Figure 5: Full-width, two-storey extension (in red), single-storey extension at first-floor level to the rears of No. 43-44 (in blue), cooling tower to the third floor behind No. 43 (In green)

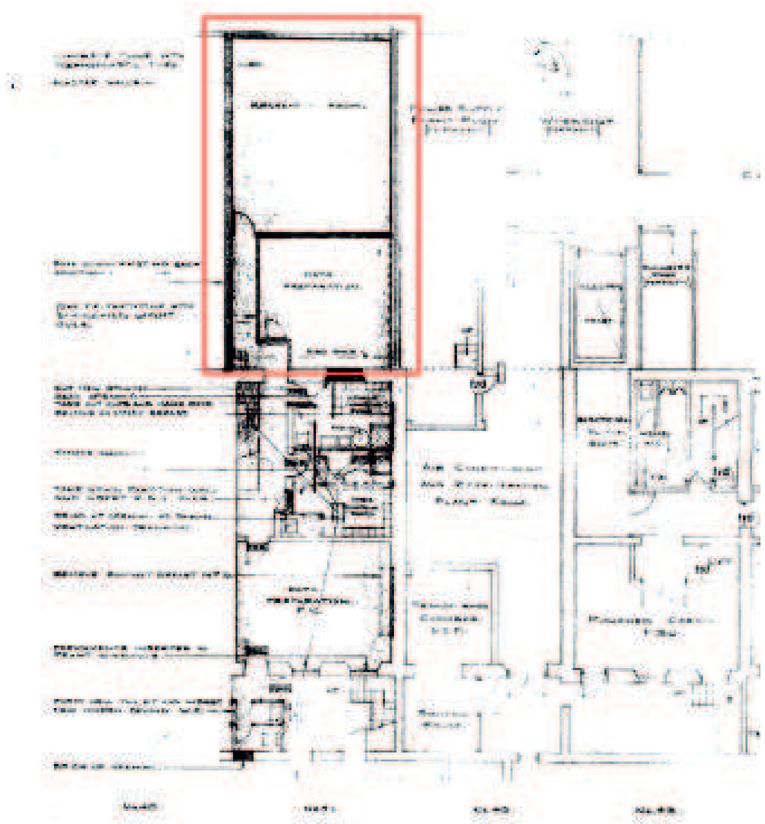

Figure 6: Single-storey basement extension to the rear of No. 41

4.2.2 Structural alterations

Recent alterations include as follows.

- new partition walls were added, while others were removed, and additional openings through party walls were formed;
- Conversion of the ground floor in the rear extension of 39-41 Gordon Square into an auditorium by Surface Architect;
- A seminar room, plant room and break-out space were included at basement level. The roof of the extension was also adapted to include a metal-framed skylight with clear glazing to improve lighting;
- The section of the modern principal staircase that provided access to the basement and the first floor was removed and a glazed screen installed to create a lobby space at the very front of the building.

The current building structure is described in recent opening up works by Chelmer Global Ltd, archive documents and visual inspections. It can be described and summarised as follows:

» Roof – timber purlins spanning between trusses that bear onto external walls. The external walls from fourth floor to roof are stepping back and it`s unclear how they are supported. A second round of opening up works have been proposed to find out if they are trussed walls or if they are supported by timber/steel beams.

» Floor – traditional timber joist and boarded floors are original to the building`s construction in 1825. They usually span between party walls and load bearing walls although their directions are not consistent throughout the building. At ground floor, opening up works revealed the presence of steel/timber beams and concrete slabs which indicates historic strengthening works. Basement floor is believed to be a ground bearing concrete slab. Proposed opening up works will investigate its depth.

» Walls – External walls are original solid masonry walls while internal partitions are typically formed by timber truss studs. Internal load bearing walls are formed by timber truss studs or masonry.

» Foundations – Foundations are believed to be strip footing under load bearing walls.

» Rear Extension – The rear extension is believed to comprise of concrete floors on steel frame (highlighted in the image below). During the visual inspections, concrete columns and beams have been noted in the basement but they are believed to be made of steel with concrete encasement rather than reinforced concrete structure

Figure 7: Level 00 - Existing Significance Plan with extension highlighted in red

4.2.3 Structural condition

The buildings have been subjected to overloading of the floors when the use was changed from residential to offices/classrooms. The worst cases of this are the academic staff's offices who retain personal libraries, the extent of which way exceed the notion of domestic book shelves and are thus severely overloading the floor joists. As a result of this, together with a normal deterioration of the materials and water ingress, there are structural defects present as listed below:

- The ceiling of no.42 in room 218 collapsed in 2017 on 27th October as reported and detailed in the "Site Visit Overview" by Webb Yates (Ref: J3397-S-RP-000). The collapse is believed to be caused by overloading of the floor joists with possible water ingress along with temperature change weakening the ceiling's plaster.
- A bulge in the ceiling and cracks were observed in Room 122 on 31st October of the same year;
- Inadequately supported partition walls, changes in ambient temperature occurring in rooms, and possible saturation of the plaster are also believed to be the cause of cracks within the building;
- The capacity of some timber floor joists may have been compromised by water ingress;
- Balconies on the rear have been reported to be in need of structural repairs to the balustrade, balcony support and waterproofing;

- Some chimneys have been reported to be leaning and/or present some cracking.

4.2.4 Further investigations

Proposed further investigations have been identified as being required due to perceived defects not understood and to inform on design proposals. Necessity for investigations have been classified as follows:

Most necessary:

- Existing construction has not been confirmed and it cannot reliably be predicted from experience or precedent; AND,
- Not knowing the structural form will leave significant risk in design due to structural significance or extent of work that impinges on it.

Necessary:

- Existing construction has not been confirmed and it cannot reliably be predicted from experience or precedent; OR,
- Not knowing the structural form will leave significant risk in design due to structural significance or extent of work that impinges on it.

Least necessary:

- Existing construction not confirmed but can be reasonably predicted; AND/OR,
- There is little structural significance or extent of work that impinges on it; AND/OR,
- The investigation is easy and not disruptive achieve.

The opening up strategy, after detailed discussion with multiple stakeholders during Stage 2, is to avoid opening up and investigate the ground floor structure from above and rather access it from the basement floor ceiling level below.

Proposed strategy for investigating ceilings and floor zones generally will be via careful lifting of floorboards in the floor above rather than cutting holes (thus damaging) through the existing ceiling. The only exception is for the fourth floor as none of the ceilings are decorative or of heritage note and there is no other way to access it i.e. from roof void above.

Proposed further investigation works are shown in Appendix A.

5. STRUCTURAL ENGINEERING PROPOSALS

5.1 Scheme overview - Loadings

It is proposed to upgrade the building structure from original residential use loading to that of mixed-use comprising office space, teaching classes and café. A small single storey extension to the back is also planned.

