London School of Hygiene and Tropical Medicine

Planning and Listed Building Application

Design and Access Statement

December 2017

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Planning Application

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Report prepared by: Ian Ritchie Architects Ltd (IRAL)

For: London School of Hygiene and Tropical Medicine

Design Team:

Project Manager:	PMP Consultants
Architect and Lead Designer:	Ian Ritchie Architects Ltd (IRAL)
Daylight/Sunlight Consultant:	MES Building Solutions
Acoustic Consultant:	Gillieron Scott Associates
MEP:	AECOM
Structure and Geotechnics:	AECOM

Contents

1. Introduction and Summary

The London School of Hygiene and Tropical Medicine (LSHTM) is a world leading research and higher education institution located at Keppel Street within the Bloomsbury Conservation Area. As part of their long term development strategy the LSHTM plan to implement phased internal refurbishment works and modernise the current ageing services infrastructure in order to support and enhance its leadership role for the next two decades.

This application for planning and listed building consent relates to refurbishment works to provide new wet laboratory spaces and associated services infrastructure. The proposed works form part of a wider refurbishment and upgrade development strategy for the Keppel Street premises and constitute Phase 1 of this strategy.

The proposals comprise approximately 560m2 of new laboratory spaces to be located within the existing North Courtyard Building (NCB) completed in 2004 at levels L2 and L3, and currently used as office/dry lab accommodation, with a new plant deck and external services installations above the roof level of the NCB to serve the new lab spaces.

The LSHTM building at Keppel Street is a Grade II listed building and consequently any alterations require both planning and listed building consent.

2. Description of the Existing Property and Site

The original LSHTM building is listed Grade II and is located within the Bloomsbury Conservation Area with site boundaries defined by Keppel Street to the south, Malet Street to the east, Gower Street to the west and Warwickshire House and Bonham Carter House to the north. The main entrance to the LSHTM is off Keppel Street with secondary entrance/exit points (now primarily used as means of escape exits) located off Malet Street and Gower Street.

A service area containing plant and equipment, waste storage and delivery access is located at the north end of the site with main pedestrian and vehicular access off Malet Street. An historic access route to the service yard from Gower Street is not currently in use.

View Along Gower Street Facing South

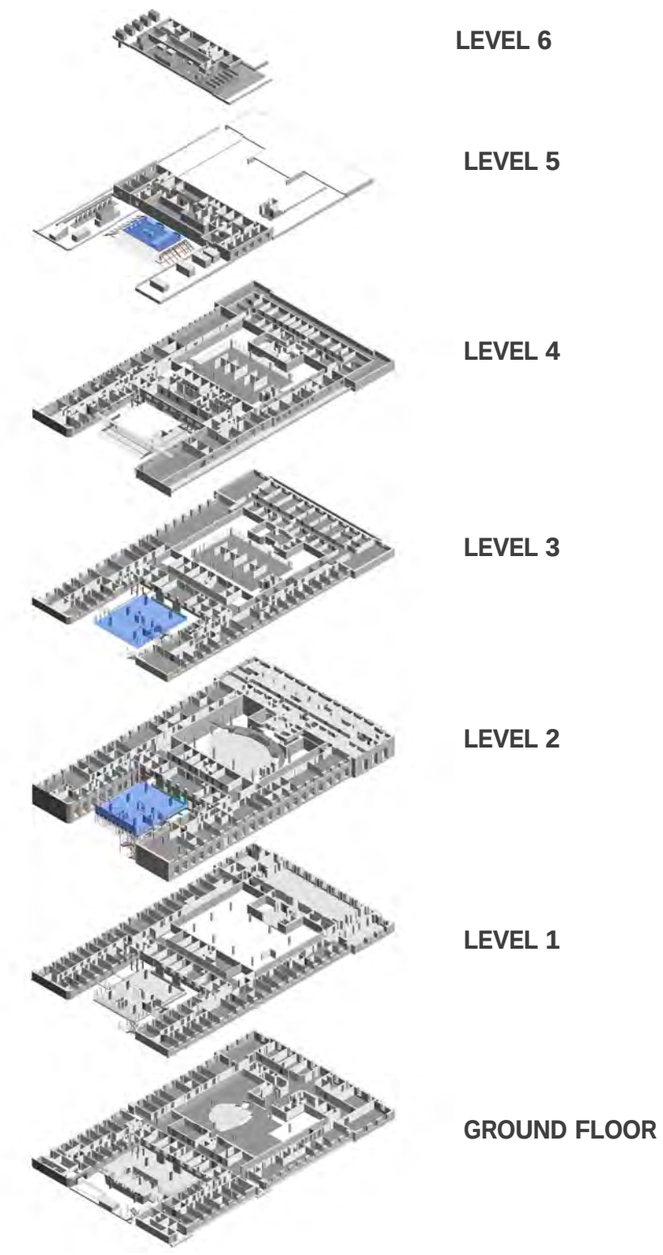
View To Keppel Street Main Entrance Facing East

