

10 Minshull Street and 11 Bloom Street

ADDITIONAL FEATURES

PLANNING CONDITIONS RELEASE 11(a), (h), (r), (s)

Planning Permission 119374/FO/2018 – BOTH BUILDINGS

- Prepared by Manchester Design & Build

JANUARY 2022



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1. Introduction

Manchester Design and Build has prepared the following Detail Breakdown report to facilitate the release of the planning condition 11(a), 11(r), 11(s) for Planning Permission 119374/FO/2018 – BOTH BUILDINGS, as per the following:

“11) Notwithstanding the details as set out in condition 2 above no development shall commence in relation to the following items in respect of Mindel House (10 Minshull Street) And 11 Bloom Street and until final details (including where appropriate specification and method statement) of the following have been submitted to and approved in writing by the City Council as Local Planning Authority:

-d, lldq| dggwlrqdoihdwuhvdh glfryhuhg gxuhj wkh wuls rxw/dq dssurdfk p xweh
 djuhhg z lk wkh ofdosolqqlj dxwkrw| h z ulhjjl
 -k, Ghwdlhg vshflifdwlrq 2p hwkrgrorj | iruhwhqwrq ridoh{lwjj fruglfhv/z khuh wklv
 qrsrwledh dq dssurdfk p xweh djuhhg z lk wkh ofdosolqqlj dxwkrw| h z ulhjjl
 -u, Vshflifdwlrq 2p hwkrgrorj | iruz runvwr uhsdlhwruhzhixue lk h{lwjj 2 ruhj hdo
 -v, Z khuh solqvghqw| ihdwuhvw eh uhp ryhg/sodvh fdlw| z khuh wkhv frxg eh xvhg
 hoz khuh

1.1 Scope and Purpose of Report

This report has been prepared to facilitate the release of the above condition and is intended to provide a high-level breakdown of items of heritage value found during soft stripping works, methodology for works to repair/ restore/ refurbish existing/ original historic built fabric and features including fixtures and fittings as well as a proposal of where these elements will be located in the scheme or if they cannot, the justification for why.

1.2 Reasoning & Reader Notes

It should be noted that MDB has had experience in delivering buildings that enjoy the same status as this project and where possible it is to the benefit of the company to re-use existing materials, structure and arrangements on site. The introduction of new materials, structural support and new arrangements usually results in grater time, costs and difficulties, however this is at times unavoidable when bringing existing buildings to an acceptable regulatory and living standard.

It is understood that the main objective of the heritage lead approach here is to retain as much of the existing historic fabric from the buildings as possible. This is to be done whilst still conforming to Building Regulations requirements in an appropriate thought-out method of application, prioritising the safety of occupants. Along with this approach it is still of the utmost importance that the environment proposed for the occupants is fit for purpose and attains the level of comfort experienced in newer builds.

On Tuesday 26th October a meeting with Manchester City Council's Case and Conservation Officers were held on site. During this meeting pre-existing features were highlighted on site and discussed (**APPENDIX A**). For this reason, it was confirmed that an evidence based report outlining reasoned proposals for the retention and method for, would be submitted to the LA for approval.

1.3 Executive Summary

There are many elements contained in this report, so this summary serves to inform the reader of a high-level conclusion for each item, the reader will be required to read the report as a whole for any further detail.

1. **Skirting** – Retained and encapsulated in conjunction with new floor build-up.
2. **Cornicing** – Retained and protected.
3. **Timber Panelling** – Non original items removed.
4. **Timber Partitions** – Retained in place or removed from building.
5. **Timber basement floor** – Removed from site.
6. **Safe Door** – Refurbished, retained in place or re-located in close vicinity to original location with plaque.
7. **Hoist Doors** – Retained, refurbished and relocated in close vicinity to original location with plaque.
8. **Lift Doors** – Retained, refurbished and relocated in close vicinity to original location with plaque.
9. **External Gates** – Retained, refurbished, repositioned or removed from site.
10. **Fire Alarm Bell, Valves, Gauge and Sprinkler System** – Sprinkler pipes to be removed, Valves, gauges and alarm bell to be retained in-place and refurbished.
11. **Radiators** – Retained, refurbished and re-positioned in close vicinity to original locations.
12. **Fireplaces** – Retained, refurbished and left in original position on display.

2. Skirting

2.1 Current Status

Historic skirting boards have been found in various locations, their existence and retention have both been highlighted in **(Appendix K)**. Their general condition is suitable for retention.

2.2 Proposed Solution Review

As can be seen from the **(Appendix K)** proposed drawing package, where possible skirtings are carefully encapsulated in their existing locations in conjunction with the new internal floor build-up. Consideration has been given to the re-location of the skirting above the new floor build-up however an on site review from a specialist joiner has established that the removal would cause inevitable damage to the existing elements. Considering this, it has been decided that the better alternative is to retain in place these elements and match the new skirting to the former profiles in reference to their current locations. To this end, details have been included **(Appendix B)**.

3. Cornicing

3.1 Current Status

Historic cornicing has been found in limited locations, their existence and retention have both been highlighted in the drawing package (**Appendix K**). Though not of high quality in appearance or condition, the elements speak to the former office use, meaning retention of the elements would be valued. The issue arising from this is that the locations of the cornicing do not coincide with the approved layouts in a way that would retain their exposure. The condition of the cornicing is highlighted in the plaster conditions report (**Appendix C**).

3.2 Proposed Solution Review

As can be seen from the (**Appendix K**) proposed drawing package, the proposal seeks to retain the cornicing in place whilst protecting them for fire rating purposes. Approved party walls currently clash with existing cornicing, whilst exposure would be preferable it would require intrusive and irreversible works to the existing elements to retain necessary fire separation between apartments or communal areas. To negate removal and potential disruption to their condition the scheme seeks to protect and encase these features in place (**Appendix C**) for future use.

4. Timber Panelling

4.1 Current Status

During soft strip out of both buildings, early-mid 20th century tongue and grooved timber panel decoration was found in various locations as indicated in the **(Appendix D)**. All of the timber panelling is contained within the Mindel House building and locations include; the existing lift shaft in close vicinity to the main timber stair as well as the NW corner of 1st and 3rd floors.

NW Mindel House: The panelling in some locations reaches the current window sill height, terminated with a timber dado type sill, integrated into sills at window locations. The panelling is paint finished and nailed back to timber battens which are fixed to the masonry wall. The panelling in this location is in severe disrepair and unsalvageable as seen in the **(Appendix D)**.

Lift Shaft: Timber panelling in this location spans from floor to ceiling level, at ground to 4th floor levels. These panels are supported by a timber frame construction and they are finished with a clear varnish or paint, interchanging between floors. There is some damage in this location to the panels they are fixed to a framing system with clean panel joints. The installation of the panelling is crudely done around existing features.

4.2 Proposed Solution Review

As can be seen from the **(Appendix D)** the heritage report concludes that the timber panelling is of low heritage value as it is not an original feature of the building, instead a later and low quality addition and installation.

NW Mindel House: For the reasons above the proposal seeks to remove the panelling from site, exposing the existing perimeter walls to their full length.

Lift Shaft: Again for similar reasons and the fact that the lift is a much later addition that is not being retained the panelling in this location is proposed to be removed from site to make way for the new layout incorporating a compliant lift in the area. **(Appendix K)**

This approach is in line with the findings of the heritage report also.

5. Timber Panel Walls

5.1 Current Status

During soft strip out of both buildings, early-mid 20th century tongue and grooved timber panel wall partitions were found in various locations as indicated in the **(Appendix D)**. The majority of the timber partitions are contained within the Mindel House building as indicated in the existing drawing package **(Appendix K)**. All elements are outlined below:

1st Floor: At the left of the main stair well is what looks to be a former office partition with mid to high level glazing contained within. Painted white of no real aesthetic quality the partition forms a segregation between a bed and wardrobe space to a bedroom in the proposed approved scheme.

2nd Floor: This floor houses the majority of the timber partitions, with the majority towards the left side of the main stairwell, these partitions contain mid and high level textured translucent glazing, with multiple panes being broken and in need of removal for safety. The partitions are paint finished in multiple different colours with multiple panels broken out, presumably for former services. Contained within one of the partitions is a timber door with a broken top painted glazed panel. There are instances of MDF board within the wall construction also. They all crudely abut either existing walls or iron columns. These walls are considered to be of low value due to state of disrepair, former interventions, safety and aesthetics.

3rd Floor: Towards the right of the stair at the alleyway a layout of timber partitions forms a lobby and what looks to be a former W.C. area. As discussed in other submissions for release of conditions, this area is in a serious state of disrepair with severe water ingress, mortar damage and structural stability issues of the main external wall, this in turn has degraded the majority of the frame of the partition as well as some of the timber panelling finish. The partitions are part glazed in areas with doors also included, panels are painted with different colour paints or left bare and the materials are generally considered to be of low value due to state of disrepair, former interventions, safety and aesthetics.

5.1 Proposed Solution Review

1st Floor: Because of its satisfactory condition, this partition has been retained and will be included in the originally approved scheme. The glazing will require removal with new BS standard safety glazing. This will be done by a competent joiner/ glazing specialist as the work is not particularly difficult, only requiring the removal of the existing timber beading to remove the existing glass, ready for reglazing and beading. The existing painted surface will be sanded down, primed and re-painted white to match the existing aesthetics.

2nd Floor: Given their state of disrepair, quality of construction, appearance, recent materials and former interventions these walls are proposed to be removed as they are of low value, with their dating proving to be very recent. The position of these walls are not in line with the proposed approved layouts or the relevant building regulations standards. For this reason, the proposal seeks to remove these partitions from the site in order that the approved layouts are not limited by these unoriginal elements.

3rd Floor: Given their state of disrepair, quality of construction, appearance, recent materials and former interventions these walls are proposed to be removed as they are of low value, with their dating proving to be very recent. The position of these walls are not in line with the proposed approved layouts or the relevant building regulations standards. For this reason, the proposal seeks to remove these partitions from the site in order that the approved layouts are not limited by these unoriginal elements.

This approach is in line with the findings of the heritage report also.

6. Timber Basement Floor

6.1 Current Status

As discussed at the on site meeting with MCC (**Appendix A**) a timber floor to the basement of both the Bloom and Mindel buildings was uncovered during a soft strip. This has been further discussed in the report created to facilitate the release of condition **4d/11e (CDN/22/0227 & 0226 & 0229)** which MCC have already been in receipt of. Because of this the following only serves to highlight that information pertaining to this timber floor should be sought from the previously submitted report.

7. Safe Door

7.1 Current Status

BS 1st Floor Safe Door: This safe door is located on the first floor of the Bloom Building towards the car park fronting facade. The approved planning drawings have included this door within the layout, proposing to utilise the enclosed space as part of the kitchen area as well as a dining table with storage space towards its rear, with the permanent pinning back of the door. Following further detailed design development it has become clear that this proposal is unable to accommodate the current design due to various limitations.

Due to acoustic requirements the scheme requires the overlaying of the existing floor with a new acoustic floor build-up to stop sound transmission between apartments vertically and horizontally. This results in any existing floor levels being increased, presenting a discrepancy between the position of the retained elements from their existing floor level to the new. This discrepancy manifests itself in limiting the head height of the door at 1600mm from proposed FFL to the existing door head, making this an unusable opening for the current kitchen arrangement. Without a new proposal the space is currently unusable through the existing safe. The effective removal of this causes a substantial decrease in the habitable space of the apartment.

MH LG Floor Safe Door: As per the approved planning drawings this door is proposed to be relocated once refurbished in close vicinity to its original position.

7.2 Proposed Solution Review

BS 1st Floor Safe Door: As mentioned above with the inclusion of a new floor build up the head height of the existing safe door is restricted in allowing a safe place to transit throughout the approved kitchen layout. For this reason a new proposal is submitted and sought to be approved **(Appendix F & K)**.

Layout options have been explored however with the little space and natural daylight available along with service stacking restrictions, the options are limited and make for an unworkable solution.

The latest layout amends the proposal to place the kitchen on the car park facing wall, retaining the safe door in place and fixing it shut. In order to make this space accessible, a section of masonry wall requires removal to form a suitable opening that will increase the useable area in the apartment and provide natural daylight to spaces that were lit artificially previously. The circulation in the apartment of the living space is vastly improved and the kitchen units increased dramatically for the occupant whilst retaining the main historic elements.

Keeping the safe door in place as opposed to relocating it elsewhere in the building endeavours to retain the heritage of the element with as little intervention to it as possible. Although some of the brickwork to the area will be removed this is seen as justified in order to effectively use the space and retain the key element of historic value in place. The Safe door will be

MH LG Floor Safe Door: As per the approved planning drawings this door is proposed to be relocated once refurbished in close vicinity to its original position. After the masonry wall works have been carried out, the safe door will be fixed back to it in a non-intrusive way that does not interfere or enhances the aesthetic value of the element. A brass plaque will be provided to advise of the relocation of this feature. **(Appendix F & K)**.

8. Lift Shutters

8.1 Current Status

Both buildings have former lift shafts facing the shared alleyway area, in the Bloom Building these house former concertina painted metal doors with security scissor shutters behind, which are located on ground to 4th floors in BS and all floors to MH. The doors are in need of maintenance work due to their current state of disrepair. The approved planning drawings show these doors as being retained in place, fixed in the open position.

8.2 Proposed Solution Review

The lift doors will be removed and taken by a specialist, for the mechanism to be adjusted and fixed as necessary to operate **(Appendix F)**. The paint will be stripped and the door re-painted black and re-installed in the same location, retaining its original positioning whilst improving its aesthetic quality and extending its life span. At Lower and Upper Ground floors of MH only the doors are repositioned to a wall adjacent to their original location. A brass plaque will be provided to advise of the relocation of this feature. **(Appendix K)**

9. Sliding & Hinged Hoist Doors

9.1 Current Status

The Mindel House buildings retains an original large metal sheet panelled sliding hoist door along with a rear side hung set of double doors. These are located in the central masonry shaft spanning all levels of the building. They are painted and show a company marking and shield to the sliding side. They are of low aesthetic value, however their historical value in dating the building is of some value. **(Appendix F)**

9.2 Proposed Solution Review

This area is proposed to be used as a service riser for the building as per the approved planning drawings. The neither the shutter or door is practical from a user or regulatory point of view, considering a riser such as this should be of 120 minutes fire resistant structure, requiring the door to be at least half the rating of this at 60 minutes.

Sliding Door Panels: The solution is then to propose the relocation of the sliding door panels, with an appropriate solution being the exposed masonry wall to the same shaft, facing the common corridor. This will enable all the occupants and visitors of the building to enjoy this historic element in a way that still speaks to its original position and use. After the masonry wall works have been carried out the sliding door panels will be fixed back to it in a non-intrusive way that does not interfere with the aesthetic value of the element. A brass plaque will be provided to advise of the relocation of this feature. **(Appendix K)**

Hinged Doors: These will be refurbished in place where possible and left in place on view. A fire rated wall will be installed behind the doors to the riser side to provide the necessary rating for use, requiring fixings into the masonry only. **(Appendix K)**.

10. External Gates

10.1 Current Status

Richmond St. Alleyway Gate: This gate is a modern security addition to the external building, painted black with square steel mesh weld, infills and plywood panels at low level, supported by steel rectangular hollow section framing. The gate is of no aesthetic or historical value at all, in a state of disrepair and it is purely serving as a function for security.

Richmond St. Hovel Gate: This is a painted, metal, palisade style double door gate fixed on to the internal face of the external masonry wall. It is evident that the gate has been previously amended as there are multiple pickets that have been vandalised at low level and then subsequently re-welded with new pickets. Generally the gate is in a state of disrepair with rusting, poor re-welding, flaked paint and deflections due to attempted vandalism. The value aesthetically is low with the historic value being its highest quality. The function of the gate is compromised by its current state also.

Bloom St. Alleyway Gate: This is a wrought iron Corfe style bi-fold gate with arrow top railheads at high and low level with an additional series of rails at low level. A roller wheel enables the gate to swing open with the track still present. The gate is able to fully open however the whole unit is in serious disrepair and hazard to operate in its present format. The gate is painted black, rusted in areas causing flaking of this paint, the majority of the rail heads are missing and the central post is deflected likely due to vandalism. The gate is not currently serving its security function for the site.

10.2 Proposed Solution Review

Richmond St. Alleyway Gate: Given its current state the proposal seeks to remove this gate from the scheme in place of a black metal imitation gate, matching the Bloom Street Alleyway Gate. This serves as a heritage lead approach to imitate what more than likely was previously present in this position. A double gated swing door will be installed as this will be the main route for waste management and refuse access.

Richmond St. Hovel Gate: It is proposed for this gate to be retained and refurbished but the position modified to be fixed between the reveals. Along with this the specifications for the refurbishment specialist will be followed (**appendix**) enabling the gate to be restored to its former original state. The gate will open outwards in order that the sub-station doors can be opened in line with the ENWL requirements and regulations, the size requirements for the sub-station is also the reason for them being located between the reveals.

If this repositioning is unsatisfactory it would be reasonable to refurbish this gate and reposition it in the Richmond St. Alleyway gate location in place of the above proposal. This would then leave the proposed sub-station door on display.

Bloom St. Alleyway Gate: It is proposed for this gate to be retained and refurbished but the position modified to be fixed open against the Blooms Street Alleyway wall. Along with this, the specifications of the refurbishment specialist will be followed (**appendix**) in order that the gate will be refurbished to prevent further aging and disrepair. Unfortunately repurposing this element as a security element to a main access point of the building is hazardous because of its mechanism due to potential for risk of hand trapping and force required in line with building regulations. An imitation style gate (**Appendix G**) will be located in place of the existing to act as vehicular, pedestrian and cycle access to both buildings.

11. Fire Alarm Bell, Valves, Gauge and Sprinkler System

11.1 Current Status

The following serves as a supplement to the specialist's report. The specialist's report should override the following information in the first instance.

In Mindel House an integrated Fire Alarm and sprinkler system is installed by Mather and Platt Manchester. Although it is in disuse the system is charged. To varying degrees the sprinkler system is present on all levels of the building. The inlet point is at basement level near the main entrance facing Minshull Street with the gauge and test head at ground level situated directly above. At first floor level the sprinkler activated alarm system is again installed directly above the other main features of the system.

Internal & External Rotary Alarm Gongs: As stated above this feature is located at first floor level facing Minshull Street, both externally and internally. From comments of a specialists the alarm was formally activated by the actual functioning of the sprinkler system. Externally the bell is missing its knocking mechanism used to create the sound. Internally the valves connecting to the alarm system are intact and connected to the sprinkler pipes, they have both been painted over with the original colour hidden.

Valves: The Valves and majority of the maintenance parts are housed in the basement located directly below the alarm bell. This is currently on view following removal of the more recent basement masonry walls, the parts are in fair condition and remain unpainted from their original installation.

Gauge: Located on the ground floor behind a timber boxing out, all parts of the system seem to still be in a fair condition aesthetically, again like the valves the gauge and parts surrounding it are unpainted from the original installation.

Sprinkler Pipes: Located on multiple floors to varying degrees the majority of the system is painted in black with some of the main larger diameter vertical pipes remaining red. As per the sprinkler specialists comments **(appendix)** the system is of low quality, all sprinkler heads have been replaced from the original installation with more recent heads. The fixing of the system is degraded from former refurbishment work, with many fixing points missing and alternative questionable solutions supporting the existing arrangement. Additional alterations have also been preformed.

11.2 Proposed Solution Review

Following a review of the existing system with a sprinkler system specialists **(Appendix E)** substantial maintenance works are required to refurbish the system to be safe in its current arrangement as a historic exposed aesthetic element, maintained within the building. Solutions to each of the elements are highlighted in the below proposals.

Internal & External Rotary Alarm Gongs: Externally the alarm will be carefully removed in order that maintenance works on the façade can take place effectively, whilst removed the system will be stripped and

repainted. A reasonable effort will be made to replace the missing parts for reinstallation of aesthetic purposes only. Internally the rotary gongs will be repainted to match the original colour.

Valves: After the system has been shut off, discharged and drained the valve system will be cleaned up generally and repainted to match the original colour where necessary for retention on view in the corresponding apartment bedroom.

Gauge: Much like the Valve system this set of parts are in good condition aesthetically so they will be cleaned and left in place.

Sprinkler Pipes: As highlighted in the specialist report these are unable to be retained because of various H&S issues.

12. Radiators

12.1 Current Status

There are various radiators in the Mindel House building as scheduled (**Appendix J**). Whilst their aesthetic value varies, all of the radiators are historic and early additions to the buildings, worthy of being retained. Colours vary as a number have been re-painted. Pipework is also present in locations, the majority are free standing with others being wall mounted. Types also vary from panels to column types.

12.2 Proposed Solution Review

The proposal simply seeks to retain these radiators for aesthetic purposes only. They will be carefully disconnected from the existing pipework, re-painted white and repositioned under existing windows in close vicinity to their original location, this is indicated in the drawing package (**Appendix K**). Whilst the pipework will be disconnected, 500mm on each side will be retained and redirected to terminate at the new floor build up.

13. Fireplaces

13.1 Current Status

Whilst there are a number of chimney breasts in the building there is presently only one surviving fireplace on view. The other that may be revealed is presently hidden by brickwork which is to be uncovered once builders work is carried out on site. The existing fireplace on view is cast iron in material and in a state of serious disrepair with rust and failed paint obvious (**Appendix H**).

13.2 Proposed Solution Review

In the event a further fireplace is found both will be removed from the building for extensive refurbishment works to take place by a specialist blacksmith and metalworker (**Appendix F**). Upon completion the fireplaces will be placed back in the original location with the chimney throat neatly closed off enabling the occupants to enjoy the feature aesthetically.

14. Appendix

This document is to be read in conjunction with all other reports, schedules and drawings.

A - Note of Meeting (26.10.2021)



Job Number:	14.936	
Project:	Mindel House and 11 Bloom Street, Manchester	
Client:	Beech	
Purpose of Meeting:	To discuss conservation and planning matters	
Date:	26 th October 2021	
Time:	2pm	
Venue:	On site	
Present:	Jennifer Connor (JC) John Whyard (JW) Paul Davidson (PD) Alexandra Radu (AR) Nickesh Patel (NP) Ralph Taylor (RT)	Manchester City Council (MCC) Manchester City Council (MCC) Manchester Design & Build (MDB) Manchester Design & Build (MDB) Manchester Design & Build (MDB) Paul Butler Associates (PBA)

	Note	Action
1.	Following introductions general discussion took place on the status of the project and it was noted that there were multiple condition discharge applications, a S73/S19 application, and queries relating to investigation/cleaning works pending. There was a degree of frustration on both sides regarding how the process was taking place, with MCC requiring further detailed information which explained how a conservation-led approach was being taken, and MDB concerned around impact on timescales and delivery of the project. The project team suggested that a more productive and efficient process for both sides moving forward would be to have prior discussion with MCC prior to submission of further information which would help to ensure MCC's expectations would be met. Resource pressures were noted by MCC and it was confirmed that correspondence should pass through the planning Case Officer.	
2.	<u>11 Bloom Street Stair investigation</u> MDB confirmed that the staircase had clear structural movement and further investigation was required. An endoscopic survey had been undertaken to the underside of the staircase but was inconclusive.	MDB/PBA to issue Whitechapel

	Removal of a limited area of the lath and plaster to the underside of the staircase was therefore required. It was confirmed that this would be done to limit removal of fabric as far as possible and would be undertaken in a staged approach to retain as much historic fabric as possible (such details are confirmed within 'Response to Email Queries 26.06.2021' that was submitted to MCC on 16.07.2021). The Whitechapel plaster report which advises on reinstatement would be submitted. MCC verbally confirmed they were ok with the approach. Once sufficient areas of the underside of the staircase were exposed investigation by a Conservation accredited engineer would be undertaken and solutions shared with MCC. A conservation-led approach would be adopted explaining the options considered and how the impact on heritage significance would be minimised. No repair works would be undertaken until a solution was agreed with MCC.	report to MCC and highlight previously issued response. MDB
3.	<u>Ceiling Treatment (Fire and Acoustics)</u> MDB explained that increased emphasis on fire safety regulations meant that retaining ceilings (ie. the underside of floorboards from above) exposed would be difficult to achieve with specialist advice being sought from Hydrock as the fire engineers. JW confirmed that retaining the exposed underside of floorboards was a key aim of warehouse conversion schemes. An approach should avoid loss of historic fabric or concealing it. MCC confirmed that a conservation-led approach to the ceiling treatments must be taken with consideration given to all options including a sprinkler/misting system. PD suggested one option could be to install additional structure. JW confirmed that this could be one of the number of options to be considered and noted that when installing new fabric the approach should be to ensure it is distinguished from historic fabric. MDB to submit conservation-led approach to treatment of ceilings based on the above to MCC for review.	MDB to prepare conservation-led methodology/ specification with specialist input.

