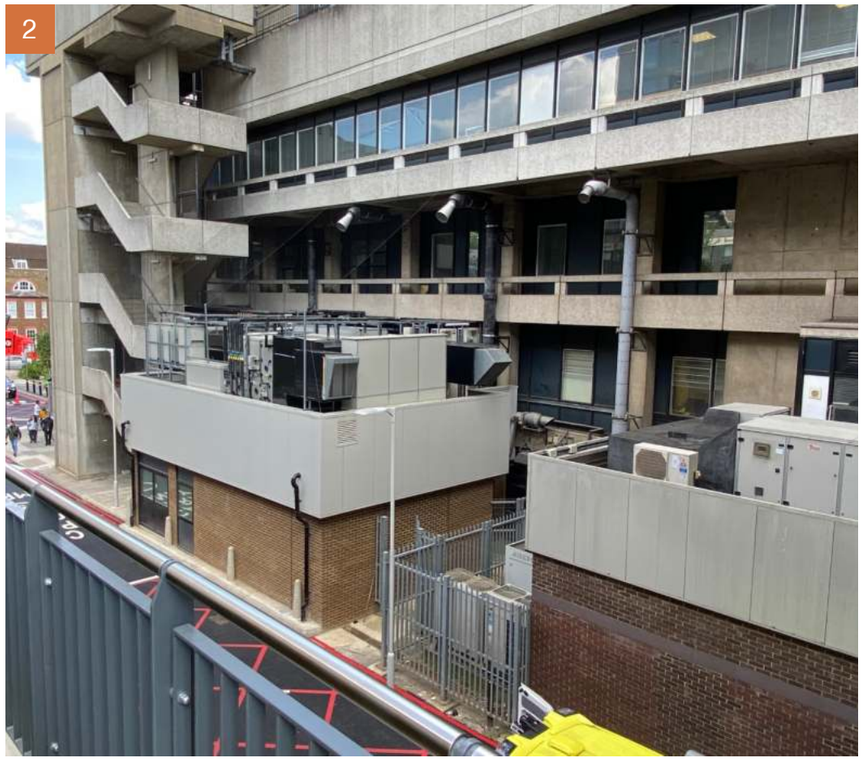
The previous extension and mesh wrap have provided a cleaner and brighter façade, which overlooks the lower part of the Pears building terraces. The proposed extension continues that theme, picking up on the same materials and general form.

The glazing to the second floor of the extension abuts the balcony edge of the Pears Building Terrace, but will be largely screened by the existing vegetation and mesh wrap. This glazing is also a system similar to the elevations of the original hospital which can be composed of a combination of glazing and panels to suit the rooms behind, so can be altered to cater to the privacy and lighting requirements of the spaces, which may change over time.

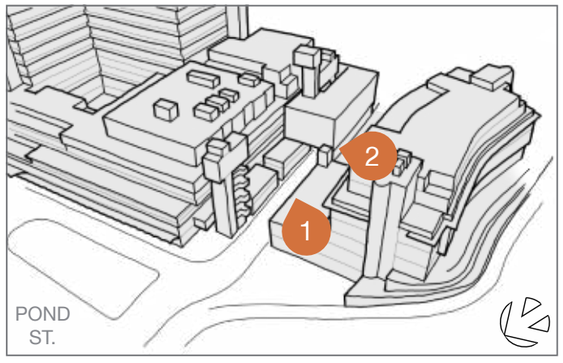
As demonstrated by the photographs shown here, the existing outlook from the Pears Building's garden terrace - onto the neighbouring main hospital building - currently comprises views of plant equipment, associated enclosures and fencing. Whilst the proposals will bring the wall of the adjacent hospital closer to the terrace, the new elevational treatment will be less cluttered and more comprehensively designed. As such, the visual amenity from the terrace will be improved.

The theatre and plant floors of the proposed extension do not include any glazing to overlook the terrace or opposing rooms, including the hotel accommodation on the upper floors of the Pears Building. The extension also encloses existing hospital spaces at second floor which are currently overlooked by the upper floors of the Pears Building, giving more flexibility for future use by the hospital.

photograph from the Pears Building garden terrace looking toward the previous theatre extension & main building



photograph from the Pears Building garden terrace looking toward the main building, showing existing extensions



computer generated image of front of the hospital showing the proposed extension, looking toward the main building from the Hampstead Green footpath

computer generated image of front of the hospital showing the proposed extension, looking toward the Pears Building from the Car Park

8.0 Summary

The proposed Hybrid Theatre Extension to the existing Royal Free Hospital consists 1,652m² GIA floorspace across two principal accommodation floors at Level 2 and Level 3 of the main hospital building, with an enclosed plant deck and rooftop plant above.

This follows a previous theatre extension completed in 2014/15 and consolidates a number of previous alterations to the west elevation of the original building to provide a more cohesive form and appearance.

The proposals expand and improve upon the existing dated theatre accommodation to provide state-of-the-art facilities in line with the Royal Free's role as a vascular surgical hub. This addresses existing operational limitations and future-proofs the services provided by the hospital as demand continues to increase.

The development engages with the adjacent buildings to reflect the rhythm, materials and form of the existing context, bridging between the original 'Brutalist' hospital and the warmer Pears Building. Within the overall scale of the main hospital and its street elevation, it has low impact on the appearance of the buildings as a collective and addresses previous piecemeal alterations and additions that have overall had a negative impact on the west elevation.

The existing access to the hospital buildings and Pears Building will not be affected once the proposed extension is complete, and provide level, step-free access throughout.

Adopting the principles and requirements of the NHS Net Zero Building Standard as far as appropriate to the context of the project and targeting BREEAM 'Excellent' will ensure the delivery of a highly sustainable building, in line with the Trust's sustainability aspirations and significantly exceeding the minimum requirements of the Building Regulations.

Discussions have been held with Planning Officers, the Trust, and the Public which have highlighted the need for careful consideration of the construction phase to mitigate disruption to the operation of the hospital, parking, and traffic on adjacent roads. A draft Construction Management Plan has been prepared which outlines intended mitigation measures which will be developed further with the selected contractor as the project progresses.

The design, massing, form, materials and appearance of the proposed extension have in general been positively received by consultees and the Planning Officers, and is not considered to have a negative impact upon the physical or visual context.

The proposed Hybrid Theatres address an urgent clinical need to maintain and improve the availability of specialist services, which cannot be met within the existing buildings of the Royal Free Hospital and necessitate the development of a bespoke extension to accommodate the required highly technical spaces to deliver high quality patient care.