View Along Malet Street Facing North

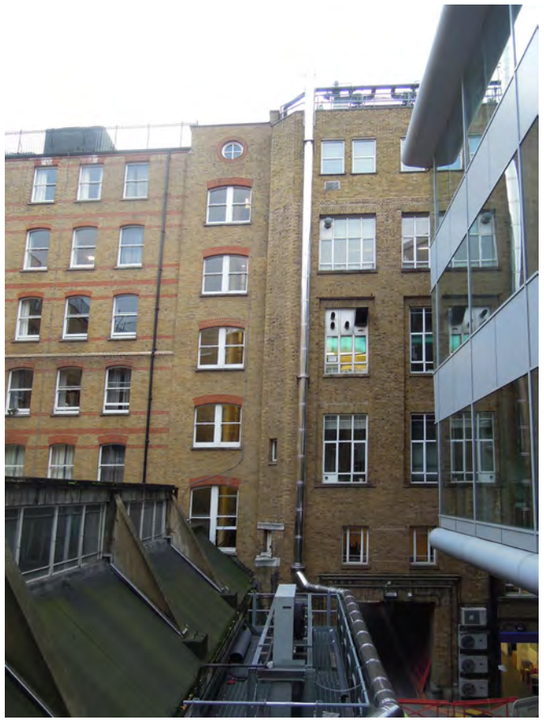
The area of the existing building within which the works for new laboratory spaces are proposed is the North Courtyard Building (NCB) occupying the previous north courtyard of the original LSHTM 1929 building and completed in 2004. The NCB was originally designed for office /dry lab accommodation but will eventually be converted into laboratory space at levels L1 and L4 (in addition to levels L2 and L3) in accordance with the Master Plan for Keppel Street currently being developed by IRAL.

Internal View North Courtyard Building Existing Office Space at L2 to be refurbished as laboratory space

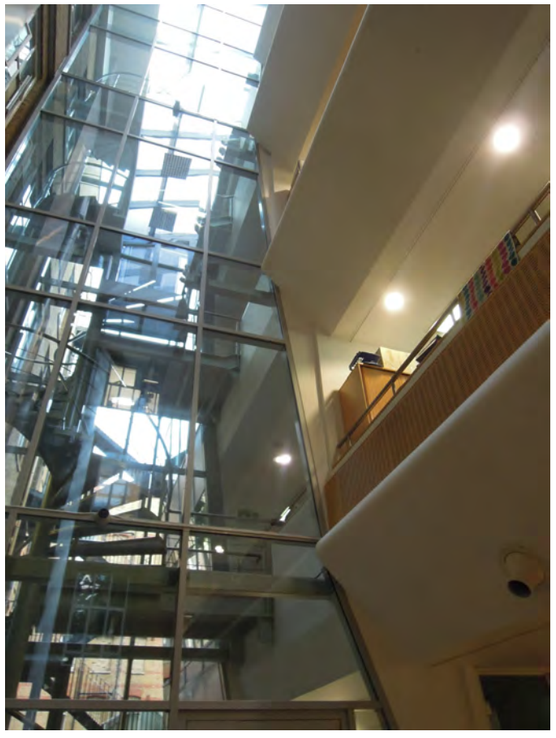
Location Plan



Axonometric Existing Plans with new works areas shown in blue



View of North Service Yard Facing East



View of North Corner Building Atrium

3. Master Plan Context

Ian Ritchie Architects have been appointed to develop a Master Plan for the LSHTM premises at Keppel Street to guide future development and upgrading of the building fabric and infrastructure over the course of the next 15 to 20 years.

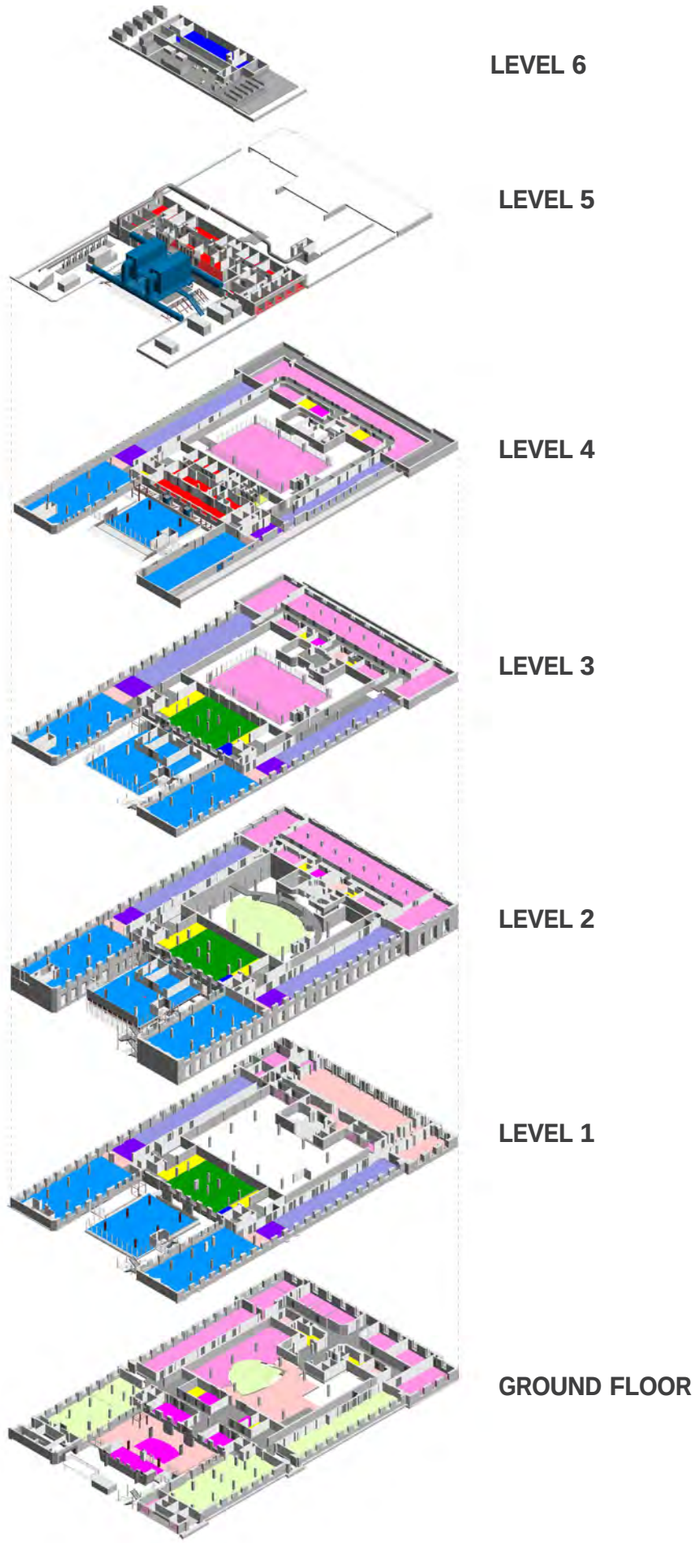
The Master Plan that is currently being developed with the LSHTM is informed by the following objectives which aim to support and enhance the LSHTM as a world leading institution in its field:

- Improve the operational efficiency by rationalising spatial organisation, adjacencies and circulation;
- Create laboratory spaces that conform to contemporary operational and safety standards;
- Improve security;
- Upgrade services infrastructure;
- Upgrade the building envelope were appropriate to improve energy efficiency;
- Improve spatial quality and provide better opportunities for social interaction;
- Establish priorities for improvement and phasing of future development works.

The above objectives need to be balanced against a careful consideration of those elements of the existing building that have significant heritage value.

As part of the wider Master Plan objectives outlined above, the NCB along with adjacent N/E and N/W wings of the existing 1929 building will eventually be redeveloped and consolidated as wet laboratory spaces at Levels 1 to Level 4 with the remainder of the building organised for dry labs, teaching, office, library and other communal activities. Refer to areas in blue (wet labs) on adjacent exploded axonometric plans.

The proposed refurbishment of Level 2 and 3 within the NCB which is the subject of this application constitutes Phase 1 of the overall development plan. It is envisaged that subsequent phases will include refurbishment of Level 1 and Level 4 of the NCB.



Master Plan Spatial Organisation (lab space in blue)

4. Heritage Context

The London School of Hygiene and Tropical Medicine was established in 1924. It grew out of the London School of Tropical Medicine which had been set up in 1899 by Sir Patrick Manson. The main building of the school is a purpose designed facility located in Keppel Street in Bloomsbury. It was built between 1926 and 1929 following an architectural competition won by Percy Morley Horder with the likely assistance of Verner O Rees. The building was Grade II listed in March 1982 and now lies within the Bloomsbury Conservation Area within the London Borough of Camden.

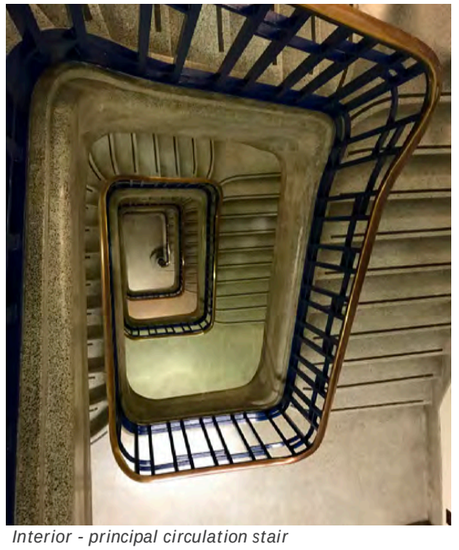
The creation of the London School of Hygiene and Tropical Medicine and the design of the Keppel Street building were two aspects of a single process and this link between the institution and its building continues today. The building contains laboratories, technical facilities, teaching spaces and offices as well as grand spaces which reflect the international eminence of the LSHTM within its field. The location of the building in the centre of Bloomsbury and its continuing attractiveness, are key aspects of the School's identity and its ability to attract students, researchers and funding from all over the world. (above text courtesy of Conservation Management plan Richard Griffiths Architects August 2013).

Over the years, and since completion of the original 1929 building, numerous significant alterations and additions have taken place, most notably the infilling of the North and South Courtyards (completed in 2004 and 2009 respectively). The infill buildings contain office and teaching accommodation, and extensions at roof level provide further accommodation as well as significant additional plant and equipment.

The Phase 1 works pertaining to this application are required to be delivered within a very short timescale for operational and research reasons (target delivery date July 2018). This has been an important driver in the choice for locating Phase 1 within the 2004 NCB thus avoiding any interface or alterations to the 1929 building. The decision was also informed by other issues relating to the existing 1929 building such as complex and ageing services interfaces and the extensive presence of asbestos containing materials which would have led to delays in delivering the required new laboratory facilities.