While the dead load will remain the same, the live load will change.

Typical dead load:

- Finishes 0.25 KN/m2
- Timber joists 0.30 KN/m2
- Ceiling and services 0.15 KN/m2
- Total Dead Load 0.70 KN/m2

Mindful of the limitations posed by the historic building, we have proposed and agreed with the client a pragmatic loading strategy as the single occupancy offices will unlikely ever be subject to office load as set out in modern design codes.

Project loading proposals:

- Office live load: 1.5 KN/m2 (no allowance for future partitions or large storage areas);
- Classroom live load: 3 KN/m2 (no allowance for future partitions);
- Dedicated dense storage units: As per Stage 2 report, pending updated drawings and information

Current Eurocode standard for modern buildings:

- Office live load: 2.5 KN/m2 + partitions;
- Classroom live load: 3 KN/m2 + partitions;

See Appendix B for images which explain live load allowances and typical plans to explain our proposal for applied loads to floors to suit their usage. This is based on Stage 2 drawings as new storage layout and requirements are still in progress although the principles remain the same. The detailed arrangement of dedicated storage units will be reviewed at the next stage.

5.2 Strengthening works

Due to the Live Load increase in certain areas (classrooms, storage units, communal spaces etc), there are several locations where the floor structures need strengthening works.

As noted above many academic staff members carry significant personal libraries. These have been stored in an uncontrolled fashion that has led to overloading the floor structure for many years.

In consultation with the Estate management, all book storage will be limited to 4 linear meters per member of staff, to be stored in cantilevered bookshelves which can only be mounted on existing loadbearing walls (thereby negating the need for strengthening works specifically for book storage). No additional book storage is allowed for.

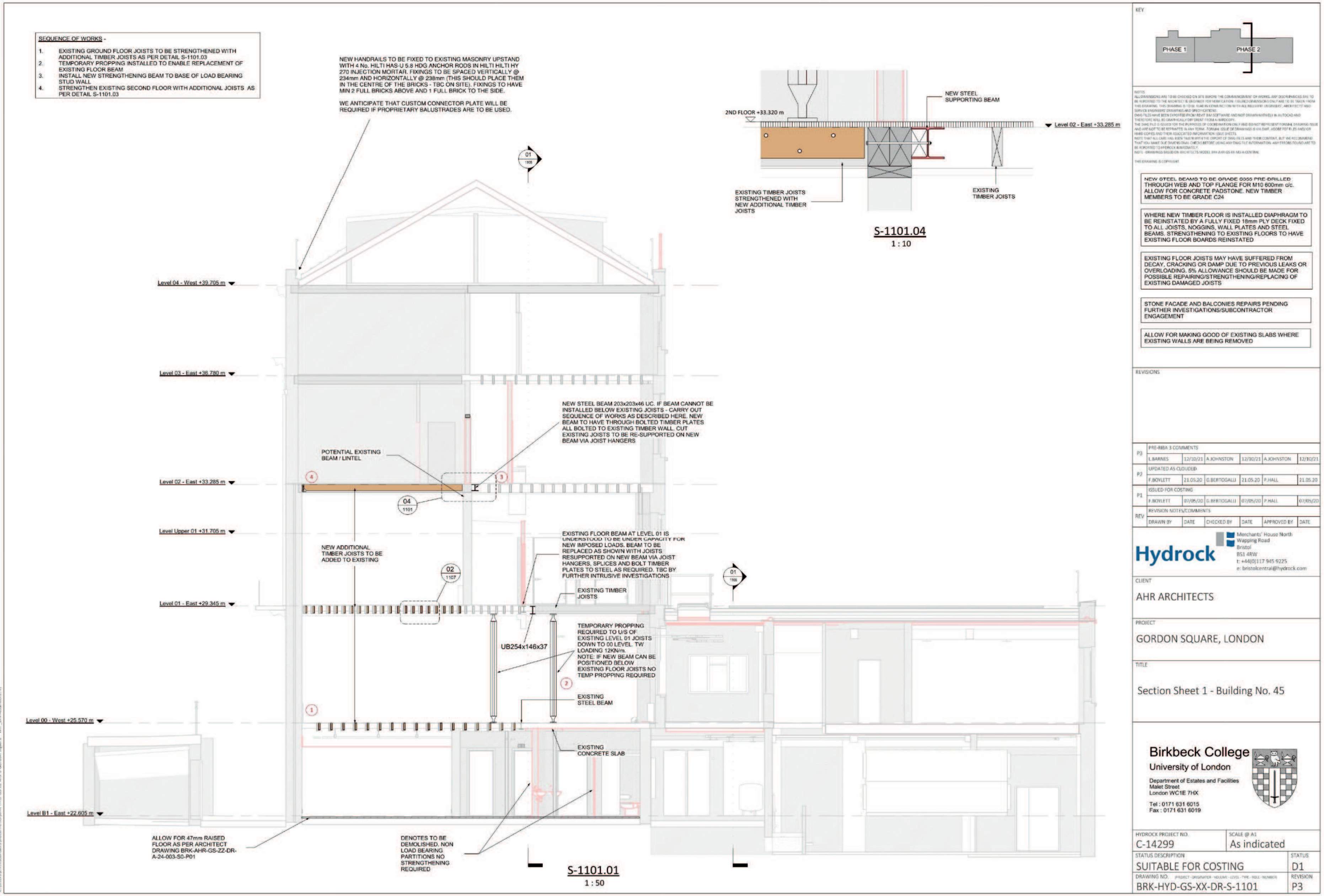

Figure 8: Typical cross section through a building indicating the sequence of works required.

Also, dedicated structural strengthening provision has been proposed to ensure that there is sufficient capacity in the floors to sustain the excess loading requirements for classroom floor loading beyond the building's originally conceived design loads and usage.

A relatively complex sequence of works for this structural upgrade has been developed to mitigate the intrusion on the building fabric. Where possible new steel beams are proposed to be installed beneath existing timber joists and packed tight, however, where this is not possible temporary work systems are required to facilitate installation of steel beams within the joist depth. This involves propping then cutting the existing joists, installing beams and re-supporting the joists on the newly installed beam. The latter will require temporary propping systems which will be designed by the contractor according to design loadings to be provided on structural drawings. See figure 8 on previous page for a typical cross section of works showing suggested sequencing.

Depending on the existing timber joists size and span, the intensity of the strengthening varies.

Generally, the proposal is to add an additional joist between the space between existing joists by either bolting it to the existing joist or supporting it via hanger concreted in existing masonry walls.