4.	<u>Trial Cleaning Samples</u> MCC confirmed that in principle, cleaning of masonry and other fabric was acceptable, and feedback had previously been provided. The need for water-based cleaning was queried by JW. (A response to these queries had been previously provided within the 'Response to Email Queries 26.06.2021' that was submitted to MCC on 16.07.2021). MCC verbally confirmed that cleaning was ok to proceed following which a site visit would take place to allow for further inspection. The approach to the making good of masonry was also discussed (Refer to details within the 'Response to Email Queries 26.06.2021' that was submitted to MCC on 16.07.2021). JW indicated that a sample area could be undertaken following which a site visit would take place to allow for further inspection.	MDB to undertake sample cleaning and sample making good of masonry in accordance with previously submitted details. Following the works to sample areas, a site visit with MCC is to be arranged to allow for inspection.
5.	<u>Basement Flooring and Tanking (11 Bloom Street)</u> MDB noted that tanking was required to the basement level of 11 Bloom Street. Part of the basement floor comprised concrete/screed with a timber beam section located more centrally. This was felt to be an unusual feature and its heritage significance should be duly considered within any approach to the tanking of the basement, including whether timber flooring would have originally existed throughout. JW queried if the existing flooring could be lifted to allow tanking and then reinstated afterwards. A less preferred option could be to utilise lifted boards as the new floor treatment within apartments. A conservation-led approach was required to inform the approach. With regards to the basement walls the need for tanking the full height was queried by JW. MDB confirmed that they would also like to see historic walls retained where possible although advice from the basement treatment specialist was required and would be submitted. It was noted that elements of timber flooring also existed in Mindel House and consideration of similar issues noted above will be required.	MDB/PBA to provide heritage assessment of existing flooring and conservation-led specification/methodology to be submitted to MCC to confirm approach in discharge of relevant condition (details condition part e).
6.	<u>Alleyway wall / Scaffolding</u> MDB noted that soft strip work had identified that the alleyway elevation of Mindel House and adjacent internal floors were sagging	MDB to respond to

	and required temporary structural support to allow further investigation of the cause. In principle the need for scaffolding and temporary support was accepted and detailed comments had previously been provided by MCC on 13.09.2021. JW noted that there were particular comments regarding taking down fabric and impact on windows.	MCC comments on scaffolding dated 13.09.2021
7.	<u>Uncovered elements of Historic Fabric</u> Areas of timber panelling had been exposed during the soft-strip and in places conflicted with approved apartment layouts. JW advised that it would be necessary to establish the heritage significance of such fabric and if historic the preference would be to retain in situ. MDB noted that structural fabric repair works may necessitate the temporary removal of fabric. In principle this was confirmed as ok by JW with reinstatement then required following completion of the works. The approach to individual elements of exposed historic fabric would be agreed with MCC, adopting a conservation-led approach.	MDB/PBA to establish heritage significance of exposed fabric. MDB/PBA to provide conservation-led specification/methodology to be submitted to MCC in discharge of relevant condition to confirm approach (details condition part a).
8.	<u>Plaster repair / removal</u> A plaster report by Whitechapel has advised on the approach to plaster repair / removal and would be shared with MCC. JW noted that the approach to plaster had previously been confirmed and it would be expected that work would align with this.	MDB/PBA to share Whitechapel plaster report and associated drawings with MCC in discharge of relevant condition (details condition part f).

9.	<u>Mindel House 4th Floor Ceiling</u> MDB outlined the need for investigation of the ceiling's structure with five areas for limited removal of lath and plaster ceiling required which align with the locations where investigation is required. MCC confirmed that the approach should be to limit the number and size of openings and seek to coordinate with any future opening that may be required. MCC comments have previously been provided and responded to in relation to this matter. (Refer to 'Response to Email Queries 26.06.2021' that was submitted to MCC on 16.07.2021).	MCC to respond to 'Response to Email Queries 26.06.2021' that was submitted to MCC on 16.07.2021 and confirm investigation can proceed.
10.	<u>Mindel House Basement Blockwork Partitions etc</u> Soft-strip works had identified blockwork partitions in the area beneath the main corner entrance of the building. Such fabric was established to be later additions and removal could be undertaken. Such removal should be undertaken with care in case any historic or structural fabric was identified, in particular the area directly beneath the main entrance staircase and adjacent brick areas. On this basis JW confirmed works could proceed.	MDB to undertake removal works as noted.

B – Encapsulated Skirting Board Detail

GENERAL NOTES

- 1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED
- 2. ALL LEVELS ARE IN METRES UNLESS OTHERWISE STATED
- 3. DIMENSIONS ARE NOT TO BE SCALED FROM THE DRAWING
- 4. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT EDITION OF THE BUILDING REGULATIONS 1991 (INCLUDING AMENDMENTS) AND ALL RELEVANT BRITISH STANDARDS/CODES OF PRACTICE
- 5. CONTRACTOR IS RESPONSIBLE FOR THE CORRECT SETTING OUT OF THE WORKS ON SITE, ALL DIMENSIONS TO BE CHECKED PRIOR TO FABRICATION OF MATERIALS
- 6. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS AND SPECIFICATIONS
- 7. THIS DRAWING SHALL NOT BE DUPLICATED WITHOUT THE EXPRESS WRITTEN PERMISSION OF BEECH DESIGN AND BUILD LIMITED

A ISSUED FOR APPROVAL NP 10.06.22

Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

ENCAPSULATED SKIRTING
DETAIL
PICCADILLY WAREHOUSE

DRAWING TITLE:

APPROVAL

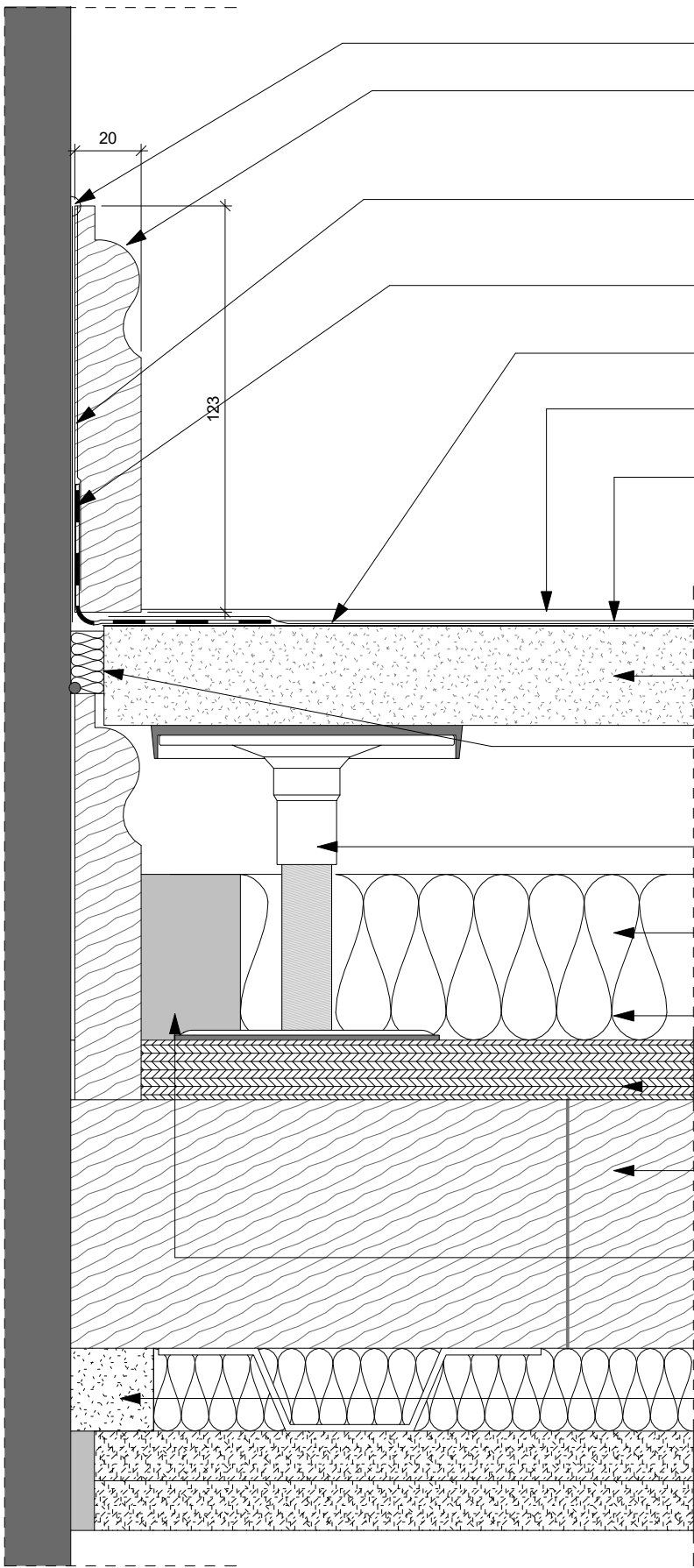
DRAWING STATUS:

DRAWN: NP | CHECKED: NP

SCALE: 1 : 2 | DATE: 10.06.22

013-MDB-BS-ZZ-DT-A-2304

DRAWING NUMBER: A



Knauf acoustic non-setting mastic, as NBS Clause K10/510 is to be applied to the top of the skirting.

New MDF skirting as NBS Clause P20/200 is to be installed to match the profile of the existing encapsulated skirting.

Sealing - Knauf Flächendicht sealant

Corner sealing - Knauf Flächendichtband

Sealing - Knauf Flächendicht sealant

2.5 mm Amtico LVT as NBS Clauses M50, the floor sub-contractor prior to the LVT being laid is to ensure the proposed adhesive is compatible with the latex levelling screed.

Prior to any floor finishes being applied a 2mm self levelling latex screed is to be applied to the 32mm Thick Knauf GIFA Brio Floorboard as NBS Clause K11/115C, and in accordance with manufacturers details and recommendations.

The 32mm Thick Knauf GIFA Brio Floorboard as NBS Clause K11/115C, must be laid from the edge of the external wall abutment as a full board with no cuts to the perimeter in accordance with manufacturers details and recommendations.

32mm Thick Knauf GIFA Brio Floorboard as NBS Clause K11/115C, to achieve a density of 1500 Kg/m³, fixed in accordance with manufacturers details and recommendations.

10mm Knauf Flooring Edge Strips are mineral wool strips used to form the perimeter of Knauf GIFAfloorboard

Knauf acoustic pedestal 5mm PGR pads with M16/ M20 Knauf Acoustic Pedestals to be glued to substrate using Knauf pedestal support glue (Pedestals to be thread sealed with Knauf thread sealer once correct height is set) Pedestals layed out to 600mm centered grid and reduced to 300mm around perimeter.

Existing encapsulated skirting to be retained in place. Intumescent seal applied above between wall skirting and floor edge strip.

50mm Knauf insulation acoustic roll - Glass mineral wool slab insulation to achieve a density of 45 Kg/m³ installed between the timber joists as NBS Clause K11/115A.

Knauf specialist primer on 18mm non-structural hardwood plyboard fixed into existing floorboards

Existing 75mm thick timber floorboards to be made good as required and highlighted in the Building Repair Scope of Works.

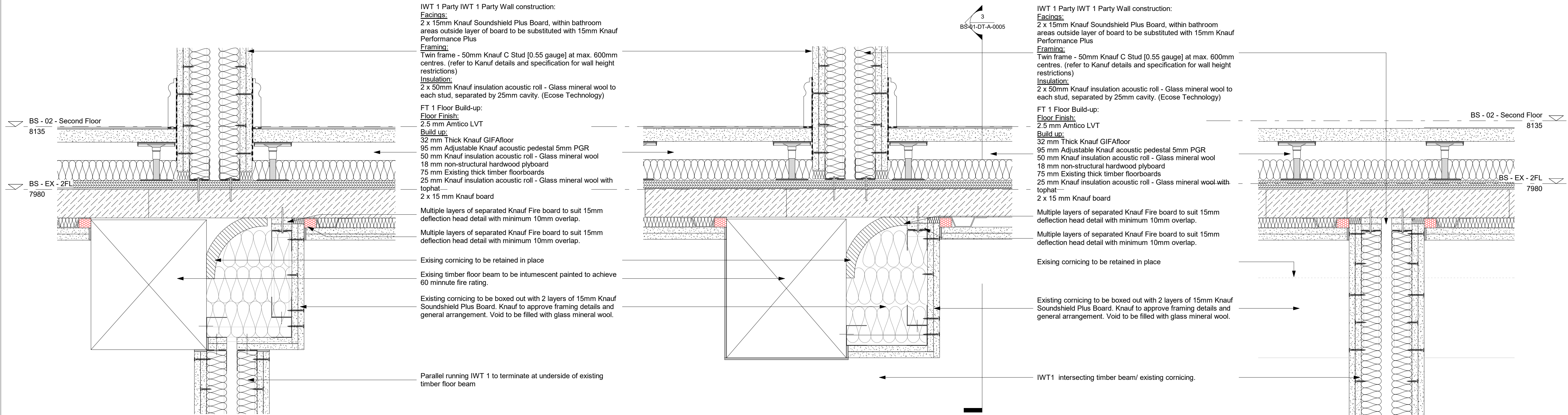
The fire stopping sub-contractor is to install ablative fire rated fire batt to the perimeter of the external wall / compartment floor abutment within the acoustic floor build up cavity to achieve a insulation and integrity fire rating of 60 minutes on approval of the Technical Submission of the proposed products in accordance with NBS Clauses P12.

All existing external wall abutment with the new compartment floor build ups are to be filled by a perimeter intumescent mastic fire seal by the fire stopping sub-contractor and is to achieve a fire rating of 60 minutes in accordance with NBS Clause P12 / 338A. The fire stopping sub-contractor is to provide a Technical Submission for the products that they are proposing to utilise in accordance with NBS Clause P12/338A.

ENCAPSULATED EXISTING SKIRTING BOARD
@ SCALE 1:2

C – Cornicing Encapsulation Details and conditions report

- GENERAL NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
 2. ALL LEVELS ARE IN METRES UNLESS OTHERWISE STATED.
 3. DIMENSIONS ARE NOT TO BE SCALED FROM THE DRAWING.
 4. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT EDITION OF THE BUILDING REGULATIONS 1991 (INCLUDING AMENDMENTS) AND ALL RELEVANT BRITISH STANDARDS/CODES OF PRACTICE.
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1 | EXISTING CORNICE & PARALLEL PARTY WALL JUNCTION DETAIL

2 | EXISTING CORNICE FIRE PROTECTION ENCAPSULATION

3 | PARTY WAL INTERSECTING EXISTNG CORNICING

Hutton + Rostron Environmental Investigations Limited

Mindel House, Manchester: Plaster condition survey

Site note 4 for 8 April and 27 July 2021, job no. 212.57
REVISION B - 25.04.22

CONTENTS

- 1 Introduction
- 2 Staff on site and contacts
- 3 Executive Summary
- 4 Observations
- 5 Recommendations
- 6 H+R work on site
- 7 Proposed action by H+R
- 8 Information required by H+R
- 9 Administrative requirements

Attachments

- A Photographs
- B Drawings
- C Report on the petrographic examination of six plaster samples

Distribution:

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Prepared by:	Technical review by:	Administration by:
Chris Whitfield	Peter Bannister	Tracy Bannister

1 INTRODUCTION

1.1 AUTHORITY AND REFERENCES

Hutton + Rostron Environmental Investigations Limited carried out a site visit to Mindel House, Manchester on the 8 April and 27 July 2021 in accordance with instructions from Manchester Design and Building Ltd by purchase order, dated 6 January 2021 reference 390 and by purchase order 746, dated 8 June 2021. Drawings provided by Beech Design & Build, Ref 061 were used for the identification of structures. For the purpose of orientation in this report, the elevation facing Bloom Street was taken as facing north-west

1.2 AIM

The aim of this survey was to investigate original lime plaster finishes and lath and plaster linings to ascertain their condition, vulnerability and service life as well as to identify composition and any defects relevant to the planned refurbishment

1.3 LIMITATIONS

This survey was confined to the accessible structures. Only demolition or exposure work can enable the condition of plaster to be determined with certainty, and this destroys what it is intended to preserve. Specialist investigative techniques are therefore employed as aids to the surveyor. No such technique can be 100 per cent reliable, but their use allows deductions to be made about the most probable condition of materials at the time of examination. Structures were not examined in detail except as described in this report, and no liability can be accepted for defects that may exist in other parts of the building. We have not inspected elements which are covered, unexposed or inaccessible and we are therefore unable to report that any such part is free from defect. The contents of this report do not imply the adoption of the role of Principal Designer by H+R for the purposes of the Construction Design and Management (CDM) Regulations 2015. No formal investigation of moisture distribution was made

2 STAFF ON SITE AND CONTACTS

2.1 H+R STAFF ON SITE

Chris Whitfield

2.2 PERSONNEL CONTACTED

Neil Kelly

3 EXECUTIVE SUMMARY

3.1 LIME PLASTER

External walls were generally finished with lime plaster that included a thin gypsum-based skim coat. Where exposed, the brick substrate behind the plaster was generally free from earlier decorative schemes, suggesting the plaster was largely original. However, earlier paint schemes were identified in some locations indicating that areas of the existing plaster were non-original

The many layers of non-original decorative finishes including timber panelling, plasterboard, wood-based fibreboard boxing as well as the numerous layers of wallpaper and paint over the lime plaster limited a detailed investigation. However, where 'tap-tested', there were numerous localised areas of debonding identified in the lime plaster largely attributed to historical water penetration and inadequate preparation of the substrate prior to plastering

The lime plaster at Fourth Floor level and in areas of ongoing water penetration was in particularly poor condition and beyond salvage. Some remnants of plaster remained at Lower Ground Floor level but as the solid walls are below ground level/earth retaining the plaster had failed

Although the plaster was largely repairable, additional damage should be expected following the removal of non-original finishes and allowance should therefore be made for extensive repairs

3.2 LATH AND PLASTER

Many internal stud partitions and window reveals were lined with softwood lath and lime plaster but modern plasterboard applied to internal partitions concealed many of the finishes. Where examined, the lath and plaster were generally in fair condition with only localised areas of mechanical damage and failure. However, the lath and plaster in the 3 no. areas of ongoing water penetration were damp and/or decayed where abutting the damp walls

The lath and plaster ceiling over the Lower Ground Floor was probably original as there were no earlier decorative schemes to the underside of the floor joists. There was widespread mechanical damage to the plaster largely caused by the addition of services and suspended ceilings associated with the former nightclub. This additional stress on the plaster 'keys' had caused abundant cracking and failure and some sections of plaster had detached. There were also pockets of timber decay where finishes were in direct contact with the external walls

The condition of the ceiling at Fourth Floor level is discussed in H+R Site Note 1

4 OBSERVATIONS

Report should be read in conjunction with the Schedule of Photographs at Attachment A and Drawings at Attachment B

4.1 FOURTH FLOOR

See Figures 1-23 in the Schedule of Photographs

4.1.1 Ceiling

- 1 Lath and plaster: See H+R Site Note 1

4.1.2 External walls (high-level)

- 1 Plaster: The external walls were generally finished with a ≈20mm lime plaster which had been decorated with numerous layers of paint and wallpaper. Petrographic analysis identified that although the base coat of the plaster was lime-based the much thinner surface was gypsum-based (see Attachment C). Where investigated, the brick substrate was generally free from earlier decorative schemes apart from in the former office to the North corner (MS-401) where there was a blue paint layer. This suggested the plaster to MS-401 was not original. Window soffits and reveals were lined with early/original machine sawn lath and lime plaster. There was no cornice
- 2 Condition: The many layers of decorative finishes over the plaster constrained detailed investigation but where 'tap-tested', the original/early lime plaster was cracked/loose/defective and relatively large areas were at risk of debonding from the brick substrate. Deterioration of the plaster was largely attributed to historical water penetration but exposure of the brickwork also revealed that no formal 'key' had been prepared prior to plastering i.e. the mortar joints had not been raked-out. The lath and plaster soffits were generally in fair condition with only localised areas of failure. However, all plaster and lath and plaster finishes in areas of ongoing water penetration were damp and/or decayed and beyond salvage

4.1.3 External walls (low-level)

- 1 Plaster: A gypsum plaster had been applied to the lower ≈1m of the external walls from floor to window sill height. Earlier blue and gold paint schemes were present on the brick substrate and the gypsum plaster was therefore non-original
- 2 Condition: No formal 'key' had been prepared in the brickwork, which when combined with paint provided a very poor surface for plastering. As such, the gypsum plaster had largely debonded

4.1.4 Internal wall to southern staircase

- 1 Plaster: The non-original brick wall was finished with gypsum plaster
- 2 Condition: The plaster was in fair condition with only localised areas of mechanical damage and failure

4.1.5 Central good lift

- 1 Plaster: The brickwork was largely concealed by modern plasterboard but the plaster is almost certainly of lime (as described at 4.1.2 (1) above)
- 2 Condition: As the area was subject to ongoing water penetration the concealed

plaster is almost certainly wet and largely debonded from the brick substrate

4.1.6 Internal partitions

- 1 Construction: The internal partitions were of softwood stud form, lined with modern plasterboard and timber skirting boards. However, the plasterboard to the partitions either side of staircase MS-414 concealed earlier vertical softwood t&g panelling with a softwood skirting board. It is worth noting that the skirting board to the external walls of MS-412 and MS-413 is of the same profile and therefore almost certainly not original
- 2 Condition: The plasterboard linings impeded investigation but the timber panelling and skirtings were wet and partially decayed where abutting the external wall due to ongoing water penetration

4.2 THIRD FLOOR

See Figures 24-40 in the Schedule of Photographs

4.2.1 External walls

- 1 Plaster: The external walls were generally finished with lime plaster with lath and plaster to window soffits (as described at 4.1.2 (1) above). The softwood skirting board to MS-301–MS-309 was of the same era as the plaster but the vertical softwood t&g dado panelling to MS-312–MS-320 was not original and concealed the skirting board. There were no earlier paint schemes to the brick substrate behind the plaster. There was no cornice
- 2 Condition: The lime plaster was 'tap-tested' revealing numerous areas of debonding, primarily at low-level. Lath and plaster, skirting boards and panelling were similarly in fair condition. However, all plaster and timber finishes in areas of ongoing water penetration were damp and/or decayed and beyond salvage

4.2.2 Internal wall to southern staircase

- 1 Plaster: As per 4.1.4 (1)
- 2 Condition: As per 4.1.4 (2)

4.2.3 Central good lift

- 1 Plaster: As per 4.1.5 (1)
- 2 Condition: As per 4.1.5 (2)

4.2.4 Internal partitions

- 1 Construction: The internal partitions either side of the staircase MS-302 were generally lined with lath and lime plaster but with some use of a hessian 'scrim' fibrous plaster. The lath and plaster as well as its softwood skirting board appeared to be original to the staircase
- 2 Condition: Other than localised mechanical damage (presumably caused by the recent R&D Asbestos Survey) the finishes were generally in a fair condition and where visible the plaster 'keys' were sound. However, plaster and timber finishes were damp and partially decayed where abutting the damp external wall

4.3 SECOND FLOOR

See Figures 41-56 in the Schedule of Photographs

4.3.1 External walls

- 1 Plaster: The external walls were generally finished with lime plaster and a softwood skirting board (as described at 4.1.2 (1) above). These early/original finishes were partially concealed by reproduction softwood panelling in MS-205 and plasterboard dry lining around the chimney to MS-218. The dry-lining appears to have been applied around the chimney to disguise the effects of hygroscopic salt to the lime plaster. There were no earlier paint schemes to the brick substrate behind the plaster. There was no cornice
- 2 Condition: The lime plaster was 'tap-tested' revealing numerous areas of debonding. Skirting boards were generally in fair condition. However, all plaster and timber finishes in areas of ongoing water penetration were damp and/or decayed and beyond salvage

4.3.2 Internal wall to southern staircase

- 1 Plaster: As per 4.1.4 (1)
- 2 Condition: As per 4.4.3 (2)

4.3.3 Central good lift

- 1 Plaster: As per 4.1.5 (1)
- 2 Condition: As per 4.1.5 (2)

4.3.4 Internal partitions

- 1 Construction: A proportion of the internal partitions were of non-original studwork lined with plasterboard. However, there was earlier lath and plaster either side of the staircase MS-202 and to the rear of the cupboard at MS-216. Softwood skirting boards appeared to be contemporaneous with these linings
- 2 Condition: The finishes were generally in a fair condition and where visible the plaster 'keys' were sound. However, plaster and timber finishes were damp and partially decayed where abutting the damp external wall in both of these areas

4.4 FIRST FLOOR

See Figures 57-74 in the Schedule of Photographs

4.4.1 External walls

- 1 The external walls were generally finished with lime plaster and a softwood skirting board (as described at 4.1.2 (1) above). These early/original finishes were largely concealed by reproduction softwood boxing and panelling in MS-117. This room also included a plasterboard ceiling on softwood battens fixed to the underside of the millboards that concealed the earlier wallpaper. The plasterboard ceiling included a non-original cornice/coving. A gypsum plaster had also been applied over the lime plaster near the loading doors to MS-110
- 2 Condition: The lime plaster was 'tap-tested' revealing numerous areas of debonding. Skirting boards were generally in fair condition. However, all plaster

and timber finishes in areas of ongoing water penetration were damp and/or decayed and beyond salvage. The condition of the lime plaster to MS-117 could not be confirmed but is likely representative of other areas

4.4.2 Internal wall to southern staircase

- 1 Plaster: As per 4.1.4 (1)
- 2 Condition: As per 4.1.4 (2)

4.4.3 Central good lift

- 1 Plaster: As per 4.1.5 (1)
- 2 Condition: As per 4.1.5 (2)

4.4.4 Internal partitions

- 1 Construction: The internal partitions to the staircase at MS-119 and MS-117 were lined with early/original lath and lime plaster. Softwood skirting boards appeared to be contemporaneous with these linings. The timber glazed screen to MS-101 was non-original and evidence of this can be seen where the joinery has been cut around the profile of an earlier skirting board to the side of the fireplace
- 2 Condition: The finishes were generally in a fair condition and where visible the plaster 'keys' were sound. However, plaster and timber finishes were damp and partially decayed where abutting the damp external wall in both of these areas. Other than localised mechanical damage and inadequate restraint there were no significant damp and/or decay related defects affecting the glazed timber screen

4.5 UPPER GROUND FLOOR

See Figures 75-91 in the Schedule of Photographs

4.5.1 External walls

- 1 The external walls were generally finished with lime plaster (as described at 4.1.2 (1) above). However, non-original low-level boxing/panelling of plasterboard, fibreboard and chipboard concealed much of the plaster below window sill height. The central portion of the south-west wall had undergone numerous phases of rebuilding and alteration and subsequently there were no plaster finishes. Lath and plaster and/or softwood joinery had been applied to many of the window reveals and these finishes are thought to be original/early. There was no cornice
- 2 Condition: The lime plaster was 'tap-tested' revealing numerous areas of localised debonding. All plaster and timber finishes in areas of ongoing water penetration were damp and/or decayed and beyond salvage. The condition of the low-level lime plaster behind the boxing could not be confirmed. The lath and plaster and timber window reveals were generally in fair condition with only localised areas of failure and mechanical damage of the joinery

4.5.2 Internal wall to southern staircase

- 1 Plaster: As per 4.1.4 (1)
- 2 Condition: As per 4.1.4 (2)

4.5.3 Central good lift

- 1 Plaster: As per 4.1.5 (1)
- 2 Condition: As per 4.1.5 (2)