External decorative motifs

Interior - main entrance foyer



Interior - principal circulation stair

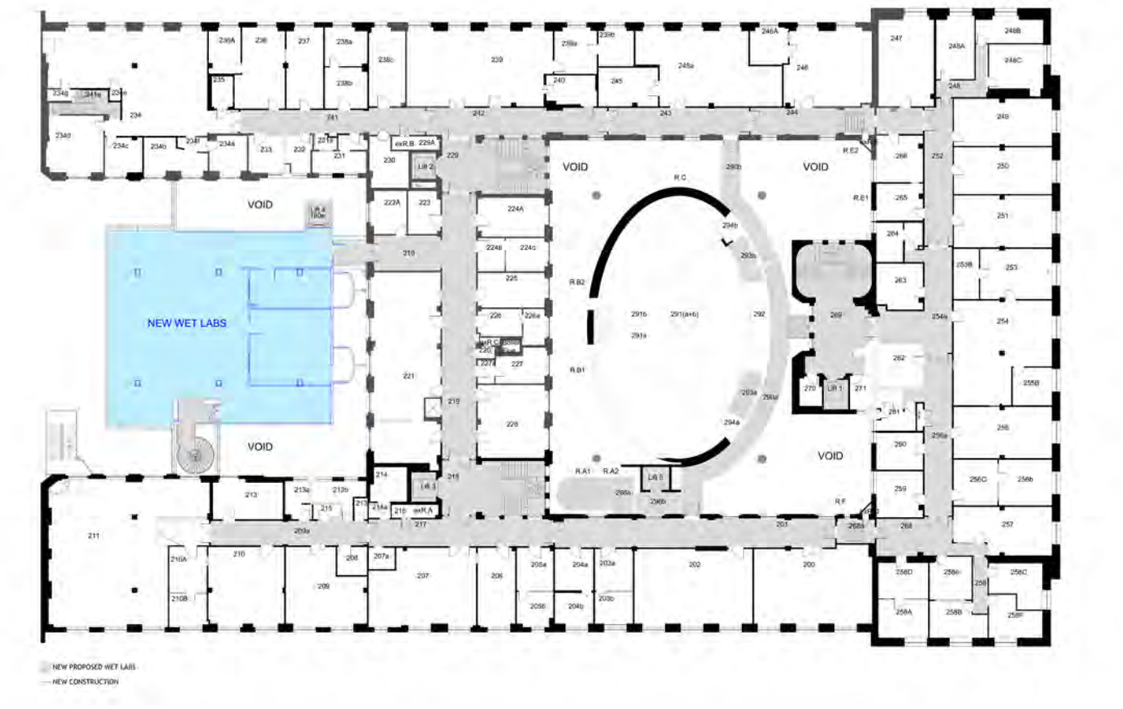
5. Design Principles and Project Description

The design intent is to provide state of the art new wet laboratory spaces and associated services within the existing NCB envelope comprising Phase 1 of an overall redevelopment of the Keppel Street premises as described under Section 3.0. The location of these works has been informed by a desire to avoid impact or interface with the original 1929 building.

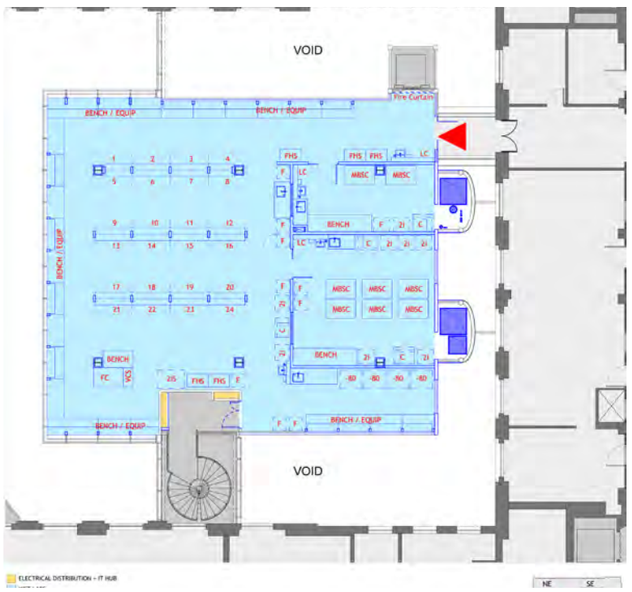
The Phase 1 works comprises provision of 560m2 of bio-safety Category 2 wet labs within the North Courtyard Building (NCB). The new wet labs will be formed at Level 2 and Level 3 of the existing NCB currently used for lab write up and office / dry lab space.

Works to provide new facilities at Levels 2-3 will include the following:

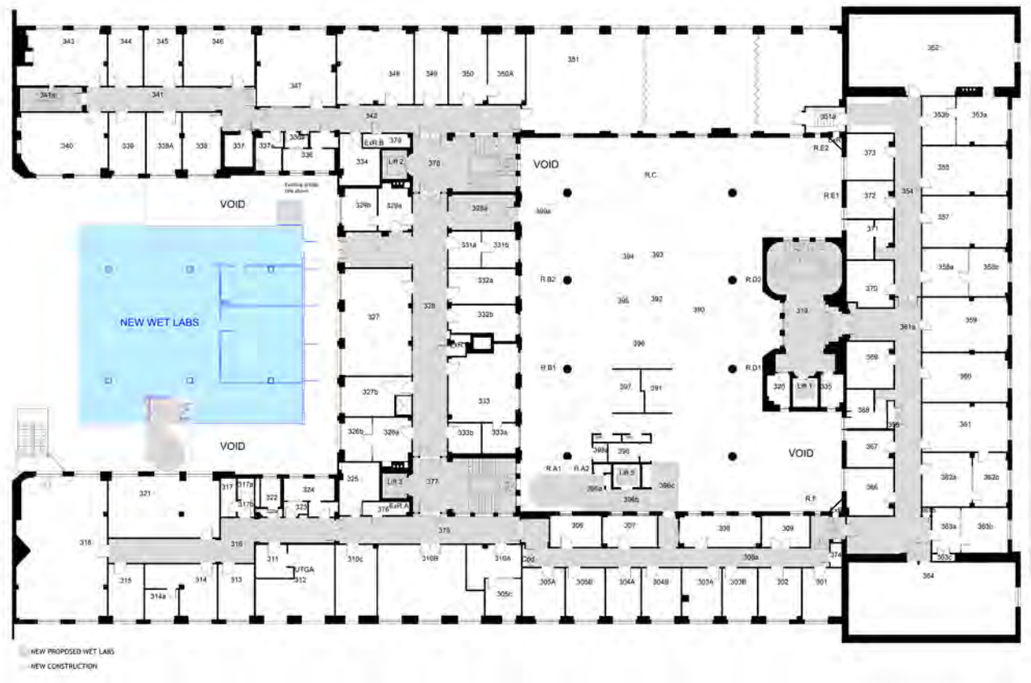
- Stripping out existing partitions, raised floors, suspended ceilings, services and finishes;
- Isolation and adaptation of existing services;
- Lightweight screed floors with vinyl floor finishes;
- Perimeter fire rated glazing and door assemblies;
- Internal plasterboard and glazed partitions;
- New internal duct cladding and alterations to internal duct enclosures;
- New lab services;



