7. Heritage Issues Relating to Phase 2b/2c

During the pre-application meeting preliminary Phase 2 outline proposals were discussed on site on the 25.04.18 with the assigned LB Camden planning officer. The following specific heritage related issues were raised and discussed. A record of the discussions held is attached as Appendix C.

7.1 Partial removal and relocation of the existing internal circulation corridors to accommodate efficient open plan research and teaching lab spaces

The Master Plan objectives are to rationalise circulation and provide larger open plan footprints for new research and teaching laboratory spaces and open plan write-up space. To this end some existing corridors and associated partitions and door assemblies in the 1929 building need to be relocated or removed. Appendix B contains a statement from the LSHTM setting out the operational reasons for a requirement for more open plan spaces to support contemporary research activities.

In the context of the Phase 2b/2c proposals this entails the following:

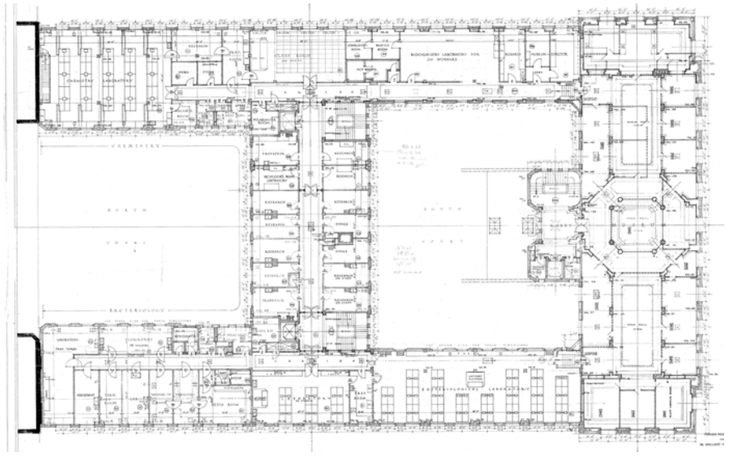
a) Relocation of the Central Wing east-west corridor linking the main circulation stairs at east and west ends of the Central Wing from the centre of the wing to the north face of the wing. Removal of this corridor is required to provide open plan space for a teaching lab and support spaces capable of accommodating 80 students within the Central Wing with direct connections to the 2 circulation stairs.

b) Removal of north-south corridor in the West Wing to the south of the west circulation stair. From historic records of the original 1929 building plans the existing corridor in this location is not original as this area is identified as an open plan laboratory space (refer to historic plan of Level 2 on this page). The proposal is to remove the existing corridor up to the existing original double doors thus re-instating the original open plan space in this area of the West wing.

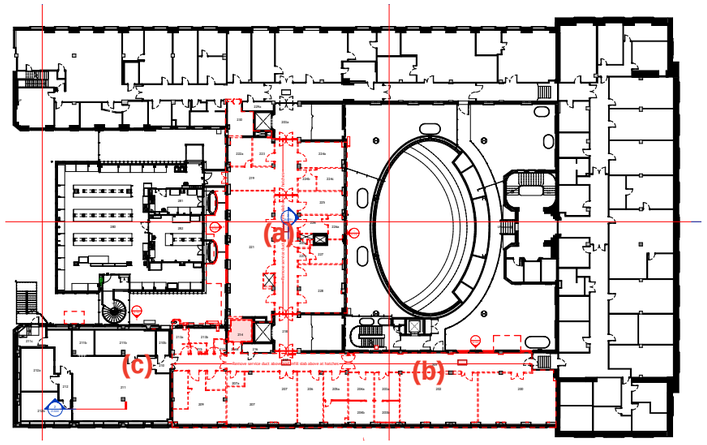
c) Partial removal of the north-south corridor in the Northwest Wing. It should be noted that some of the original corridor and internal partitions to the north end of the NW Wing have been previously been removed to form the existing teaching lab space currently located here. Further partial removal of this central corridor to provide an open plan Containment Level 3 laboratory formed part of Phase 2A previously granted permission.

Central wing E/W circulation corridor proposed to be removed in Phase 2b

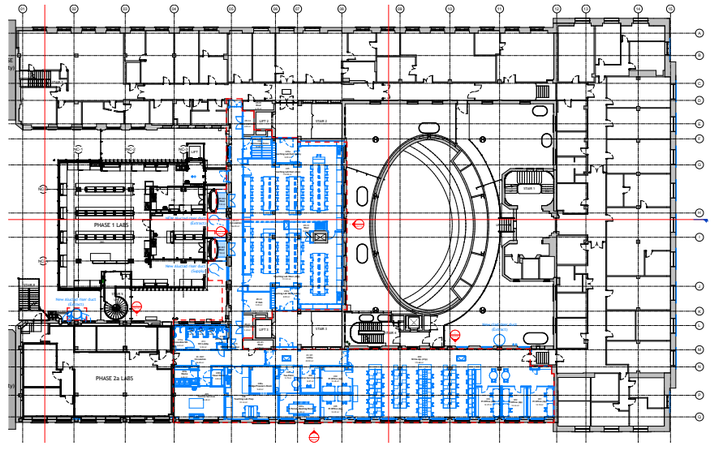
West wing N/S circulation corridor facing South showing existing door between corridor to be retained and proposed open plan future write-up space beyond



Historic 1926 plan showing open plan lab in West wing south of Central wing stair



Proposed Phase 2b partition removal plan (partitions removed in red)



Proposed Phase 2b plan

The heritage strategy for Phase 2 is to preserve the existing main east and west circulation stairs in the Central Wing as well as a partial retention of the existing West wing main circulation N/S corridor adjacent to the circulation stairs and extending approximately the width of the Central wing in the N/S direction.

This strategy seeks to retain a significant portion of the existing circulation and associated original door assemblies while acknowledging the need for more flexible and open plan space to serve the needs of contemporary scientific research and teaching labs. It also provides a clear and readable demarcation between retained heritage zones, operational laboratory areas and open plan write-up space.

We propose that the strategy of partial removal of the existing circulation corridors applied to the Phase 2 works is to also apply to future phases of redevelopment associated with the NW, NE, West, East and Central wing at levels 1 to 4 inclusive. This is more fully described below in Section 8.

7.2 Replacment of existing heritage door leafs

The original 1929 door leafs have a number of issues which need to be resolved.
Opening one leaf of the double doors does not provide sufficient clear opening for a wheelchair and is consequently not compliant with Building Regulations Part M. On this basis the door leafs would either need to be replaced with one larger active leaf and a smaller passive leaf, or motorised door openers provided for access by a mobility imparied person (MIP).
The double door leafs are in generally poor condition, due to damage by trolleys and changes in ironmongery through their life.
Providing a larger active leaf for MIP access would also make it easier to move trolleys / equipment through the active leaf.
We are proposing to repair the single door leafs being reused where possible, and replacing the double door leafs with a larger active leaf and a smaller passive leaf in order to provide compliant MIP accessibility. The existing door handles will be removed and re-chromed for installation on the new door leafs.

Existing Central wing west stair core - view facing south

Existing Central wing west stair core and doors to be retained - view facing west

Existing Central wing west stair core - view facing north

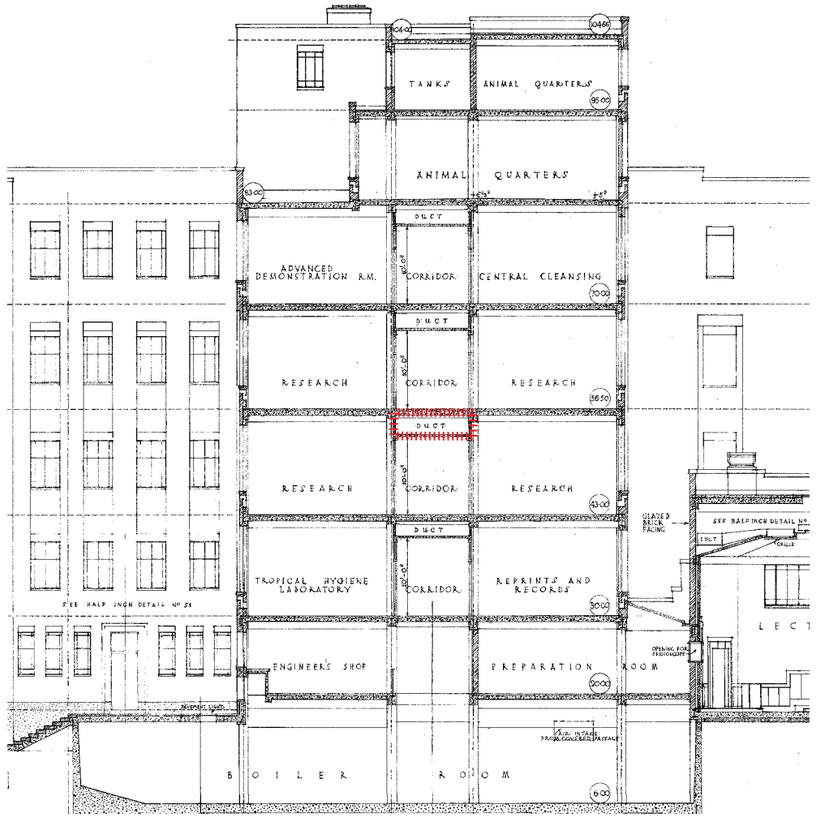
Existing Central wing west stair core and doors to be retained - view facing east
Future entrance to new teaching labs

7.3 Removal of down standing services trenches at slab soffits above the existing main circulation corridors

As part of the original 1929 building services distribution strategy a services trench was located above the main circulation corridors. The trench is accessible via a series of removable hatches from the level above and via some more recent access panels from below. From preliminary intrusive investigations it appears that the services trench is not structural and is of relatively light weight construction. The trench is approximately 900mm in depth and extends the full width of the corridors below. Although possibly an innovative approach at the time, these trenches are no longer fit for purpose. They also likely to be partially contaminated with ACMs and surveys to establish this are currently underway. The trench contains a variety of live and redundant services. Live services are proposed to be relocated and redundant services removed.

The Phase 2b proposal is to remove these service trenches within the Phase 2b area, as the services distribution space that they provide is no longer spatially adequate or safely accessible, and the reduction in floor to ceiling height below these trenches results in significant constraints on new horizontal services routes required.

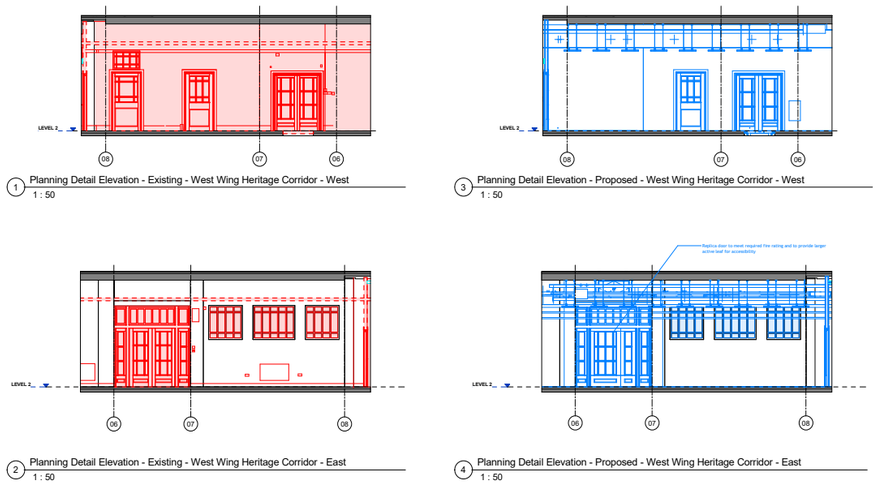
The removal of this trench requires the dismantling of the partition walls below, which will be rebuilt once the trench has been removed.