4.5.4 Internal partitions

- 1 Construction: The internal partitions to the staircase at MS-UG01 and northern Entrance Lobby were lined with early/original lath and lime plaster. The lath and plaster finishes were largely concealed by numerous non-original finishes including plasterboard, timber panelling and a flecked paint wall finish that probably dates from the 1980's. There was also a decorative barrel ceiling over the entrance lobby with curved coffered panel moulds but this was partially concealed by a non-original suspended ceiling. A small section of lath and plaster remained directly behind the central goods lift but this was also concealed by plasterboard
- 2 Condition: The condition of lath and plaster could not be ascertained due to the retained non-original finishes but they are likely to be largely free from significant defect. However, plaster and timber finishes were almost certainly damp and partially decayed where abutting the damp external wall of the entrance lobby and central goods lift. There was no significant damp or decay related issues identified in the decorative ceiling over the entrance lobby

4.6 LOWER GROUND FLOOR

See Figures 92-95 in the Schedule of Photographs

4.6.1 Ceiling

- 1 Lath and plaster: Lath and plaster had been applied to the underside of the upper ground floor joists and remained in the north-eastern bays (gridlines no. 1-4). Where visible, the softwood joists above were undecorated suggesting that this ceiling may be original. It is worth noting that the majority of the floor joists at this floor level were painted with white paint and there was no evidence that a ceiling existed in these areas before. There was no cornice
- 2 Condition: The lath and plaster ceilings were damp and laths were decayed where abutting the external walls. This had resulted in localised failure notably in the eastern corner. Cracking was also widespread throughout the plaster largely a result of services and suspended ceilings associated with the former nightclub that had been hung directly from the ceiling. As a result of this, plaster 'keys' have been overstressed and the ceilings were at risk of failure and some relatively small areas of localised failure had already occurred

4.6.2 External walls

- 1 Plaster: As the solid masonry walls are largely below ground, they are susceptible to damp and unsuitable for direct plastering. Some small areas of plaster remained but the plaster was wet and had debonded from the brick substrate

4.6.3 Internal walls

- 1 Construction: All walls are of solid material. No lath and plaster finishes were identified to the walls

4.7 PETROGRAPHIC EXAMINATION

- 1 Sampling: In all 6 no. small specimen samples of plaster were removed from Mindel House for petrographic analysis by Sandberg Consulting Engineers. The samples were all taken from what appeared to be original/early plaster and are thought to be representative of the building. The sample locations are listed below and identified on the attached drawings:

Sample no.	Floor	Location
1	Fourth floor	External wall
2	Fourth floor	External wall
3	Third floor	External wall
4	Second floor	External wall
5	Fourth floor	Ceiling
6	Fourth floor	Ceiling

- 2 Results: See 'Report on the petrographic examination of six plaster samples' at Attachment C

5 RECOMMENDATIONS

5.1 FOURTH FLOOR

- 1 Ceiling: See H+R Site Note 1
- 2 Walls: The plaster was largely beyond salvage and H+R recommend complete removal back to the brick substrate. Although the lime plaster to the upper walls was generally original, the gypsum plaster to the lower walls was not and the client may therefore wish to consider the design options available to them as it may be favourable to leave the brickwork exposed or reinstate a dry lining

5.2 THIRD FLOOR- UPPER GROUND FLOOR

5.2.1 Preparation and detailed investigation

- 1 Survey limitations: H+R recommend that all non-original finishes including non-original joinery, plasterboard, cornices, fibreboard, wallpaper, gypsum plaster and paint etc. are carefully removed from the external walls and internal partitions. Only then can full investigation of plaster condition be undertaken and quantitative information gained. H+R recommend early discussion with Paul Butler Associates to clarify existing permissions with regard to removal of non-original finishes
- 2 Methodology for removing wallpaper/woodchip: The 'steaming off' of wallpaper is not recommended as this can result in further damage to the lime plaster. Instead, wallpapers should be dampened down with water from a low pressure mist spray and sponge aided by a good quality flat scraper. The glues of the older wallpapers are likely to be starch-based and this method is likely to be the most appropriate in removing the finishes back to the earlier paintwork
- 3 Areas of ongoing water penetration: The lime plaster to the external walls subject to ongoing water penetration should be removed back to the brick substrate. Ideally, at this stage, any damp masonry should be left exposed as long as necessary to allow adequate drying before re-plastering. Lath and plaster in these areas should be carefully cut back to sound material. Allowance should be made for additional decay in the laths and the softwood studwork whilst water penetration continues and whilst residual moisture remains in the structure. Lime plaster should only be reinstated to these areas following drying. H+R can undertake drying monitoring at an appropriate stage in the redevelopment, if instructed. Alternatively, ventilated dry-linings could be considered
- 4 Detailed investigations: Following the removal of non-original finishes allowance should be made for a detailed 'tap-test' of all lime plaster to locate areas of debonding and 'mark-up' the full extent of repairs required. H+R recommend that this element is undertaken by the plasterer appointed to undertake the repairs. The plasterer should be trained and experienced in conservation plastering including the methodology of application and management of drying etc. and H+R recommend that sample panels are done. Allowance should be made for extensive repairs to the plaster at each floor level

5.2.2 Repair and reinstatement

- 1 Preparation: Areas of defective, loose and salt-damaged plaster should be carefully cut back to the sound plaster or brick substrate. The brick substrate should be hand cleaned by wire brush to remove debris and any salts and prepared for application by raking out the mortar joints to a depth of around 10mm to provide a 'key' for the new plaster. Remove any built-in bonding timbers and brick-up/fill with lime mortar

- 2 Lime plaster to masonry walls: The methodology should be agreed by the conservation plasterer and the reinstated lime mix be characteristic of that identified in the petrographic analysis (see Attachment C)
- 3 Lath and plaster to partitions and window reveals: Decayed or damaged laths should be replaced with new machine sawn laths and lime plaster reinstated as per above
- 4 Barrel vaulted ceiling: It may be necessary to temporarily remove the First floor floorboards above to enable detailed inspection of the decorative ceiling from above and to provide access to undertake repairs. Any decayed or damaged laths should be replaced with new and any damaged lime plaster reinstated as per above. Any sections of damaged moulding should also be replicated to match the existing profile. Extent of repairs to be confirmed following detailed condition assessment by the conservation plasterer
- 5 Redecoration: Redecorate only when the plaster has dried out. Note: Drying /shrinkage cracks may appear where the new plaster adjoins the existing plaster. These can be filled during decoration. The lime plaster should be decorated with a highly vapour permeable decorative finish. Lime paint, lime wash, distemper and casein paints are traditional finishes for new work

5.2.3 Joinery repairs

- 1 Skirting boards and timber window reveals: Carefully release the timbers from the areas subject to ongoing water penetration to avoid further decay. The timbers should be referenced and stored in a dry and ventilated environment to await inspection for salvage. Damp and/or decayed or mechanically damaged sections of timber should be replaced to match the existing profile in a suitably specified softwood timber species. All reinstated joinery should be isolated from direct contact with the masonry using strips of dpm, plastic wedges and screw fixings etc. rather than timber grounds

5.3 LOWER GROUND FLOOR

- 1 Ceiling: Allowance should be made for extensive repairs to the lath and plaster following a detailed assessment by a conservation plasterer. This would require removal of the floorboards from the floor above so that the plaster 'keys' can be inspected. Alternatively, given the widespread damage to the existing ceiling it may be advantageous to remove the existing and reinstate with new traditional lath and lime plaster
- 2 Walls: Any remnants of plaster and paint should be removed from the external brick walls. H+R recommend that a 'Type C' waterproofing system is applied to the external walls and this should be formally designed and installed with drainage by a specialist

6 H+R WORK ON SITE

- 6.1** H+R inspected original/early plaster and lath and plaster, as necessary, so as to ascertain condition, vulnerability and service life

7 PROPOSED ACTION BY H+R

- 7.1** H+R will advise on repair and conservation of timber elements, so as to minimise the risk of decay after refurbishment if instructed
- 7.2** H+R will advise on remedial detailing, so as to minimise the risk of damp and decay problems after refurbishment if instructed
- 7.3** H+R will advise on conservation of original fabric with regard to damp, decay and salt damage, as necessary and if instructed
- 7.4** H+R will review proposed remedial details as these become available if instructed
- 7.5** H+R will return to site to inspect sample remedial details if instructed
- 7.6** H+R will liaise with conservation and historic building authorities, if instructed, so as to ensure the cost-effective conservation of original fabric
- 7.7** H+R will liaise with building guarantors, as necessary, so as to ensure the issuing of collateral warranties and building guarantees at practical completion, if required
- 7.8** H+R will return to site to inspect other buildings on site for structurally significant decay; and advise on timbers at risk of decay during the latent defect period due to water penetration before and during refurbishment if instructed

8 INFORMATION REQUIRED BY H+R

- 8.1** H+R require up-to-date copies of project programmes, as these become available
- 8.2** H+R require copies of up-to-date lists of project personnel and contact lists as these become available
- 8.3** H+R require copies of proposed remedial details for comment as these become available
- 8.4** H+R should be informed as a matter of urgency if further significant water penetration occurs onto site; so that advice can be given on cost-effective remedial measures, to minimise the risk of cost or programme overruns and so as to minimise the risk of damp or decay problems during the latent defect period

9 ADMINISTRATION REQUIREMENTS

- 9.1** H+R require formal instructions for further investigations and consultancy on this project
- 9.2** H+R require confirmation of distribution of digital and printed copies of reports and site notes

Attachment A



Fig 1:

Fourth Floor, MS-401; showing wet and largely debonded lime plaster in the area of ongoing water penetration

Note that the low-level timber boxing had been removed revealing that the brickwork behind was previously painted blue and gold



Fig 2:

Fourth Floor, MS-401; showing a typical example of the damp and decayed lath and lime plaster soffit over MS-4W06



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Fig 3:

Fourth Floor, MS-401; showing modern plasterboard lining to stud partition



Fig 4:

Fourth Floor, MS-401; showing earlier vertical t&g panelling with a softwood skirting board behind. Timbers were damp and partially decayed in the area of ongoing water penetration



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Fig 5:

Fourth Floor, MS-401; showing previous blue and gold paint schemes to the upper brick wall behind the non-original lime plaster



Fig 6:

Fourth Floor, MS-402; showing the separation line between the upper lime plaster and lower gypsum. Note that there is no earlier decorative finish behind the lime plaster



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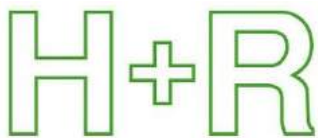
Fig 7:

Fourth Floor, MS-402; showing the softwood skirting board that was fixed to timber blocking. The skirting board appears to have been applied at the same period as the gypsum i.e. it is non-original



Fig 8:

Fourth Floor, MS-402; showing the profile of a removed section of softwood skirting board. This reversible/dual purpose moulding is of mid-late 20th century



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Fig 9:

Fourth Floor, MS-402; showing a typical example of debonded lime plaster caused by historical water penetration between MS-4W19 and MS-4W20



Fig 10:

Fourth Floor, MS-402; showing localised mechanical damage to the lath and lime plaster soffit over MS-4W20



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Fig 11:

Fourth Floor, MS-402; showing the non-original internal wall that was finished with gypsum plaster



Fig 12:

Fourth Floor, MS-405; showing the separation line between the upper lime plaster and lower gypsum plaster



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Fig 13:

Fourth Floor, MS-406-MS-411;
showing extensive deterioration of the
plaster finished in the area of ongoing
water penetration



Fig 14:

Fourth Floor, MS-412; showing the
separation line between the upper lime
plaster and lower gypsum plaster

Note that the softwood skirting board
was applied over the non-original
gypsum plaster



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Fig 15:

Fourth Floor, MS-412; showing an area of removed gypsum plaster. Note that a 'key' had been prepared to the brickwork prior to application of the plaster. Also note that there was no previous decoration to the brickwork



Fig 16:

Fourth Floor, MS-404; showing a non-original internal partition that was lined with plasterboard. Note that the skirting board applied over the plasterboard was the same as in MS-412 i.e. non-original



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Fig 17:

Fourth Floor, MS-404; showing a close-up of the plasterboard that was applied to either side of this stud partition



Fig 18:

Fourth Floor, MS-404; showing a non-original internal partition that was lined with plasterboard. Note that the skirting board applied over the plasterboard was the same as in MS-412 i.e. non-original



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Fig 19:

Fourth Floor, MS-404; showing a close-up of the plasterboard that was applied to either side of this stud partition



Fig 20:

Fourth Floor, MS-413; showing an area of water penetration. All wall finishes were damp and decayed



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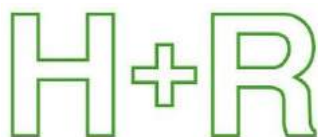
Fig 21:

Fourth Floor, MS-414; showing an area of water penetration. All wall finishes were damp and decayed. The timber panelling to the stud partitions were also damp and partially decayed where abutting the external wall



Fig 22:

Fourth Floor, MS-414; showing an area of water penetration. All wall finishes were damp and decayed. The timber panelling to the stud partitions were also damp and partially decayed where abutting the external wall



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Fig 23:

Fourth Floor, Goods lift; showing largely non-original plasterboard linings around the central goods and passenger lift shafts. The lime plaster behind was largely damp and had debonded from the substrate



Fig 24:

Third Floor, MS-301; showing the area of water penetration. The lime plaster was wet and the softwood skirting board was partially decayed in this area



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Fig 25:

Third Floor, MS-305-MS-308; showing early/original lime plaster to the external wall. Plaster was generally in fair condition with localised areas of debonding at low-level



Fig 26:

Third Floor, MS-305-MS-308; showing a typical example of where the lime plaster had cracked and debonded from the brick substrate



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Fig 27:

Third Floor, MS-309; showing an area of significant debonding of the plaster caused by historical water penetration



Fig 28:

Third Floor, MS-309; showing that the lime plaster pre dates the construction of the internal brick wall



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Fig 29:

Third Floor, MS-312-MS-320; showing deterioration of the wall finishes in the area of water penetration



Fig 30:

Third Floor, MS-312-MS-320; showing extensive damp and decay of the softwood vertical t&g panelling and saturation of the lime plaster behind



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Fig 31:

Third Floor, MS-320; showing lime plaster finish with non-original t&g boarding at low-level



Fig 32:

Third Floor, MS-320; showing earlier softwood skirting board and wallpaper to the lime plaster behind the panelling



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Fig 33:

Third Floor, MS-320; showing an area of water penetration and deterioration of the wall finishes



Fig 34:

Third Floor, MS-320; showing the timber stud partition around MS-302 that was lined with lath and plaster as well as hessian 'scrim' fibrous lime plaster



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Fig 35:

Third Floor, MS-320; a close-up of the lath and plaster and hessian 'scrim' fibrous lime plaster



Fig 36:

Third Floor, MS-320; showing a removed section of hessian 'scrim' fibrous lime plaster



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Fig 37:

Third Floor, MS-302; showing deterioration of the external and internal wall finishes in the area of water penetration



Fig 38:

Third Floor, MS-302; showing the backside of the fibrous lime plaster on hessian 'scrim' panel



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Fig 39:

Third Floor, Goods lift; showing largely early/original lime plaster with a softwood skirting board



Fig 40:

Third Floor, Goods lift; showing significant debonding of the lime plaster caused by ongoing water penetration



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Fig 41:

Second Floor, MS-201; showing deterioration of the lime plaster in the area of ongoing water penetration. The softwood square-edge skirting board was also damp and partially decayed in this area



Fig 42:

Second Floor, MS-205; showing reproduction panelling formed of plasterboard and softwood timber that conceals original/early lime plaster



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Fig 43:

Second Floor, MS-204; showing lime plaster with a softwood skirting board to the external wall



Fig 44:

Second Floor, MS-204; showing a close-up of the numerous paint and wallpaper finishes over the early/original lime plaster



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Fig 45:

Second Floor, MS-204; showing a section of removed lime plaster. Note that there had been no previous decorative finishes to the brick substrate



Fig 46:

Second Floor, MS-207; showing localised debonding of the lime plaster in an area of historical water penetration



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Fig 47:

Second Floor, MS-213; showing deterioration of the lime plaster in an area of ongoing water penetration



Fig 48:

Second Floor, MS-215; showing deterioration of the lime plaster in an area of ongoing water penetration



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Fig 49:

Second Floor, MS-216; showing an area of lath and lime plaster used behind the cupboard of MS-218. The lath and plaster was damp and partially decayed where abutting the external wall

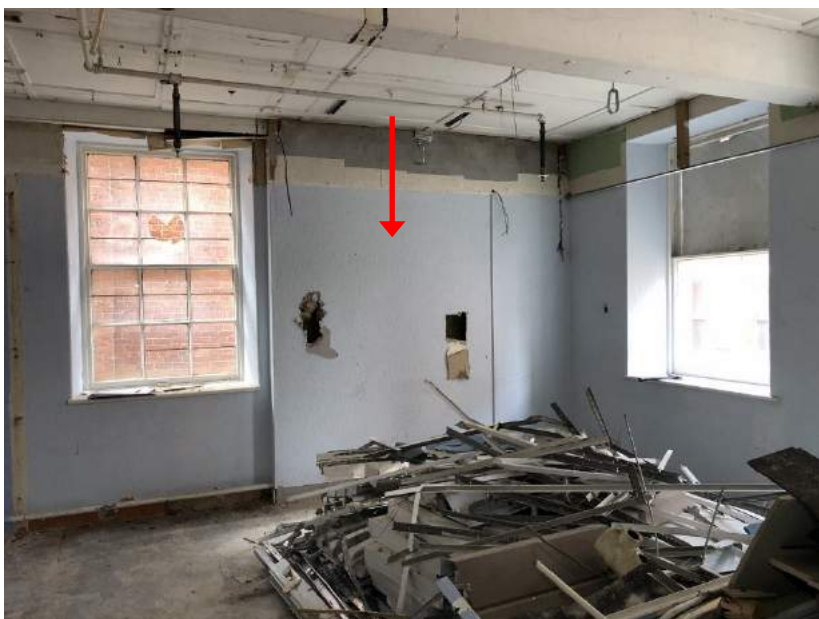


Fig 50:

Second Floor, MS-218; showing lime plaster with a softwood skirting board. Note that plasterboard had been applied around the chimney to hide penetrating salt



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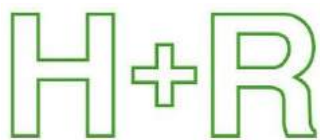
Fig 51:

Second Floor, MS-218; showing lime plaster with an earlier paint scheme behind the plasterboard. Note cracking of the plaster associated with salt



Fig 52:

Second Floor, MS-218; showing numerous paint and wallpaper finishes over the lime plaster



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Fig 53:

Second Floor, MS-218; showing an area of ongoing water penetration that had caused deterioration of the lime plaster



Fig 54:

Second Floor, MS-218; showing a close-up of the lath and plaster finish to the separating partition to MS-202. Lath and plaster was damp and partially decayed in the area of ongoing water penetration



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Fig 55:

Second Floor, MS-202; showing deterioration of the wall plaster and lath and plaster in the area of ongoing water penetration



Fig 56:

Second Floor, Good lift; showing lime plaster. The plaster was wet and largely debonded from the brick substrate due to ongoing water penetration



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Fig 57:

First Floor, MS-101; showing deterioration of the lime plaster and partial decay of the softwood skirting board in the area of ongoing water penetration



Fig 58:

First Floor, MS-101; showing a close-up of the lath and lime plaster finishes to the internal partition between MS-119



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Fig 59:

First Floor, MS-101; showing the non-original timber and glazing partition. There was localised mechanical damage but the timbers were free from significant damp and decay



Fig 60:

First Floor, MS-101; showing the softwood skirting board that pre-dates the installation of the timber partition



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Fig 61:

First Floor, MS-102; showing lime plaster with a softwood skirting board. The plaster was generally in fair condition with localised areas of debonding



Fig 62:

First Floor, MS-106; showing the area of historical water penetration which had caused localised deterioration of the lime plaster and partial decay of the skirting board



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Fig 63:

First Floor, MS-1110 to MS115;
showing the area of ongoing water
penetration that had caused significant
deterioration of the plaster finishes



Fig 64:

First Floor, MS-1110 to MS115;
showing the use of gypsum plaster
over the earlier lime plaster. The
masonry was saturated and the plaster
had largely debonded in this area



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Fig 65:

First Floor, MS-116; showing an area of debonded lime plaster



Fig 66:

First Floor, MS-115; showing lath and lime plaster linings to the internal partition. The lath and plaster was damp and partially decayed where abutting the external wall



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Fig 67:

First Floor, MS-117; showing non-original timber boxing and panelling that concealed earlier lime plaster with a softwood skirting



Fig 68:

First Floor, MS-117; showing the earlier lime plaster and skirting board as viewed through the boxing



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Fig 69:

First Floor, MS-117; showing a small opening through the ceiling to determine construction



Fig 70:

First Floor, MS-117; showing non-original plasterboard supported on softwood battens fixed to the underside to the millboards. Note the earlier wallpaper to the underside of the millboards



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Fig 71:

First Floor, MS-118; showing lath and lime plaster finish to the stud partition. There was no significant damp or decay in this area



Fig 72:

First Floor, MS-118; showing the area of ongoing water penetration. The lime plaster had deteriorated and the lath and plaster partition was damp and partially decayed where abutting the external wall



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Fig 73:

First Floor, MS-118; showing a close-up of the lath and plaster applied to the partition. The lath and plaster was generally free from significant defect



Fig 74:

First Floor, Goods lift; showing lime plaster applied to the brickwork. The lime plaster had debonded in areas of ongoing water penetration



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Fig 75:

Upper Ground Floor, MS-UG04;
showing non-original fibreboard boxing
with skirting board below window sills.
The upper walls were plastered with
lime



Fig 76:

Upper Ground Floor, MS-UG04;
showing a close-up of the non-original
fibreboard boxing at low-level



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Fig 77:

Upper Ground Floor, MS-UG08;
showing a close-up of the lath and
plaster to a window reveal concealed
by wood-chip wallpaper



Fig 78:

Upper Ground Floor, MS-UG09;
showing plasterboard dry lining
concealing windows MS-UGW15 and
MS-UGW16



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Fig 79:

Upper Ground Floor, MS-UG12;
showing non-original fibreboard boxing
with skirting board below window sills.
The upper walls were plastered with
lime. Note that the window reveals
were panelled with softwood timber

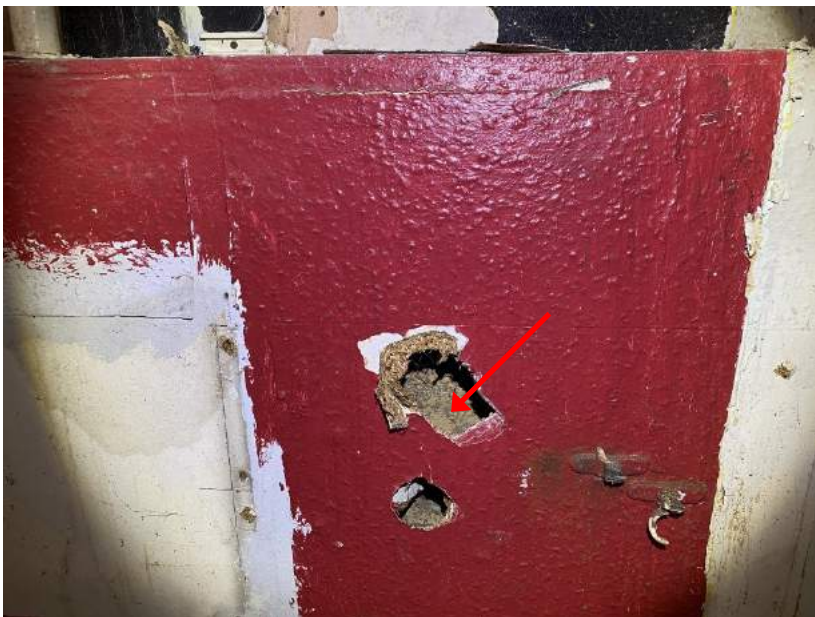


Fig 80:

Upper Ground Floor, MS-UG12;
showing a close-up of plaster visible
through an opening in the non-original
chipboard boxing



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Fig 81:

Upper Ground Floor; showing lime plaster applied to the non-original internal wall around the southern stairwell. Plaster here was generally in fair condition



Fig 82:

Upper Ground Floor; showing a general view of the area subject to water penetration at the centre of the south-west elevation. There were no retained original plaster finishes to this wall



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Fig 83:

Upper Ground Floor, MS-UG21;
showing non-original plasterboard
boxing at low-level. The wall behind
was plastered with lime



Fig 84:

Upper Ground Floor, MS-UG21;
showing lime plaster visible within the
plasterboard boxing. The plaster had
debonded from the brick substrate in
this location



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Fig 85:

Upper Ground Floor, MS-UG01;
showing lath and plaster to the partition
of the northern stairwell. A terrazzo
effect finish (possibly from the 1980's)
had been applied over a plaster skim



Fig 86:

Upper Ground Floor, MS-UG01;
showing a close up of the lath and
plaster visible behind the terrazzo
effect wall finish



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Fig 87:

Upper Ground Floor, MS-UG23; showing remnants of early wallpapered lath and plaster to the small store room. The plaster was largely mechanically damaged and partially decayed where abutting the external wall

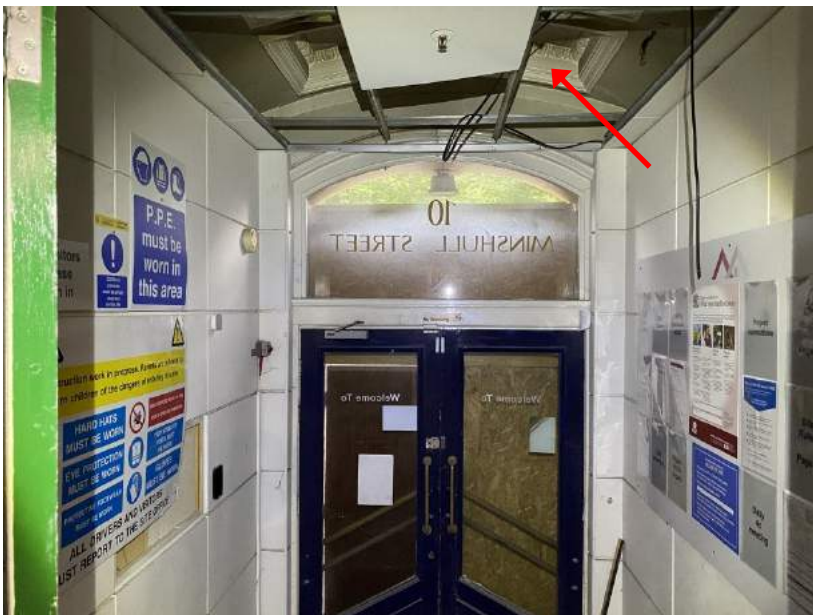


Fig 88:

Upper Ground Floor, Entrance lobby; showing an early/original ornamental barrel ceiling that appeared to be in good condition. The stud partitions either side of the lobby were lined with lath and plaster. However, non-original wall finishes concealed the lath and plaster



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Fig 89:

Upper Ground Floor, Entrance lobby;
showing lath and plaster visible behind
the numerous non-original wall finishes



Fig 90:

Upper Ground Floor, Goods lift;
showing a general view of the retained
non-original finishes that largely
conceal the lime plaster finishes of the
goods lift. A small partition of lath and
plaster also remained to the rear of the
goods lift (arrowed)



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Fig 91:

Upper Ground Floor, Goods lift;
showing the south west wall of the
goods lift. The lime plaster finishes
were largely damp and had debonded
from the brick substrate

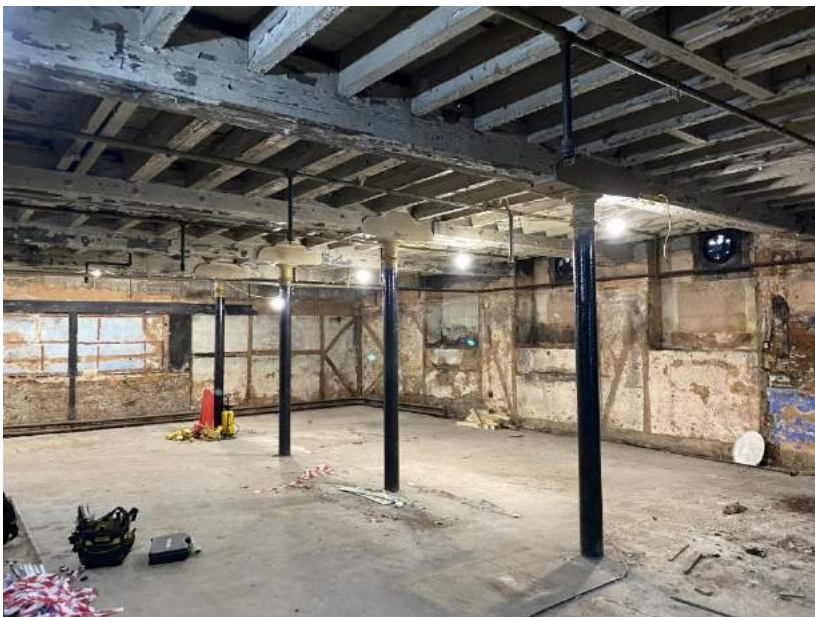


Fig 92:

Lower Ground Floor; showing a
general view of the external walls. As
the walls are below ground level they
are susceptible to damp and any
retained plaster had largely debonded.
The small amount of plaster that
remained was non-original



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Fig 93:

Lower Ground Floor; showing lath and plaster applied to the underside of the floor joists to the north-east bay. The addition of services had caused widespread mechanical damage to the lime plaster resulting in widespread cracking



Fig 94:

Lower Ground Floor; showing deterioration of the lime plaster and timber decay through the ceiling laths in the east corner



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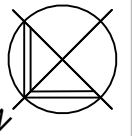
Fig 95:

Lower Ground Floor; showing an example of debonded ceiling plaster. Where visible, plaster 'keys' were in poor condition and additional areas of plaster were at risk of debonding



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Attachment B



MS-402 - MS-405

Upper wall

Wall finish: Original/early lime plaster
Window soffit: Original/early lath and lime plaster

Plaster condition: Lime plaster largely debonded and generally in poor condition. Lath and plaster partially decayed in localised areas

Notes: No previous decorative finishes to brickwork behind the lime plaster

Lower wall

Wall finish: Non-original gypsum plaster to the lower 1m with non-original reversible softwood skirting board

Plaster condition: Inadequate 'key' to the brick substrate and largely debonded

Notes: Blue and white paint schemes to brickwork behind the gypsum plaster

MS-401 & MS-402

Upper wall

Wall finish: Non-original lime plaster with repairs in gypsum
Window soffit: Original/early lath and lime plaster

Plaster condition: Wet and largely debonded. Lath and plaster heavily decayed by wet rot in areas of water penetration

Notes: Blue paint scheme to brickwork behind the lime plaster

Lower wall

Wall finish: Non-original timber boxing recently removed

Notes: Blue and gold paint schemes to brickwork behind boxing

MS-414

Timber stud partitions: Modern plasterboard applied over vertical softwood t&g panelling and skirting

Timber condition: Timbers damp and partially decayed by wet rot against external wall

Internal wall

Wall finish: Gypsum plaster

Plaster condition: Generally in fair condition

Notes: This internal wall is non-original

MS-406

Wall finish: Lime plaster

Plaster condition: Wet and largely debonded

MS-412 - MS-414

Upper wall

Wall finish: Original/early lime plaster
Window soffit: Original/early lath and lime plaster

Plaster condition: Wet and largely debonded. Lath and plaster heavily decayed by wet rot in areas of water penetration

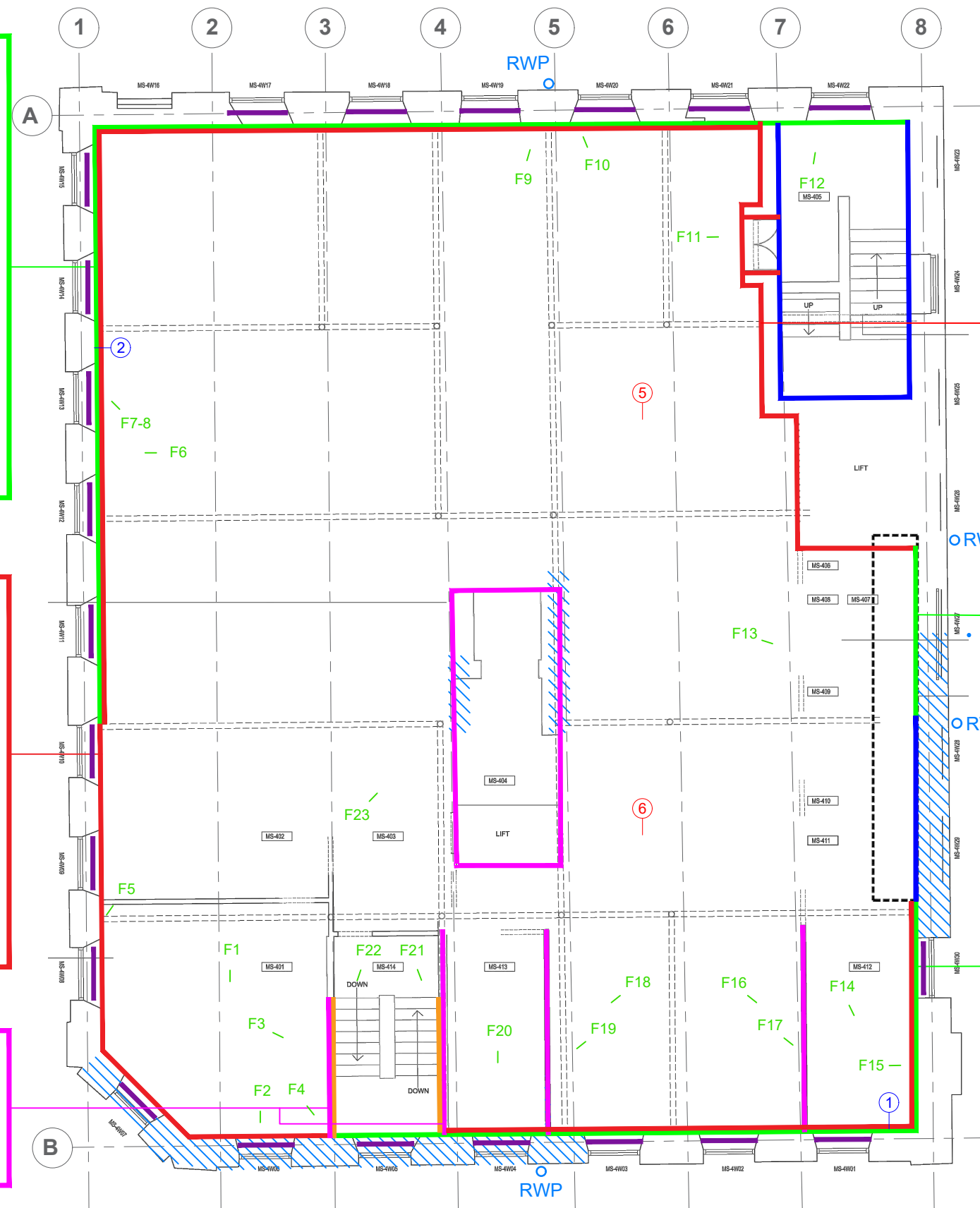
Notes: No previous decorative finishes to brickwork behind the lime plaster

Lower wall

Wall finish: Non-original gypsum plaster to the lower 1m with non-original softwood skirting board

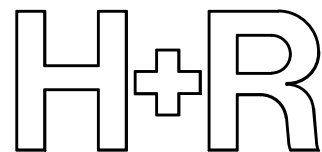
Plaster condition: Good 'key' prepared to brick substrate and plaster generally well bonded but wet in areas of water penetration

Notes: No previous decorative finishes to brickwork behind the gypsum plaster



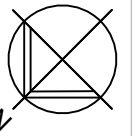
Key:

- | | | | |
|--|-----------------------------------|--|----------------------------------|
| | Area subject to water penetration | | Non-original lime/gypsum plaster |
| | Photograph location | | Timber panelling |
| | Original/early lime plaster | | Painted brick |
| | Lath and plaster | | Modern plasterboard |
| | Wall plaster sample location | | Ceiling plaster sample location |



Mindel House, Manchester - Fourth Floor
Plaster condition survey
8 April 2021

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MS-301 - MS-309

Wall finish: Original/early lime plaster with softwood skirting board
Window soffit: Original/early lath and lime plaster

Plaster condition: Lime plaster generally in fair condition with localised areas of debonding particularly at low level. Lath and plaster generally in fair condition. Plaster damp and laths heavily decayed in areas of water penetration

Skirting board condition: Generally in fair condition but partially decayed in areas of water penetration

Notes: No previous decorative finishes to brickwork behind the lime plaster

Goods lift

Wall finish: Largely original/early lime plaster as well as non-original gypsum plaster. Softwood skirting board

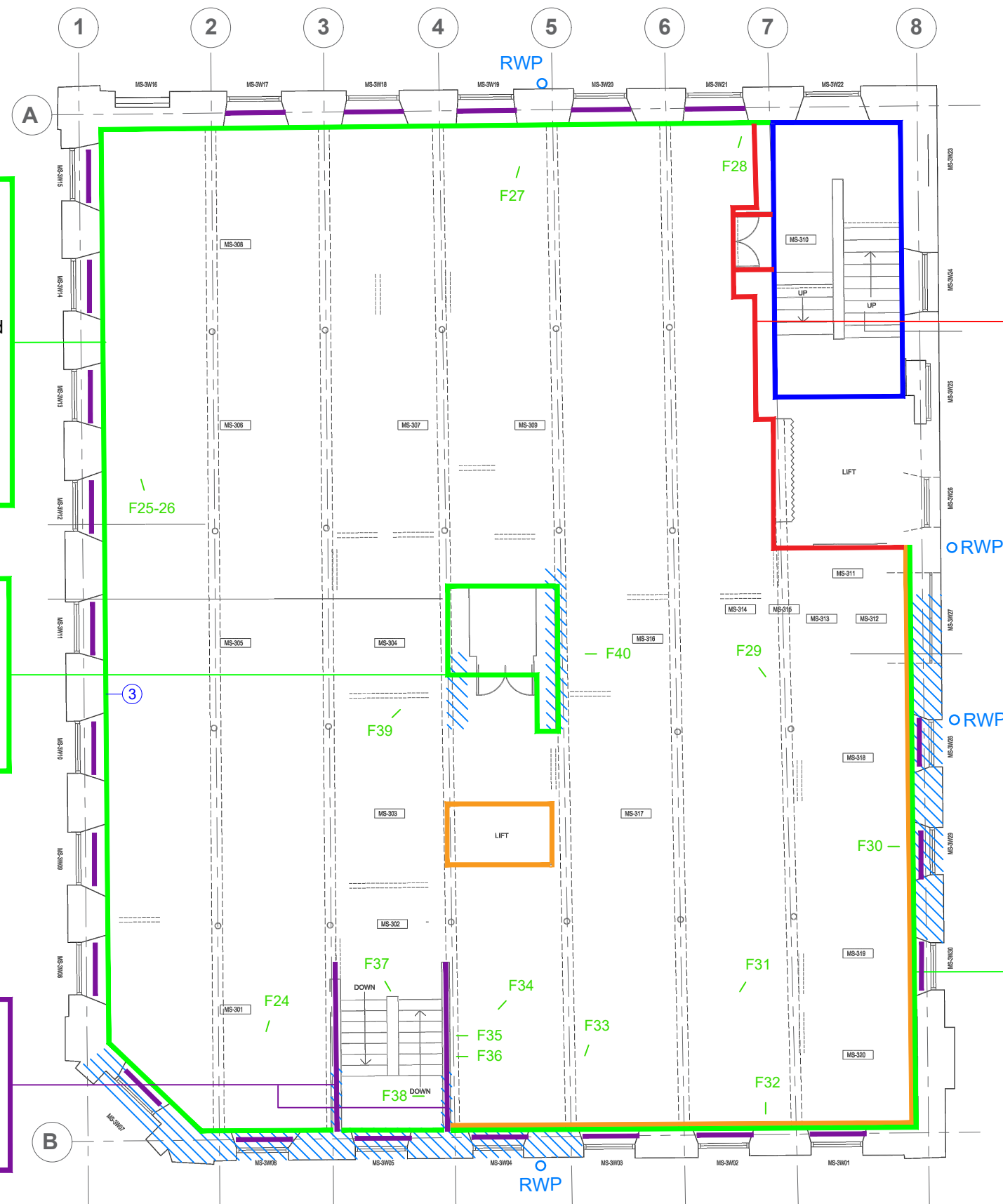
Plaster condition: Wet and largely debonded

Skirting board condition: Generally in fair condition but partially decayed in areas of water penetration

MS-302

Timber stud partition: Original/early lath and plaster with some use of hessian 'scrim' fibrous lime plaster. Softwood skirting board

Condition: Generally in fair condition but damp and partially decayed by wet rot against external wall



Internal wall

Wall finish: Gypsum plaster

Plaster condition: Generally in fair condition

Notes: This internal wall is non-original

MS-312 - MS-320

Upper wall

Wall finish: Original/early lime plaster
Window soffit: Original/early lath and lime plaster

Plaster condition: Generally in fair condition but wet and largely debonded in areas of water penetration. Lath and plaster heavily decayed by wet rot

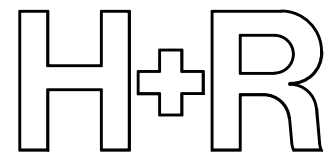
Notes: No previous decorative finishes to brickwork behind the lime plaster

Lower wall

Wall finish: Non-original vertical softwood t&g panelling. Original/early lime plaster with softwood skirting board behind

Panelling and skirting condition: Timbers generally damp and heavily decayed in areas of water penetration

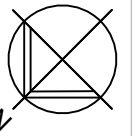
Notes: No previous decorative finishes to brickwork behind the lime plaster



Mindel House, Manchester - Third Floor
Plaster condition survey
8 April 2021

Hutton + Rostron Environmental Investigations Ltd
Netley House, Gomshall, Surrey, GU5 9QA Tel: 01483 203221
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Key:		Area subject to water penetration		Non-original lime/gypsum plaster
		Photograph location		Timber panelling
		Original/early lime plaster		Painted brick
		Lath and plaster		Modern plasterboard
		Wall plaster sample location		



MS-201 - MS-207

Wall finish: Numerous layers of wallpaper and paint on original/ early lime plaster with softwood skirting board

Plaster condition: Lime plaster generally in fair condition with localised areas of debonding

Skirting board condition: Generally in fair condition but partially decayed in areas of water penetration

Notes: No previous decorative finishes to brickwork behind the lime plaster

Goods lift

Wall finish: Largely original/early lime plaster as well as non-original gypsum plaster. Softwood skirting board

Plaster condition: Wet and largely debonded

Skirting board condition: Generally in fair condition but partially decayed in areas of water penetration

MS-205

Lower wall finish: Non-original reproduction softwood panelling with plasterboard. Original/early lime plaster behind

MS-202

Timber stud partition: Original/early lath and plaster with softwood skirting board

Condition: Generally in fair condition but damp and partially decayed by wet rot against external wall

Internal wall

Wall finish: Numerous layers of wallpaper and paint over gypsum plaster. Softwood skirting board

Plaster and skirting condition: Generally in fair condition

Notes: This internal wall is non-original

MS-216

Timber stud partition: Original/early lath and plaster

Condition: Generally in fair condition but damp and partially decayed by wet rot against external wall

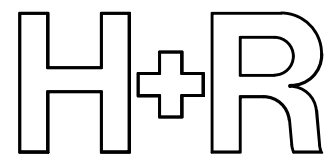
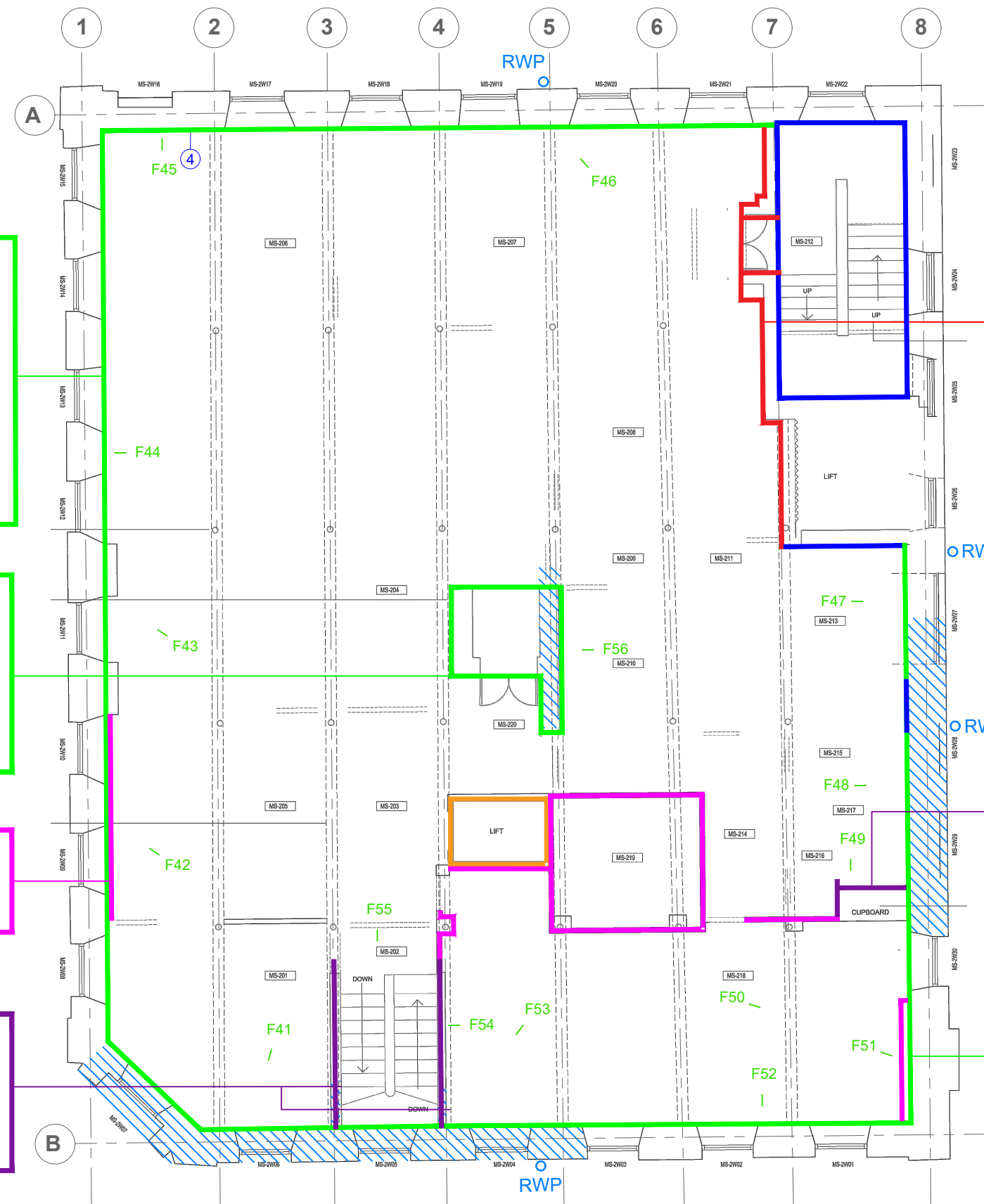
MS-213 - MS-218

Wall finish: Numerous layers of wallpaper and paint over original/early lime plaster with softwood skirting board

Plaster condition: Generally in fair condition but wet and largely debonded in areas of water penetration

Skirting board condition: Generally in fair condition but heavily decayed in areas of water penetration

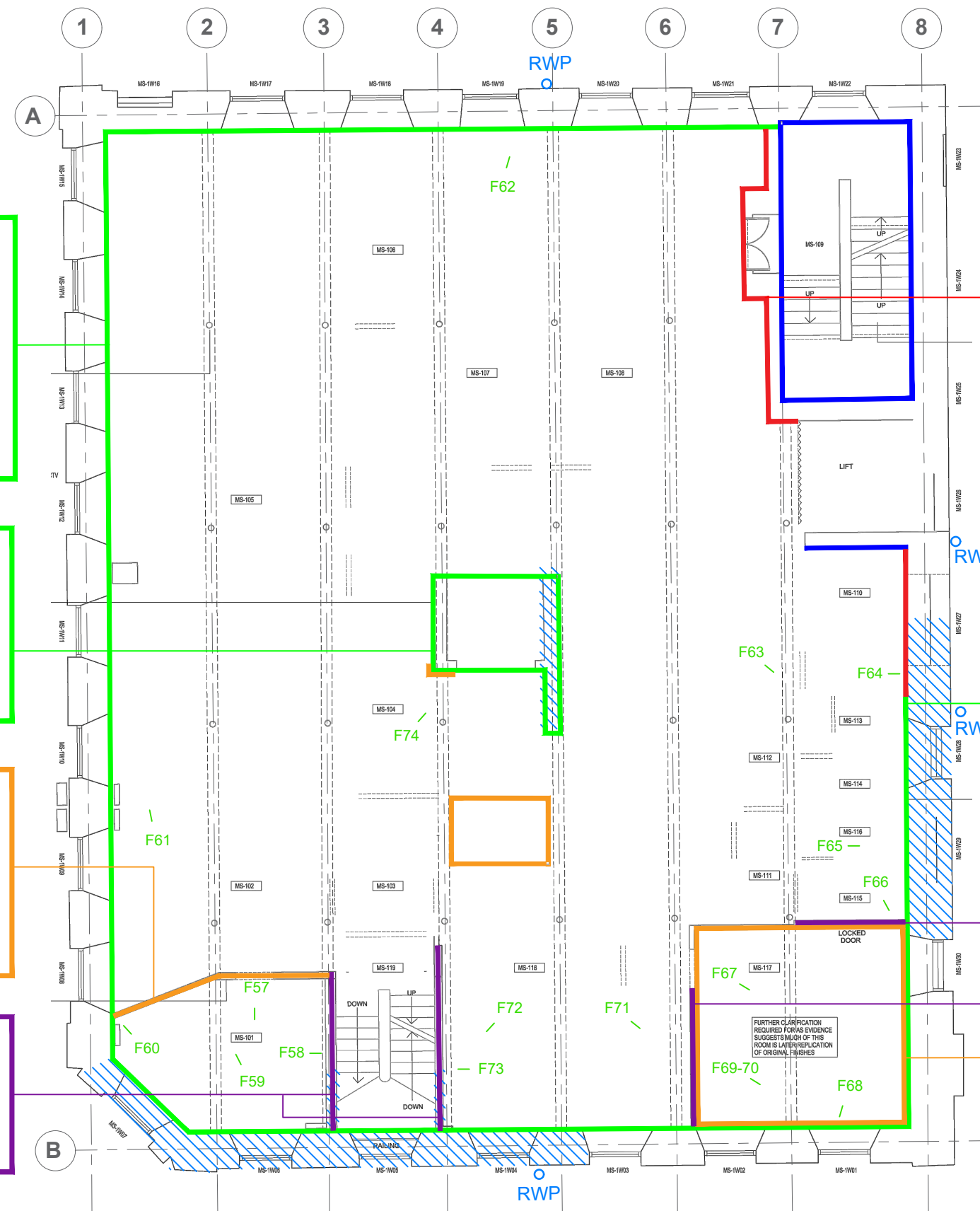
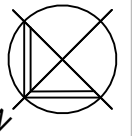
Notes: No previous decorative finishes to brickwork behind lime plaster



Mindel House, Manchester - Second Floor
Plaster condition survey
8 April 2021

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Key:		Area subject to water penetration		Non-original lime/gypsum plaster
		Photograph location		Timber panelling
		Original/early lime plaster		Painted brick
		Lath and plaster		Modern plasterboard
		Wall plaster sample location		



MS-101 - MS-108

Wall finish: Numerous layers of wallpaper and paint on original/ early lime plaster with softwood skirting board

Plaster condition: Lime plaster generally in fair condition with localised areas of debonding

Skirting board condition: Generally in fair condition but partially decayed in areas of water penetration

