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London School of Hygiene & Tropical Medicine

Structural survey report - Phase 2b

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Quality information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position
A	13 Sept 2019	WIP			
B	18 Oct 2019	Final			

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1. Introduction

Phase 2 of the masterplan at the London School of Hygiene & Tropical Medicine will refurbish the existing office/laboratories at level 2 in the original 1929 building and convert them into laboratories, teaching spaces and write up spaces. Phase 2a was located at the northern end of the Gower Street wing, where all walls were found to be non-load bearing and terminated at the underside of the service trench. Phase 2b is located in the remaining area of the Gower Street wing and the Central wing, highlighted below in red on Figure 1.

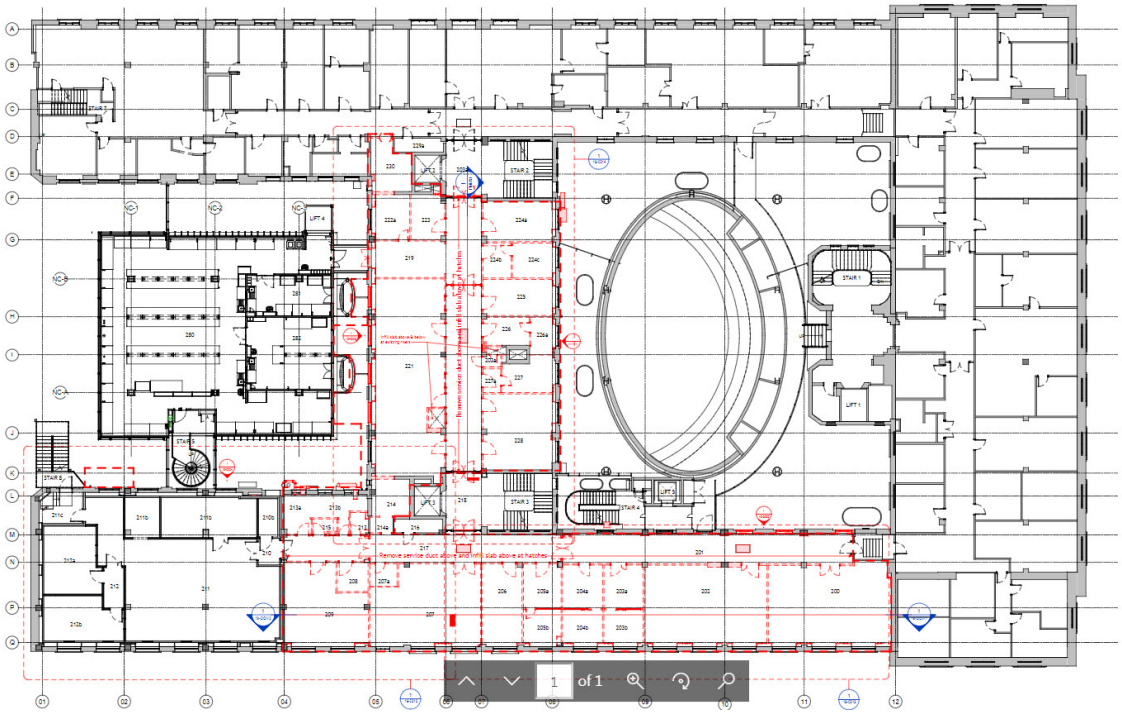


Figure 1: Level 2 Phase 2b demise

It is currently proposed that partition walls and the high-level service trench within the Phase 2b boundary will be removed to create an open plan space.

From record information, the original internal partitions between rooms and along corridors are formed using hollow terracotta pots and are non-loadbearing and not structural. Solid masonry walls have been used around the stair cores and lifts shafts which cannot be removed as these form part of the lateral stability framing for the building. It is believed that the lateral stability of the existing building is achieved through solid masonry partitions and lift cores transferring lateral loads to the foundations via the floor slabs acting as a diaphragm. The high-level service trench is shown in the archive drawings as being hung from main floor steel beams above using a steel strapping system, details tbc once opening up of the trench has been completed. The soffit of the trench is a concrete slab that is connected to the hung strap via a steel angle.

Intrusive surveys are required to confirm the construction of the walls, their relationship with the service trench and to verify if they are part of the lateral stability system of the building or if they are load bearing.

2. Intrusive survey

The scope for the intrusive survey consisted of all highlighted walls within the demolition drawing, shown below in figure 2.