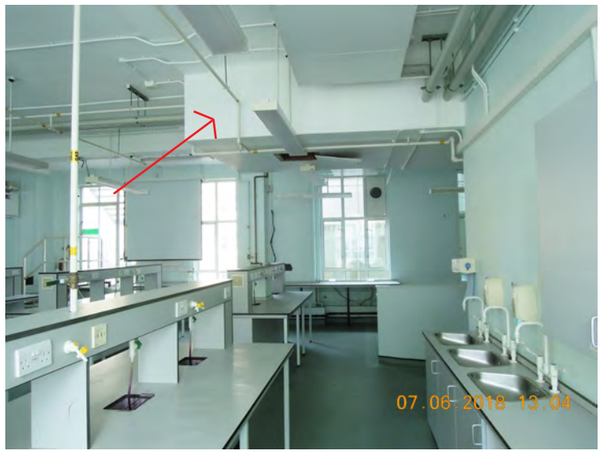
Historic N/S section Central wing with existing services trench at L2 shown in red dotted

Historic E/W section through Central and West wings with existing services trench at L2 shown in red outline

Existing services trench below L3 slab



Leevl 2 corridor elevations adjacent to stair 2, s howing trench removal



View from the teaching lab before renovation in Phase 2a, showing the exposed service trench to underside of floor slab

7.4 Renovation of existing windows

The Master Plan guidance for thermal control and ventilation for write-up and office spaces originally called for local heat exchange/ fan coil units with supply/extract ducts connected to louvred panels in external windows. The original intention of this strategy was to provide an acceptable degree of environmental control and avoid the need for centralised plant and equipment. Further cost benefit analysis has established that a centralised plant solution is the preferred option both in terms of initial capital and future running and maintenance costs. The original proposal from the Phase 2a planning application to introduce louvred panels into new replacement window assemblies will consequently not be implemented.

The existing windows facing Gower Street, Keppel Street and the North Courtyard are not original and comprise aluminium frames with double glazed units and visual sub-dividing beads within the double glazed units (attempting to mirror the original steel frame W20 panel design). The central wing windows facing the South Courtyard are also aluminium double glazed units. The windows facing the South Courtyard in the West, South and East wings appear to be original steel framed single glazed windows. The external windows facing Malet Street appear to be non-original W20 steel framed windows with single glazing. Some of the glazed panels facing Gower Street have been replaced with solid panels and projecting extract/ducts (refer to images within the LSHTM at Keppel Street Pre-Application Information document View 33 and 34). These opaque panels and associated ventilation terminals will be removed and replaced with double glazed units to match the existing.

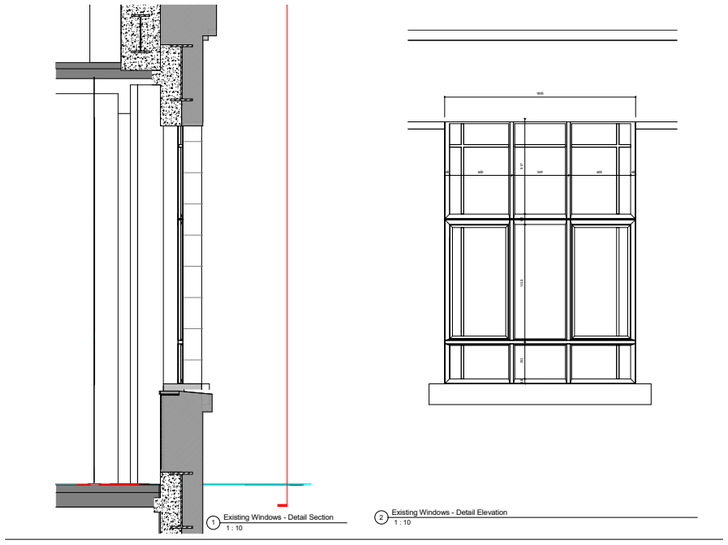
The proposal relating to external and internal courtyard windows for Phase 2b areas and consequently forming part of this application comprises generally a refurbishment of the existing aluminium and steel frame window assemblies, including cleaning, replacement of faulty or missing DGUs and replacement of ironmongery.

7.5 Replacement of specific windows

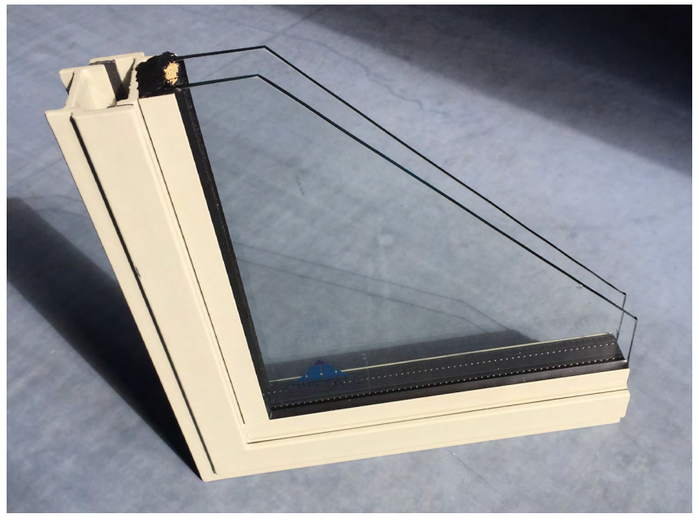
Eight windows in total are proposed to be replaced during Phase 2b.

On the basis that the renovation of the aluminium windows is a short-term solution, where new services penetrations are needed at 5 no. North Courtyard facing windows we are proposing to replace the existing aluminium windows with new double glazed W40 (or similar) steel windows, similar to the original “Medium Universal Range” steel windows. We are proposing to replace these windows during Phase 2b as replacing these windows later would be more difficult due to the live services penetrations.

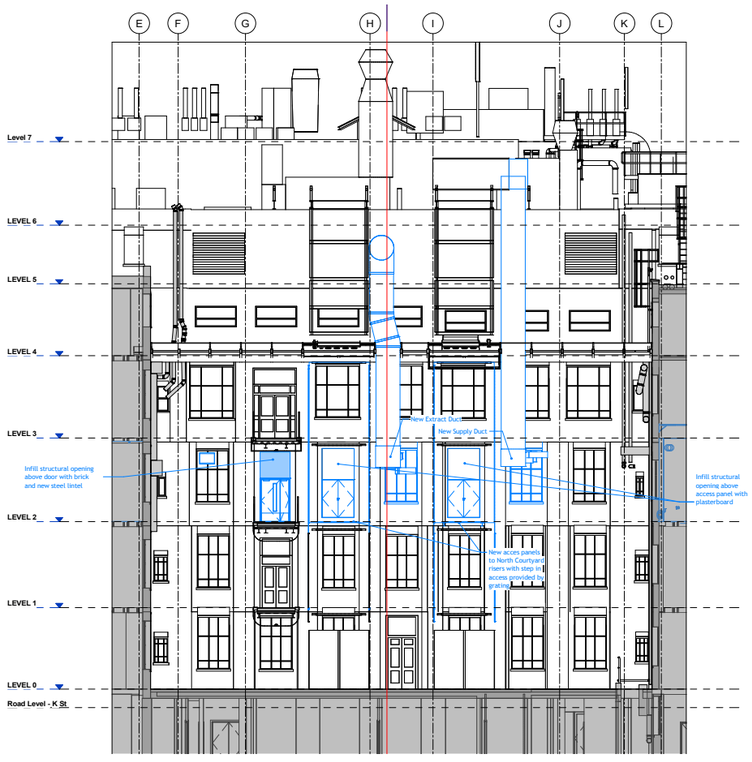
3 no. original steel windows facing the South Courtyard are proposed to be replaced with new double glazed non-thermally broken steel windows (MW40 or equivalent), similar to the original “Medium Universal Range” steel windows. We are proposing to replace these windows as the acoustic performance required between the South Courtyard and the open-plan write-up area cannot be achieved by refurbishing these windows.



Existing aluminium framed windows



Proposed replacement steel framed window system - for internal courtyard facing windows



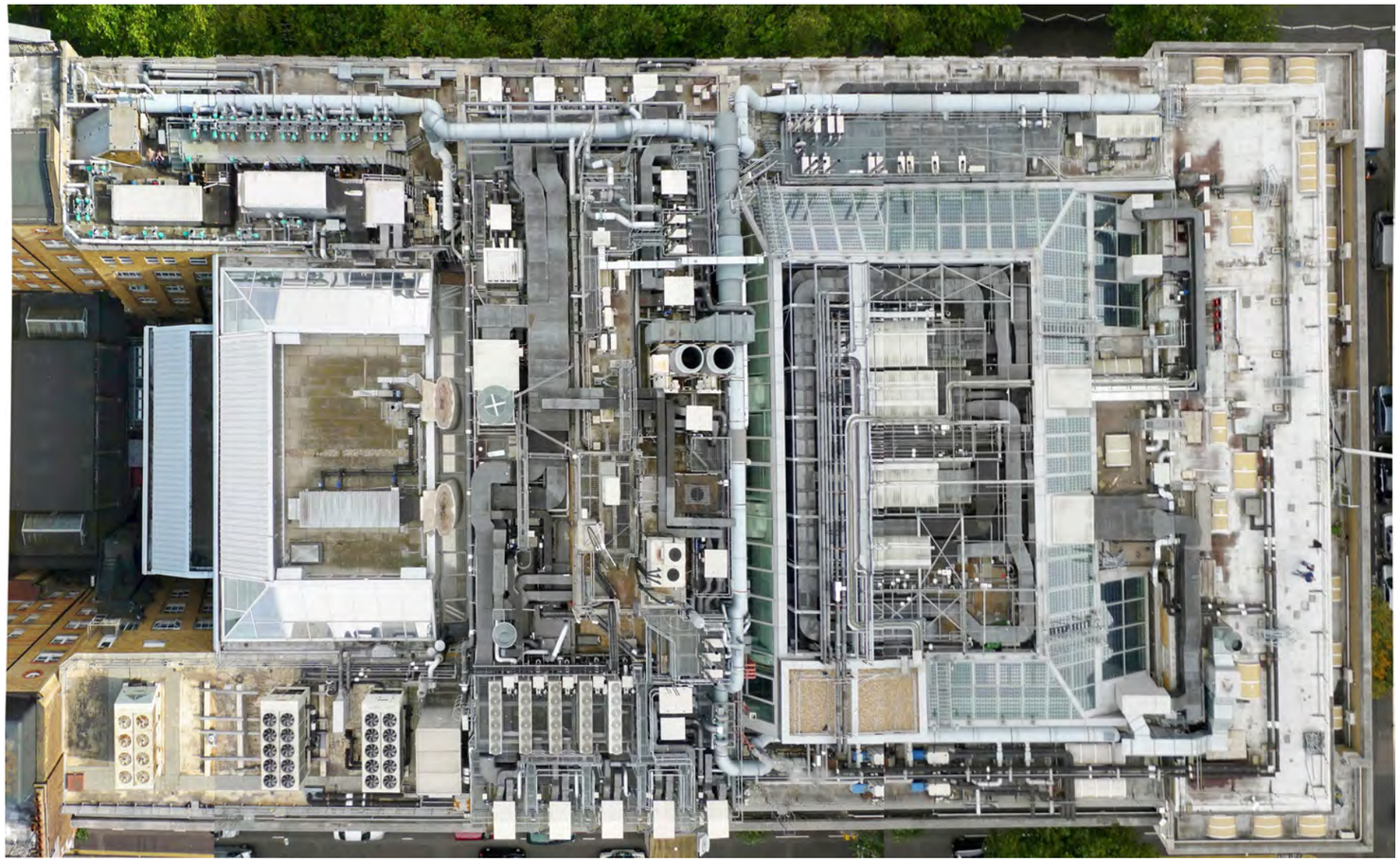
Central wing north elevation showing window replacements due to duct penetrations.