Notes: No previous decorative finishes to brickwork behind the lime plaster

Goods lift

Wall finish: Largely original/early lime plaster as well as non-original gypsum plaster. Softwood skirting board

Plaster condition: Wet and largely debonded

Skirting board condition: Generally in fair condition but partially decayed in areas of water penetration

MS-101

Timber and glazed partition: Non-original vertical softwood t&g panelling

Timber condition: Localised mechanical damage to panelling. No significant damp or decay

Notes: The softwood skirting between MS-101 and MS-102 continues behind this partition

MS-119

Timber stud partition: Original/early lath and plaster with softwood skirting boards

Condition: Generally in fair condition but damp and partially decayed by wet rot against external wall

Internal wall

Wall finish: Numerous layers of wallpaper and paint over gypsum plaster. Softwood skirting board

Plaster condition: Generally in fair condition

Notes: This internal wall is non-original

MS-110 - MS-118

Wall finish: Numerous layers of wallpaper, paint and a gypsum skim over original/early lime plaster. Softwood skirting board

Lime plaster condition: Generally in fair condition but wet and largely debonded in areas of water penetration

Skirting board condition: Heavily decayed in areas of water penetration

Notes: No previous decorative finishes to brickwork behind the lime plaster

MS-117

Timber stud partitions: Original/early lath and plaster with softwood skirting board

Condition: Generally in fair condition but damp and partially decayed by wet rot against external wall

MS-117

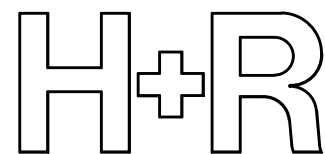
Ceiling: Non-original plasterboard on softwood battens fixed to underside of millboards

Notes: Earlier wallpaper remains to underside of millboards

Lower wall

Wall finish: Non-original timber boxing and panelling over original/early lime plaster with a softwood skirting behind

Notes: No previous decorative finishes to brickwork behind the lime plaster



Mindel House, Manchester - First Floor

Plaster condition survey
8 April 2021

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Key:



Area subject to water penetration



Photograph location



Original/early lime plaster



Lath and plaster



Non-original lime/gypsum plaster



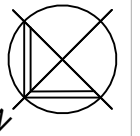
Timber panelling



Painted brick



Modern plasterboard



MS-UG02 - MS-UG11

Upper wall

Wall finish: Numerous layers of wallpaper and paint on original/ early lime plaster
Window reveals: Original/early lath and lime plaster or timber panelling

Plaster condition: Lime plaster generally in fair condition with localised areas of debonding. Lath and plaster partially decayed in localised areas

Lower wall

Wall finish: Modern plasterboard over non-original fibreboard dado panelling. Modern softwood skirting board

Goods lift

Wall finish: Largely original/early lime plaster as well as non-original gypsum plaster. Softwood skirting board

Plaster condition: Wet and largely debonded

Lath and plaster condition: Concealed by modern plasterboard. Probably damp and partially decayed in area of water penetration

Entrance lobby

Timber stud partition: Modern plasterboard, non-original timber paneling and terrazzo effect finish applied over original/early lath and plaster

Condition: Inaccessible. Probably in fair condition but damp and partially decayed by wet rot against external wall

Internal wall

Wall finish: Numerous layers of wallpaper and paint over lime plaster. Softwood skirting board

Plaster condition: Generally in fair condition

Notes: This internal wall is non-original

MS-UG14 - MS-UG20

Wall finish: No decorative finishes. Remnants of lime plaster and paint

Notes: Areas of non-original brickwork and blockwork

MS-UG20 - MS-UG21

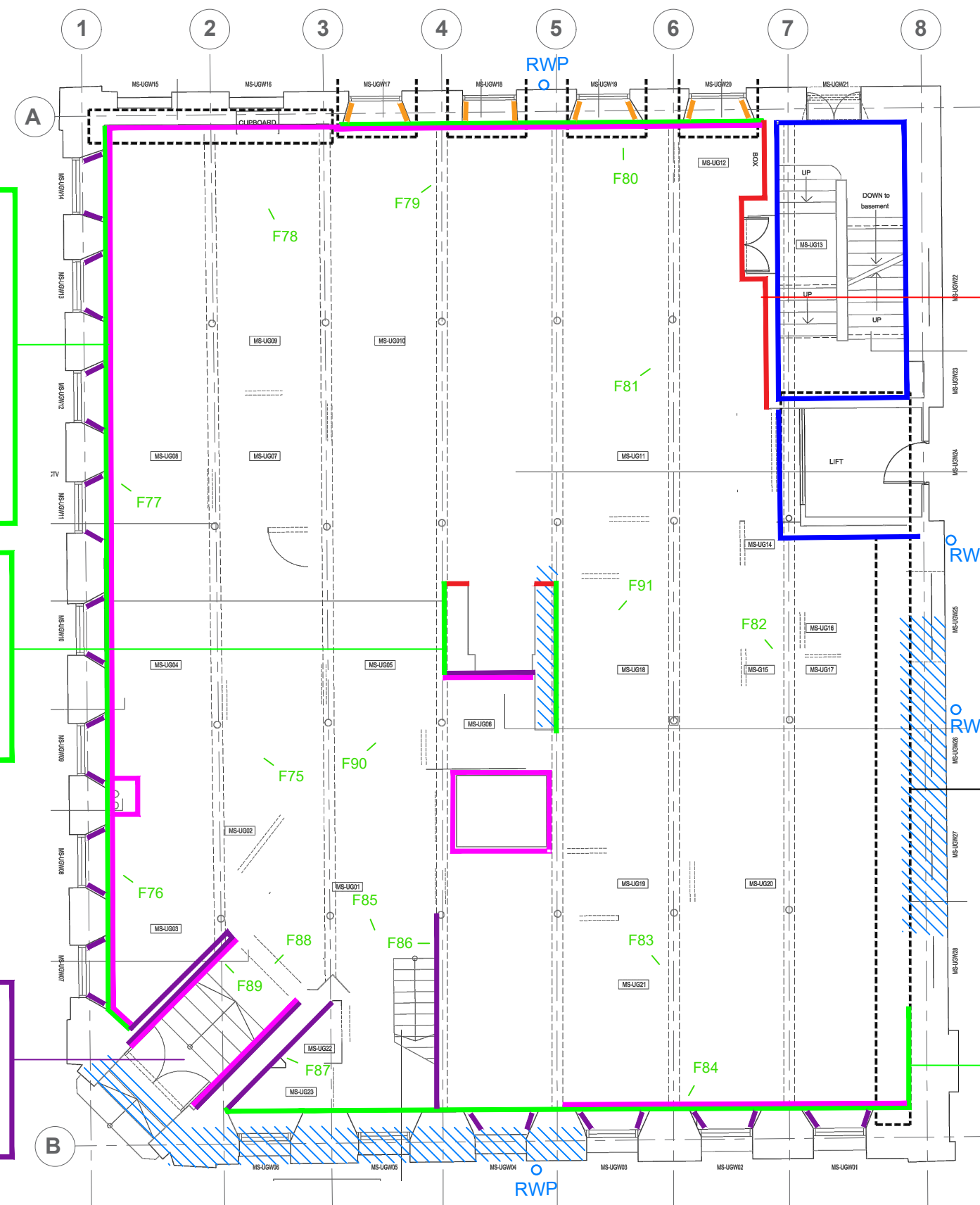
Upper wall

Wall finish: Numerous layers of wallpaper and paint on original/ early lime plaster
Window reveals: Original/early lath and lime plaster

Lime plaster condition: Generally in fair condition but wet and largely debonded in areas of water penetration

Lower wall

Wall finish: Modern plasterboard panelling with non-original softwood skirting board. Original/early lime plaster behind



Key:



Area subject to water penetration



Photograph location



Original/early lime plaster



Lath and plaster



Non-original lime/gypsum plaster



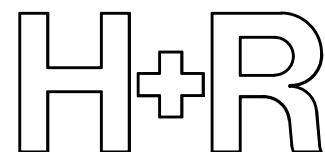
Timber panelling



Painted brick

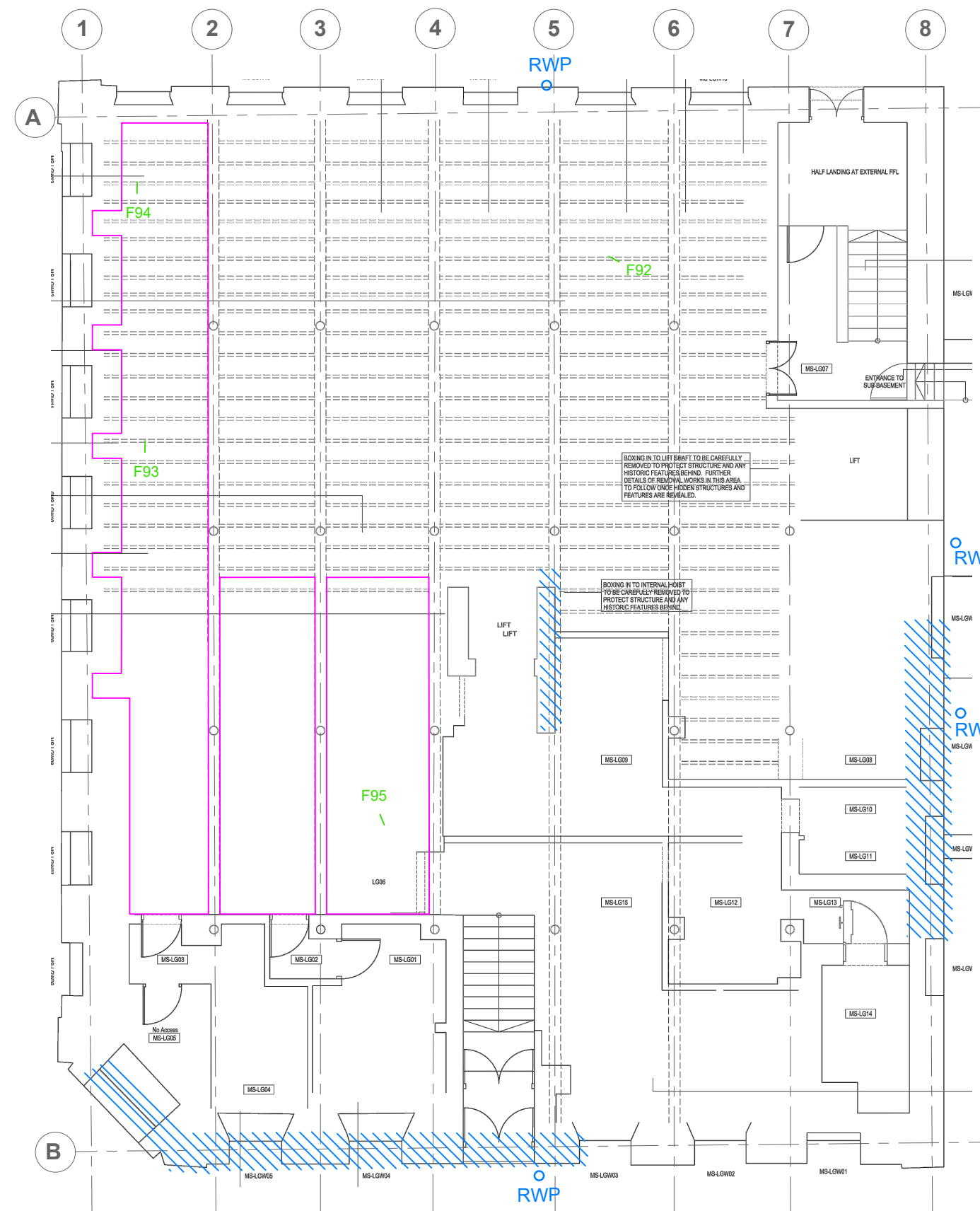


Modern plasterboard



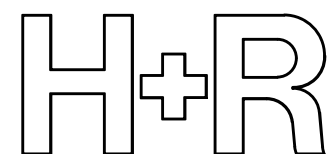
Mindel House, Manchester - Upper Ground Floor

Plaster condition survey
27 July 2021



Key:

- Area subject to water penetration
- F1 Photograph location
- Lath and plaster ceiling



Mindel House, Manchester - Lower Ground Floor Plaster condition survey 27 July 2021

Hutton + Rostron Environmental Investigations Ltd
Netley House, Gomshall, Surrey, GU5 9QA Tel: 01483 203221
212.57 Site Note 4 -Not to scale- © Copyright Hutton+Rostron 2021

Attachment C



SANDBERG

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Report - 70096/K

REPORT ON THE PETROGRAPHIC EXAMINATION OF SIX PLASTER SAMPLES (Site: Mindel House, Manchester)



Hutton & Rostron Environmental Investigation
The Manor House
Mottram in Longdendale
Greater Manchester
SK14 6JD

This report comprises
7 pages of text
Appendix A – 7 pages
Appendix B – 24 pages / photographs
Appendix C – 18 pages / photomicrographs
Appendix D – 5 pages

For the attention of Mr Chris Whitfield

9 August 2021

Partners: NCD Sandberg SC Clarke DJ Ellis RA Rogerson MA Eden JD French CMorgan
GSMayers GCS Moor JFagan JH Dell Dr EDW Maclean MI Ingle MFaliva AL Pitman
Senior Associates: RA Lucas DA Kinnersley J Glen Dr WR Newby YN Guellil
Associates: KJ Green J Gallagher NA Fetter EMcPheat FEasthope EKrylowicz SR Kwincinski CS Newberry

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Report - 70096/K

REPORT ON THE PETROGRAPHIC EXAMINATION OF SIX PLASTER SAMPLES (Site: Mindel House, Manchester)

1 INTRODUCTION

Six plaster samples were provided on the 4 June 2021. It was requested that samples be examined petrographically. The samples were advised to be from a later 19th Century warehouse building in Central Manchester known as Mindel House. Written instructions to proceed with the analysis were provided with the samples in a letter from Mr Chris Whitfield of Hutton & Rostron Environmental Investigation.

2 SAMPLES

The following samples were provided for analysis:

Laboratory reference	Client / site reference	Approximate dimensions, mm
K16595/1	Sample 1	82-90 / 33-47 / 14-17
K16595/2	Sample 2	60-92 / 45-55 / 15-20
K16595/3	Sample 3	35-52 / 55-65 / 14-21
K16595/4	Sample 4	44-58 / 55-60 / 15-18
K16595/5	Sample 5	18-35 / 5-30 / 30-77
K16595/6	Sample 6	39-60 / 34-61 / 16-25

3 TEST METHODS

The petrographic testing was carried out in accordance with BS 1881-211¹. A summary of the procedures followed and a glossary of terms used in the description of the samples are given in Appendix D. In brief, the following work was carried out:

- (i) The samples were examined as received and photographed.
- (ii) Two fluorescent resin impregnated thin sections were prepared from each sample, each representing the full depth of the plaster layers. Each thin section measured about 40x30mm.
- (iii) The thin sections were examined with a Zeiss petrological photomicroscope and the distribution of porosity and microcracking was assessed from an examination of the thin section in fluorescent light using the petrological microscope.
- (iv) The volume proportions of aggregate matrix and void in the base coat plaster in each sample were determined by point counting of the thin sections using the petrological microscope and the measured volume proportions were used to make estimates of the compositions of the base coat plaster using the method given in BS 1881-211.

4 PETROGRAPHIC EXAMINATION RESULTS

4.1 Visual description of the samples

The samples as received are illustrated in Appendix B. Visual descriptions of the samples as received are given in Tables A1 and A2 in Appendix A.

4.2 Petrographic description of the aggregate in the base coat plaster

A full petrographic description of the aggregate in the base coat plaster in each sample is given in Tables A3 and A4 in Appendix A.

4.3 Petrographic description of the matrix of the base coat plaster

A full petrographic description of the matrix of the base coat plaster in each sample is given in Tables A5 and A6 in Appendix A and photomicrographs illustrating the mortar in the thin sections are given in Appendix C.

4.4 Volume proportions of sand and matrix in the mortar

The measured volume proportions of aggregate, matrix and void in the base coat plaster of each sample are given in Table A7 in Appendix A.

¹ BS 1881-211:2016 Testing concrete. Procedure and terminology for the petrographic examination of hardened concrete

5 SUMMARY AND DISCUSSION

5.1 Surface gypsum-based plaster layers

All samples include surface layers of gypsum plaster and there appears to be two types of gypsum plaster. The majority of the gypsum-based plaster is very light pinkish grey and consists of an abundant gypsum matrix that contains small amounts of lime. The outer of the two gypsum-based plaster layers in Sample 1 differs from that in the other samples in that it is pink in colour and lacks lime.

The following table summarises the principal petrographic characteristics of the surface gypsum-based plaster layers in each sample.

Client / site reference	Surface plaster layer / Thickness	Plaster type / colour
Sample 1	Outermost surface plaster layer / 0.8-0.7mm	Gypsum based / medium pink
Sample 1	Innermost surface plaster layer / 1.1-1.4mm	Gypsum-based with minor lime / Very light grey
Sample 2	1.6-2.9mm	Gypsum-based with minor lime / Very light grey
Sample 3	2.3-3.6mm	Gypsum-based with minor lime / Very light grey
Sample 4	0.6-0.9mm	Gypsum-based with minor lime / Very light grey
Sample 5	3.2-5.2mm	Gypsum-based with minor lime / Very light grey
Sample 6	2.7-4.7mm	Gypsum-based with minor lime / Very light grey

In all samples, the plaster remains attached to the base-coat plaster.

5.2 Base-coat plaster

(i) Principal characteristics of the base coat plaster

All samples include a lime-based base coat plaster layer that accounts for the majority of the thickness of the samples. The base coat plaster is reinforced with animal hairs and contains an aggregate that consists of a blend of abundant fine quartz sand with lesser amounts of ash, slag and coal fragments.

The base coat plaster in Samples 5 and 6 differs from that in the other samples in the following respects:

- The amounts of ash are much smaller than in the other samples
- Undispersed lime fragments are more abundant in the base coat in Samples 5 and 6 compared to the other samples
- The binder contents of the base coat in Samples 5 and 6 are higher than in the other samples
- The inner surfaces of Samples 5 and 6 have the impressions of wooden laths

(ii) Aggregate characteristics in the base coat plaster

The aggregate in all samples is dominated by siliceous polymictic sand that is blended with smaller amounts of ash / slag and coal. The aggregate compositions are as follows:

Client / site reference	Aggregate composition, vol. %		
	<i>Sand</i>	<i>Ash / Slag</i>	<i>Coal</i>
Sample 1	84.4	11.0	4.6
Sample 2	85.5	11.8	2.7
Sample 3	84.0	12.8	3.1
Sample 4	82.3	11.9	5.8
Sample 5	95.6	0.9	3.5
Sample 6	93.2	1.5	5.3

(iii) Binder type in the base coat plaster

The binder throughout the base coat plaster layers in all samples contains lime. The occasional presence of traces of hydrated and carbonated calcium silicate particles in the matrix of the base coat plaster indicates that it may be a feebly hydraulic lime.

(iv) General matrix characteristics in the base coat plaster

The lime matrix in the base coat of all samples is fully carbonated and has the typical high microporosity that is characteristic of lime-based plasters and mortars. The lime binder in all samples is incompletely dispersed and the measured quantities of undispersed lime are as follows:

Client / site reference	Undispersed lime fragments, volume % of matrix
Sample 1	7.7
Sample 2	5.5
Sample 3	1.9
Sample 4	2.8
Sample 5	11.4
Sample 6	8.1

The quantities of undispersed lime in Samples 5 and 6 is high and is possibly indicative of the lime being hot-mixed² with the aggregate.

In Sample 3, the matrix contains moderate quantities of very fine gypsum fragments indicating that it is probable that the binder included calcium sulfate / hemi-hydrate. In Sample 2, the possible presence of minor amounts of calcium sulfate / hemi-hydrate in the binder is indicated by the rare occurrence of gypsum in voids.

Calcium sulfate / gypsum is sometimes added to lime plaster to accelerate setting times. Chemical analysis for acid-soluble sulfate and calcium would be required in order to quantify the proportions of lime and calcium sulfate in the base coat plaster.

² Hot mixing refers to mixing un-slaked lime with damp aggregate, an exothermic process that evolves heat as the lime hydrates (slakes).

(v) Hair reinforcement in the base coat plaster

Hair reinforcement is present in the base coat plaster in all samples. Much of the hair resembles horse hair with distinctive hollow brown fibres that are of the order of 30-50µm in diameter. There are also some transparent / colourless hollow fibres that could not be identified. The fibres are unevenly distributed and frequently concentrated in irregular bundles of fibres.

(vi) Composition of the base coat plaster

The compositions of the base coat plaster have been determined petrographically using a method based on that given in BS 1881-211, 2016 and the results are as follows:

Client / site reference	Estimated volume ratio of binder to aggregate in the base coat plaster ^{Note 1}	Evidence for the presence of gypsum in the base coat plaster
Sample 1	1 : 1.5	None seen
Sample 2	1 : 1.9	Traces of gypsum seen in voids ^{Note 2}
Sample 3	1 : 0.9	Moderate amounts of gypsum fragments seen throughout the matrix. ^{Note 3}
Sample 4	1 : 1.8	None seen
Sample 5	1 : 0.7	None seen
Sample 6	1 : 0.7	None seen

Note 1: The compositions are calculated on the basis that the binder is composed entirely of lime using the assumed densities and water/binder ratios listed in Table A7 in Appendix A. These compositions make no allowance for the possible presence of gypsum in some of the samples. Chemical analysis for acid-soluble sulfate and calcium content would be required in order to quantify the proportions of gypsum and lime.

Note 2: The presence of occasional gypsum crystals in the voids indicates that it is possible that binder may include small amounts of gypsum.

Note 3: The matrix contains moderate amounts of gypsum fragments indicating the presence of gypsum.

6 SUMMARY

The results of the petrographic examination of the samples are summarised in the following table:

Client / site reference	Surface gypsum plaster layers	Base coat plaster				
		<i>Siliceous sand, vol. %</i>	<i>Ash & slag, vol. %</i>	<i>Coal, vol. %</i>	<i>Binder type</i>	<i>Binder: Aggregate ratio by volume</i> Note 1
Sample 1	2 layers of gypsum plaster	84.4	11.0	4.6	Lime	1 : 1.5
Sample 2	1 layer of gypsum plaster	85.5	11.8	2.7	Lime ^{Note 2}	1 : 1.9
Sample 3	1 layer of gypsum plaster	84.0	12.8	3.1	Lime / gypsum Note 3	1 : 0.9
Sample 4	1 layer of gypsum plaster	82.3	11.9	5.8	Lime	1 : 1.8
Sample 5	1 layer of gypsum plaster	95.6	0.9	3.5	Lime	1 : 0.7
Sample 6	1 layer of gypsum plaster	93.2	1.5	5.3	Lime	1 : 0.7

Note 1: Compositions calculated on the basis that the binder consists entirely of lime. There are some indications of the presence of gypsum in the matrix in Sample 3 and to a lesser extent, Sample 2. Chemical analysis for acid-soluble sulfate and calcium content would be required in order to quantify the proportions of gypsum and lime.

Note 2: The possible presence of minor gypsum in the binder is indicated by the rare occurrence of gypsum in voids.

Note 3: The presence of gypsum in the binder is indicated by the presence of moderate quantities of gypsum fragments in the matrix.



7 REMARKS

The above concludes the requested programme of testing. Please do not hesitate to contact us if we can be of any further assistance in this matter.