Proposed New Lab Refurbishment Works GA Plan Level 2



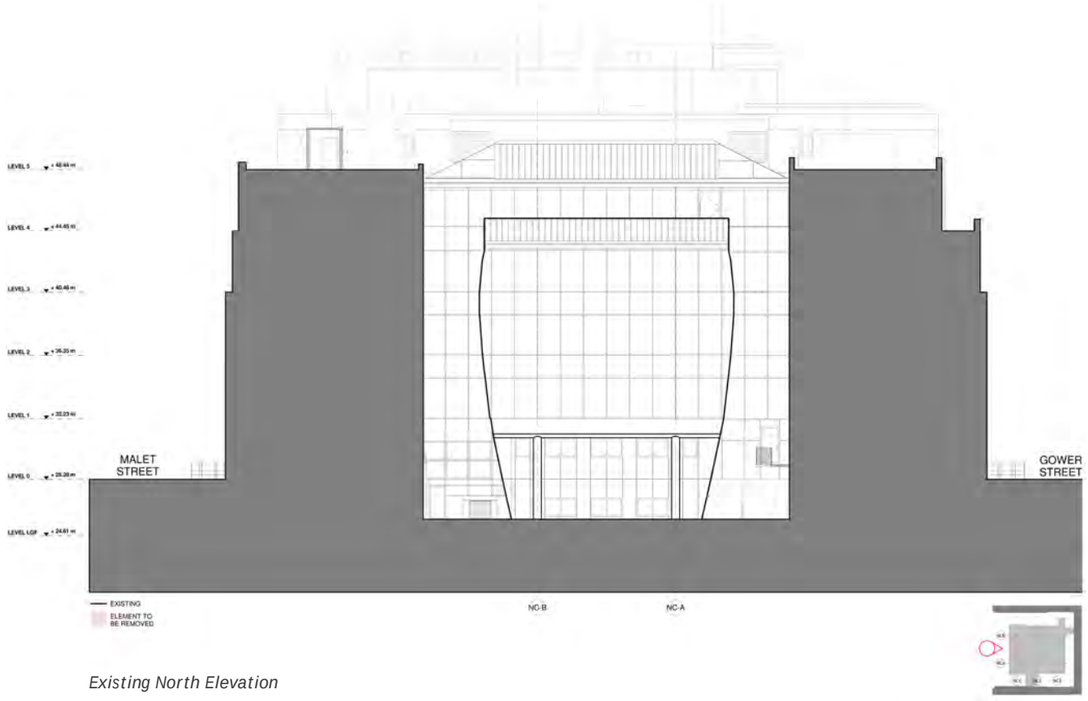
Proposed New Lab Refurbishment Works GA Plan Level 2-3



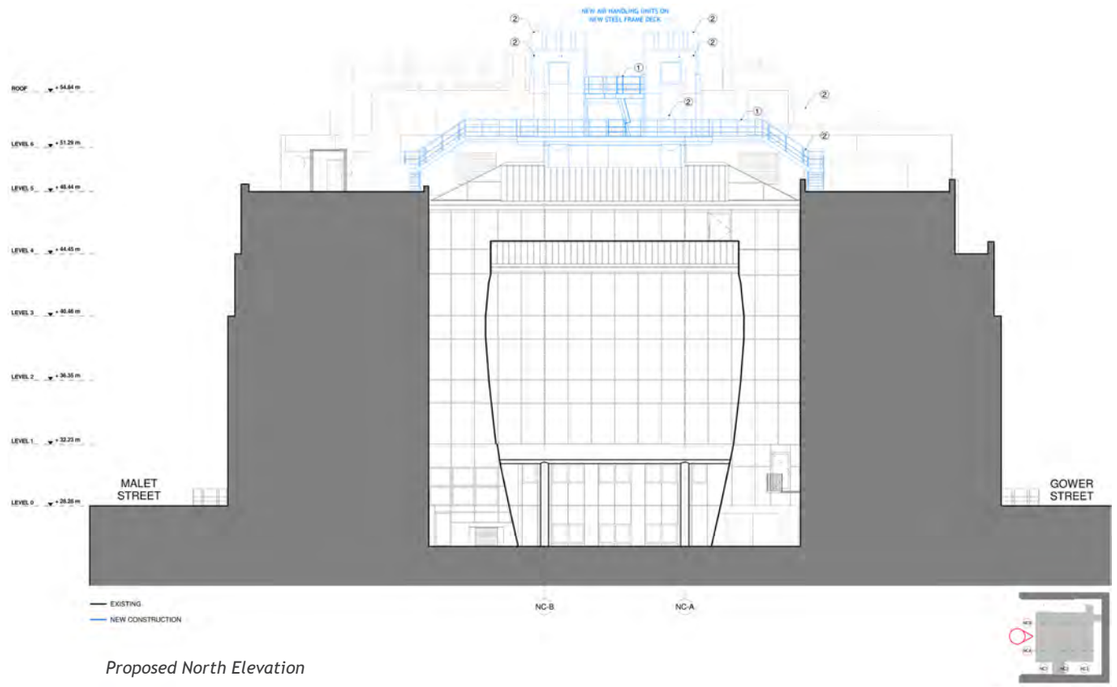
Proposed New Lab Refurbishment Works GA Plan Level 3