7.6 Proposals for replacement and upgrading of external and internal services infrastructure

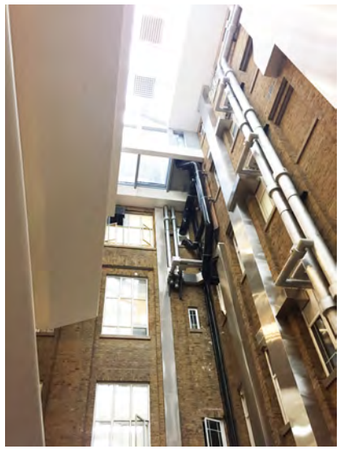
The Master Plan guidance relating to spatial use distribution requires the migration of all highly serviced research laboratory space to the NW Wing, NE Wing and North Courtyard Building, with teaching lab space generally allocated to the Central Wing and write-up space allocated to the East and West Wings (south of the Central Wing). Currently laboratory space is distributed randomly around the building reflecting incremental and piecemeal local renovation with consequential complex services distribution.

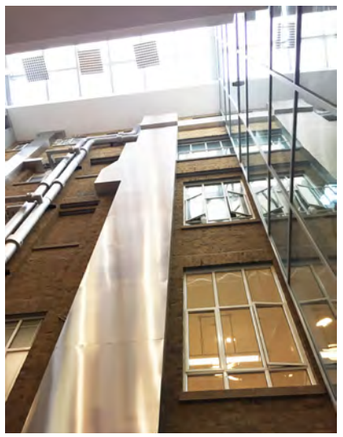
The Master Plan strategy is to replace and migrate a significant proportion of the rooftop plant and equipment to the north end of the building in order to better service the enhanced cooling and air handling requirements for modern laboratory space. The strategy will allow progressive removal of existing roof top plant and equipment from the East, West and Keppel Street Wings and clear these areas of the roof for renovation of waterproof membranes which are currently in poor condition resulting in leaks and building fabric deterioration. It is envisaged that new infrastructure plant and equipment serving the East, West and Keppel Street wings will be located on an additional plant deck above the 2007 South Courtyard building. This additional infrastructure will form part future upgrade works.

The Master Plan strategy is also to progressively remove and rationalise the existing services distribution ducts and pipework currently within the North and South Courtyard atriums and install new rationalised risers.



Existing roof scape with services prior to Phase 1 works





Existing North Courtyard atrium with existing services to be rationalised in Phase 2b / 2c and redundant services removed

Heritage Issues Relating to Subsequent Phases

During the pre-application consultation relating to Phase 2 outline proposals the assigned planning and conservation officer requested further clarification relating to the proposed extent of removal of circulation spaces on other floors of the building during subsequent phases of redevelopment.

The main proposed alterations to the 1929 building outlined in the Master Plan are alterations to the circulation spaces between levels 1 to 3 inclusive within the NW, NE, Central, West and East wings. The design principles we have proposed are to retain as much of the original circulation spaces as possible, with a view to balancing the LSHTM operational requirements for more flexible research, teaching and write-up space while retaining a core of heritage features within the building. In each case a clear visual and spatial demarcation line between refurbished existing features and finishes and modern renovated open plan space would be articulated typically at a hardwood glazed double door assembly currently found in circulation spaces.

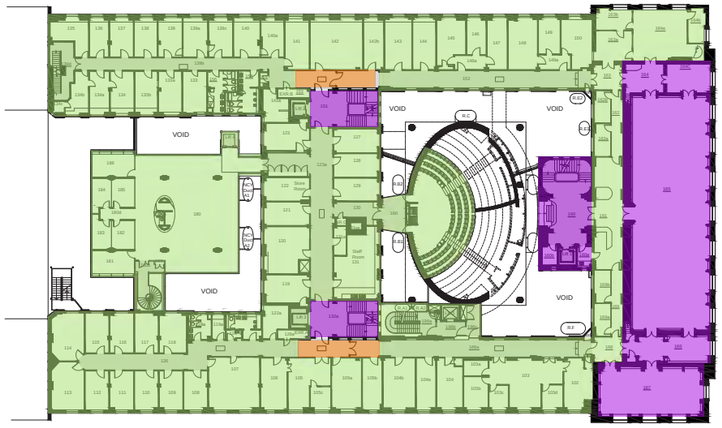
The LGFL and L4 of the Keppel Street building do not contain any features of significant heritage value, with level 4 consisting largely of later additions to the building. No alterations to circulation spaces to the GFL or the Keppel Street wing at GFL and above are currently envisaged in the Master Plan redevelopment guidelines.

Areas of high heritage value to be retained are shown on in purple.

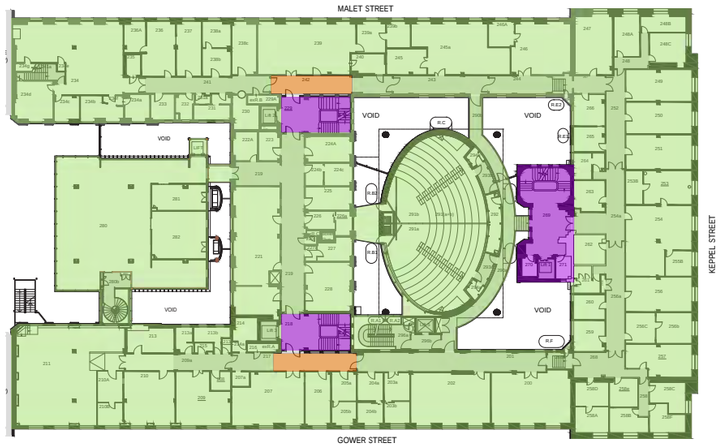
Existing circulation areas to be retained are shown in orange with these areas generally to retain existing finishes and door assemblies albeit with sympathetic modifications as required by the new layouts. The herringbone timber floor will be retained, renovated or reinstated in these areas depending on the presence and condition of the existing timber flooring identified once the floor finishes are lifted. The areas identified in the plans adjacent are minimum areas, which may expand as a result of operational requirements.

Green areas proposed are proposed as subject to modification into potential open plan spaces.

No alterations to the Ground Floor areas are currently envisaged.



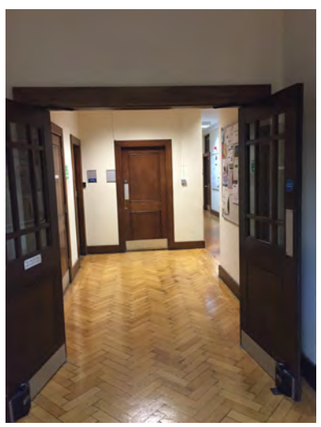
Level 1 Plan - Proposed areas of heritage value to be retained



Level 2 Plan - Proposed areas of heritage value to be retained

Level 3 Plan - Proposed areas of heritage value to be retained

Level 4 Plan - Proposed areas of heritage value to be retained

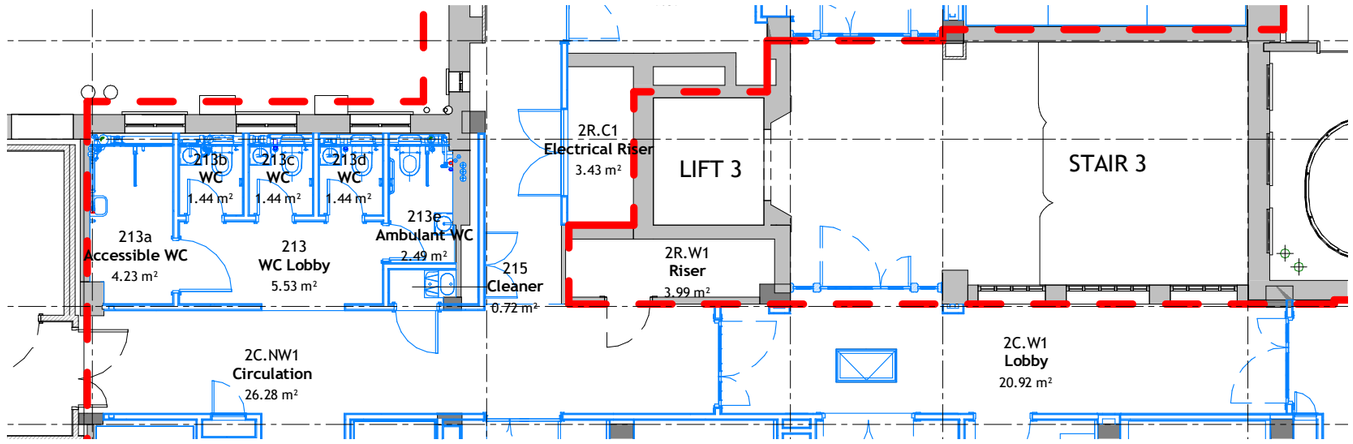


herringbone timber floors, timber windows to stairs and timber doors to be retained / renovated / reinstated in the circulation areas shown in orange.

8. Local Urban Context

The North Courtyard building roof plant level header ducts installed under Phase 1 will be extended vertically down the east façade of the NW wing with further extensions of supply and extract ducts connecting to the Phase 1 air handling unit with the Phase 2b areas and located within the North Courtyard building atrium space. These required infrastructure additions will not be visible from the street.

In order to provide safe access and circulation to the new Phase 1 roof plant deck the Phase 2b works include a maintenance access stair connecting the Gower Street L4 terrace level with the L5 roof level. This new maintenance access stair will replace the existing access ladder connecting these two levels. The stair will be slightly visible from street level, so has been located at the north end of the NW wing against the party wall in order to reduce it's visual impact.



Level 2 - WC reconfiguration to provide an Accessible WC and an Ambulant Accessible WC and replacement of door leaves to stairs for MIP access.