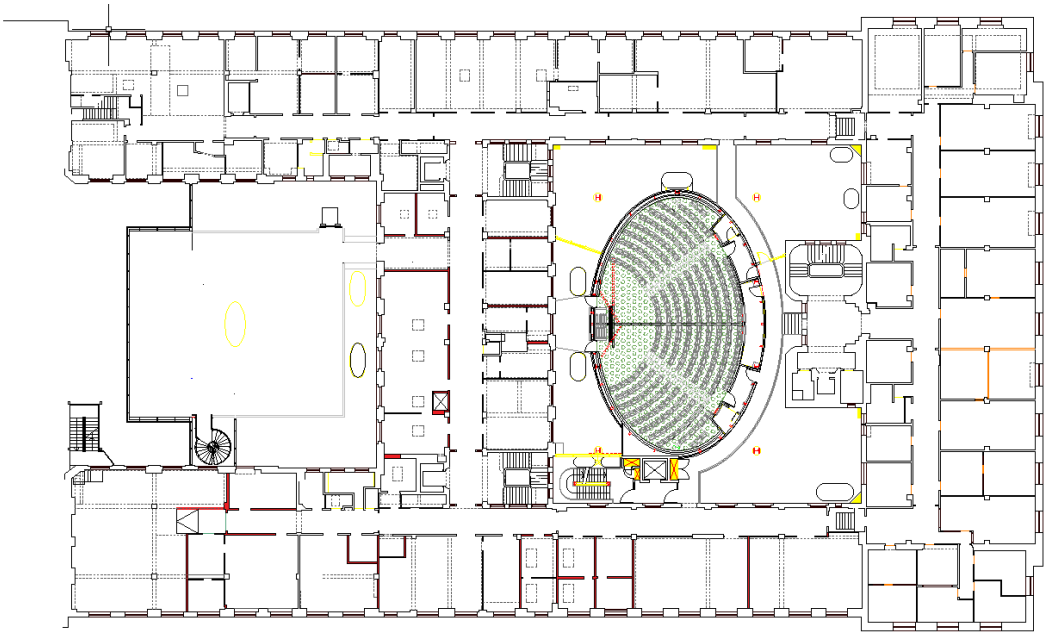


Figure 2: Level 2 demolition drawing, dashed walls to be investigated prior to removal to confirm terracotta.

Each of these walls required an intrusive investigation to establish the wall material and construction method, refer to appendix A for Intrusive Survey Drawing. These walls were broken out locally by creating a small opening, approximately 50mm in diameter, through the wall from one side to the other. Chasing to the corridor walls was also conducted which consisted of creating a 100mm chase to establish if the wall terminated at the underside of the service trench or formed part of the trench walls. All the walls where chasing was conducted showed the walls to terminate at the underside of the trench.

The site investigations were inspected during a period of 13/06/19 to 16/10/19 as well as a site walkover to confirm and locate the wall materials, construction and locations. A previous site walkover took place 21/03/19 to establish which walls were partitions without carrying out intrusive investigations. The wall construction material and form are summarised in Appendix A, with accompanying photos, and their removal status is shown in Appendix B. The vast majority of the walls are suitable to be removed without further investigation.

It was not possible at this time to conduct an intrusive survey of the service trench due to the cabling and ducts contained within it still being in service and due to the levels of asbestos within the trench. The potential removal of the service trench is still in discussion and may not from part of the demolition works. If the trench is to be removed a structural survey will be required.