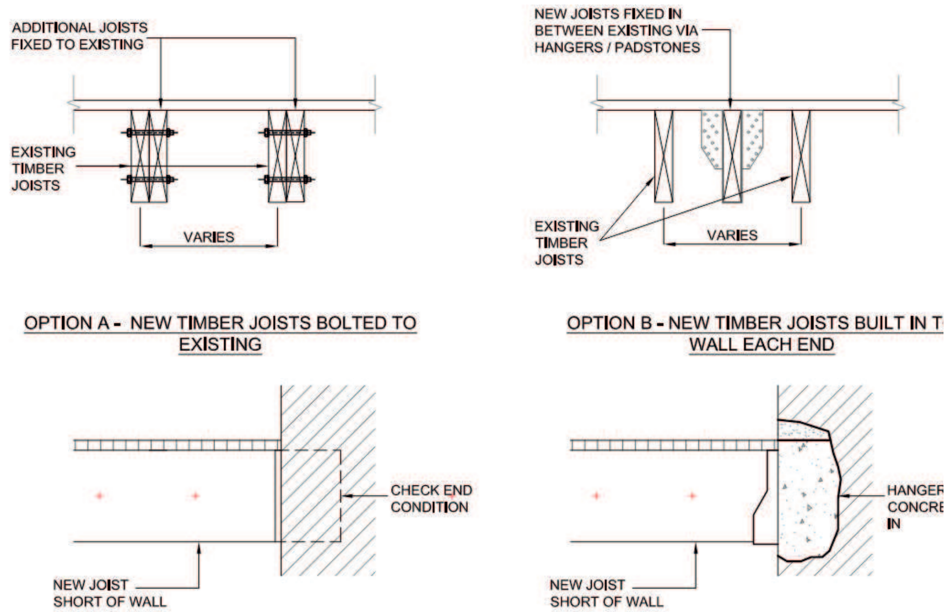

Figure 9: New timber joists details and options

Existing floor joists have in places suffered from decay, cracking or damp due to previous leaks or overloading. Allowance should be made to replace/ repair/ strengthen 5% of existing damaged joists

250mm x variable length M&E services risers are required in various locations. Where timber joists are spanning onto them (perpendicular to long side), the services will be located between the joists. Where timber joists are spanning parallel to the main length of the riser, one joist will be removed and the opening trimmed with double joists.

Typical riser of 600 x 300mm showing timber joists being kept (indicated brown) by spreading the services between joists:

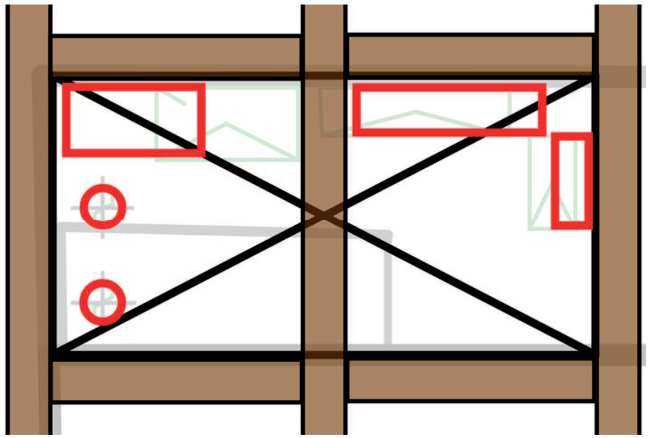

Figure 10: Typical riser coordination

Refer to M&E drawings for detailed proposals of services risers and locations.

Services through joists have been coordinated with M&E engineers to comply with the guidance from the code to avoid strengthening where possible (shown in the image below). The 250x50mm refrigerant tray at first floor that runs through notch in top of beam doesn`t follow the guidance above. Therefore, strengthening of existing joists is required. In this case allow for a 400mm steel plate 10mm thick to be through bolted onto existing joists.

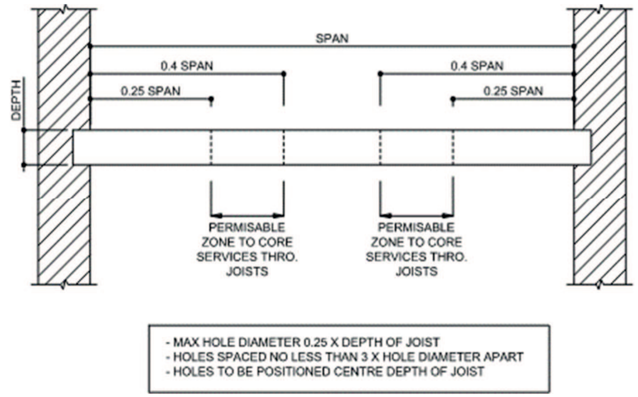

Figure 11: Services through joists

Full strengthening works are shown in the structural drawings in Appendix B.

5.3 Demolition works

Where existing walls are being removed, the following is highlighted on the proposed drawings:

- If they are load bearing or not;
- Temporary works needed with loading information so the temporary work designer can adequately design the propping requirements and give feedback on costs involved;
- Structural items that are needed to reinstate the support that the wall was given to the structure above.

Where the wall removed is supporting 1 or 2 storeys, a steel beam has been designed to take the load and to span between masonry walls via padstones.

Where the wall removed is supporting more than 2 floors and the adjacent walls cannot take this high load, a new steel box frame has been proposed.

In building no. 43, there are major demolition works as the current stairs are to be removed. In this case, structural works consist of a new timber floor supported on steel beams at 1st, 2nd and 3rd floor.

New floor/roof openings will be trimmed with double joists with the exception of the void next to the staircase in building no. 43 that will be trimmed with steel beams due to its size.

New opening through existing load bearing walls will be possible by the installation of 1 or more precast concrete lintels depending on the thickness of the wall.

Where necessary allow for breaking out and reinstatement of existing slab to new run locations as detailed in the image below:

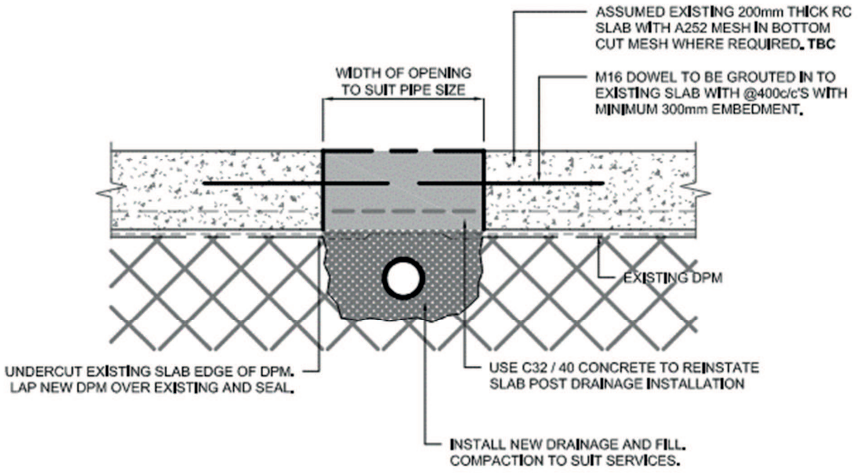

Figure 13: Drainage coordination

For below ground drainage alterations and related works please refer to civil drawing BRK-HYD-GS-ZZ-DR-C-7010.