Existing Section North-South

Proposed Section North-South



Existing North Elevation



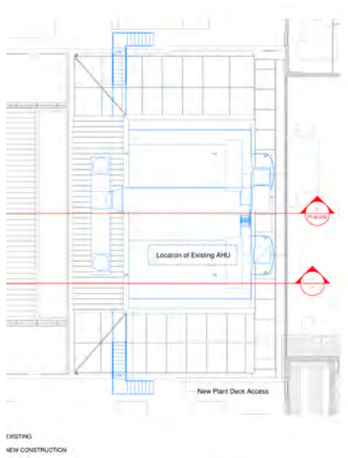
Proposed North Elevation

Works at roof level to provide the required services to the new laboratories will include the following:

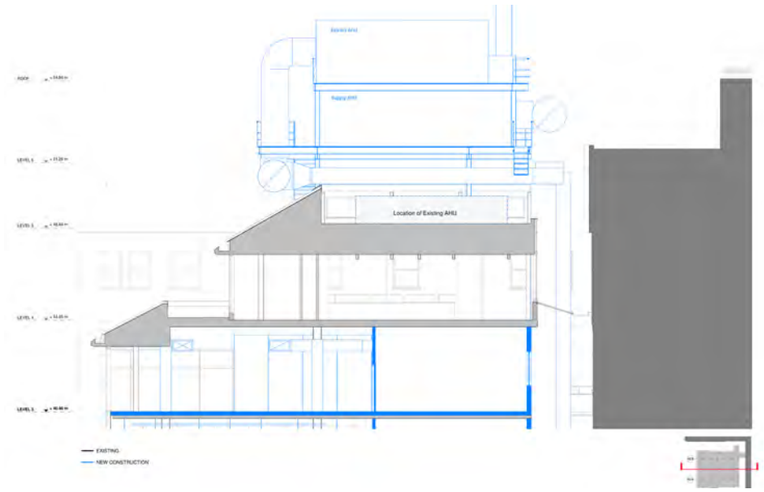
- External roof plant air handling units on new steel frame deck raised above the existing roof and existing plant with external insulated ducts and fume extract flues;
- Maintenance access walkways, steps and bridge in compliance with current workplace safety standards;
- Roof membrane repairs at L5;
- New penetrations through the existing rooflight for new and temporary duct penetrations;
- Removal and replacement of existing rooflight solar control film;

The laboratories will be open-plan, benched, and with subdivisions for specialist equipment areas. The completed laboratories will be fitted-out and enabled for future spatial and services adaptation within defined limits.

Lighting to new plant deck and equipment installations will be required for maintenance purposes only and be activated by PIR sensors or temporary over-ride switches for short periods of time and during working hours. No additional flood lighting to roof mounted equipment is proposed. Lighting will be directed and controlled to prevent light spillage.