3. Results

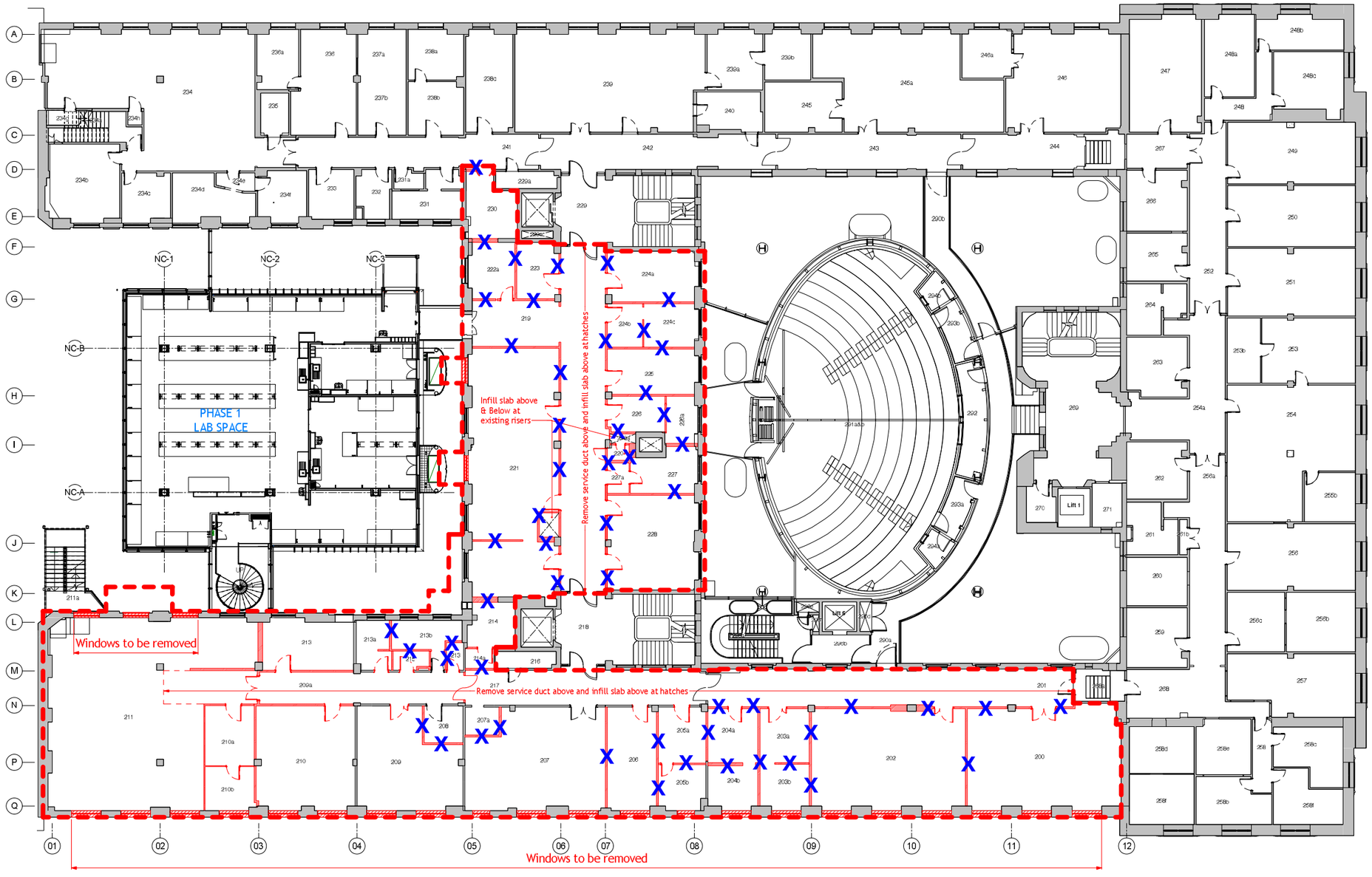
The walls examined during the limited structural survey appear to be non-structural and therefore can be removed without the need for steelwork supports. However, there are two 250mm thick terracotta walls that require further investigation before a decision can be made on their removal. There are also some walls that have not been inspected due to access restrictions because of asbestos. The walls do not appear to be providing lateral stability, which is evident by either the material/construction form or from examining the modifications to the internal walls from the original 1929 record drawings to what is currently shown onsite.

It was not possible at this time to conduct an intrusive survey of the service trench due to the asbestos, cabling and ducts contained within it still being in service. The removal of the service trench is still in discussion and may form part of the enabling works rather than the main contract works.