Refer to structural drawings in Appendix B for further information and details.

6. CIVIL ENGINEERING PROPOSALS

6.1 Drainage Strategy - Surface

It is not anticipated that any of the surface water network will be altered, therefore the design will maintain as per the existing situation.

6.2 Drainage Strategy - Foul

6.2.1 Pre-Development Foul Water

The existing development is served by a dedicated below ground foul water drainage system which discharges from the existing building into the wider foul drainage network in Gordon Square.

Foul flows from the existing building are considered to be domestic. It is understood that the foul drainage system which serves the building is maintained privately by the owner / occupier.

Existing drainage CCTV works were undertaken by WJ Shirley, who assessed the condition and location of the existing assets. Numerous 'moderate' defects along with one 'severe' defect were identified within the building extents.

The capacity and condition of the existing downstream foul drainage system beyond the development boundary has not been assessed as part of the scope of these works.

Drainage defects are indicated on the layout shown in Appendix D.

6.2.2 Post Development Foul Water Drainage

New foul stacks serving refurbished areas / new areas will be utilised as much as possible in the above ground drainage system. Where this is not considered achievable, a new dedicated below ground drainage system will be designed in the basement which will connect from the new stack locations and into the existing drainage network.

Foul flows from the new stack locations are anticipated to be 'domestic' in nature i.e. from WC's, sinks, wash basins etc. It is not expected there will be any trade effluent flows discharging into the wider drainage system.

The foul system also takes air conditioning condensate, flows considered to be small.

The foul drainage system will be designed in accordance with Building Regulations Approved Document H and the relevant British Standards.

Drainage Layout is shown in Appendix D.

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7. STRUCTURAL DESIGN DATA

7.1 Proposed loading requirements

Client to confirm:

- What will be exhibited in the gallery at ground floor; alternatively, capacity as built to be verified to allow future exhibitions to work within that limitation;
- Usage of the top right room at ground floor (classroom or studios/stages);
- Width, height, load and layout of shelf units.

Vertical Loading:

Location	Variable Load (Live)	Permanent Load (Dead)	Permanent Load Description
Basement	Office Area 1.50kN/m2 Classroom Area 3.00 KN/m2 WC area: 2.00 KN/m2 Corridor/Stairs area: 3.00 KN/m2 Storage/Plant room area 5.00 KN/m2 Auditorium area 4 KN/m2	3.75 kN/m2	Concrete slab, assumed 150mm thick
Ground Floor	Office Area 1.50kN/m2 Classroom Area 3.00 KN/m2 WC area: 2.00 KN/m2 Corridor/Stairs area: 3.00 KN/m2 Café` Reception area 2.00 KN/m2 Storage 5.00 KN/m2	0.70 kN/m^2	Finishes, timber joists, ceiling and services
First Floor Second Floor Third Floor Fourth Floor	Office Area 1.50kN/m2 Classroom Area 3.00 KN/m2 WC area: 2.00 KN/m2 Corridor/Stairs area: 3.00 KN/m2 Shelf units line load as per stage 2 report	0.70 kN/m2	Finishes, timber joists, ceiling and services
Flat Roof	Accessible for maintenance only/Snow 0.60kN/m^2	0.90 kN/m^2	Asphalt waterproofing timber joists, ceiling and services
Pitched Roof	Accessible for maintenance only/Snow 0.60kN/m^2	0.90 kN/m^2	Slates, timber batten, felt, timber rafters, ceiling and services

Figure 15: Vertical Loading table

Minimum horizontal imposed loads for barriers, parapets and balustrades:

Example areas	Line Load	UDL on infill	Point load on infill
Areas not susceptible to overcrowding in office buildings, stairs, landings, corridors and ramps	0.74kN/m	1.0kN/m2	1.0kN
Cafes & restaurants	1.5N/m	1.5kN/m2	1.5kN

Figure 16: Horizontal load table

7.2 Movements and tolerances

The maximum allowable vertical deflection (i.e. live load deflection) for new and existing structure is as follows:

» Mid span deflection = span / 360 ≤ 25mm

» Cantilever tip deflection = span / 180 ≤ 25mm

Due allowance must be made in the detailing of finishes and non-structural partitions.

Total deflection (dead + superimposed dead + live) is limited to span /250. Long span steel beams will require vertical upwards camber to achieve this limit. The camber value for structural steel elements represents approximately 2/3 of the final dead load deflection.

7.3 Disproportionate Collapse

Clearly the building was designed and built before there were any formal requirements in respect of Disproportionate Collapse. Under current Building Regulations Part A3 the building would be classified as 2B which dictates that effective vertical and horizontal ties should be provided.

The building cannot be justified to satisfy this tying requirement, particularly in respect of vertical ties. Such strengthening works would be extremely difficult and intrusive to effect.

However, given the perceived low level of risk of an extreme event, the sensitive nature of the historic fabric and relatively minor proposed alteration works it is considered that retro-tying works are not appropriate. This has been proposed to the building Approved Inspector for agreement.