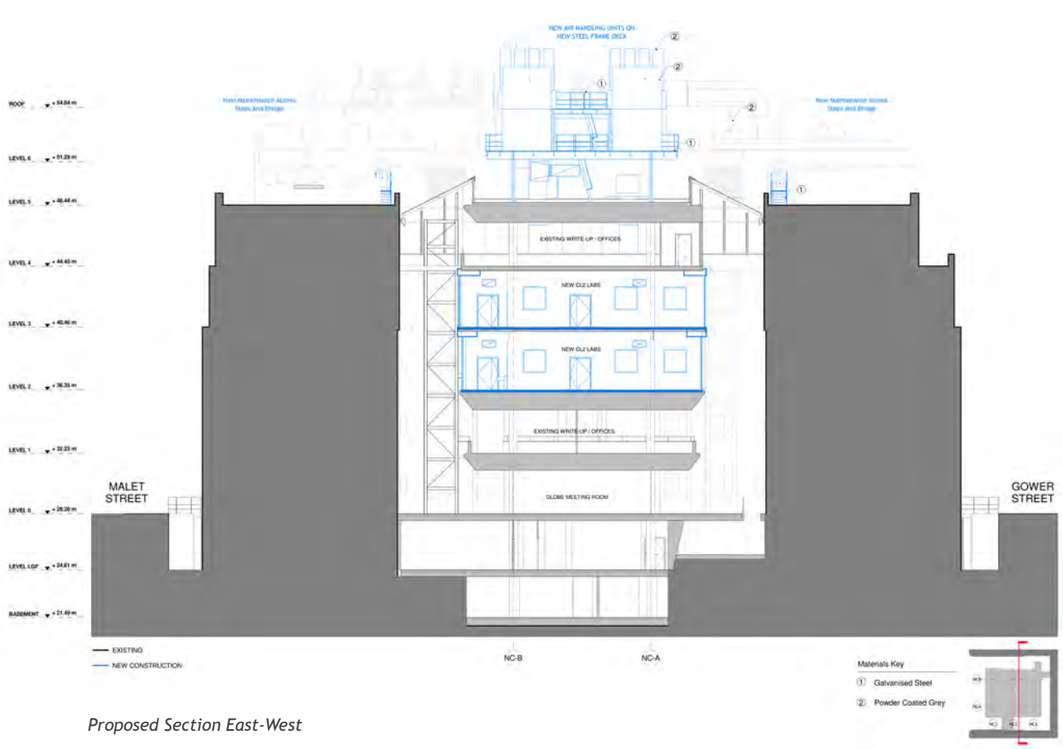


Proposed Roof Level Plant Deck Plan



Proposed Roof Level Plant Deck Section

Existing Section East-West



Proposed Section East-West

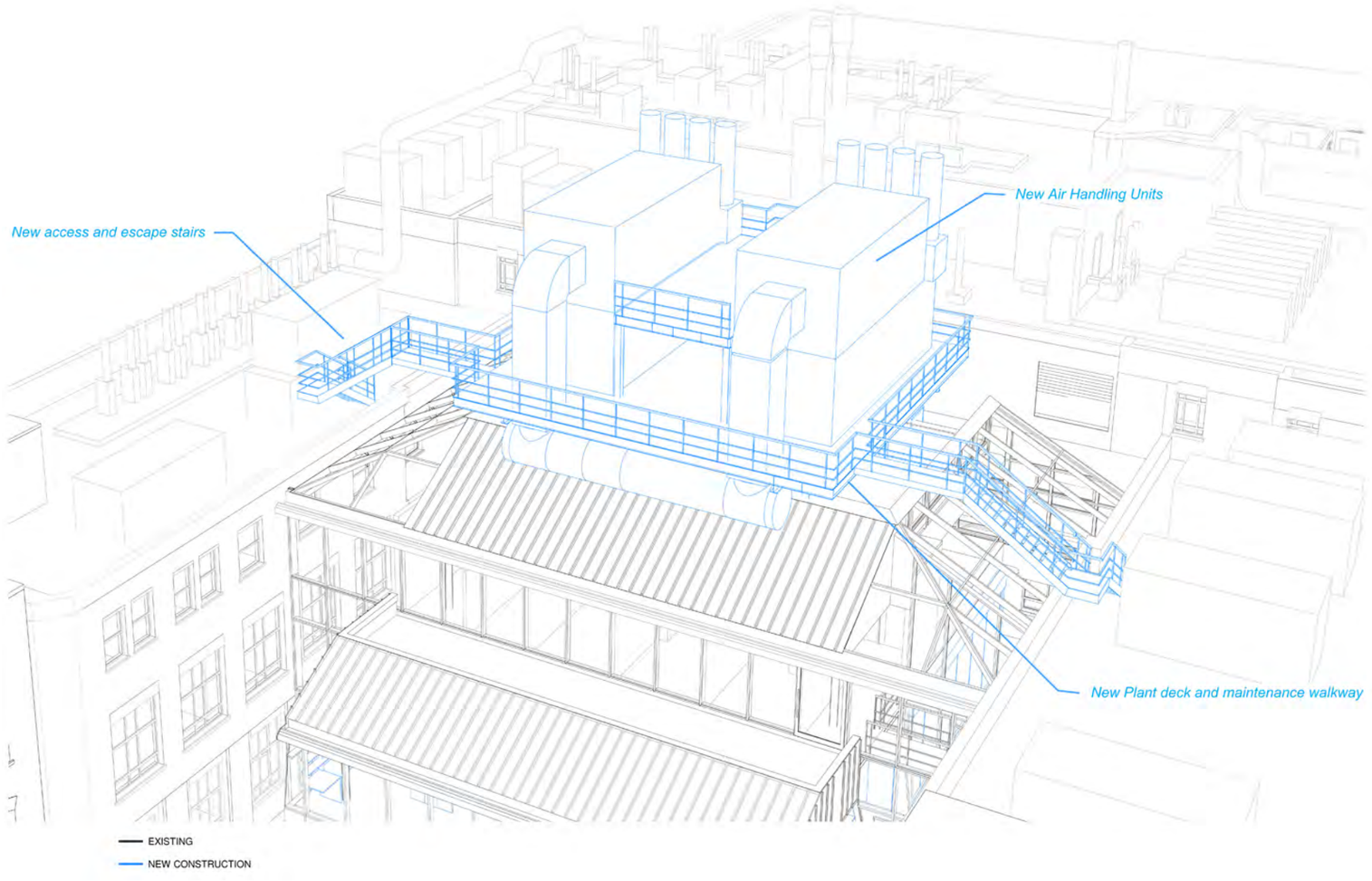
Rooftop Plant Deck and Equipment:

Contemporary laboratories require significant mechanical plant and equipment to provide the high air supply and extract rates dictated by laboratory health and safety standards and codes of practice. The existing NCB currently incorporates an air handling unit (AHU) and fans located at roof level (Level 5). In order to accommodate the required additional air flow capacity for new laboratory space, a new AHU will need to be installed to eventually serve all 4 levels of laboratory space within the NCB. A second AHU will be required to provide supply and extract air for future refurbishment of the existing NE and NW wings of the existing building and this additional AHU consequently forms part of this application.

To provide adequate space for this new equipment a new steel plant deck is to be installed above the existing roof level. The raised deck for new AHUs also allows the existing plant to remain operational to service occupied levels L1, L4 GFL, LGFL and Basement Level during the duration of the Phase 1 works and also provides safe maintenance access space below the new plant deck for duct routes and repairs to the existing roof membrane and other equipment. New safe maintenance access bridges from the existing NW and NE wings of the 1929 building are to be provided to replace the existing hatch and retractable ladder access from within the NCB building which no longer complies with health and safety best practice.

External Materials:

No alterations are proposed to the North Courtyard Building or existing 1929 building external envelope. The new plant platform and associated balustrade and handrails will be of mild steel with a hot-dipped galvanised steel finish. The enclosure of the new AHUs will be powder coated aluminium panels in dove grey or to match the existing NCB cladding grey colour. Deteriorated solar control film on the existing atrium rooflights will be removed and replaced with new film.



North Courtyard Building Proposed new plant and plant deck

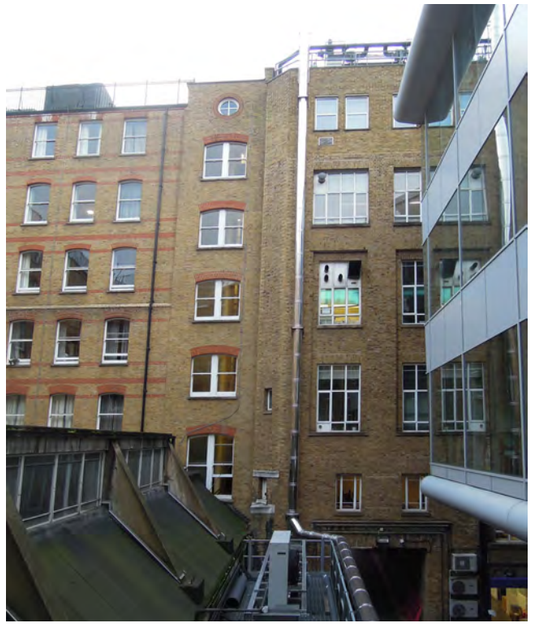
North Courtyard Building Existing Rooftop View

LSHTM Aerial Rooftop View

6. Local Context

The proposed roof level works comprising new mechanical air handling equipment and support deck will not be visible from pavement level on Gower Street or Malet Street. The additional equipment to the roof of the NCB may have a minor affect on the residential nursing accommodation located within the adjoining Bonham Carter and Warwickshire House and in this context a Daylight and Sunlight Assessment as well as a Noise, Vibration and Ventilation assessment will be submitted in support of this application following this submission.