Hutton & Rostron Environmental Investigation
The Manor House
Mottram in Longdendale
Greater Manchester
SK14 6JD

for GEOMATERIALS RESEARCH SERVICES
(part of Sandberg LLP)


M. A. Eden, BSc., MSc., FGS., C.Geol., FIMMM
Partner

For the attention of Mr Chris Whitfield

9 August 2021

Samples can only be retained for a period of two months from the date of issue of the report unless we are instructed otherwise. Samples can be returned or retained for a further charge.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

APPENDIX A – PETROGRAPHIC DESCRIPTION OF THE SAMPLE

PETROGRAPHIC EXAMINATION OF PLASTER
BS 1881-211, 2016

TABLE A1 OF 7: VISUAL DESCRIPTION OF THE SAMPLES

Laboratory ref.	K16595/1	K16595/2	K16595/3
Sample ref.	Sample 1	Sample 2	Sample 3
Dimensions, mm	82-90 / 33-47 / 14-17	60-92 / 45-55 / 15-20	35-52 / 55-65 / 14-21
Surface layers	Outer gypsum plaster layer 0.8-0.7mm thickness. Inner gypsum plaster with lime inclusions 1.1-1.4mm. The surfaces of both plaster layers are painted.	One layer of gypsum plaster layer 1.6-2.9mm thickness. The surface of the plaster is painted.	One layer of gypsum plaster layer 2.3-3.6mm thickness. The surface of the plaster is painted.
Thickness of base plaster layer	Up to 15mm. There are some indications of a layer boundary within the base coat plaster in some areas.	Up to 20mm. There are some indications of a layer boundary within the base coat plaster in some areas.	Up to 21mm. No indications of internal layer boundaries
Inner surface	Uneven surface	Uneven surface	Uneven surface
Plaster types	The base plaster layer is lime based. The much thinner surface plaster layers are gypsum-based. The inner of the two gypsum-based plaster layers contains lime.	The base plaster layer is lime based. The much thinner surface plaster layer is gypsum-based and contains traces of lime.	The base plaster layer is based on a blend of abundant lime with smaller amounts of gypsum. The much thinner surface plaster layer is gypsum-based and contains traces of lime.
Colour	<u>Gypsum based surface layers:</u> The outer layer is pink and the inner layer is pinkish white. <u>Base plaster layer:</u> Medium greyish brown.	<u>Gypsum based surface layer:</u> Light pink. <u>Base plaster layer:</u> Medium greyish brown.	<u>Gypsum based surface layer:</u> Light pink. <u>Base plaster layer:</u> Medium greyish brown.
Fibre reinforcement	Animal hairs are visible protruding from the broken surfaces of the base plaster layer. The hairs are unevenly distributed and sometimes concentrated in bundles of fibres.	Animal hairs are visible protruding from the broken surfaces of the base plaster layer. The hairs are unevenly distributed and sometimes concentrated in bundles of fibres.	Animal hairs are visible protruding from the broken surfaces of the base plaster layer. The hairs are unevenly distributed and sometimes concentrated in bundles of fibres.
Visible signs of deterioration	None seen	None seen	None seen

APPENDIX A – PETROGRAPHIC DESCRIPTION OF THE SAMPLE

PETROGRAPHIC EXAMINATION OF PLASTER

BS 1881-211, 2016

TABLE A2 OF 7: VISUAL DESCRIPTION OF THE SAMPLES

Laboratory ref.	K16595/4	K16595/5	K16595/6
Sample ref.	Sample 4	Sample 5	Sample 6
Dimensions, mm	44-58 / 55-60 / 15-18	18-35 / 5-30 / 30-77	39-60 / 34-61 / 16-25
Surface layers	One layer of gypsum plaster layer 0.6-0.9mm thickness. The surface of the plaster is painted.	One layer of gypsum plaster layer 3.2-5.2mm thickness. The surface of the plaster is painted.	One layer of gypsum plaster layer 2.7-4.7mm thickness. The surface of the plaster is painted.
Thickness of base plaster layer	Up to 21mm. No indications of internal layer boundaries	Up to 30mm. No indications of internal layer boundaries	Up to 25mm. No indications of internal layer boundaries
Inner surface	Uneven surface	Uneven surface with lath impressions	Uneven surface with lath impressions
Plaster types	The base plaster layer is lime based. The much thinner surface plaster layer is gypsum-based and contains traces of lime.	The base plaster layer is lime based. The much thinner surface plaster layer is gypsum-based and contains traces of lime.	The base plaster layer is lime based. The much thinner surface plaster layer is gypsum-based and contains traces of lime.
Colour	Gypsum based surface layer: Light pink. Base plaster layer: Medium greyish brown.	Gypsum based surface layer: Light pink. Base plaster layer: Light greyish brown.	Gypsum based surface layer: Light pink. Base plaster layer: Light greyish brown.
Fibre reinforcement	Animal hairs are visible protruding from the broken surfaces of the base plaster layer. The hairs are unevenly distributed and sometimes concentrated in bundles of fibres.	Animal hairs are visible protruding from the broken surfaces of the base plaster layer. The hairs are unevenly distributed and sometimes concentrated in bundles of fibres.	Animal hairs are visible protruding from the broken surfaces of the base plaster layer. The hairs are unevenly distributed and sometimes concentrated in bundles of fibres.
Visible signs of deterioration	None seen	None seen	None seen

PETROGRAPHIC EXAMINATION OF PLASTER
BS 1881-211, 2016

TABLE A3 OF 7: PETROGRAPHIC DESCRIPTION OF THE SAND IN THE BASE COAT PLASTER

Laboratory ref.	K16595/1	K16595/2	K16595/3
Sample ref.	Sample 1	Sample 2	Sample 3
Base coat plaster aggregate			
Grading (estimated BS EN 13139 grading classification)	Fine 0/1 (FP)	Fine 0/1 (FP)	Fine 0/1 (FP)
Typical size (mm)	0.05-0.50	0.05-0.50	0.05-0.50
Typical shape	Subangular to subrounded	Subangular to subrounded	Subangular to subrounded
Grain coatings	Traces of brown clay deposits occur on the surfaces of the sand particles.	Traces of brown clay deposits occur on the surfaces of the sand particles.	Traces of brown clay deposits occur on the surfaces of the sand particles.
Major aggregate materials	Quartz, Quartzite	Quartz, Quartzite	Quartz, Quartzite
Minor aggregate materials	Chert, Carbonaceous ash, Glassy ash, Coal, Sandstone and siltstone, Mudstone	Chert, Carbonaceous ash, Glassy ash, Coal, Sandstone and siltstone, Mudstone	Chert, Carbonaceous ash, Glassy ash, Coal, Sandstone and siltstone, Mudstone
Trace aggregate materials	Feldspar, Ironstone	Feldspar, Ironstone	Feldspar, Ironstone
Alteration of the aggregate particles	Many of the coal particles have abundant internal shrinkage cracking	Many of the coal particles have abundant internal shrinkage cracking	Many of the coal particles have abundant internal shrinkage cracking

**PETROGRAPHIC EXAMINATION OF PLASTER
BS 1881-211, 2016**

TABLE A4 OF 7: PETROGRAPHIC DESCRIPTION OF THE SAND IN THE BASE COAT PLASTER

Laboratory ref.	K16595/4	K16595/5	K16595/6
Sample ref.	Sample 4	Sample 5	Sample 6
Base coat plaster aggregate			
Grading (estimated BS EN 13139 grading classification)	Fine 0/1 (FP)	Fine 0/1 (FP)	Fine 0/1 (FP)
Typical size (mm)	0.05-0.50	0.05-0.50	0.05-0.50
Typical shape	Subangular to subrounded	Subangular to subrounded	Subangular to subrounded
Grain coatings	Traces of brown clay deposits occur on the surfaces of the sand particles.	Traces of brown clay deposits occur on the surfaces of the sand particles.	Traces of brown clay deposits occur on the surfaces of the sand particles.
Major aggregate materials	Quartz, Quartzite	Quartz, Quartzite	Quartz, Quartzite
Minor aggregate materials	Chert, Carbonaceous ash, Glassy ash, Coal, Sandstone and siltstone, Mudstone	Chert, Sandstone and siltstone, Mudstone	Chert, Sandstone and siltstone, Mudstone
Trace aggregate materials	Feldspar, Ironstone	Feldspar, Ironstone, Carbonaceous ash, Glassy ash, Coal,	Feldspar, Ironstone, Carbonaceous ash, Glassy ash, Coal,
Alteration of the aggregate particles	Many of the coal particles have abundant internal shrinkage cracking	Many of the coal particles have abundant internal shrinkage cracking	Many of the coal particles have abundant internal shrinkage cracking

PETROGRAPHIC EXAMINATION OF BRICK AND MORTAR MASONRY
BS 1881-211, 2016

TABLE A5 OF 7: PETROGRAPHIC DESCRIPTION OF THE MATRIX IN THE BASE COAT PLASTER

Laboratory ref.	K16595/1	K16595/2	K16595/3
Sample ref.	Sample 1	Sample 2	Sample 3
Binder type	Lime - resembles feebly hydraulic lime or possibly fat lime	Lime - resembles feebly hydraulic lime or possibly fat lime	Lime and gypsum. The lime resembles feebly hydraulic lime or possibly fat lime. The matrix contains moderate amounts of angular gypsum fragments, typically <0.05mm.
Calcium silicates	Rare traces of carbonated calcium silicate particles occasionally seen.	Rare traces of carbonated calcium silicate particles occasionally seen.	Rare traces of carbonated calcium silicate particles occasionally seen.
Undispersed lime lumps, vol. % of matrix	8	6	2
Carbonation	Fully carbonated with a fine-textured carbonation.	Fully carbonated with a fine-textured carbonation.	Fully carbonated with a fine-textured carbonation.
Porosity			
General level	Very high	Very high	High
Porosity distribution	Uniform	Uniform	Uniform
Microcracking level	Moderately high levels of plastic shrinkage cracking	Minor plastic shrinkage cracking	Minor plastic shrinkage cracking
Crack fillings	None seen	None seen	None seen
Void fillings	None seen	Gypsum occasionally lines the voids	None seen
Fibres	Minor amounts of animal hairs seen. Possibly 2 types of hair (brown and white). The hairs are typically <0.05mm in diameter and hollow.	Minor amounts of animal hairs seen. Possibly 2 types of hair (brown and white). The hairs are typically <0.04mm in diameter and hollow.	Traces of brown animal hairs seen. The hairs are typically <0.04mm in diameter and hollow.
Contact with the surface plaster layers	Uneven, sharply defined contact with no evidence for weakening of the contact	Uneven, sharply defined contact with no evidence for weakening of the contact	Uneven, sharply defined contact with no evidence for weakening of the contact
Description of the surface plaster layers	The inner layer is based on a blend of abundant calcium sulfate with smaller amounts of lime. The outer layer is calcium sulfate-based and contains traces of calcareous clay.	The plaster is based on a blend of abundant calcium sulfate with trace amounts of lime and traces of calcareous clay.	The plaster is based on a blend of abundant calcium sulfate with trace amounts of lime and traces of calcareous clay.

**PETROGRAPHIC EXAMINATION OF BRICK AND MORTAR MASONRY
BS 1881-211, 2016**

TABLE A6 OF 7: PETROGRAPHIC DESCRIPTION OF THE MATRIX IN THE BASE COAT PLASTER

Laboratory ref.	K16595/4	K16595/5	K16595/6
Sample ref.	Sample 4	Sample 5	Sample 6
Binder type	Lime - resembles feebly hydraulic lime or possibly fat lime	Lime - resembles feebly hydraulic lime or possibly fat lime	Lime - resembles feebly hydraulic lime or possibly fat lime
Calcium silicates	Rare traces of carbonated calcium silicate particles occasionally seen.	Rare traces of carbonated calcium silicate particles occasionally seen.	Rare traces of carbonated calcium silicate particles occasionally seen.
Undispersed lime lumps, vol. % of matrix	3	11	8
Carbonation	Fully carbonated with a fine-textured carbonation.	Fully carbonated with a fine-textured carbonation.	Fully carbonated with a fine-textured carbonation.
Porosity			
General level	Very high	High	High
Porosity distribution	Uniform	Uniform	Uniform
Microcracking level	Moderately high levels of plastic shrinkage cracking	Minor plastic shrinkage cracking	Minor plastic shrinkage cracking
Crack fillings	None seen	None seen	None seen
Void fillings	None seen	None seen	None seen
Fibres	Traces of brown animal hairs seen. The hairs are typically <0.04mm in diameter and hollow.	Traces of brown animal hairs seen. The hairs are typically <0.04mm in diameter and hollow.	Traces of brown animal hairs seen. The hairs are typically <0.04mm in diameter and hollow.
Contact with the surface plaster layers	Uneven, sharply defined contact with no evidence for weakening of the contact	Uneven, sharply defined contact with no evidence for weakening of the contact	Uneven, sharply defined contact with no evidence for weakening of the contact
Description of the surface plaster layers	The plaster is based on a blend of abundant calcium sulfate with trace amounts of lime and traces of calcareous clay.	The plaster is based on a blend of abundant calcium sulfate with trace amounts of lime and traces of calcareous clay.	The plaster is based on a blend of abundant calcium sulfate with trace amounts of lime and traces of calcareous clay.

**PETROGRAPHIC EXAMINATION OF BRICK AND MORTAR MASONRY
BS 1881-211, 2016**

TABLE A7 OF 7: PETROGRAPHIC MEASUREMENT OF THE COMPOSITION OF THE MORTAR

Laboratory reference	K16595/1	K16595/2	K16595/3	K16595/4	K16595/5	K16595/6
Sample reference	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
Measured volume proportions:						
Matrix	40.0	29.2	48.2	32.2	52.3	52.1
Sand	50.7	46.8	38.0	48.5	35.2	36.2
Ash / Slag / Coal	9.4	6.5	5.8	7.0	0.3	0.6
Assumed w/b ratio ³	0.7	0.7	0.7	0.7	0.7	0.7
Estimated weight fractions: Note 1						
Sand	1327	1225	996	1269	921	949
Ash / Slag / Coal	112	77	70	84	4	7
Lime binder	340	249	410	274	444	443
Estimated volume ratio of binder: aggregate	1: 1.5	1: 1.9	1: 0.9	1: 1.8	1: 0.7	1: 0.7

Note 1: The composition is calculated on the basis of the following assumptions:

- Sand particle density – 2620 kg/m³
- Combined ash/slag/coal particle density – 1200 kg/m³
- Hydrated lime particle density – 2100 kg/m³
- Lime bulk density 575 kg/m³
- Sand bulk density 1675 kg/m³
- Combined ash/slag/coal bulk density – 1000 kg/m³

³ Value taken from the publication, “Hydraulic Lime Mortar for Stone, Brick and Block Masonry: A Best Practice Guide”, by Geoffrey Allen, 2003. Published by Donhead Publishing Ltd.

APPENDIX B –PHOTOGRAPHS ILLUSTRATING THE SAMPLE AS RECEIVED

Figure B1

Sample K16595/1

The sample as received, side view A:



Figure B2

Sample K16595/1

The sample as received, side view B:



Figure B3

Sample K16595/1

The sample as received, outer surface:



Figure B4

Sample K16595/1

The sample as received, inner surface:



Figure B5

Sample K16595/2

The sample as received, side view A:



Figure B6

Sample K16595/2

The sample as received, side view B:



Figure B7

Sample K16595/2

The sample as received, outer surface:



Figure B8

Sample K16595/2

The sample as received, inner surface:



Figure B9

Sample K16595/3

The sample as received, side view A:



Figure B10

Sample K16595/3

The sample as received, side view B:



Figure B11

Sample K16595/3

The sample as received, outer surface:

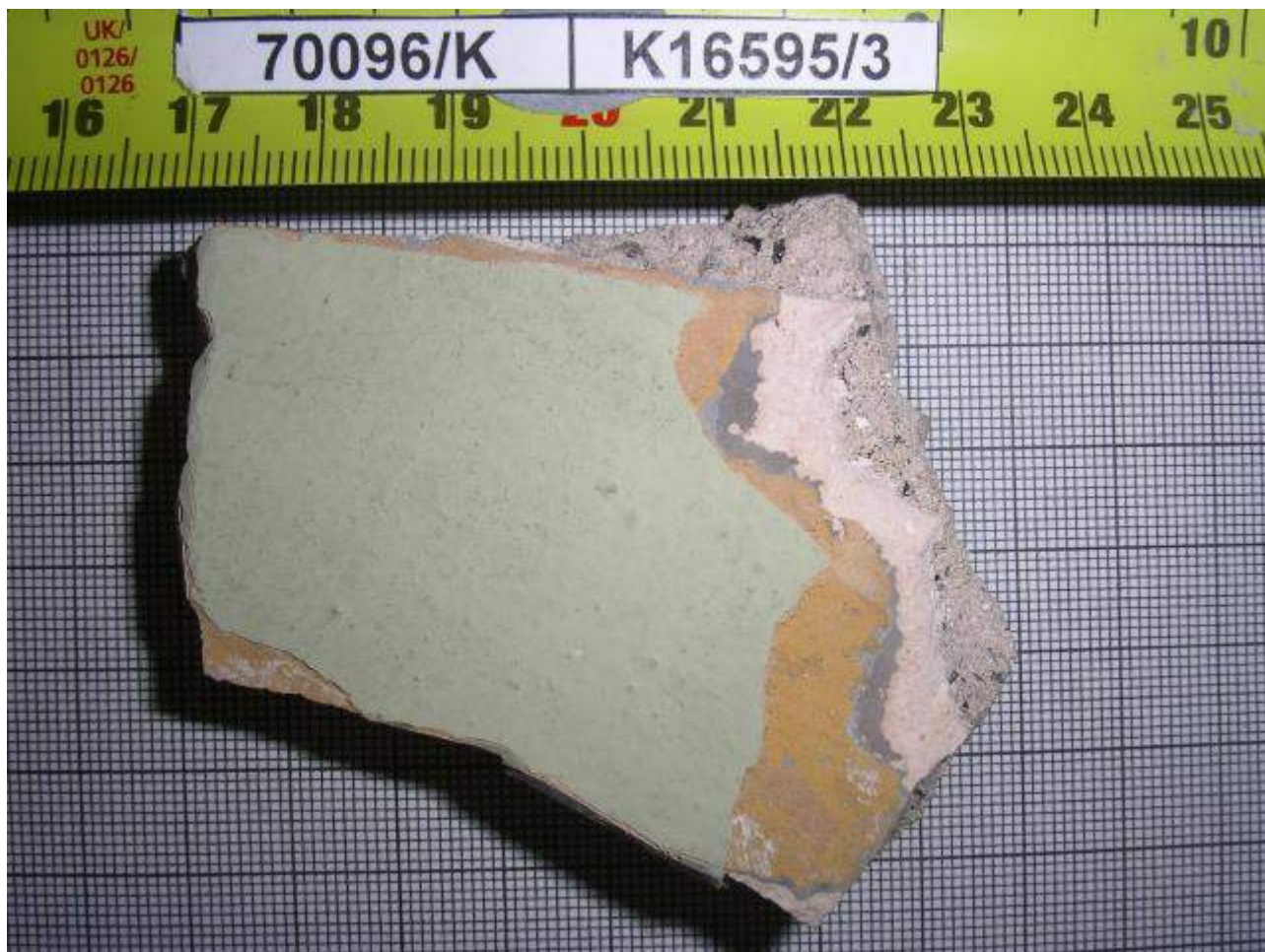


Figure B12

Sample K16595/3

The sample as received, inner surface:



Figure B13

Sample K16595/4

The sample as received, side view A:



Figure B14

Sample K16595/4

The sample as received, side view B:



Figure B15

Sample K16595/4

The sample as received, outer surface:



Figure B16

Sample K16595/4

The sample as received, inner surface:



Figure B17

Sample K16595/5

The sample as received, side view A:



Figure B18

Sample K16595/5

The sample as received, side view B:



Figure B19

Sample K16595/5

The sample as received, outer surface:



Figure B20

Sample K16595/5

The sample as received, inner surface:



Figure B21

Sample K16595/6

The sample as received, side view A:



Figure B22

Sample K16595/6

The sample as received, side view B:



Figure B23

Sample K16595/6

The sample as received, outer surface:



Figure B24

Sample K16595/6

The sample as received, inner surface:



APPENDIX C – PHOTOMICROGRAPHS ILLUSTRATING THE THIN SECTION

Figure C1

Sample K16494/1

Thin section, oblique polars: Low magnification view showing the large-scale structure of the sample. A coal fragment with abundant internal shrinkage cracking occurs in E/F4. A fragment of carbonaceous ash occurs in D2/3. Much of the field of view is occupied by quartz sand particles that appear various shades of grey surrounded by small amounts of carbonated lime matrix. Abundant voids infilled with the green fluorescent resin used during the preparation of the thin section are visible throughout the field of view for example around H5 and B/C5.

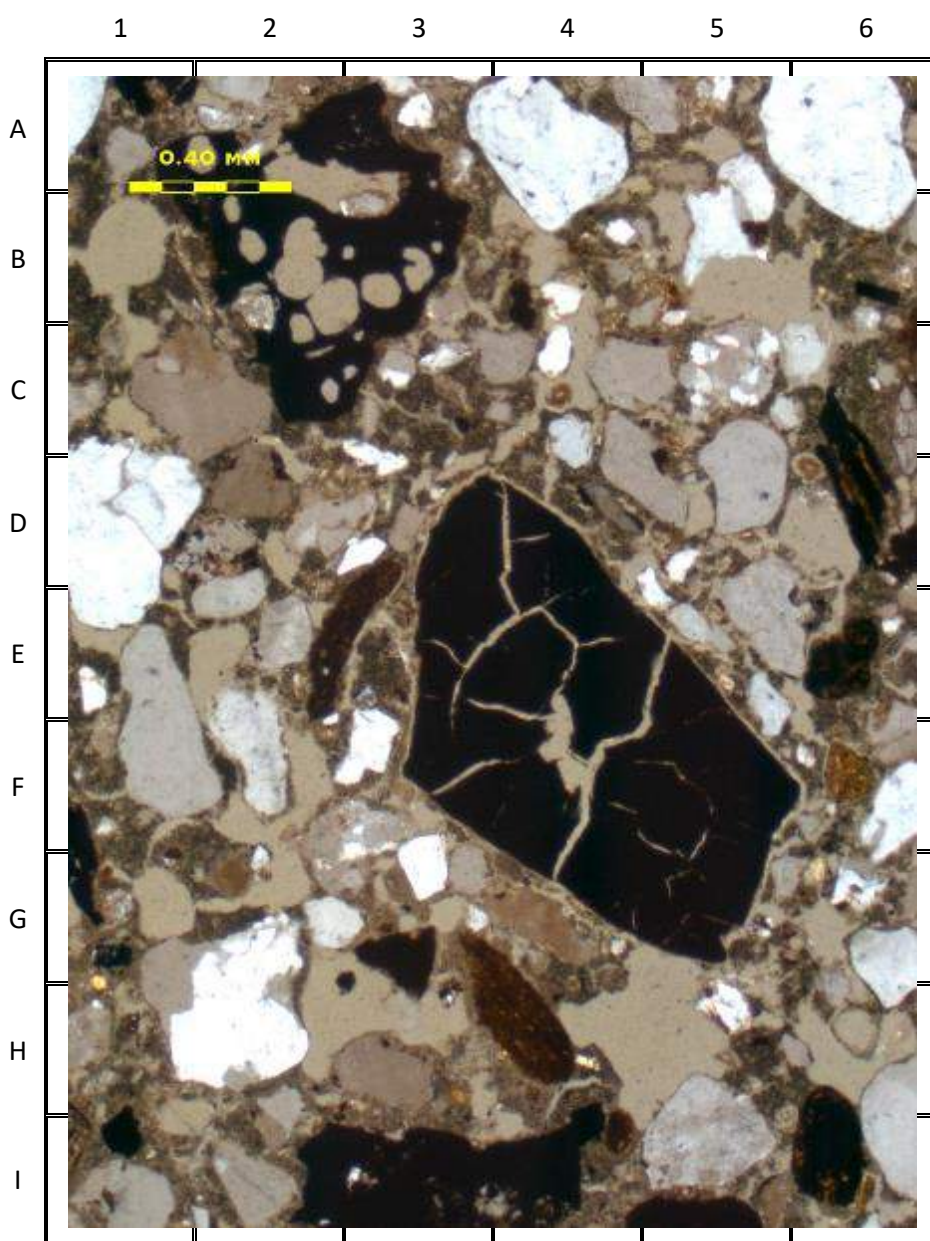


Figure C2

Sample K16494/1

Thin section, oblique polars: A fragment of undispersed lime is centred around C/D1. Particles of ash occur in A3 and A6. Areas of carbonated lime matrix are visible for example in I3 and E/F4 and a quartz sand particle can be seen in G/H4.

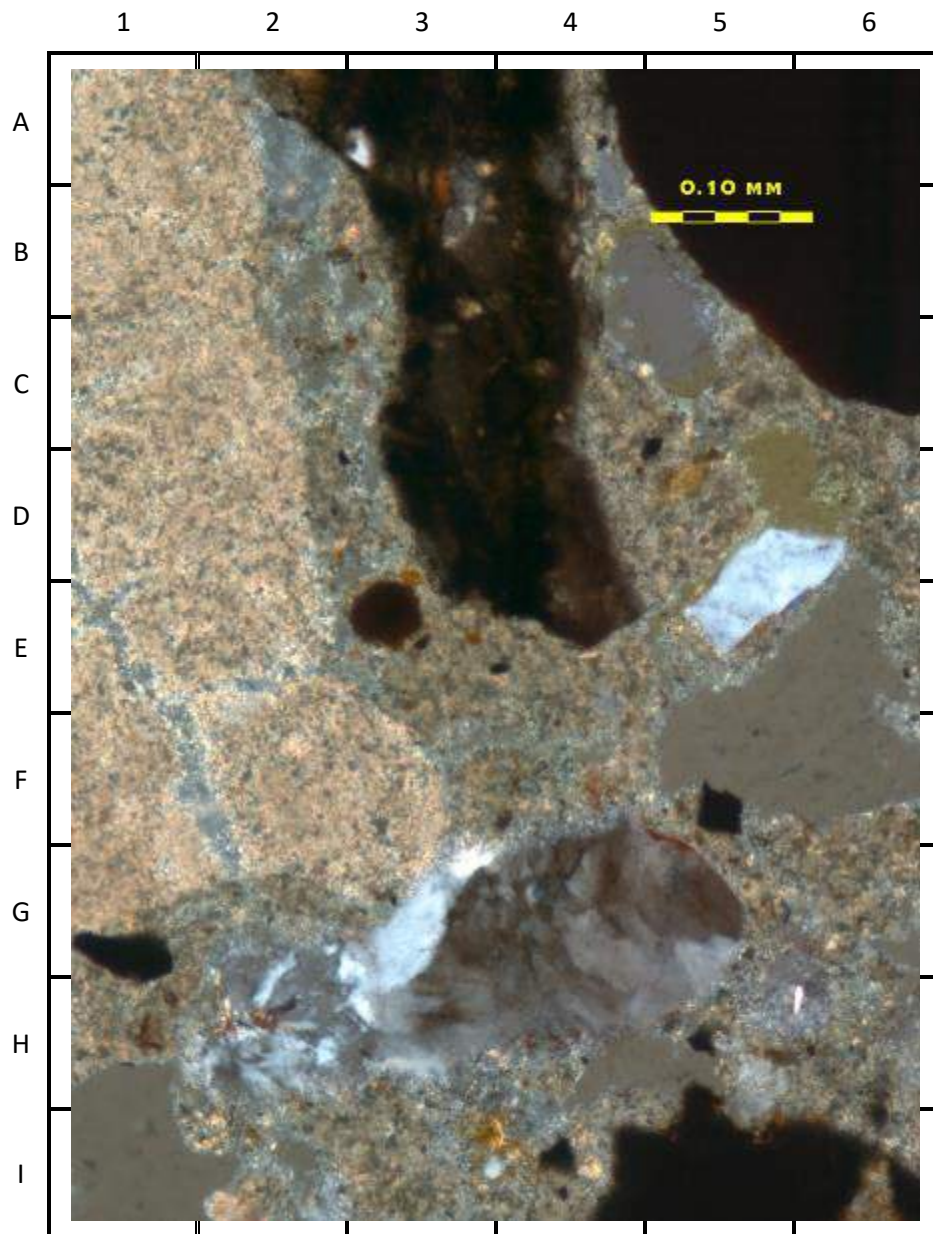


Figure C3

Sample K16494/1

Thin section, crossed polars: View showing a cross section through the contact between the surface gypsum plaster layers in the upper half of the field of view and the base coat plaster in the bottom half of the field of view. The gypsum plaster layer is composed mainly of microcrystalline gypsum crystals visible for example around B/C1. The base coat plaster contains particles of carbonaceous ash visible for example in H3/4 and quartz particles visible for example in F6 that are surrounded by a carbonated lime matrix that can be seen for example in G1.