8. CONTRACTOR ITEMS

8.1 Contractors structural design items

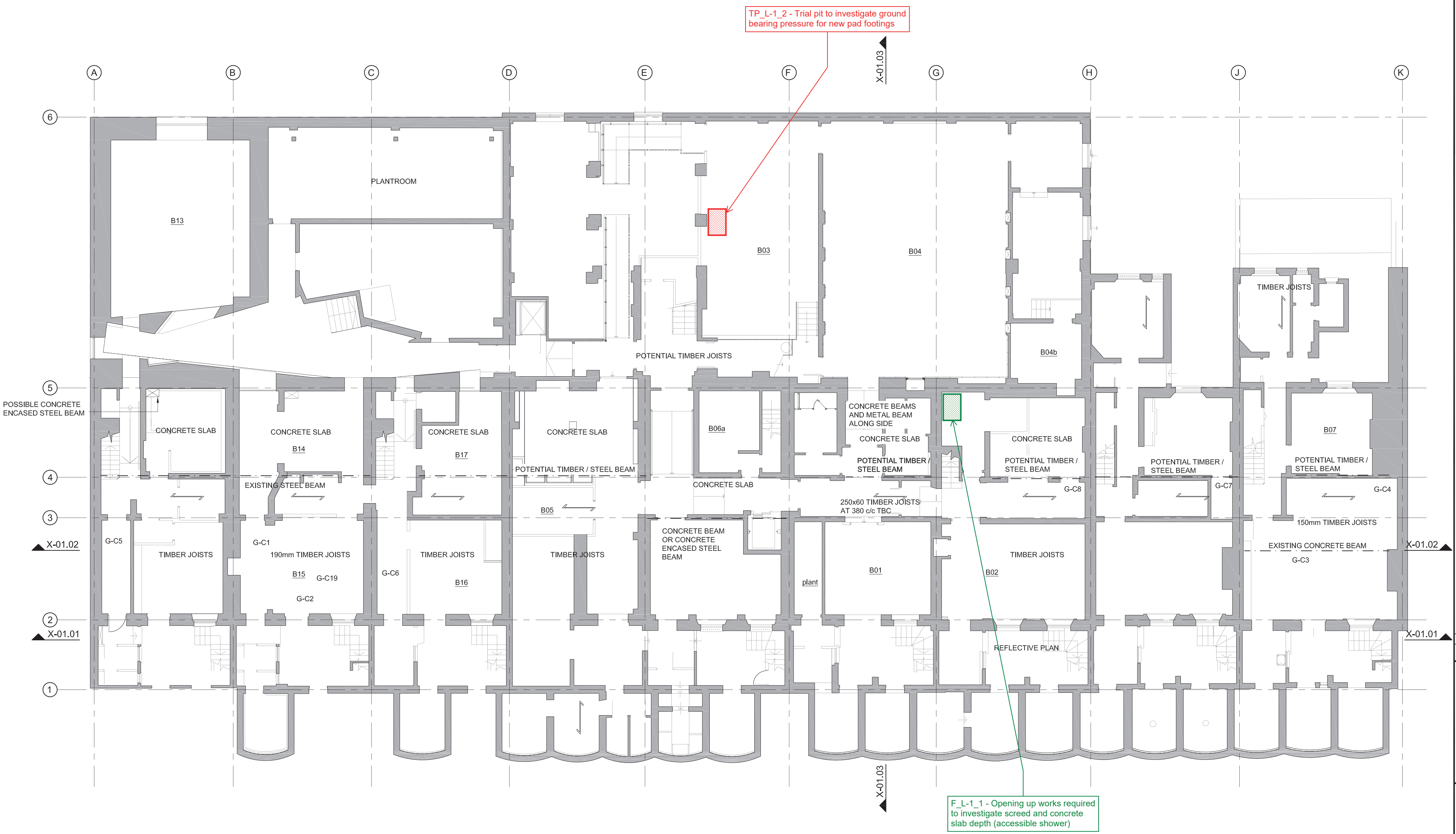
A number of parts of the structural design will require detailed design by a specialist subcontractor to the main contractor during the construction works. Hence, they will not be developed in detail until then, and tender details will include only performance specification.

Such items are listed as follows.

- Curtain walling;
- Roof decking, including diaphragm action;
- Proprietary staircases (precast, architectural metalwork);
- Steel to steel connection designs;
- Balustrading and barriers, including glazed elements;
- Secondary structure associated with glazing or cladding;
- Any Temporary works including propping, formwork or any other temporary systems required;
- Proprietary lintels.

Appendix A: Proposed further investigation works

Please note that plans are reflected (show floor structure above)
Please refer to architect plans for correct room numbering



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KEY - INVESTIGATION TAGS				
Location	W=Wall	F=Floor	TP=Trial Pit	C=Ceiling
Level	-1=Basement	0=Ground Floor	1=First Floor	2=Second
Unique reference	1	2	3	4
Importance in regards to cost risk	Most severe	Severe	Least Severe	

COST RISK GUIDANCE	
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Notes:

1.

B-C15 = DENOTES OPENING UP WORKS REFERENCED IN CHELMER REPORT REF FACT/10777

AT LEVEL

BELOW LEVEL

* - TIMBER / STEEL BEAMS SHOWN ARE ABOVE

* FACTUAL REPORT REFERENCES (eg B-C1/1-F1) ARE ABOVE OR AT LEVEL, REFER TO OPENING UP REPORT

NOTE - STRENGTHENING WORKS DUE TO DEMOLITION WORKS ARE SHOWN ON A SEPARATE DRAWING / SKETCH

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FURTHER INVESTIGATIONS ARE NEEDED TO DETERMINE JOISTS SIZES AND CENTRES

The opening up strategy, after detailed discussion with multiple stakeholders during Stage 2, is to avoid opening up and investigate the ground floor from above and rather access it from the basement floor ceiling level below. Proposed opening up investigation of the ceiling from ground floor above should be access via careful lifting of floorboards from the floor above instead of cutting holes (thus damaging) through the existing ceiling. The only exception is for the fourth floor as none of the ceiling are decorative or of heritage note and there is no other way to access it i.e. from roof void above.

Rev	Date	Description	By	Ckd
T1	12.03.2020	DRAFT ISSUE	FB	GB

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Client
AHR ARCHITECTS LTD

Project
BIRKBECK

Title
Basement plan with Ground Floor structures shown reflected above. Opening up works