9. Access

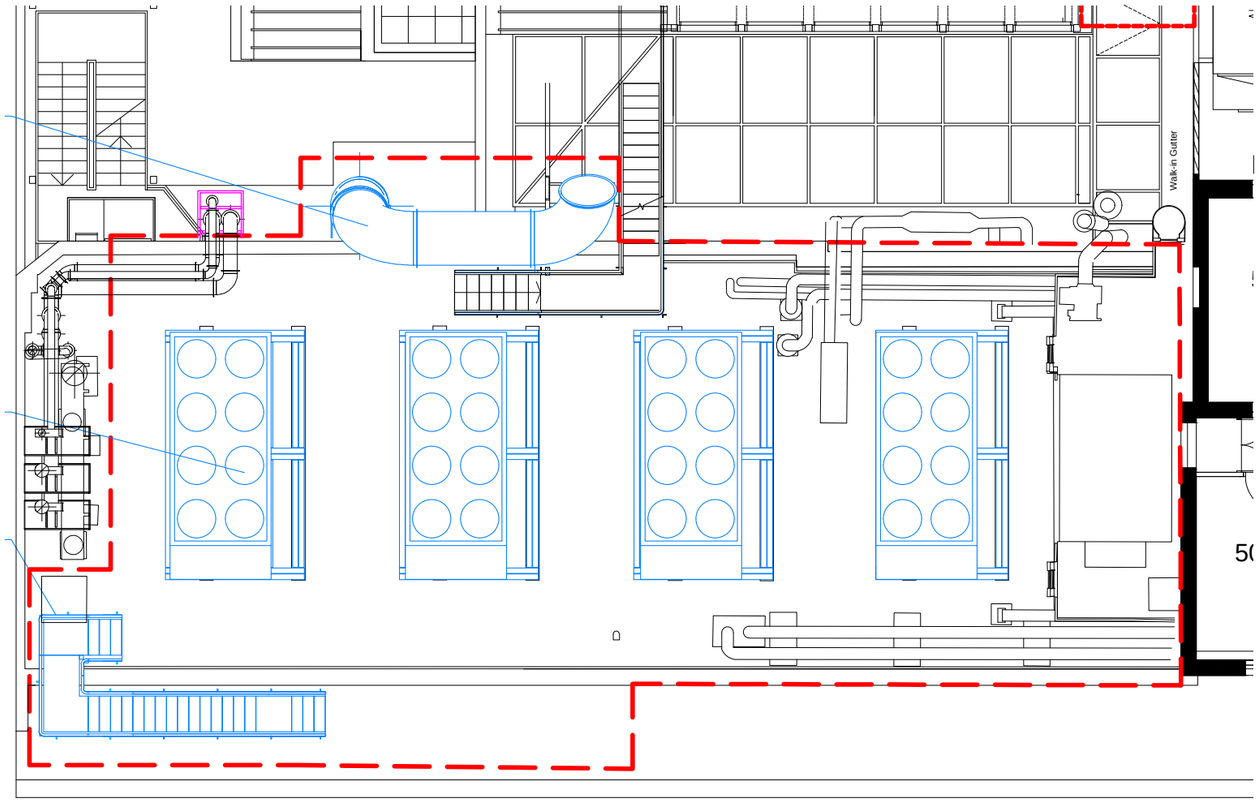
Existing step free level access and egress to and from the Phase 2b areas will be retained. Existing access is via the existing N/S circulation corridor in the NW wing of the 1929 building leading to the Central wing west circulation core. The proposed relocated Central wing corridor forming part of Phase 2b works will connect the NW wing to the Central wing east circulation core which contains a Part M compliant passenger lift.

There will also be access through the Phase 2b write-up space in the West wing to the South Courtyard circulation core containing an accessible lift.

The existing sanitary facilities will be reconfigured to provide unisex sanitary facilities including a fully compliant disabled WC plus an ambulant disabled WC. There were previously no step free accessible disabled WC facilities contained in the NW, NE, Central, East and West wings of the 1929 building.

The new stair being provided from the level 4 Gower Street roof terrace to the level 5 roof is replacing a vertical ladder in order to provide safe maintenance access to the level 5 roof.

The contractor's temporary site access will be via the Malet Street entrance gate located at the NE end of the site and 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 will be prepared by the appointed contractor



Level 5 - A new maintenance access stair to replace a vertical ladder

10. Sustainability

Energy:

In order to provide best practice ventilation rates and design temperatures for the Phase 2b teaching labs and write-up spaces new ventilation will be provided by the air handling unit (AHU) installed under Phase 1. The new AHU is designed to incorporate heat/coolth recovery from the lab 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.

11. Conclusion

The proposed works under Phase 2b / 2c form part of a major project for refurbishment and renovation at the LSHTM which will support this world leading institution retain its leadership role in research and higher education.

In developing the proposals that form this Phase 2b /2c submission we have been mindful of the significant heritage value of the Keppel Street building and have endeavoured to achieve a balance between an aspiration to retain all historic internal features and the operational requirements of a modern forward looking research and teaching institution with a requirement for larger open plan spaces and a highly complex level of services infrastructure.

We are confident that the proposals forming part of this Phase 2b / 2c submission have achieved a satisfactory balance between these objectives.

End

12. Appendices

12.1 Appendix A:
Drawings

12.2 Appendix B:
London School of Hygiene and Tropical Medicine
Operational Statement

12.3 Appendix C:
Record of discussions held at pre-application meeting

Appendix A: Drawings

Drawing List

Dwg No	Rev	Dwg Name	Scale
739-IRAL-02-08-0000	3A	Site Location Plan	1.1250@A4
739-IRAL-02-08-1800	3A	GA Plan – Ground Floor Level - Existing	1.100@A0
739-IRAL-02-08-1801	3A	GA Plan – Level 01 - Existing	1.100@A0
739-IRAL-02-08-1802	3A	GA Plan – Level 02 - Existing	1.100@A0
739-IRAL-02-08-1803	3A	GA Plan – Level 03 - Existing	1.100@A0
739-IRAL-02-08-1804	3A	GA Plan – Level 04 - Existing	1.100@A0
739-IRAL-02-08-1805	3A	GA Plan – Level 05 - Existing	1.100@A0
739-IRAL-02-08-1806	3A	GA Plan – Level 06 - Existing	1.100@A0
739-IRAL-02-08-1807	3A	GA Plan – Lower Ground Level - Existing	1.100@A0
739-IRAL-02-08-1808	3A	GA Plan – Basement Level - Existing	1.100@A0
739-IRAL-02-08-1809	3A	GA Plan – Roof Level - Existing	1.100@A0
739-IRAL-02-08-1901	3A	Elevation – Existing - Gower Street Elevation	1.100@A0
739-IRAL-02-08-1904	3A	Elevation – Existing - NW Wing East Elevation	1.100@A1
739-IRAL-02-08-1905	3A	Elevation – Existing - Central Wing North Elevation	1.100@A1
739-IRAL-02-08-1909	3A	Elevation – Existing - West Wing East Elevation	1.100@A1
739-IRAL-02-08-1910	3A	Elevation – Existing - Central Wing South Elevation	1.100@A1
739-IRAL-02-08-2000	3A	GA Plan – Ground Floor Level - Proposed	1.100@A0
739-IRAL-02-08-2001	3A	GA Plan – Level 01 - Proposed	1.100@A0
739-IRAL-02-08-2002	3A	GA Plan – Level 02 - Proposed	1.100@A0
739-IRAL-02-08-2003	3A	GA Plan – Level 03 - Proposed	1.100@A0
739-IRAL-02-08-2004	3A	GA Plan – Level 04 - Proposed	1.100@A0
739-IRAL-02-08-2005	3A	GA Plan – Level 05 - Proposed	1.100@A0
739-IRAL-02-08-2006	3A	GA Plan – Level 06 - Proposed	1.100@A0
739-IRAL-02-08-2007	3A	GA Plan – Lower Ground Level - Proposed	1.100@A0
739-IRAL-02-08-2008	3A	GA Plan – Basement Level - Proposed	1.100@A0
739-IRAL-02-08-2009	3A	GA Plan – Roof Level - Proposed	1.100@A0
739-IRAL-02-08-2022	3A	Axonometric - Proposed Level 2	nts@A0
739-IRAL-02-08-2029	3A	Axonometric - Proposed Roof Level	nts@A0
739-IRAL-02-08-2031	3A	Level 1 Plan - Conservation Strategy	1.100@A0
739-IRAL-02-08-2032	3A	Level 2 Plan - Conservation Strategy	1.100@A0
739-IRAL-02-08-2033	3A	Level 3 Plan - Conservation Strategy	1.100@A0
739-IRAL-02-08-2034	3A	Level 4 Plan - Conservation Strategy	1.100@A0
739-IRAL-02-08-2101	3A	Elevation – Proposed - Gower Street Elevation	1.100@A0
739-IRAL-02-08-2104	3A	Elevation – Proposed - NW Wing East Elevation	1.100@A1
739-IRAL-02-08-2105	3A	Elevation – Proposed - Central Wing North Elevation	1.100@A1
739-IRAL-02-08-2109	3A	Elevation – Proposed - West Wing East Elevation	1.100@A1
739-IRAL-02-08-2110	3A	Elevation – Proposed - Central Wing South Elevation	1.100@A1
739-IRAL-02-08-22S1	3A	Section - Proposed - NW Wing Looking South	1.100@A1
739-IRAL-02-08-22S2	3A	Section - Proposed - West Wing Looking South	1.100@A1
739-IRAL-02-08-22W1	3A	Section - Proposed - Central Wing Looking West	1.100@A0
739-IRAL-02-08-2501	3A	Detail Sections - Level 2 - West Wing Heritage Corridor	1.50@A1
739-IRAL-02-08-3001	3A	Detail Section and Elevation Existing Windows Gower Street	1.10@A1
739-IRAL-02-08-3501	3A	Heritage Door Replacement Leaves	1.10@A1
739-IRAL-02-08-4302	3A	Location Plan – Proposed Floor Finishes - Level 02	1.100@A1
739-IRAL-02-08-7001	3A	Replacement Chillers Visibility Assessment	1.200@A1
		Historic Plan from LSHTM archives of level 2	NTS

Appendix B: London School of Hygiene and Tropical Medicine Operational Statement

LSHTM operational statement in support of planning/listed building application for Phase 2A works

Introduction

The London School of Hygiene & Tropical Medicine (LSHTM) is a world-leading centre for research and postgraduate education in public and global health.

The School`s mission is to improve health and health equity in the UK and worldwide; working in partnership to achieve excellence in public and global health research, education and the translation of knowledge into policy and practice.

Founded in 1899, the School has expanded in recent years at its two main sites, Keppel Street and Tavistock Place. Our staff, students and alumni, work in more than 150 countries in government, academia, international agencies and health services.

The School has grown significantly over the past five years, with its annual income increasing from £100m in 2010/11 to £167m in 2016/17. Much of this growth has been driven by its success in attracting research funding, but the School's distance learning programmes have also been highly successful. The Welcome Trust, Gates Foundation and other philanthropic sources has also aided the Schools mission. The School's multidisciplinary expertise includes clinicians, epidemiologists, statisticians, social scientists, molecular biologists and immunologists, and we work with partners worldwide to support the development of teaching and research.