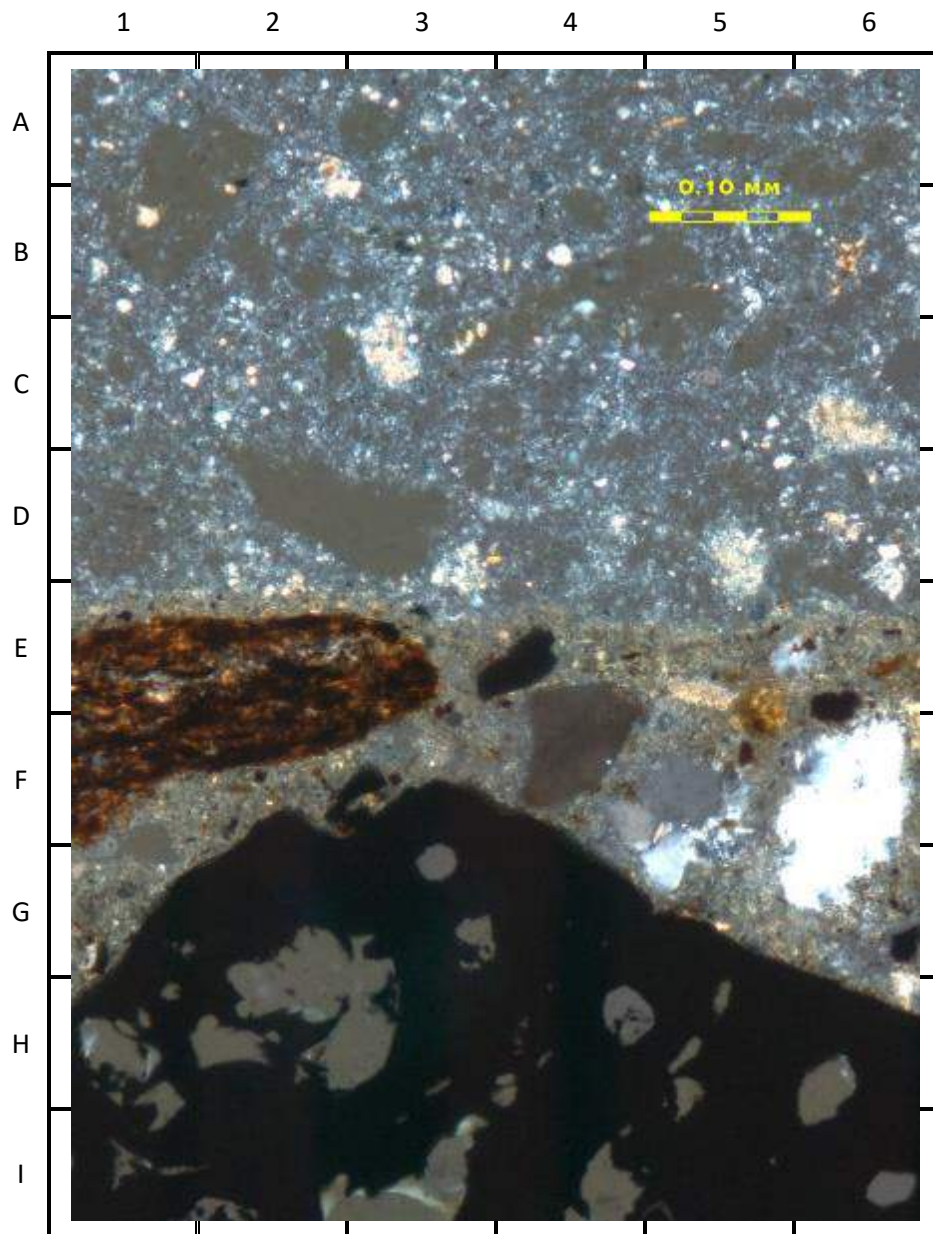


Figure C4

Sample K16494/2

Thin section, oblique polars: A fragment of carbonaceous ash occurs in F/G2. A particle of undispersed lime occurs in E5. Quartz sand particles appear various shades of grey and can be seen throughout the field of view for example in B/C3. The aggregate particles are surrounded by carbonated lime matrix.

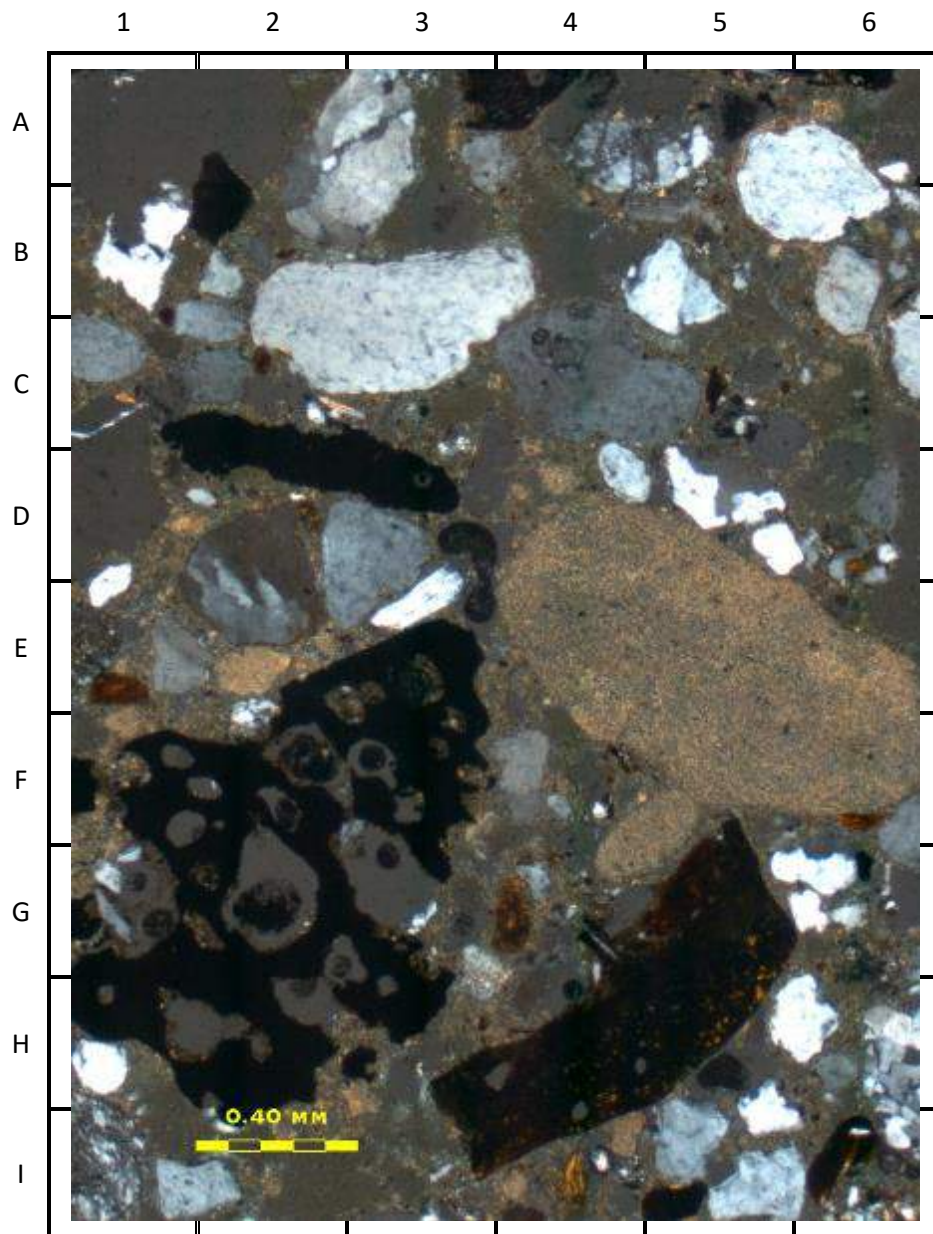


Figure C5

Sample K16494/2

Thin section, oblique polars: Quartz particles with small amounts of reddish brown clay around their surfaces are centred on B/C3 and D5/6. Areas of carbonated lime matrix occur for example in F2. A fragment of undispersed lime occurs in H/I6.

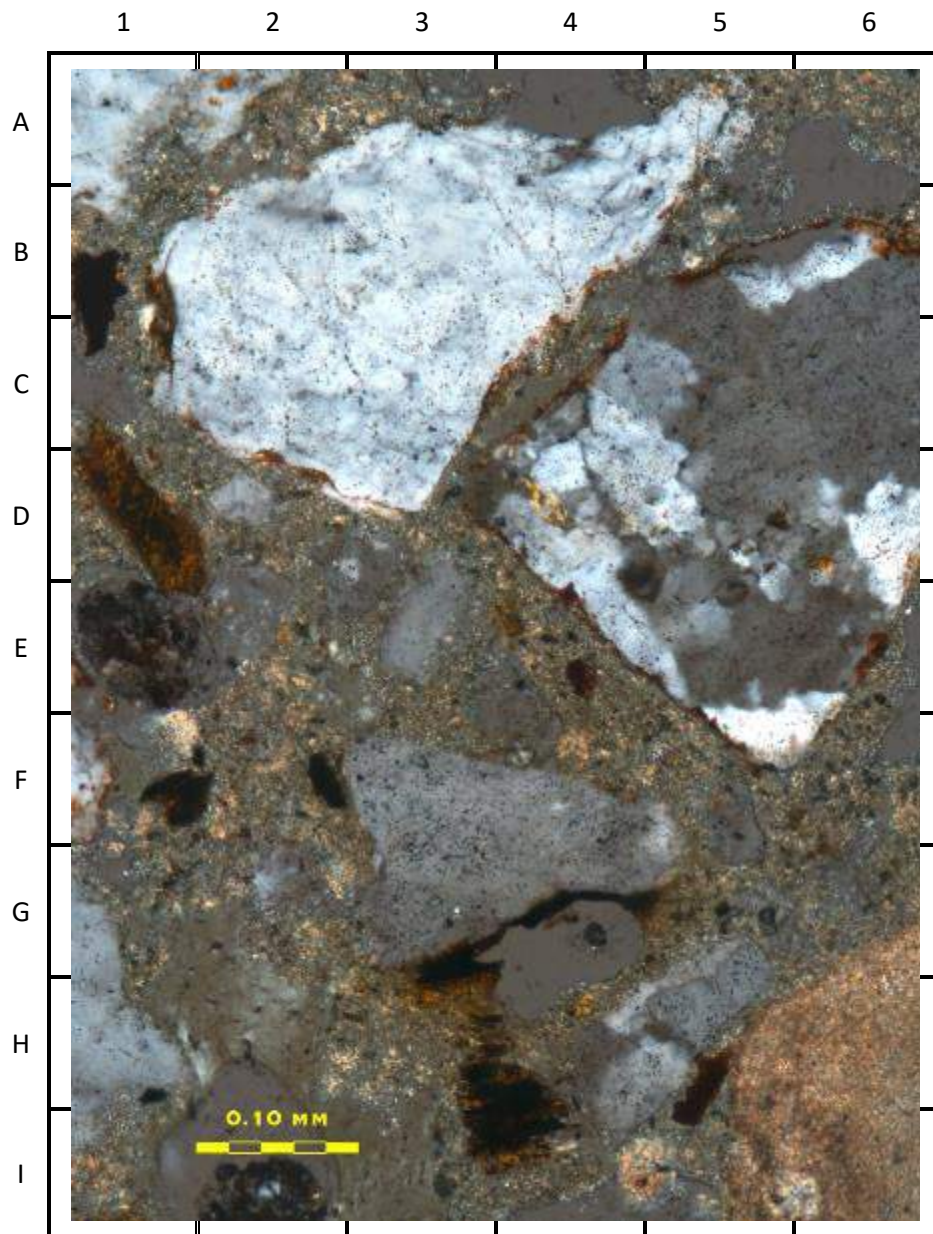


Figure C6

Sample K16494/2

Thin section, crossed polars: View showing a cross section through the contact between the gypsum plaster layer in the upper half of the field of view and the lime based base coat plaster in the lower half of the field of view. The base coat plaster contains quartz sand particles visible for example in F1 and H3 that are surrounded by carbonated lime matrix visible for example in E/F5. The gypsum plaster layer is composed almost entirely of microcrystalline gypsum, visible for example around C3/4.

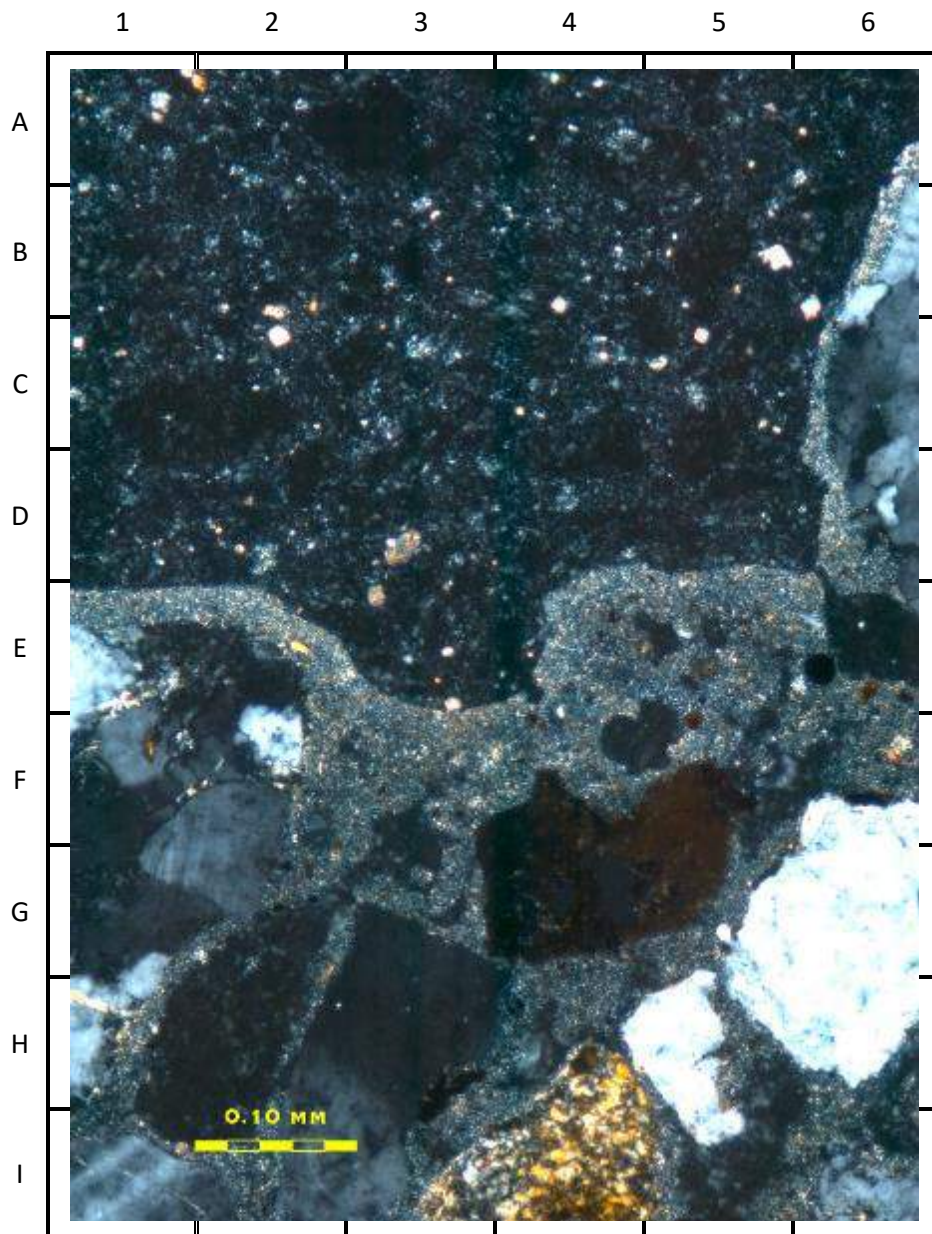


Figure C7

Sample K16494/3

Thin section, crossed polars: Low magnification view showing the large-scale structure of the sample. A fragment of coal with abundant internal shrinkage cracking occurs in F3. Quartz sand particles appear various shades of grey and occur throughout the field of view. The aggregate particles are surrounded by porous, carbonated lime matrix. A fragment of undispersed lime occurs in C/D1.

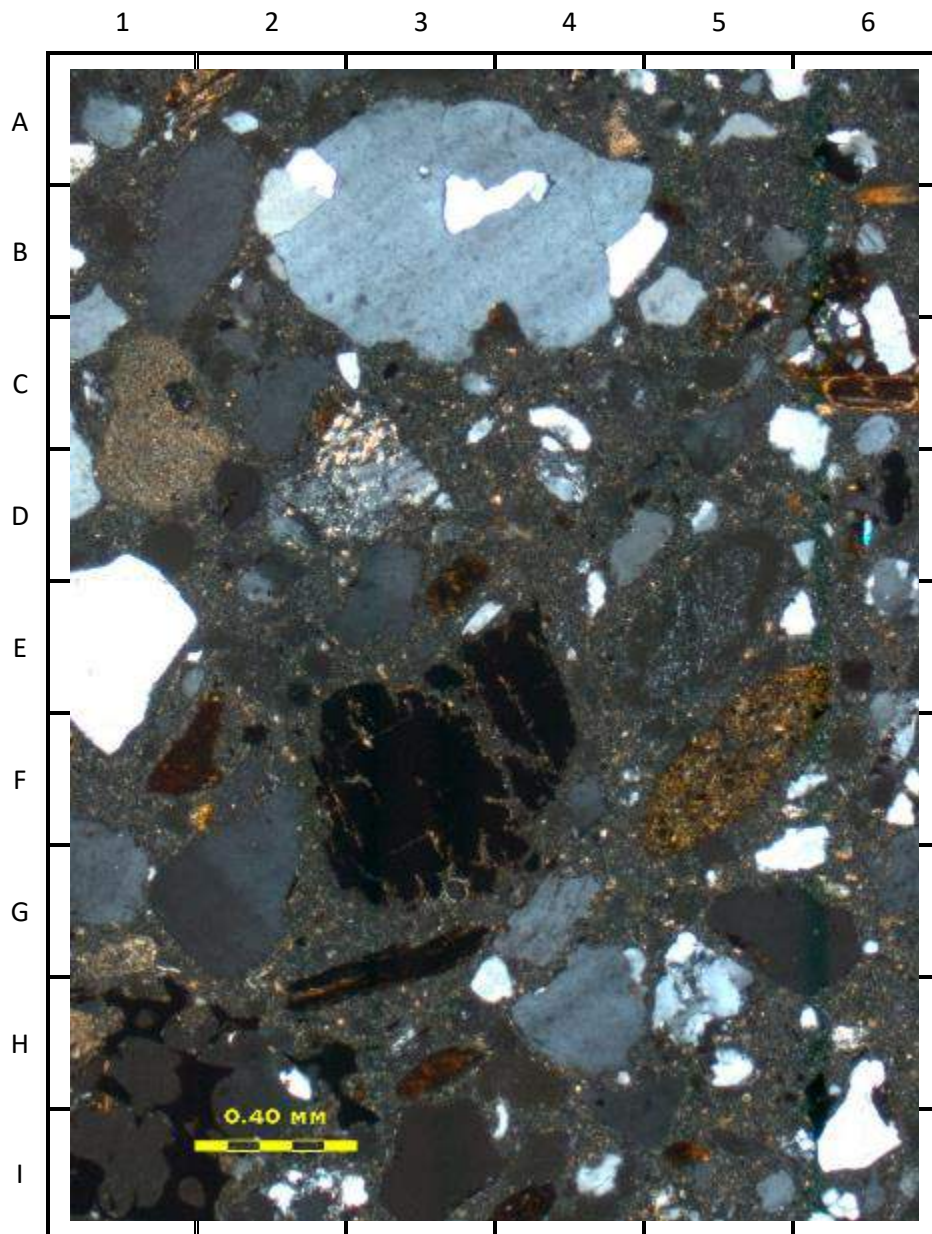


Figure C8

Sample K16494/3

Thin section, oblique polars: View showing the typical appearance of the fragments of gypsum that occur in the lime matrix in the base coat plaster. The gypsum fragment is partially dissolved around its margins and is centred on D5. Typical areas of carbonated lime matrix occur for example in B1 and G2/3. A fragment of mudstone occurs in H5/6 and a quartz particle occurs in B3.

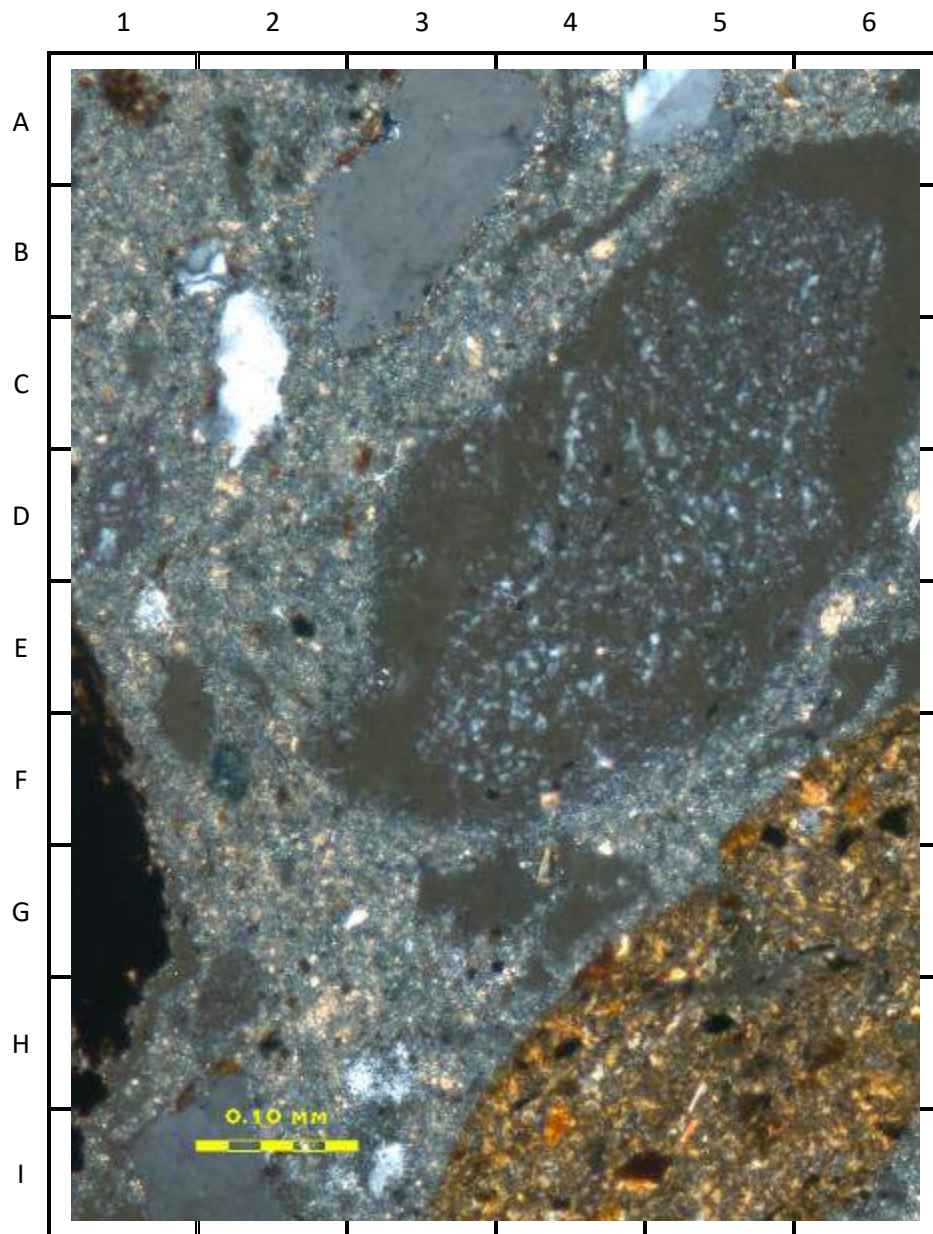


Figure C9

Sample K16494/3

Thin section, crossed polars: View showing a cross section through the contact between the surface gypsum plaster layers and the base coat plaster. The gypsum plaster layer is composed mainly of microcrystalline gypsum visible for example around B1/2. A coal fragment in the surface of the base coat plaster is centred around H1/2. Quartz particles occur for example in F2 and G5.