Drawing Status
DRAFT

Job No.
C-14299

Drawn	Checked	Scale at A1	Date	Issue Date
FB	GB	1:50	02.2020	00.00.00

Drawing No.	Revision
HYD-00-B1-DR-S-1000	T1

Please note that plans are reflected (show floor structure above)
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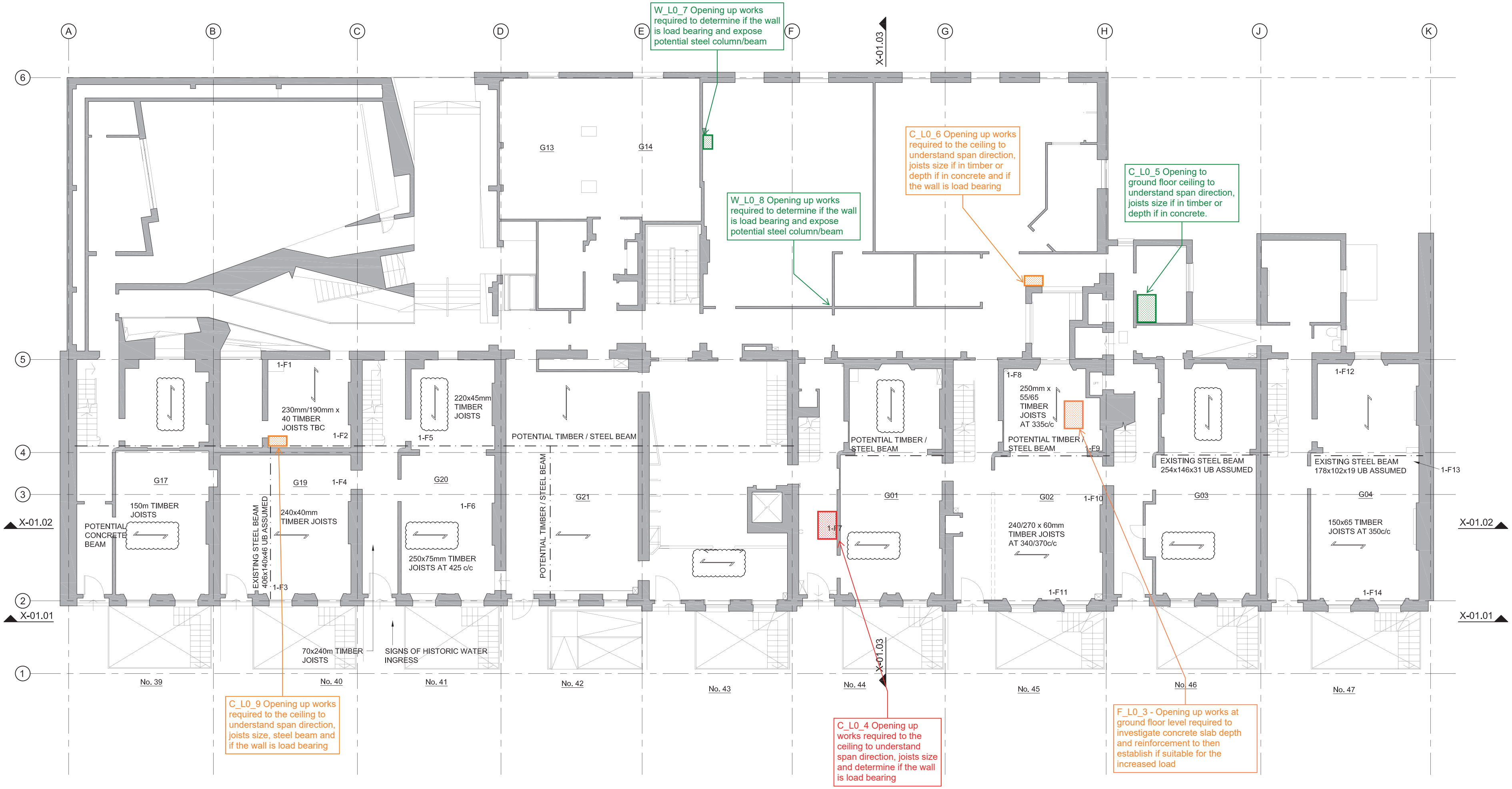

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Client
AHR ARCHITECTS LTD

Project
BIRKBECK

Title
Ground Floor plan with First Floor structures shown reflected above. Opening up works

Drawing Status
DRAFT

Job No.
C-14299

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FB	GB	1:50	02.2020	00.00.00

Drawing No. HYD-00-GF-DR-S-1001
Revision

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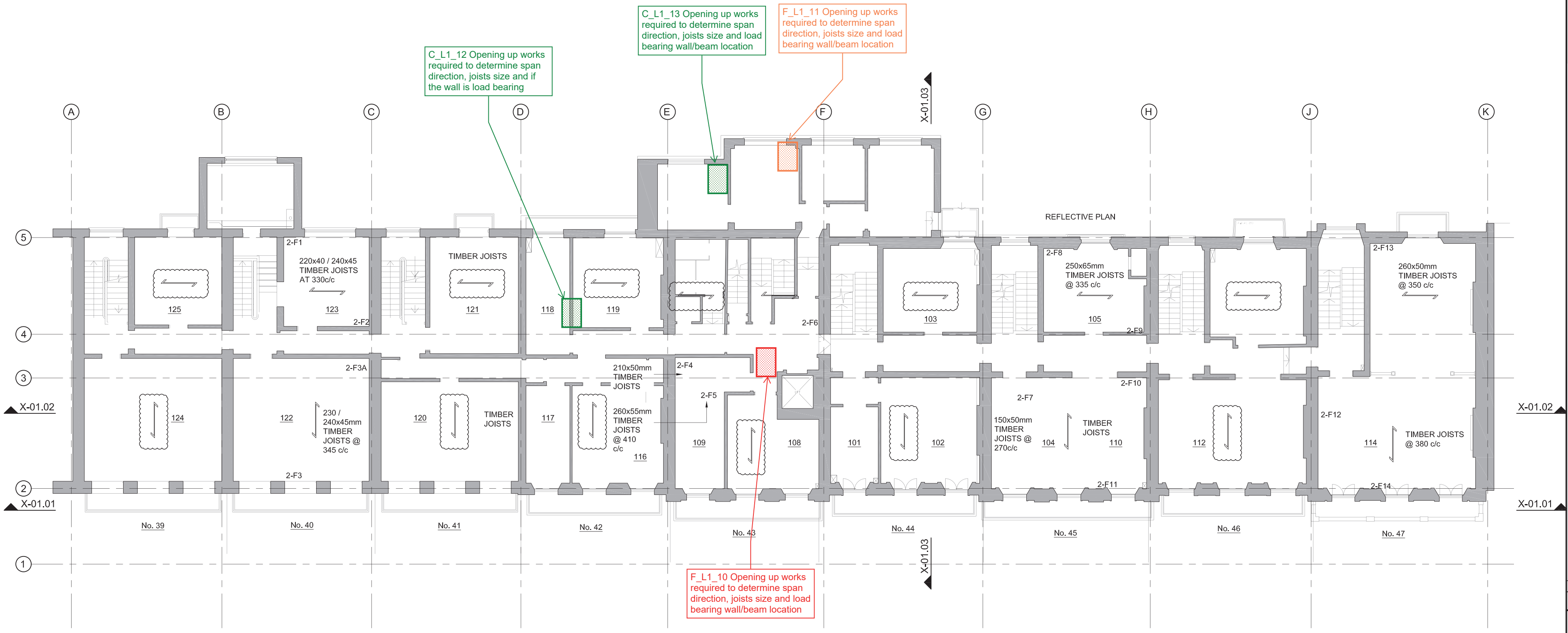

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Client
AHR ARCHITECTS LTD

Project
BIRKBECK

Title
First Floor plan with Second Floor structures shown reflected above. Opening up works

Drawing Status
DRAFT

Job No.
C-14299

Drawn	Checked	Scale at A1	Date	Issue Date
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HYD-00-01-DR-S-1002