London School of Hygiene and Tropical Medicine. LSHTM is a unique institution, the estate is one of its most important assets and has a key role in supporting the excellence of its research teaching and other activities. The School has made significant investments in its estate to support this success, including the completion of the South Courtyard Development within the Keppel Street building, the purchase and complete refurbishment of Tavistock Place, and laboratory refurbishments. These projects have increased usable space and enhanced the quality of the working environment space for students and some staff

Our educational provision has expanded to more than 1,000 London-based Masters and Research students, 3,000 studying postgraduate courses by distance learning, and 1,000 each year on short courses and continuous professional development. Our free online courses are studied by more than 30,000 participants globally.

The School performs well in various global university league tables. In the US News Best Global Universities Ranking 2017, we are ranked sixth in the world (together with Oxford University) in the fields of social sciences and public health. In the 2016, CWTS Leiden Ranking, the School was ranked fifth in the world for research impact across all disciplines, based on the share of institutions' outputs within the top 1% of papers by citation in all areas of science and independent of size of output. The School was named University of the Year 2016 by The Times Higher Education, in recognition of the Schools response to the Ebola epidemic.

The Current Estate

The School occupies five buildings in the Bloomsbury area of Central London. Its largest building in Keppel Street, was constructed in the 1920s and provides office, laboratory, library and teaching space. The building is Grade II listed. The School's other main building in Tavistock Place was built in 1910-1920, and was purchased in 2008. This building opened in 2010 following complete refurbishment, and provides office and teaching space.

In addition to its main buildings, the School owns long leases on three Georgian properties, all within half a mile of Keppel Street. No. 8 and 9 Bedford Square were acquired between 2002 and 2004, and provide office space; 36-38 Gordon Square was acquired in 2006, and houses the London International Development Centre (LIDC). This is a joint initiative with the other Bloomsbury Colleges (Birkbeck, Institute of Education, Royal Veterinary College and SOAS).

The School's London property holdings are summarised below:

Site	Tenure	NIA Sqm	GIA Sqm
Keppel Street	Freehold	13,819	20,602
15-17 Tavistock Place	Freehold	2,549	3,975
8 Bedford Square	Leasehold	373	523
9 Bedford Square	Leasehold	358	551
36-38 Gordon Square	Leasehold	897	1,209
Total		**17,996**	**26,860**

Executive Summary

The Estate Strategy sets out a development framework for the estate covering a 10-year period to 2027, with the aim of providing the physical environment required for research and teaching in a changing educational and economic environment. The strategy must be flexible at its core, to respond to external trends which may affect the School, such as the economic situation and Brexit, changes in learning, changes in research, changes to the way that we operate which must be in an environmentally sustainable way. Although the strategy is for a period of 10 years, it is possible to be more specific about the next 5 years.

The School has undertaken a review of the estate in its entirety and established benchmarked spatial and cost liabilities of the School's current estate for its current space requirements. The data collected included identification of space by Faculty, analysis of space by function and adjacency and tested the spaces against benchmarked data for similar institutions.

The study also quantified and benchmarked the Schools projected space requirements to accommodate 5year growth plans and developed a high-level master plan. A preferred option was selected following the evaluation of other costed options proposals.

The estate of LSHTM is one of its most valuable assets, it creates the first impression of the organisation so is a key element in marketing the institution. The Estate Strategy has drawn its objectives from internal development plans, and the School Strategic and Financial Plan and aims to establish an estate to support those aims. It has considered the building facilities available and addressed potential shortfalls in space, surplus space, and unsuitable or inappropriate space. It has also considered opportunities for development, rationalisation or reconfiguration of the estate.

The assessment of the size of the estate through the data analysis undertaken has identified that the School currently occupies NIA 17,996 sqm of space and requires 15,362 sqm - 16,931sqm for its current operations indicating that the School is operating reasonably efficiently but could be more effective utilising its space, however there is little scope for any significant growth. If the School wants to support the new strategic direction the estate will be required to increase its useable accommodation to a range of **20,667**sqm **22,675**sqm by 2022/23; an increase in the estate of NIA 2,671sqm – 4,679sqm depending on which space metric calculation is used.

Preferred Option Selected

- New build of 2,512 NIA, at Tavistock Place – planning permission is already granted in a planning sensitive area close to the existing School estate. The new build will also provide an opportunity to create new space to enable decant of existing buildings to facilitate the wider master plan
- Refurbish and optimise Keppel Street, zoning the space to make the service infrastructure efficient, make more efficient adjacencies, open up cellular space, replace the failing infrastructure, create more social space for joint collaboration
- Option appraisal of 8,9 Bedford Square
- Dispose 36-38 Gordon Square

The Estates Strategic Plan

The strategic plans takes into account the environment, vehicular and pedestrian movement, transportation and servicing, the spaces between the buildings, site logistics, the priorities of the School and branding and image. Educational buildings are no longer regarded as closed intuitions but are rightly seen as valued assets for all people. The quality of the environment is also widely considered to play a significant part in shaping the outlook and behaviour of the people who use it, the external spaces and their relationship with internal functions of the building make an important contribution in this respect. LHSTM needs the best buildings that combine internal and external space brought together as an integrated design solution

The School will as a key driver to this Estate Strategy consider the following:

Priority 1 – To maintain the estate to the highest possible standard;

Priority 2 – To use the space more effective;

Priority 3 - To promote environmental sustainability;

Priority 4 – To provide the best value across all estates activities and contribute positively to the school's financial sustainability;

Priority 5 – Efficient facilities management;

Priority 6 – To comply with statutory legislation ;

Priority 7 - To preserve the attractiveness of the location;

Priority 8 – To promote the brand and the profile of the school;

Priority 9 – To provide a safe and secure environment ;

Priority 10 – To raise the profile of the estate within the school's agenda.

Estate Priorities

The priorities related to the School Estate Strategy are derived from the School`s Strategic Plan and will be incorporated in future strategic plans where required. The targets to be taken forward are listed below:

- Refurbish and re-model the listed Keppel Street Building
- Explore development opportunities around the Tavistock Place site
- Undertake options appraisals on all satellite sites
- Increase teaching spaces whilst growing research
- Development of laboratories
- Explore options around the current district heating scheme and other options open to the School
- Implement the retro fitting of renewable energy systems where possible when undertaking refurbishment projects
- Continue to develop the School's environmental systems with the aim of reducing the carbon footprint
- Consolidate the School estate, investigate the disposal of the satellite sites that are no longer cost efficient or fit for purpose
- Achieve an overall rate of recycling for all general waste and a continuous reduction in the total quantity of waste being sent to landfill
- Monitoring total property costs and benchmark against similar institutions

Development of Science Laboratories

In recent years, the School has made some investments in its laboratory facilities. The costs of maintaining and developing laboratories in a Grade II listed building are high and equipment costs for innovative research continue to increase. Future development of the School's laboratories also needs to support the objectives of the research strategy and the commitment in our vision to enhance knowledge translation.

Environmental Policies

The School (and its Bloomsbury College partners) were keen to establish a recognised framework to embed continuous improvements in environmental sustainability at our institutions. The partnership decided to adopt Eco Campus Environmental Management System (EMS). The Eco Campus EMS is externally audited and underpins our Sustainability Strategy (see schematic below). Once in place the EMS requires institutions to improve on their environmentally impacting aspects in order to remain certified. The environmental aspects identified as relevant to the School include; Energy use, water use, waste production, purchasing, travel, refurbishment and construction.

The Eco Campus Platinum award was achieved by LSHTM in 2016 and has received reaccreditation in 2017 and 2018. – a sustainable purchasing guide is being launched, reducing and recycling waste –LSHTM had a carbon reduction target of 25% by 2020, from a benchmark in 2013 we are currently at 36%.

Teaching/Research Facilities at Keppel Street – Constraints and Opportunities

Some of the space in Keppel Street is currently not fit for purpose and requires a significant amount of re-modelling and refurbishment to bring the functional and physical standard to "very good and good". There are a number of key issues which will be discussed further including the following:

- The main buildings are valuable assets some of which have space constraints where faculties have expanded and the space is now not fit for purpose;
- There is a need for more flexible individual learning space throughout all sites;
- There is a lack of teaching space and the School currently hires space from external providers at a cost of £300k however if the existing available Keppel Street space was utilised more efficiently external hire may not be necessary;
- Some of the academic offices are too large and inefficient;
- Creating smart buildings linking Innovative IT practices;
- External circulation and socials spaces linking to activities within the buildings;
- Lack of large flexible spaces such as lecture type spaces which can cater for exams and seminars of 200- 300 spaces.

The Keppel Street building was constructed in the;1920s, and provides a mix of office, laboratory and teaching space. The School faculties of Infectous Tropical Diseases (ITD) Epidemiology & Population Health (EPH) operate at Keppel Street.

The building is Grade II listed and in a conservation area. The building is bound between Gower Street and Malet Street with its main entrance on Keppel Street, it is six storeys above ground with lower ground floor and basement. Light wells provide daylight and ventilation to the perimeter spaces at lower ground floor on the Gower Street and Mallet Street elevations. Vaults are provided to the other side of the light wells beneath the footpath.

The original internal light wells have been infilled to provide additional accommodation in the North and South courtyards. This has provided some additional accommodation which was required but has also created a number of internal rooms within the Keppel Street building which have issues in relation to natural daylight and ventilation.

Since 2004 the School has made investments in areas of the building (including the North and South Courtyards and in laborotory refurbishments), but has under-invested in the services infrastructure over a period of years. Over the past decade or so a number of major projects have been undertaken and these include:

- North Courtyard
- Containment Level 3-laboratory suite in the 4th floor Malet side
- South Courtyard
- 4th and 5th Floor Laboratories

The plan is for lab development to be predominantly open plan; this is a major cultural change for LSHTM who have worked in small cellular labs in distinct groups. The benefit of open plan labs is that research groups can be allocated space as they grow and other areas shrink depending on research funding. This will be hugely important to the LSHTM who are expericing major growth oppoortunities with new research groups being attracted to LSHTM.

Lab development will a mixture of Cat 2, 3 and Schedule 5 lab. The write up spaces also need to be adjacent to the labs to provide top class facilities for cutting edge reseach operations. The master plan developed by Ian Ritchie Architects proposes that all labs are relocated onto the north side of the building. This strategy not only stacks services, but provides the LSHTM with an opportunity to consolidate services infrastructure and plant and release the space where the existing plant is situated at roof level so that we can make the building watertight.

In addition to the research labs new teaching labs are required to deliver growing numbers of master programmes. The ability to teach 80 students in one lab is an efficiency that will be delivered through the master plan proposals and will require larger spaces than are currently available within the typically cellularised spaces.

The age and condition of the infrastructure now present a number of serious issues, and over recent years these have been exacerbated by the growth of research and teaching which has placed increasing demands on services within the building. The infrastructure replacement is difficult within an occupied building and needs to be carefully planned and phased so as to mitigate against major disruption to building users. With this in mind the team have designed the backbone infrastructure in spaces that do not affect the net useable space and in areas that can provide easy access to maintenance staff.

The proposals contained in the planning and listed building application for Phase 2A and subsequent redevelopment phases will contribute to the LSHTM maintaining its status as a world leading centre for research and postgraduate education in public and global health.