Appendix A – Intrusive Survey Location Plan

Key

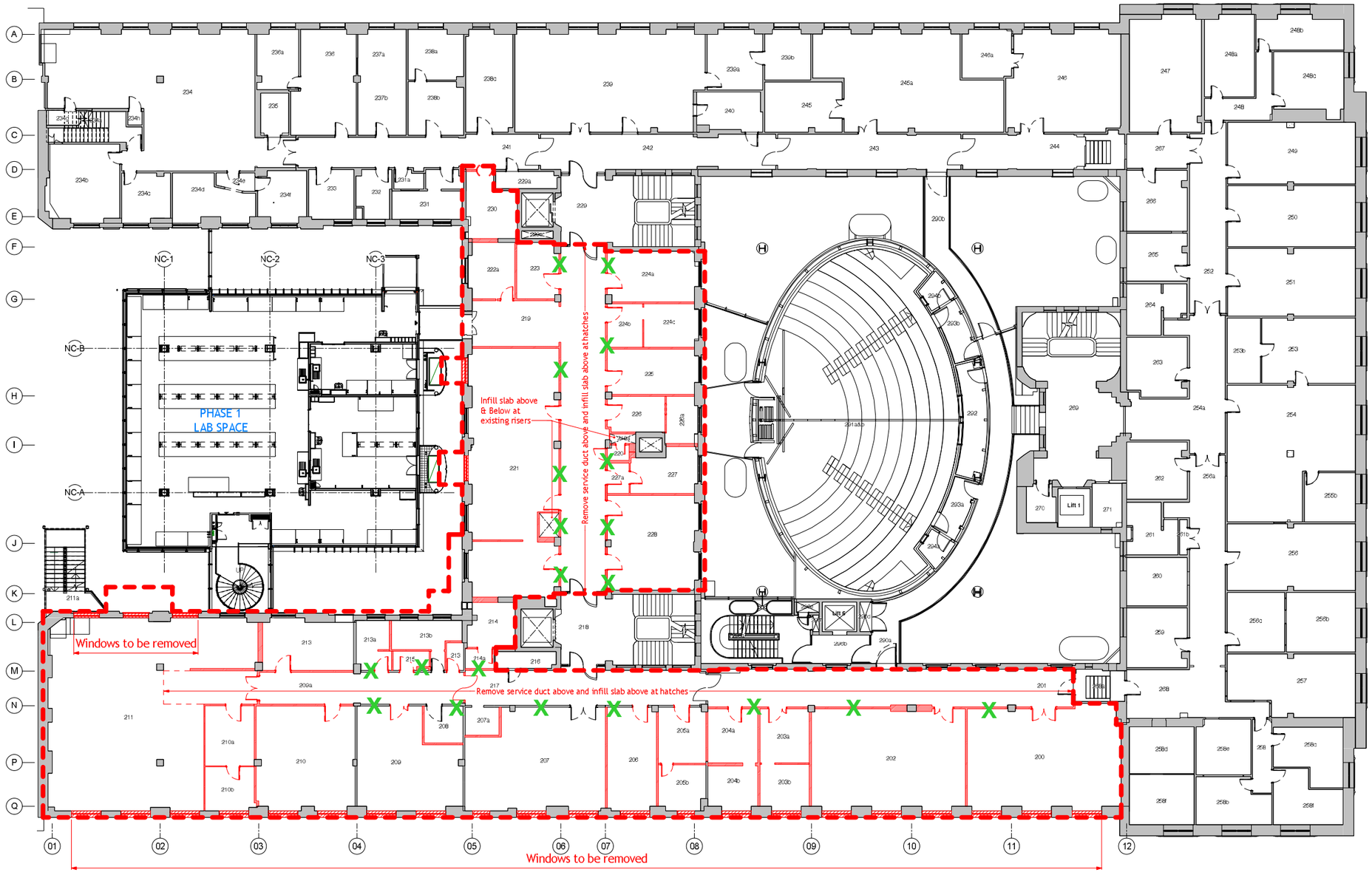
X Walls to have 50mm diameter hole created through full wall thickness