Revision

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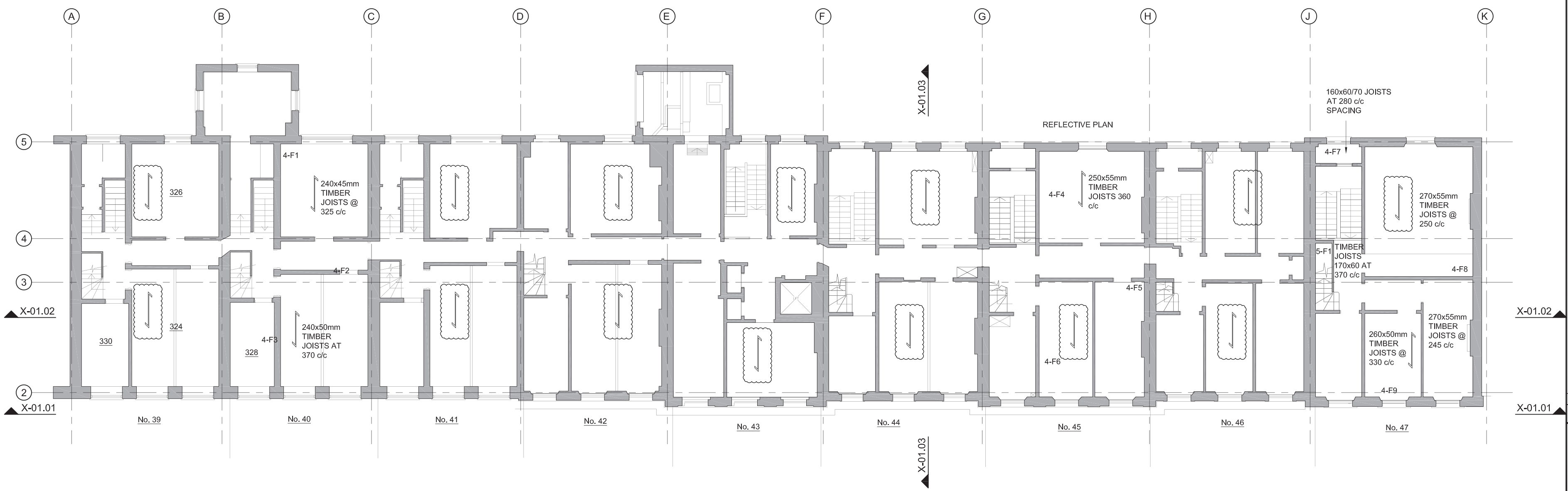

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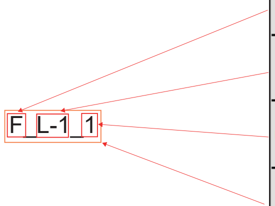
NB - ALL EXISTING STRUCTURES SHOWN ARE ASSUMED AND SHOULD BE CHECKED ON SITE BY CONTRACTOR BEFORE WORKS COMMENCE

FURTHER INVESTIGATIONS ARE NEEDED TO DETERMINE JOISTS SIZES AND CENTRES

The opening up strategy, after detailed discussion with multiple stakeholders during Stage 2, is to avoid opening up and investigate the ground floor from above and rather access it from the basement floor ceiling level below. Proposed opening up investigation of the ceiling from ground floor above should be access via careful lifting of floorboards from the floor above instead of cutting holes (thus damaging) through the existing ceiling. The only exception is for the fourth floor as none of the ceiling are decorative or of heritage note and there is no other way to access it i.e. from roof void above.



KEY - INVESTIGATION TAGS				
Location	W=Wall	F=Floor	TP=Trial Pit	C=Ceiling
Level	-1=Basement	0=Ground Floor	1=First Floor	2=Second
Unique reference	1	2	3	4
Importance in regards to cost risk	Most severe	Severe	Least Severe	

COST RISK GUIDANCE	
Most severe	Existing construction has not been confirmed and it cannot reliably be predicted from experience or precedent; AND, Not knowing it will leave significant risk in design due to structural significance or extent of work that impinges on it.
Severe	Existing construction has not been confirmed and it cannot reliably be predicted from experience or precedent; OR, Not knowing it will leave significant risk in design due to structural significance or extent of work that impinges on it.
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0m 1m 2m 4m 10m
1:100

Rev	Date	Description	By	Ckd
T1	12.03.2020	DRAFT ISSUE	FB	GB

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Client
AHR ARCHITECTS LTD

Project
BIRKBECK

Title
Third Floor plan with Fourth Floor structures shown reflected above. Opening up works