End

Appendix C: Record of discussions held at pre-application meeting

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Meeting Notes

JOB NAME: LSHTM – Keppel Street Phase 2 **JOB/FILE NO: 739/B01**

Meeting	**Pre-Application Meeting for Phase 2 Works**	
Date	**25.04.18 – 2.00pm**	
Place	**Keppel Street – Globe Room**	
Attendees	Antonia Powell	Camden Planning Case Officer
	John Starmer	LSHTM
	Dean Bresnahan	LSHTM
	John Kinsella (partial)	LSHTM
	Anton de Paiva	LSHTM
	Valerie Crepin-Sevenou	LSHTM
	Anthony Summers	IRAL
	Chris Russell	IRAL
Author	AS	
Checked	CR	

		Action
1.0	**Introduction and purpose of meeting**	
1.1	The purpose of the meeting was to summarise outline proposals for further refurbishment works planned at the London School of Hygiene and Tropical Medicine (LSHTM) comprising Phase 2 of the Master Plan redevelopment of the Keppel Street premises. It follows Phase 1 which was submitted for planning and listed building consent on the 21.12.17 and which received approval on the 07.03.18. Phase 1 comprised new lab spaces within the existing North Courtyard Building (NCB) with new associated external services and infrastructure installations located at roof level. The proposed Phase 2 works are to be located within the envelope of the original 1929 building and will consequently require planning and listed building consent for any proposed alterations. Guidance is requested on a number of design and heritage issues which are addressed in further detail below.	
1.2	Prior to this meeting a document titled *LSHTM at Keppel Street Pre-Application Information* dated 23/03/18 was previously issued to LBC recording Phase 2 outline proposals and containing a summary of the Master Plan and a photographic record of the areas affected by the proposed Phase 2 works. Please refer to this document in relation to the comments below. A further copy of this document has been attached to the e-mail associated with issue of these notes.	
2.0	**Phase 2 Area Walk Around**	
2.1	Prior to the meeting a walk around the proposed Phase 2 areas located at Level 2 within the Northwest Wing, West Wing and Central Wing of the 1929 building took place.	

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3.0	**Keppel Street Master Plan Presentation**	
3.1	JS from the LSHTM prefaced the IRAL Master Plan presentation with a brief summary of the LSHTM's short term requirements to provide new renovated laboratory and teaching spaces as well as the school's longer term ambition to renovate and refurbish the existing Keppel premises and services infrastructure to support and further enhance the LSHTM's world leading role in research and teaching in public and global health.	
3.2	Ian Ritchie Architects have been appointed to produce a Master Plan for the LSHTM premises at Keppel Street to guide future development and upgrading of the building fabric and services infrastructure over the course of the next 15 to 20 years. A summary of the objectives and design principles of the Master Plan were presented. The objectives outlined below are extracted from the previously issued *LSHTM at Keppel Street Pre-Application Information* document. The Master Plan is informed by the following objectives: - Improve the operational efficiency by rationalising spatial organisation, adjacencies and circulation; - Create laboratory spaces that conform to the highest contemporary standards; - Improve security; - Improve regulatory compliance and improve staff facilities; - Upgrade services infrastructure; - Upgrade building envelope were appropriate to improve energy efficiency; - Improve spatial and environmental 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 elements of the original building that have significant heritage value. One of the important drivers of the Master Plan has been to rationalise space use and circulation throughout the building. In this context the Master Plan seeks to relocate all highly serviced laboratory space within the NW, NE and Central Wings of the 1929 building and within the North Courtyard Building (NCB). Phase 1 of the Master Plan built on this strategy and is now underway to convert the NCB levels L2 and L3 into research laboratory space with new services infrastructure at roof level.	
4.0	**Proposed Phase 2 Works**	
4.1	Phase 2 occupies the NW Wing, West Wing (partial) and Central Wing of the 1929 building at level L2. The NW wing comprises approximately 300m2 of space which has been allocated to an open plan Containment Level 3 research laboratory and associated Lab Support space. The Central Wing will contain approximately 200m2 of open plan teaching laboratory space. The West Wing extending along Gower Street will be allocated to office and lab write-up space. Refer to Appendix A drawings for the proposed scope of Phase 2 works.	

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4.2	The power point presentation outlining the Master Plan and the Phase 2 proposed works at this meeting was issued to the Camden planning case officer Antonia Powell in pdf format on the 25.04.18.	
5.0	**Heritage Issues Review**	
5.1	The following design issues relating to heritage and conservation of the 1929 original building were reviewed and discussed.	
5.2	Partial removal and relocation of the existing internal circulation corridors and removal of associated down standing services troughs at ceiling level to accommodate efficient open plan research and teaching lab spaces, and rationalise circulation.	
5.2.1	In order to achieve the Master Plan objectives that seek to rationalise circulation and provide larger open plan footprints for new research and teaching laboratory spaces, some existing corridors in the 1929 building need to be relocated or removed. In the context of the Phase 2 proposals this entails the following (refer to SK-A-0247-P01 in Appendix A): - Relocation of the Central Wing east-west corridor linking the main circulation and escape stairs at east and west ends of the Central Wing from the centre of the wing to the north face of the wing. Removal of this corridor is required to provide a teaching laboratory capable of accommodating 80 plus students within the Central Wing with direct connections off the 2 circulation stairs. - Removal of north-south corridor in the West Wing to the south of the west circulation stair. From historic records of the original 1929 building plans the existing corridor in this location is probably not original as this area is identified as an open plan laboratory space. Refer to attached Historic Building Plan L2 in Appendix A of these notes. - Partial removal of central north-south corridor in the Northwest Wing and associated high level services trough. It should be noted that some of the original corridor and internal partitions to the north end of the NW Wing have been removed to form the existing teaching lab space currently located here. Further partial removal of this central corridor is required to provide an open plan Containment Level 3 laboratory. It should be noted that no alterations to the existing main east/west circulation stairs in the Central Wing are proposed other than possible cleaning and refurbishment of existing floor and wall finishes.	
5.2.2	The Camden case officer stated that Camden were generally open to proposals entailing alterations to the listed building that were required and important for operation reasons. In this context the removal and relocation of internal corridors in principle could be acceptable. It was noted that much of the joinery associated with doors was original and design development of proposed alterations should nevertheless seek to retain as much of the original joinery features as possible.	

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	A clear visual demarcation between existing retained and new spaces should be considered with new finishes and fittings relating to operational laboratory use not seeking to visually challenge the existing design.	
5.3	Perimeter security issues associated with proposed Containment Level 3 lab;	
5.3.1	The proposed CL3 laboratory to be located in the NW Wing may require enhanced security measures to the lab enclosure. The precise nature of the security measures to be incorporated are yet to be agreed with the relevant authority but are likely to entail an additional lining to the external envelope of the 1929 building, high security doors and lobbies and access controls. The options being considered at existing window openings are as follows: - A maintenance corridor located along the external walls with a high security enclosure set back from the external wall. This option would significantly reduce available space and possibly impact the viability of the lab space; - Replacement of existing clear glass window panels with translucent panels and construction of an opaque security lining immediately to the rear; - As above but with reduced high security fixed glazed panels behind the existing windows in the lining.	
5.3.2	The Camden case officer stated that replacement of the existing clear glazed panels with translucent panels could be considered acceptable subject to review of details and assessment the effect on the external elevation.	
5.3.3	The question as to whether an alternative location for the CL3 lab requiring enhanced security could be provided elsewhere within the building was raised. The LSHTM (AdP) stated that this had been considered but that the provision of this new lab space was operationally important and that no alternative space was currently viable within the Keppel Street premises.	
5.4	Alterations to high level panels of existing aluminium framed windows to incorporate louvred panels for connection to local heat exchange/fan coil units to dry lab and write-up spaces.	
5.4.1	The Master Plan guidance for temperature control and air supply/extract for write-up and dry lab spaces calls for local heat exchange/fan coil units with supply/extract ducts connected to louvred panels in external windows. This strategy provides an acceptable degree of environmental control and avoids the need for centralised plant and equipment and difficult to manage horizontal and vertical duct distribution with limited available space. The existing windows facing Gower Street and Keppel Street are not original and comprise aluminium frames with double glazed units and surface mounted beads (presumed to mirror the original steel frame panel design). The windows in the South Courtyard and Malet Street elevations appear to be the original steel frame single glazed windows. Some of the glazed panels facing Gower Street have been replaced with solid panels and projecting extract/ducts (refer to images within the *LSHTM at*	

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	Keppel Street Pre-Application Information document (refer to View 33 and 34 in Appendix B). The proposal for Phase 2 write-up dry lab areas (West Wing along Gower Street) would be to replace the top 200mm panel with a louvred panel.	
5.4.2	The Camden case officer stated that introducing a louvred panel into existing glazing could be considered acceptable subject to agreement of size of louvre panel and careful attention to the detail.	
5.5	Proposals for replacement and upgrading of external and internal services infrastructure;	
5.5.1	The Master Plan guidance relating to space use distribution requires the migration of all research laboratory space to the NW Wing, NE Wing and North Courtyard Building, with teaching lab space generally allocated to the Central Wing and write-up and dry lab space allocated to the East and West Wings south of the Central Wing. Currently laboratory space is distributed randomly around the building reflecting incremental and piecemeal local refurbishment with consequential complex service routes. The master Plan strategy is to replace and migrate a significant proportion of the rooftop plant and equipment to the north end of the building in order to better service the enhanced cooling and air handling requirements for laboratory space. The strategy will allow progressive removal of existing roof top plant and equipment from the East, West and Keppel Street Wings and make the roof available for renovation of waterproof membranes which are currently in poor condition with water ingress leading the fabric deterioration. The migration of new plant and equipment forms part of the Phase 1 works currently on site. The Master Plan strategy is also to progressively remove the existing vertical ducts and pipework currently within the North Courtyard atrium which is attached to the face east, west and south facades of the 1929 building and to install new rationalised risers generally located in the Se and SW corners of the atrium and externally to the NW and NE Wings facing the North Courtyard.	
5.5.2	The Camden case officer stated that replacement of the existing external risers and pipework with new risers could be considered acceptable subject to agreement of size, appearance and details.	
5.6	Bridge links in atrium between North Courtyard Building (NCB) and 1929 building	
5.6.1	The Master Plan strategy proposes possible links between the NCB and the NW, NE and Central Wings of the 1929 building at existing window openings. Currently there are bridge links between the NCB and the Central Wing at L1, L2 and L3 and at L4 with the NE Wing. New bridge links would require removal of the existing window, partial demolition of the brick external panel below the cill level of existing window openings down to finished floor level.	

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5.6.2	The Camden case officer stated that new bridge links could be considered acceptable subject to agreement of bridge and alteration of brick details.	
6.0	**Timescale**	
6.1	IRAL stated that current estimated submission date for planning and listed building consent is early August 2018 with an estimated approval period of 3 months.	
6.2	Estimated period for determination stated as possible by the Camden planning officer.	
7.0	**Other Matters**	
7.1	The Camden case officer requested some further clarification relating to what the proposed scope of intervention and removal of fabric would be on levels and areas other than that outlined for Phase 2 at Level 2.	
6.2	IRAL will issue a separate note to address the above.	**IRAL**

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APPENDIX A –DRAWINGS RELATING TO THE MEETING NOTES

Please also refer to the pre-application document titled *LSHTM at Keppel Street Pre-Application Information* dated 23/03/18 and issued to LBC prior to this meeting recording Phase 2 outline proposals, containing a summary of the Master Plan and a photographic record of the areas affected by the proposed Phase 2 works.