Appendix B – Trench Survey Location Plan

Key

X Walls to have 100mm plaster chased from floor to slab sofit or structural beam

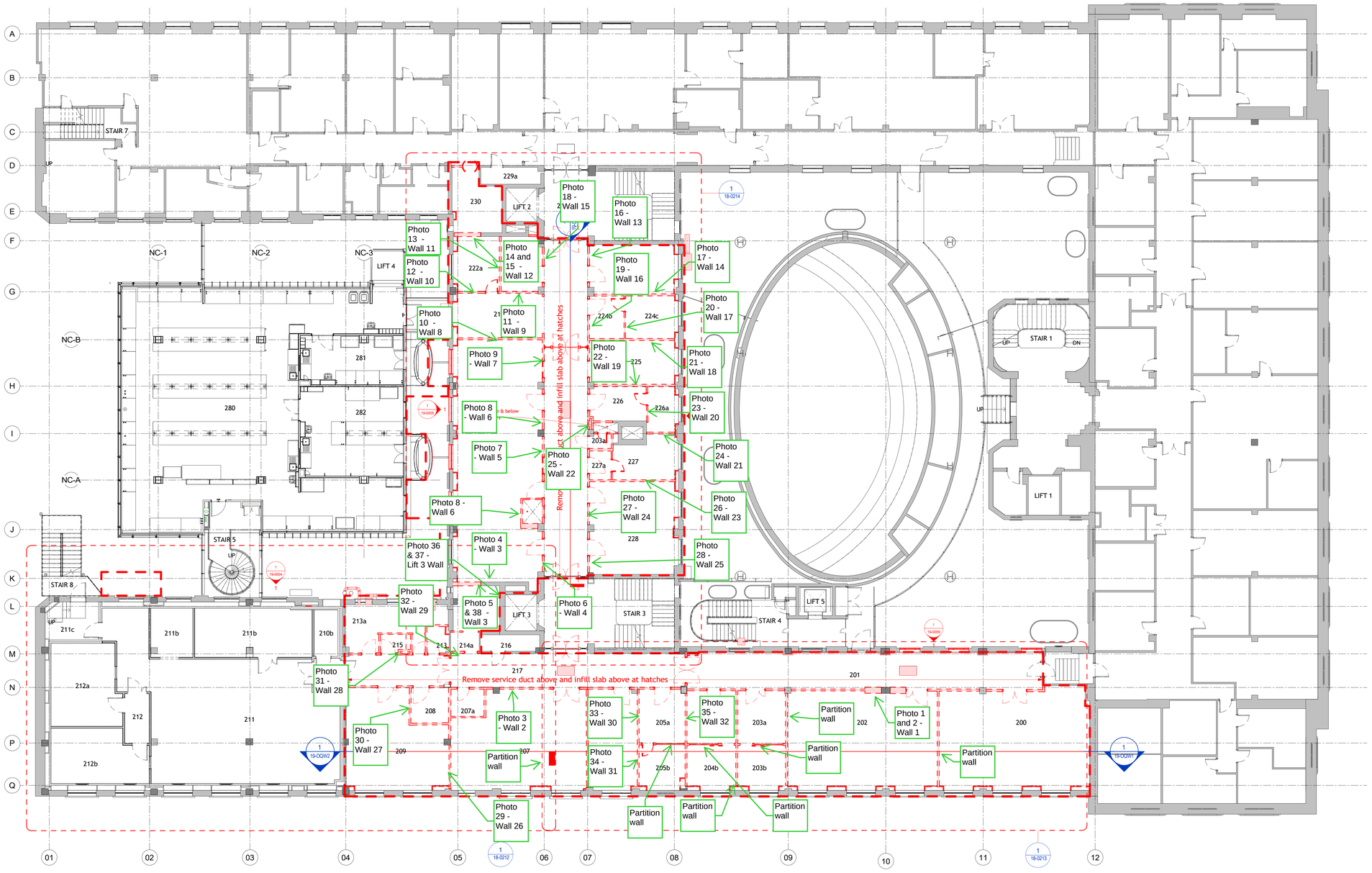


Appendix C - Site Photo Location Plan

Key

Wall not to be demolished until further investigations carried out.

Non-structural wall which can be removed.



1 Phase 2b Demolition Plan - Level 2

1 : 100

DO NOT SCALE

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Dimensions to be verified on site.
Figured dimensions to take preference to those scaled.
All discrepancies to be clarified with the project Architect.
Unless otherwise stated all levels to be AOD.

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1:100 0M 2M 4M 6M

1:1 0 10 20 30 40 50 60MM

REVISION CLOUD

ABEYANCE CLOUD

SITE BOUNDARY Phase 2b / 2c Works

EXISTING

ELEMENT TO BE REMOVED

Refer to 739-IRAL-02-18-0201 scope plan for soft strip-out works

REVISIONS:

1. Refer ti 1:50 plans

IN ABEYANCE:

Refer to 1:50 plans

Rev	Date	By	Ck	Ap	Description
4C	05.08.19	CR	AS	AS	Revisions as noted
4B	16.07.19	CR	CR	AS	Soft Strip for Tender
4A	28.06.19	CR	CR	AS	Issued for Strip-out scope
3E	01.05.19	TR	CR	AS	Revision as noted
3D	29.04.19	TR	CR	AS	Revision as noted
3C	26.04.19	TR	CR	AS	Stage 3 Issue
3B	01.02.19	TR	CR	CR	Revision as noted
3A	29.01.19	TR	CR	CR	Revision as noted
P01	02.10.18	CR	CR	AS	Revision as noted
P00	06.09.18	TR	CR	CR	First Issue

Job Title

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE (KEPPEL STREET)

Drawing Title

Phase 2b Demolition Plan - Level 2

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Status: Stage 4

Scale		Date
1:100@A0		06.09.2018
Drawn: TR	Checked: CR	Approved: CR

Job No.	Drawing No.	Rev.
739	739-IRAL-02-DR-18-0203	4C

Appendix D – Intrusive Survey Photographs

Photograph 1 – Wall 1 two leaf terracotta hollow pot with void between

Photograph 2 – Wall 1 two leaf terracotta hollow pot with void between

Photograph 3 – Wall 2 terracotta hollow pot

Photograph 4 – Wall 3 250mm masonry wall (Taken inside room 221)

Photograph 5 – Wall 3 250mm masonry wall (Taken inside cold room 214). Refer to photographs 36-38 for more details

Photograph 6 – Wall 4 terracotta hollow pot

Photograph 7 – Wall 5 terracotta hollow pot

Photograph 8 – Wall 6 terracotta hollow pot

Photograph 9 – Wall 7 terracotta hollow pot

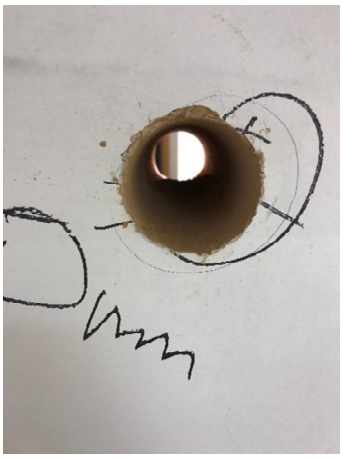
Photograph 10 – Wall 8 terracotta hollow pot

Photograph 11 – Wall 9 plasterboard partition

Photograph 12 – Wall 10 terracotta hollow pot

Photograph 13 – Wall 11 glazed and plasterboard partition

Photograph 14 – Wall 12 250mm thick terracotta hollow pot



Photograph 15 – Wall 12 250mm thick terracotta hollow pot core sample

Photograph 16 – Wall 13 terracotta hollow pot

Photograph 17 – Wall 14 plasterboard partition

Photograph 18 – Wall 15 terracotta hollow pot

Photograph 19 – Wall 16 terracotta hollow pot

Photograph 20 – Wall 17 glazed and plasterboard partition

Photograph 21 – Wall 18 terracotta hollow pot

Photograph 22 – Wall 19 terracotta hollow pot

Photograph 23 – Wall 20 plasterboard partition

Photograph 24 – Wall 21 terracotta hollow pot

Photograph 25 – Wall 22 terracotta hollow pot

Photograph 26 – Wall 23 terracotta hollow pot

Photograph 27 – Wall 24 terracotta hollow pot

Photograph 28 – Wall 25 terracotta hollow pot

Photograph 29 – Wall 26 terracotta hollow pot

Photograph 30 – Wall 27 plasterboard partition

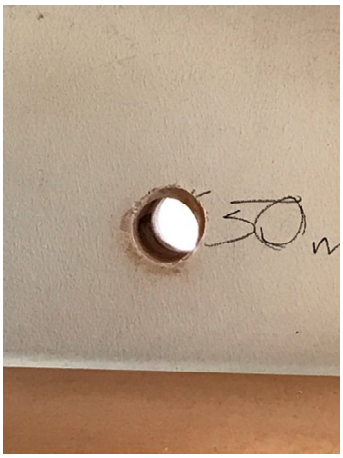
Photograph 31 – Wall 28 terracotta hollow pot

Photograph 32 – Wall 29 terracotta hollow pot

Photograph 33 – Wall 30 blockwork (filled in door)

Photograph 34 – Wall 31 terracotta hollow pot

Photograph 35 – Wall 32 terracotta hollow pot



Photograph 36 & 37 – Masonry Wall back of lift 3

Photograph 38 – Masonry Wall spanning from external wall to Lift 3