Drawing Status
DRAFT

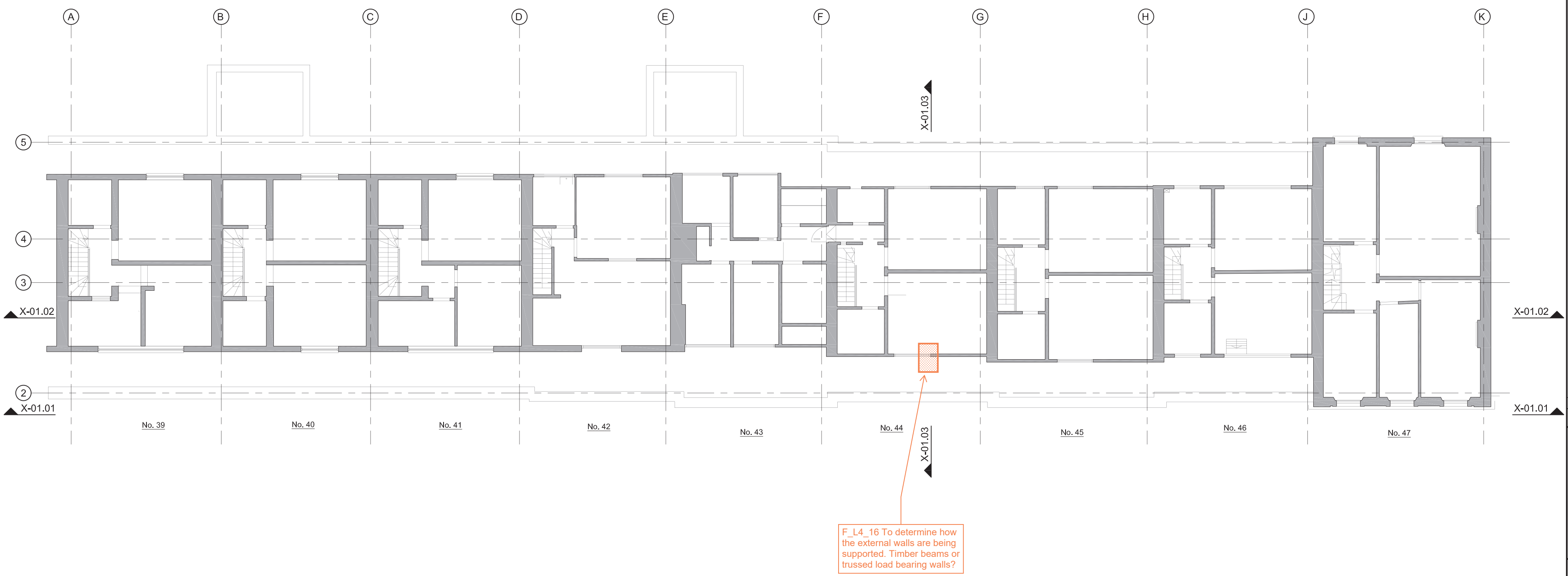
Job No.
C-14299

Drawn	Checked	Scale at A1	Date	Issue Date
FB	GB	1:50	02.2020	00.00.00

Drawing No.
HYD-00-03-DR-S-1004

Revision

Please note that plans are reflected (show floor structure above)
Please refer to architect plans for correct room numbering



F_L-1_1

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0m 1m 2m 4m 10m
1:100

Notes:
All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.
This drawing is to be read in conjunction with all relevant Architect's, Engineers' and Service Engineers' drawings and specifications. This drawing is copyright.

Notes:
1.

B-C15 = DENOTES OPENING UP WORKS REFERENCED IN CHELMER REPORT REF FACT/10777
AT LEVEL
BELOW LEVEL

- TIMBER / STEEL BEAMS SHOWN ARE ABOVE
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Client
AHR ARCHITECTS LTD

Project
BIRKBECK

Title
Fourth Floor plan
Opening up works

Drawing Status
DRAFT

Job No.
C-14299

Drawn	Checked	Scale at A1	Date	Issue Date
FB	GB	1:50	02.2020	00.00.00

Drawing No.
HYD-00-04-DR-S-1005

Revision
-

OPENING UP WORKS TABLE				
Reference	Room reference	Reason	Description	Importance in regards to cost risk
F_L-1_1	New accessible shower. Gridline G5	To investigate screed and concrete slab depth. New accessible shower need screed to fall. Useful also to determine maximum line load that can be applied with temporary propping	Form 250x250mm hole or 150mm diameter core. Once inspected by Hydrock make good with proprietary concrete repair such as Fosroc Paveroc in 100mm layers or concrete C32/40 to reinstate slab	Least Severe
TP_L-1_2	B03	Trial pit to investigate ground bearing pressure for new pad footings	1000x1000mm square trial pit to expose underside of existing foundation and provide space for bearing capacity check by geotechnical engineer. Once inspected by Hydrock make good with proprietary concrete repair such as Fosroc Paveroc in 100mm layers or concrete C32/40 to reinstate slab	Most severe
F_L0_3	G02 between gridlines 4 and 5	To investigate concrete slab depth and reinforcement to then establish if suitable for the increased load	Obtain slab depth by drilling 40m hole through. Remove a strip of concrete 100mm wide 600mm long in both directions to slab soffit so existing re-bar can be measured. Once inspected by Hydrock make good with proprietary concrete repair such as Fosroc Paveroc in 100mm layers or concrete C32/40 to reinstate slab	Severe
C_L0_4	CG10 ceiling OR 101 floor	Opening to ground floor ceiling or to first floor to understand span direction, joists size and determine if the wall is load bearing wall	500mm square hole in ceiling. Make good with plasterboard or timber paneling and paint to match existing finishes	Most severe
C_L0_5	G06	Opening to ground floor ceiling to understand span direction, joists size if in timber or depth if in concrete.	500mm square hole in ceiling beneath first floor to expose rafters, assumed steel beam and top of wall. Make good with plasterboard or timber paneling and paint to match existing finishes	Least Severe
C_L0_6	Corridor between G26 and G09	Opening to ground floor ceiling to understand span direction, joists size if in timber or depth if in concrete and determine if the wall is load bearing.	500mm square hole in ceiling beneath first floor to expose rafters, assumed steel beam and top of wall. Make good with plasterboard or timber paneling and paint to match existing finishes	Severe
W_L0_7	Wall between G12 and G11	To determine if the wall is load bearing and expose potential steel column/beam	500mm square hole in ceiling beneath first floor to expose rafters, assumed steel beam and top of wall. Make good with plasterboard or timber paneling and paint to match existing finishes	Least Severe
W_L0_8	Wall between CG03 and G11	To determine if the wall is load bearing and expose potential steel column/beam	500mm square hole in ceiling beneath first floor to expose joists and potential steel beams. Make good with plasterboard or timber paneling and paint to match existing finishes	Least Severe
C_L0_09	G18	To determine span direction, joists size and load bearing wall and steel beam location	500mm square floor board removal at ground floor ceiling to expose joists, potential steel beams and top of the wall. Reinstate floor boards or replace them if damaged.	Severe
F_L1_10	C 106	To determine span direction, joists size and load bearing wall/beam location	500mm square floor board removal at first floor to expose joists and potential steel beams. Reinstate floor boards or replace them if damaged.	Most severe
F_L1_11	110? Check room numbering as in the architect plan it`s shown 110 as well	To determine span direction, joists size and load bearing wall/beam location	500mm square floor board removal at first floor to expose joists and potential steel beams. Reinstate floor boards or replace them if damaged.	Severe
C_L1_12	Wall between 118-119	To determine span direction, joists size and if the wall is load bearing	500mm square hole in ceiling beneath second floor to expose timber joists and top of wall. Make good with plasterboard or timber paneling and paint to match existing finishes	Least Severe
C_L1_13	112	To determine span direction, joists size and load bearing wall/beam location	500mm square hole in ceiling beneath second floor to expose joists, potential steel beams and top of the wall. Make good with plasterboard or timber paneling and paint to match existing finishes	Severe
C_L2_14	208	To determine span direction, joists size and if the wall is load bearing	500mm square hole in ceiling beneath third floor to expose joists and top of wall.Make good with plasterboard or timber paneling and paint to match existing finishes	Most severe
F_L2_15	215	To determine span direction, joists size and load bearing wall/beam location	500mm square floor board removal at second floor to expose joists and potential steel beams. Reinstate floor boards or replace them if damaged.	Severe
F_L4_16	401	To determine how the external walls are being supported. Timber beams or trussed load bearing walls?	500mm square floor board removal at forth floor against the external wall to expose joists and assumed timber beam supporting external wall. Reinstate floor boards or replace them if damaged.	Severe

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Drawn: GB

Job: C-14414 - Birkbeck

Title: Structural investigation table

Sketch No.: SK-S-1010

Date: 07/05/2020

Scale: N/A

Rev: P03

Hydrock