Drawing No		**Drawing Title**
SK-1004	A02	Existing Building Plans Level 2
SK-A-0247	P02	Phase 2 – Level 2 Outline Proposals
		Level 2 Historic Plan – Verner Rees Lawrence and Mitchell Architects
		Historic Cross Section D-D through North Courtyard facing south – P.Morley Arch
		Historic Cross Section C-C through South Courtyard facing North – P.Morley Arch
		Historic Detail Cross Section through East Stair Lobby facing South+North – P.Morley Arch

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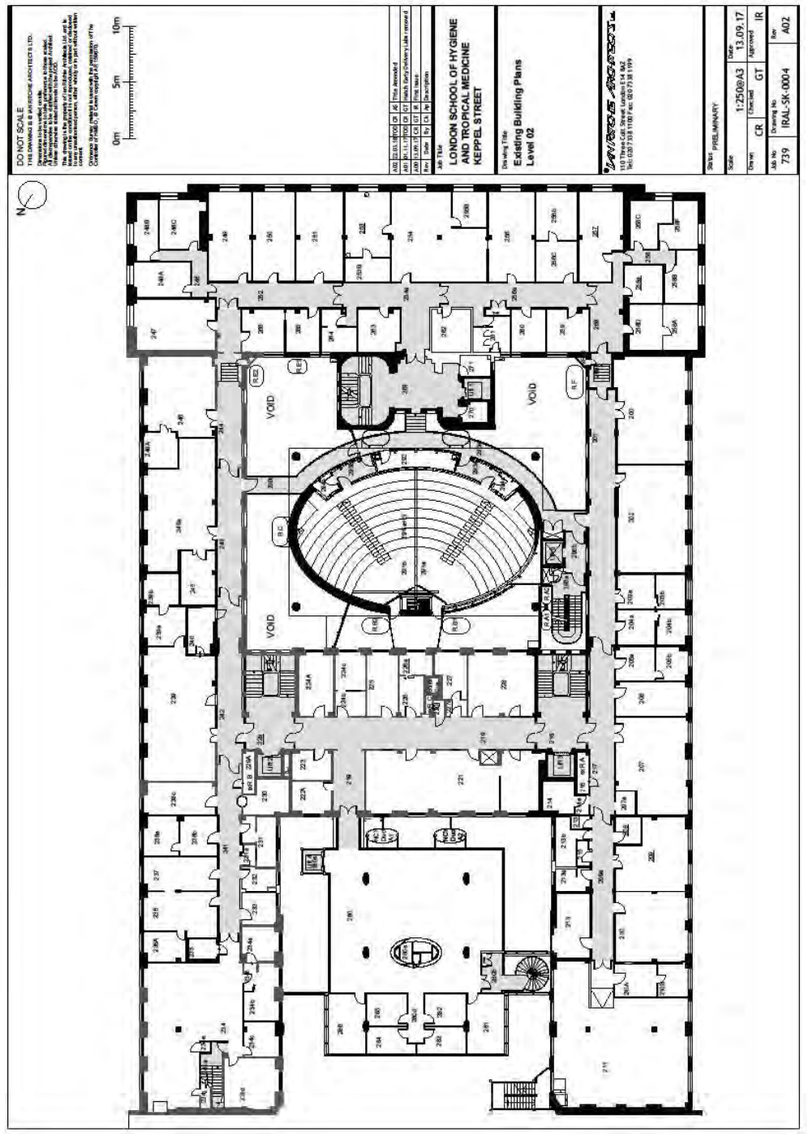

Existing Building Plan Level 2 – Drawing SK-0004-A02

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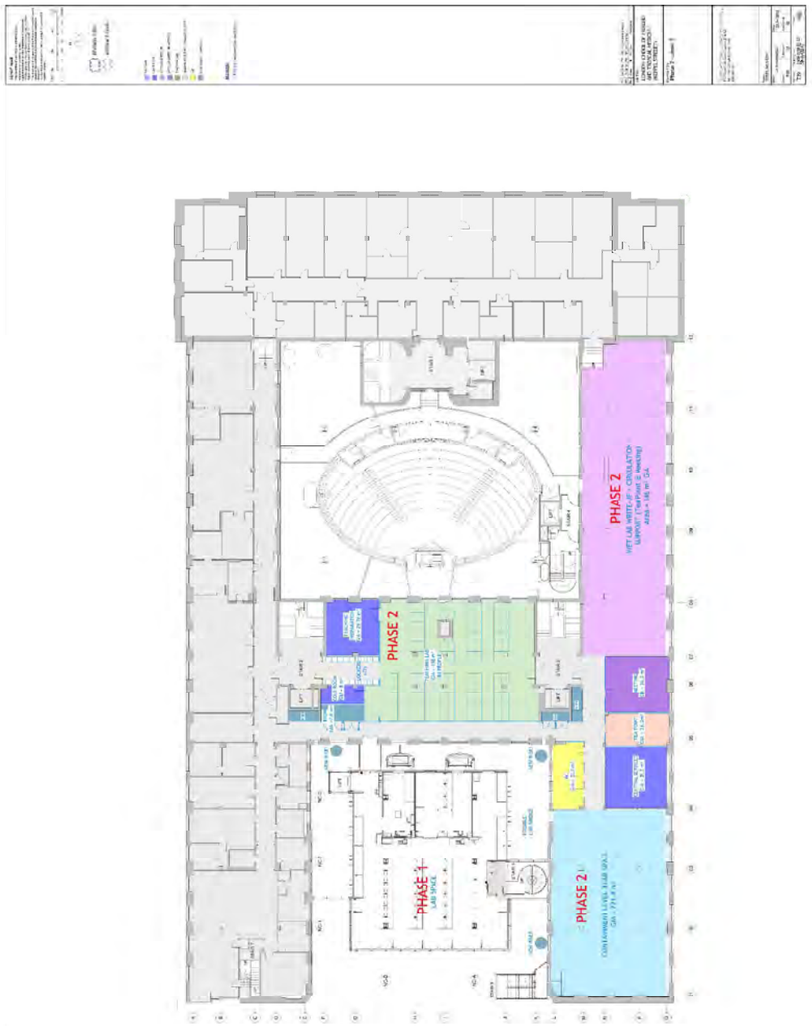

Proposed Phase 2 Plan (scope of Phase 2 in colour) – Drawing SK-A-0247-P01

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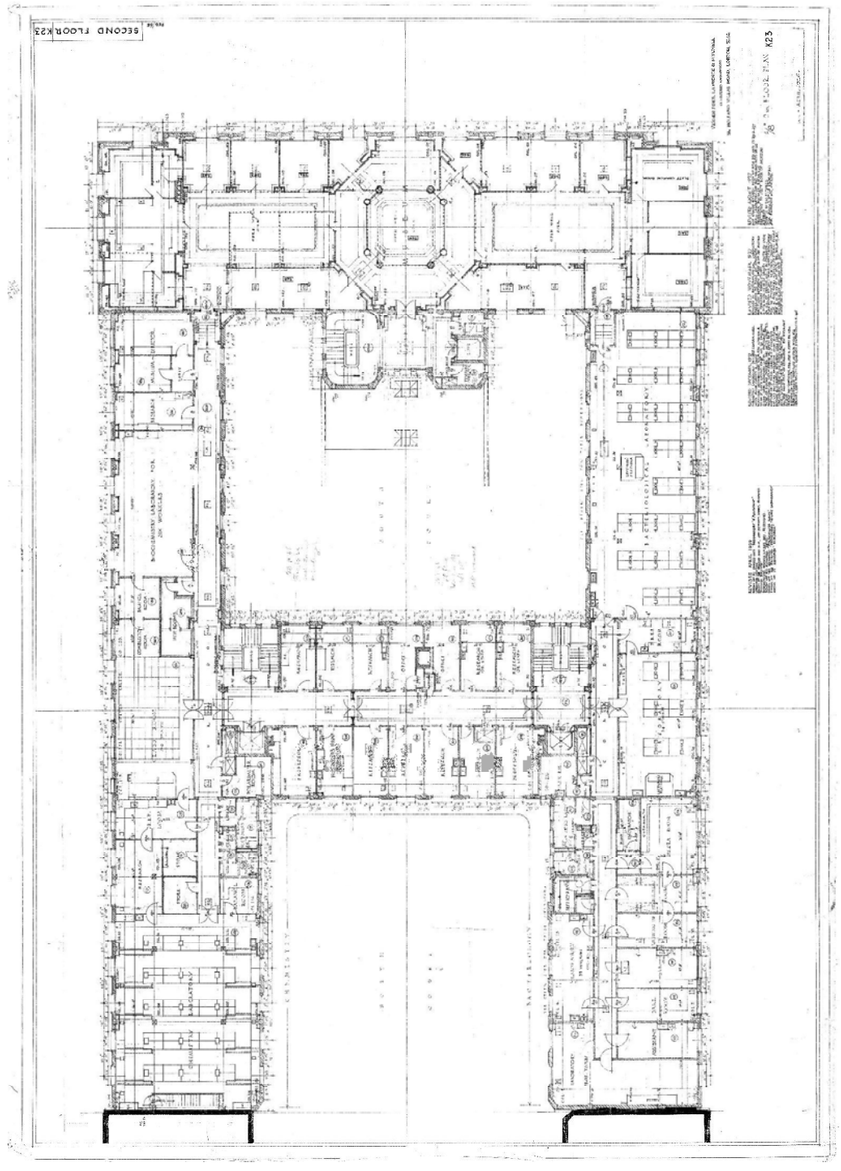