In designing the rooftop plant we have been mindful to reduce the profile of the new AHUs as far as possible by orienting the units north/south to allow light to penetrate between them.



Service Yard View Facing East

Adjacent Warwickshire House View Facing East

7. Access

Access and egress to and from the existing NCB office spaces to be converted into laboratory spaces will be retained. This comprises step free access via a bridge link at each level at the southeast corner into the main 1929 building and access to a Part M compliant passenger lift in the atrium space connecting the GFL through to Level 4 of the NCB. An existing spiral stair enclosed in fire protected glazing with a disabled refuge area at every level will also be retained.

Contractor's site access will be via the Malet Street entrance gate to the NE of the site which connects via a ramp to the LGFL external service delivery and storage areas adjacent to the site north boundary. A Traffic management and Logistics Plan prepared by the appointed Construction manager MACE is included as supplementary material to this application.

The proposals will have no impact on the number of users in the building or increase servicing requirements from the public road.

8. Sustainability

Energy:

In order to provide best practice ventilation rates and design temperatures for the Phase 1 labs, new ventilation air handling units (AHUs) are proposed. These are being designed to incorporate heat / coolth recovery from the lab extract (including fume extract) via a run-around coil, which will reduce the energy required to maintain the design temperature range within the labs. Equipment specified to current standards will also be expected to be more energy efficient.

Task lighting is proposed at the lab benches to provide working levels of lighting, which would allow the general lighting in the lab to be dimmed to circulation lighting levels, saving energy as task lights would only need to be used when someone is working at a bench. Task lighting as well as general lab lighting will incorporate absence detection.

The generic lab layout has been organised to optimise natural light to the open plan lab area, which should allow luminaires to be dimmed / turned off when not used through daylight linking.

9. Conclusion

The proposed works comprising new laboratory space within the existing North Courtyard Building and served by new plant and equipment located at roof level constitute the first phase of a major project of refurbishment and renovation which will support this world leading institution retain its leadership role in research and higher education.

Design priority for these Phase 1 works, both in terms of the works location and refining the design, has been not to impact on the 1929 building fabric and to minimise any impact that the required additional services may have with the existing urban context.

End

10. Appendices

10.1 Appendix A: Schedule of supporting documents

Document Name	Date	Prepared by
Traffic management and Logistics Plan	March 2016	MACE

10.2 Appendix B: Drawings

Drawing No.	Revision	Title	Scale
IRAL-P1-08-0000	P00	Site Location Plan	1:1250@A4
IRAL-P1-08-0100	P00	GA Plan Ground Level Existing	1:100@A0
IRAL-P1-08-0101	P00	GA Plan Level 01 Existing	1:100@A0
IRAL-P1-08-0102	P00	GA Plan Level 02 Existing	1:100@A0
IRAL-P1-08-0103	P00	GA Plan Level 03 Existing	1:100@A0
IRAL-P1-08-0104	P00	GA Plan Level 04 Existing	1:100@A0
IRAL-P1-08-0105	P00	GA Plan Level 05 Existing	1:100@A0
IRAL-P1-08-0106	P00	GA Plan Level 06 Existing	1:100@A0
IRAL-P1-08-1007	P00	GA Plan Lower Ground Level Existing	1:100@A0
IRAL-P1-08-1008	P00	GA Plan Basement Level Exisitng	1:100@A0
IRAL-P1-08-0201	P00	North Courtyard Building Existing North Elevation	1:100@A1
IRAL-P1-08-0202	P00	North Courtyard Building Existing East-West Section	1:100@A1
IRAL-P1-08-0203	P00	North Courtyard Building Existing North-South Section	1:100@A1
IRAL-P1-08-0204	P00	North Courtyard Building Existing Section Through Atrium	1:100@A1
IRAL-P1-08-1102	P00	GA Plan Level 02 Proposed New Works	1:100@A0
IRAL-P1-08-1103	P00	GA Plan Level 03 Proposed New Works	1:100@A0
IRAL-P1-08-1112	P00	GA Plan Level 02 Proposed New Wet Labs	1:100@A3
IRAL-P1-08-1113	P00	GA Plan Level 03 Proposed New Wet Labs	1:100@A3
IRAL-P1-08-1201	P00	North Courtyard Building Proposed North Elevation	1:100@A1
IRAL-P1-08-1202	P00	North Courtyard Building Proposed East-West Section	1:100@A1
IRAL-P1-08-1203	P00	North Courtyard Building Proposed North-South Section	1:100@A1
IRAL-P1-08-1204	P00	North Courtyard Building Proposed Section Through Atrium	1:100@A1
IRAL-P1-08-2001	P00	North Courtyard Building Proposed Roof Plant Plan	1:100@A1
IRAL-P1-08-2002	P00	North Courtyard Building Proposed Roof Plant Section	1:50@A1
IRAL-P1-08-2003	P00	North Courtyard Building Proposed Roof Plant Axonometric	NTS@A1