Historic Building Plan - Level 2

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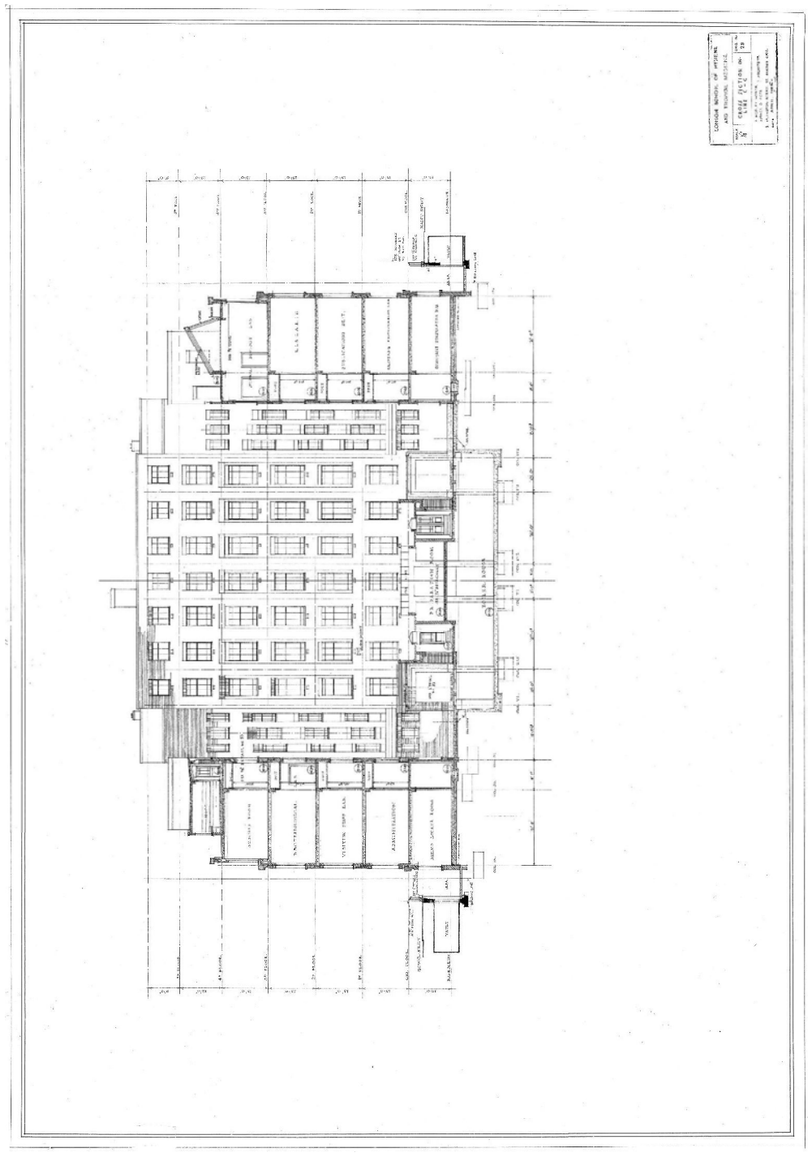

Historic Building Section C-C through South Courtyard facing north

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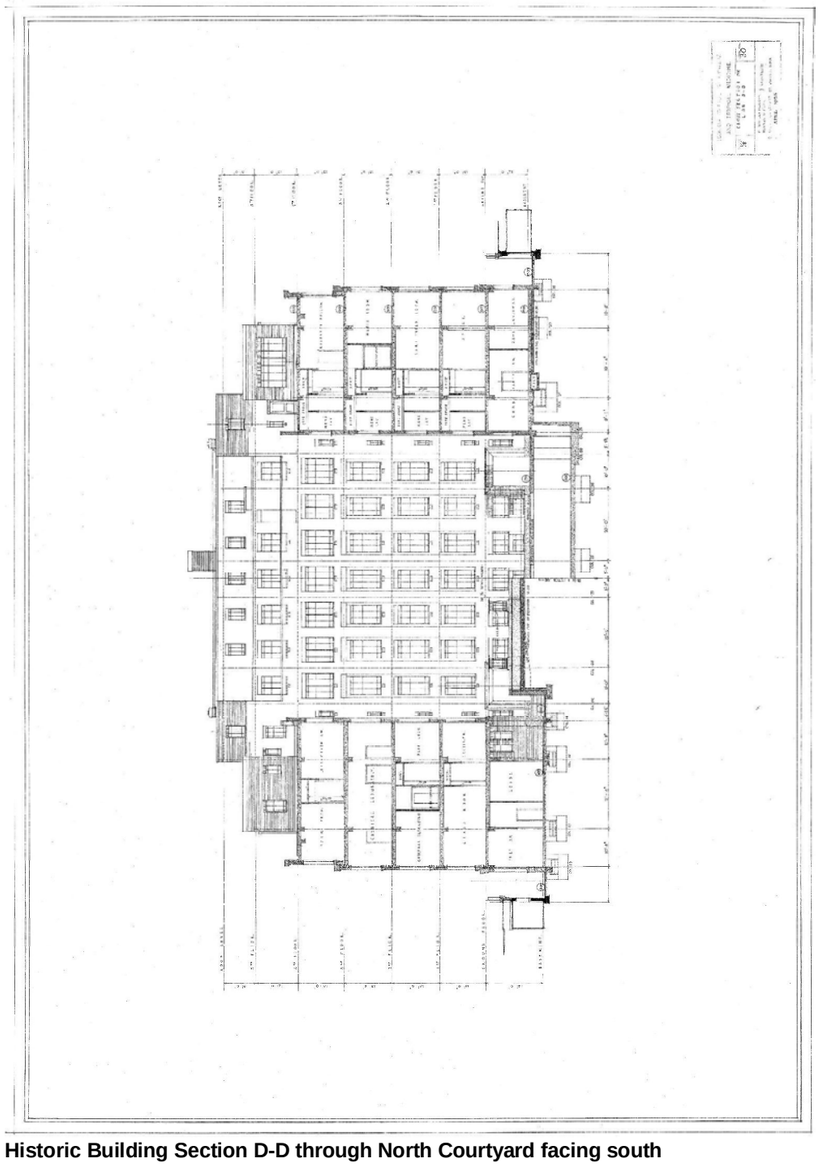

Historic Building Section D-D through North Courtyard facing south

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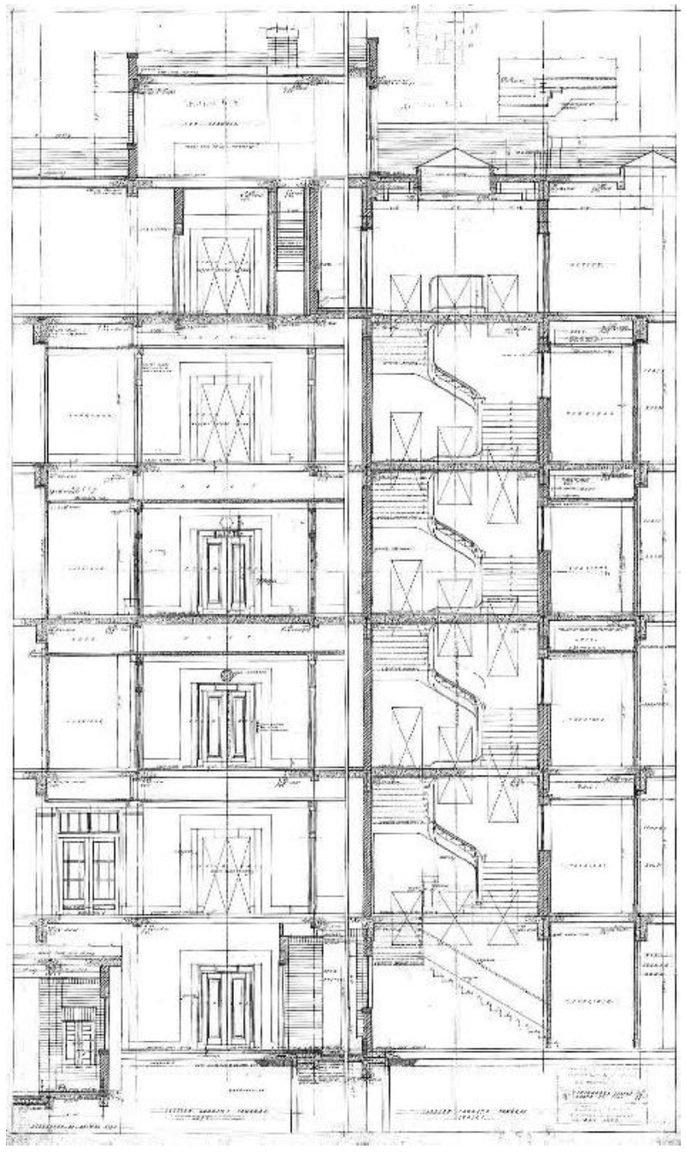

Historic Building Detail Section through Central Wing West Stair facing south

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Meeting Notes

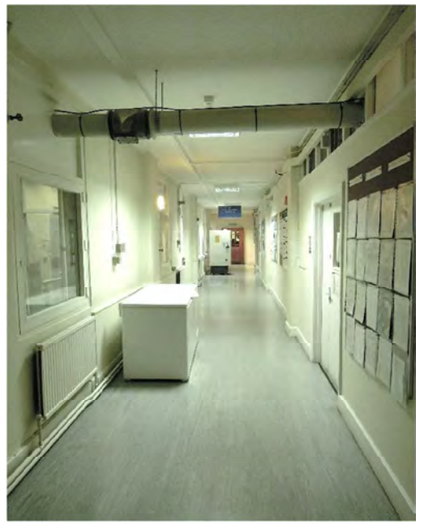
JOB NAME: LSHTM – Keppel Street Phase 2 **JOB/FILE NO: 739/B01**

APPENDIX B – IMAGES RELATING TO THE MEETING NOTES
Please also refer to the pre-application document titled *LSHTM at Keppel Street Pre-Application Information* dated 23/03/18 and issued to LBC prior to this meeting and containing a photographic record of the areas affected by the proposed Phase 2 works.

The views below are extracted from the Appendix B photographic record in the document referred to above.

View 11: Central Wing L2 corridor facing west

View 12: Central Wing L2 corridor typical door



View 17: West Wing L2 corridor facing south

View 24: West Wing L2 corridor facing north

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View 29: NW Wing L2 corridor facing north

View 30: NW Wing L2 corridor facing south

View 33: NW and West Wing façade fenestration

View 34: West Wing façade fenestration

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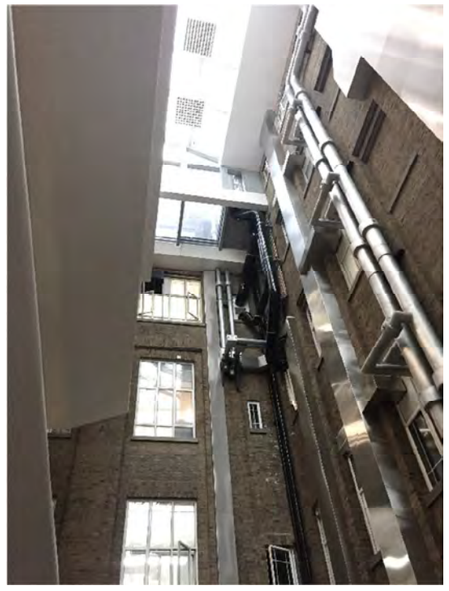
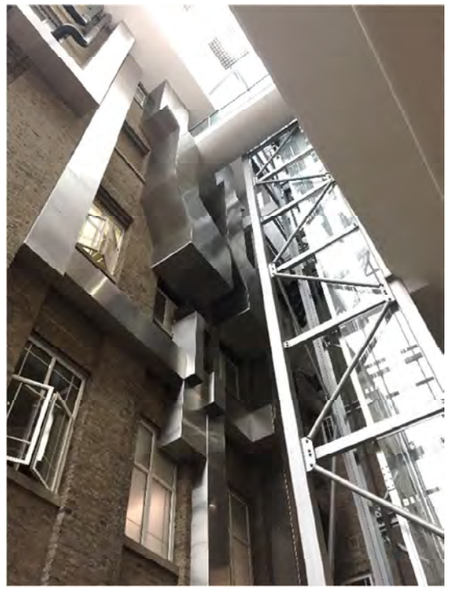


View: North Courtyard existing services



View: North Courtyard existing services

END

Copies:		
All present plus	IRAL internal	
	Matthew Butler	AECOM-MEP
	David Byrne	AECOM-SE
	Ciaran Dolan	Equals
	Andrew Condlyffe	PMP
	Peter Hayman	PMP