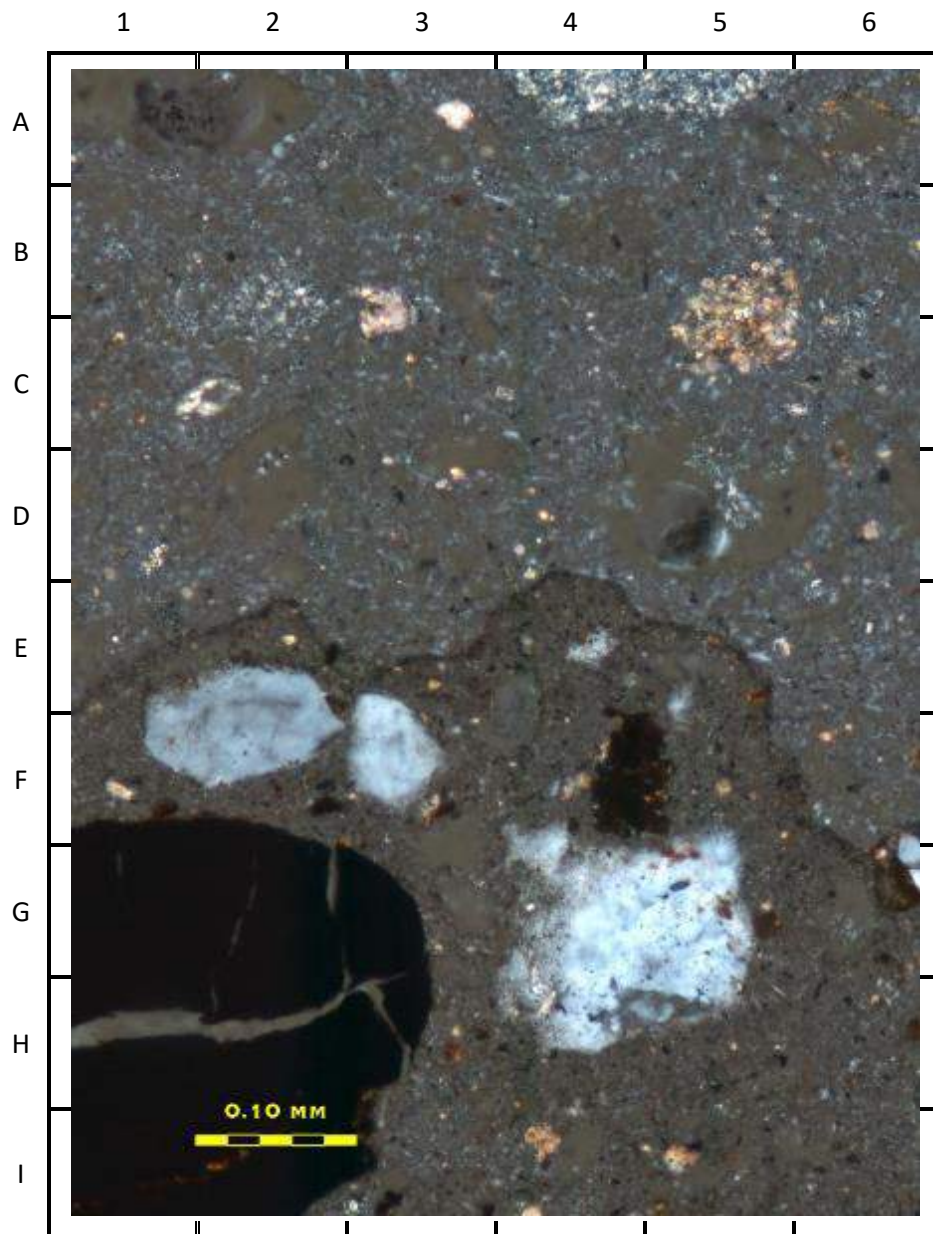


Figure C10

Sample K16494/4

Thin section, crossed polars: A coal fragment with abundant internal shrinkage cracking is centred around H2/3. The majority of the field of view is occupied by carbonated lime matrix surrounding quartz particles appearing various shades of grey. A fragment of undispersed lime can be seen in D3.

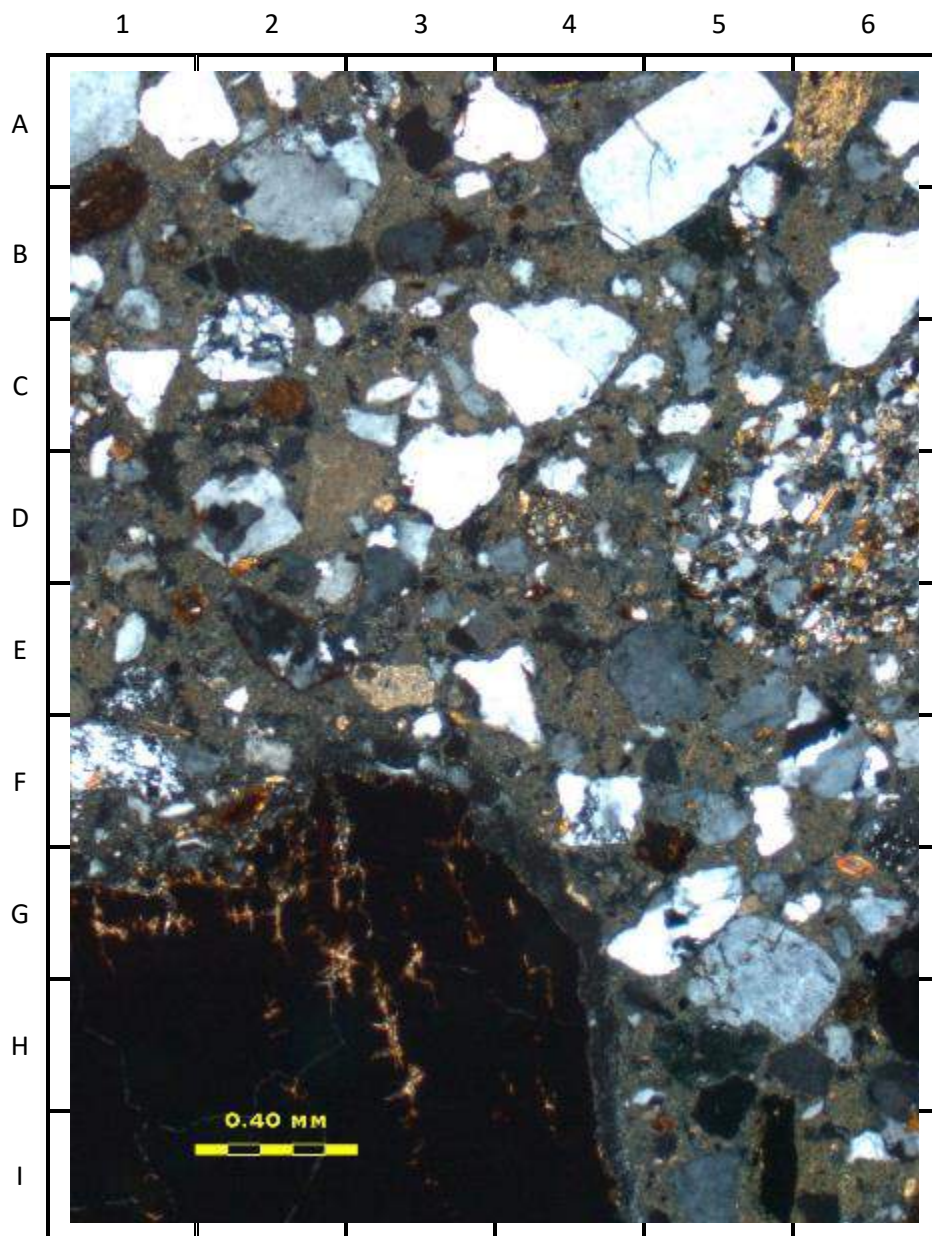


Figure C11

Sample K16494/4

Thin section, crossed polars: View showing the typical appearance of the base coat plaster in thin section. A fragment of undispersed lime is centred on C5. Quartz particles occur in B1, G1 and H5. The aggregate particles are surrounded by carbonated lime matrix visible for example in D1.

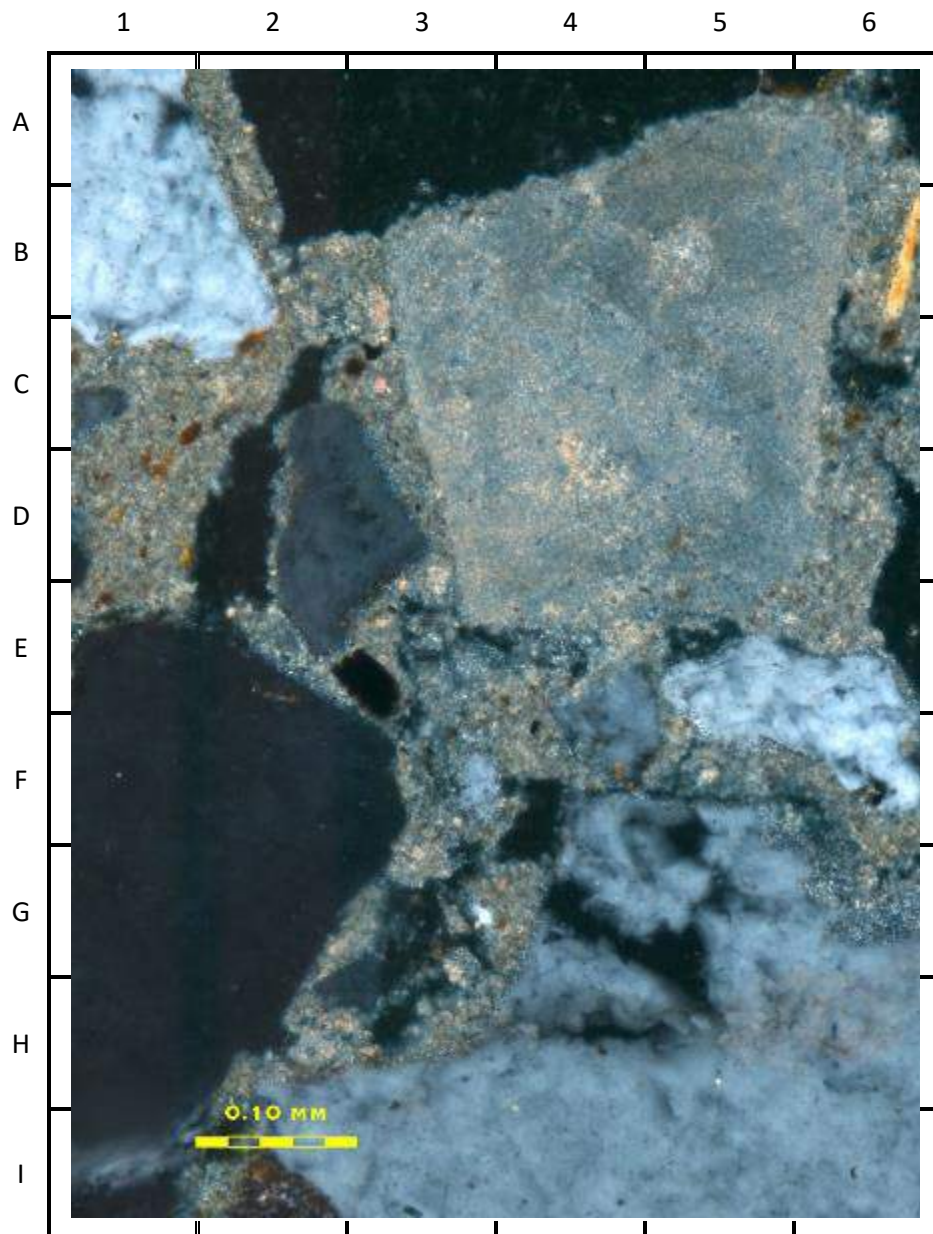


Figure C12

Sample K16494/4

Thin section, crossed polars: A fragment of ash is centred around F2. Carbonated lime matrix can be seen for example in C1 and E6. Quartz particles occur in A2, A5 and G/H5.

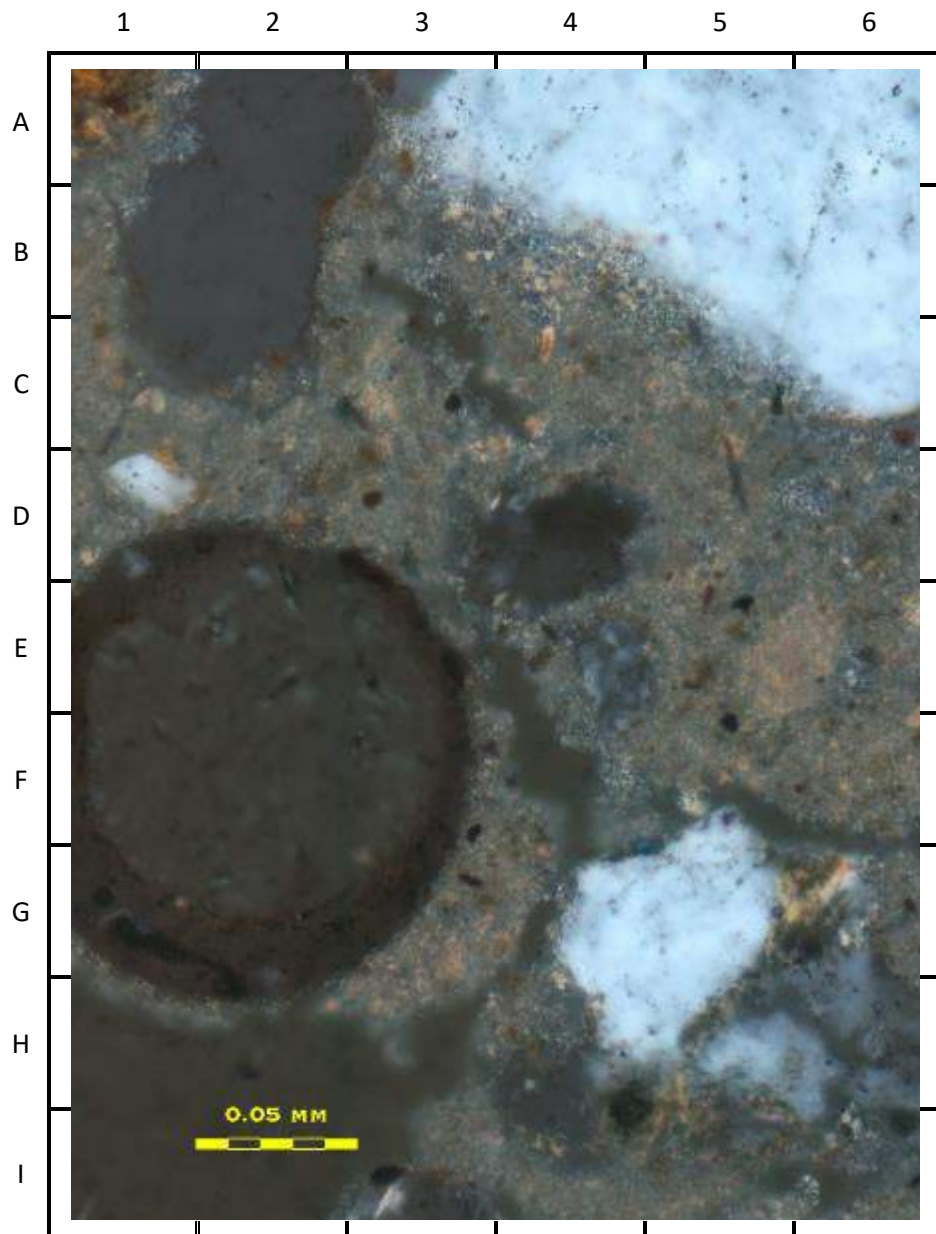


Figure C13

Sample K16494/5

Thin section, crossed polars: A fragment of undispersed lime occurs in C5. Carbonated lime matrix is visible for example in C2 and B6. A quartzite particle occurs in E2 and a quartz particle occurs in A1.

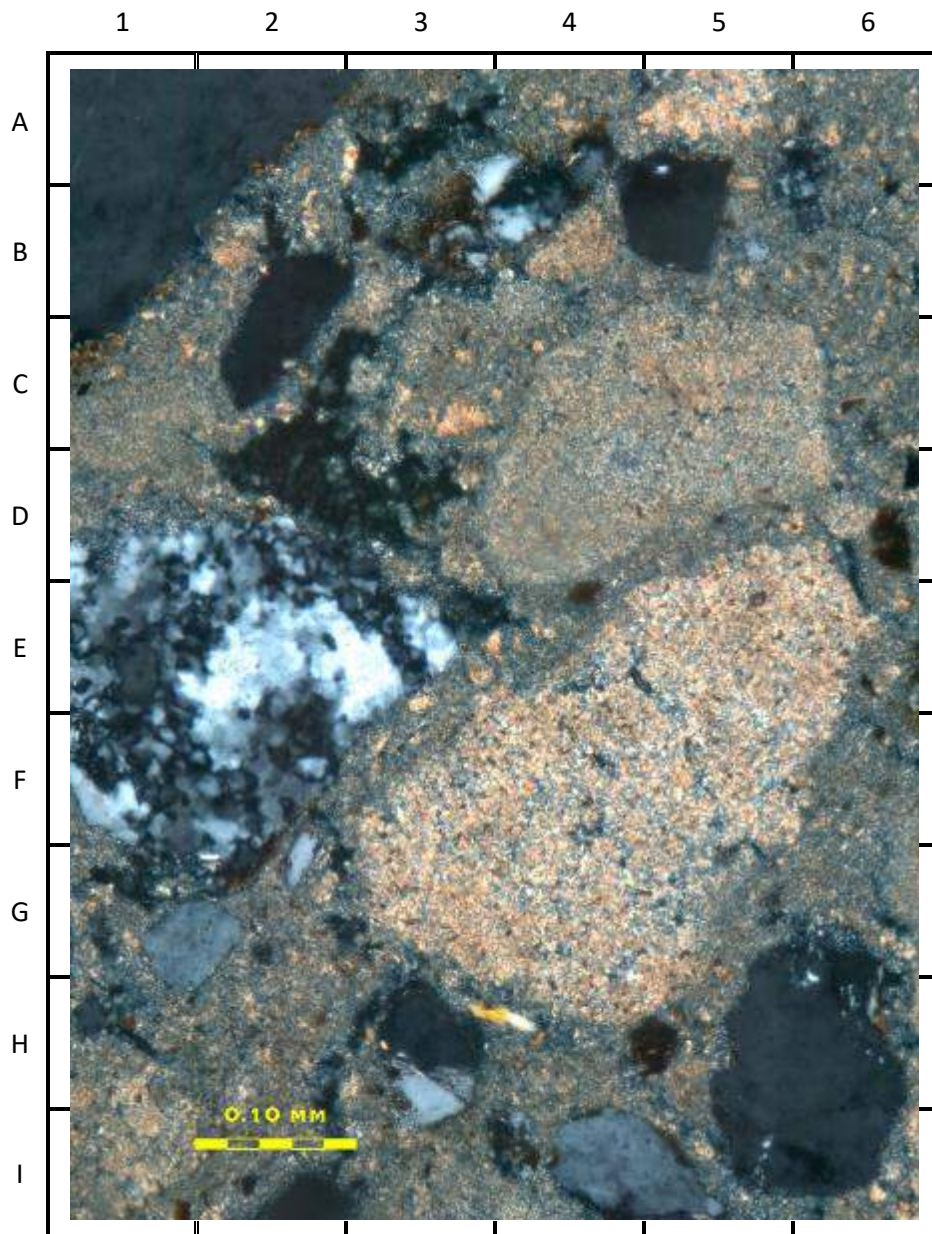


Figure C14

Sample K16494/5

Thin section, oblique polars: A fragment of argillaceous sandstone occurs in B3. A coal fragment occurs in E1. Much of the field of view is occupied by carbonated lime matrix visible for example in G3 and C5/6. Quartz particles occur for example around G/H1 and H4/5.

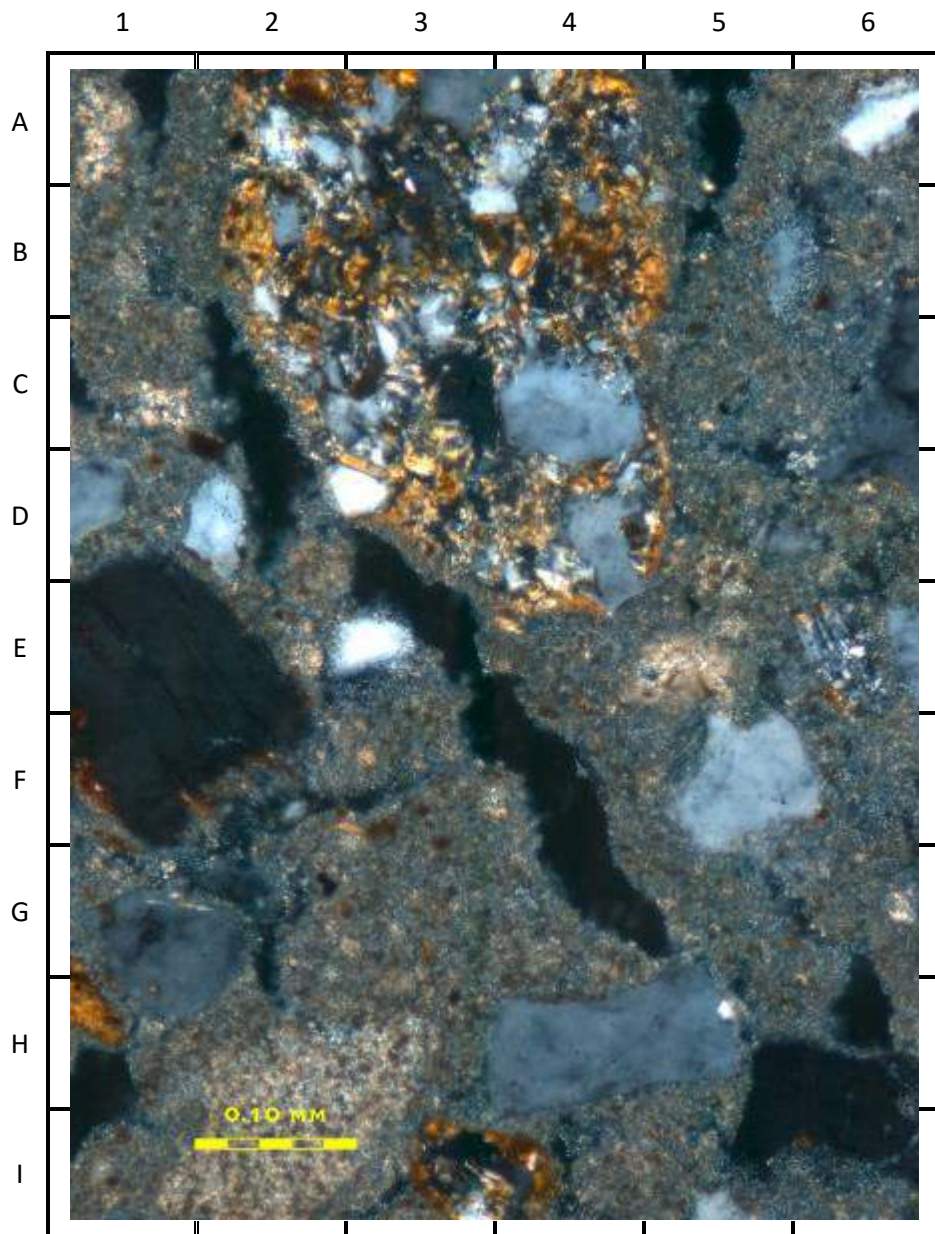


Figure C15

Sample K16494/5

Thin section, oblique polars: View showing the typical appearance of the animal hairs. The hairs are hollow and can be seen from C2 to G5. Carbonated lime matrix can be seen for example around B2 and H1. Quartz particles occur in I3 and C6.

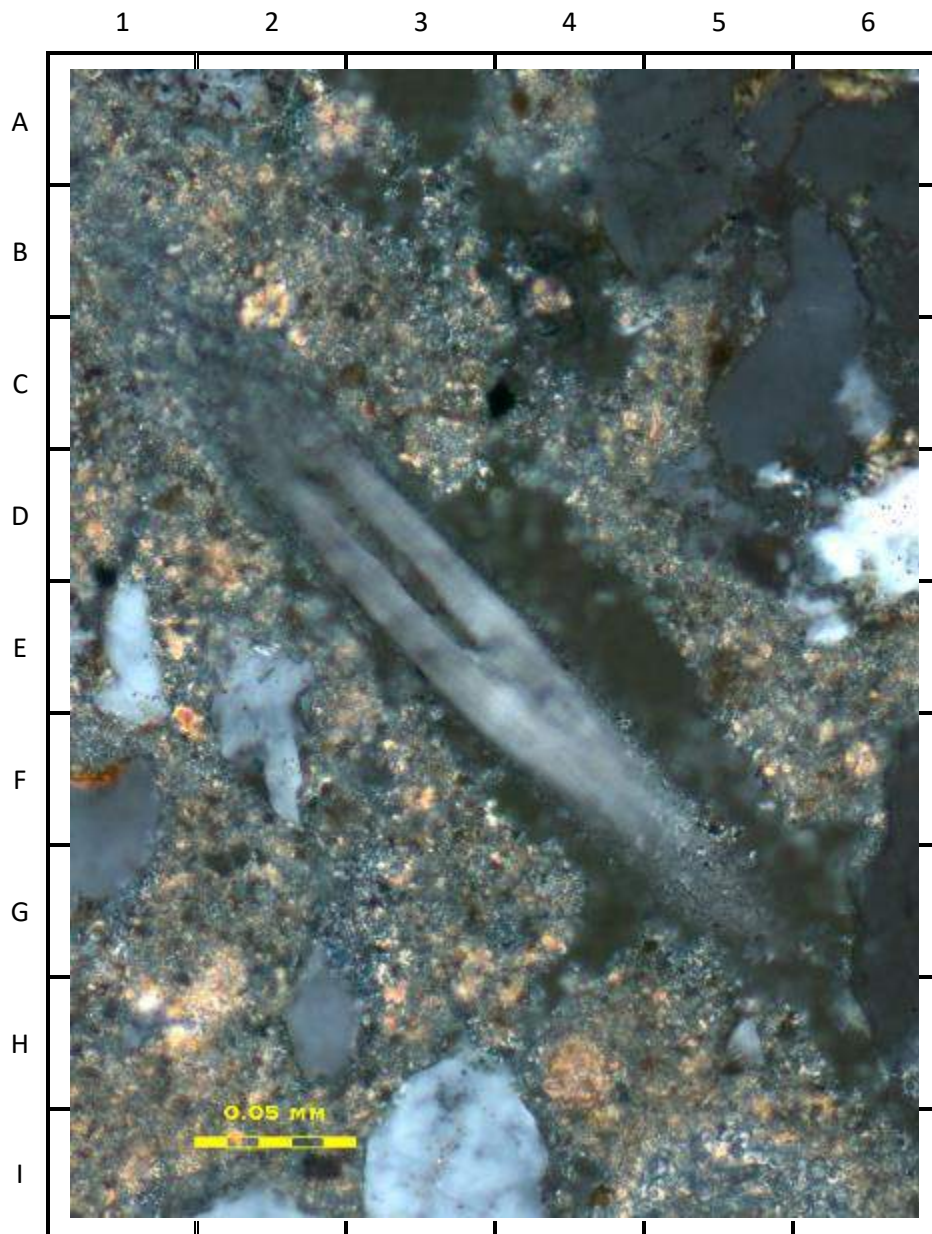


Figure C16

Sample K16494/6

Thin section, oblique polars: The field of view is dominated by a lime lump centred around H1/2. The upper half of the field of view is dominated by porous, carbonated lime matrix surrounding quartz particles that appear various shades of grey.

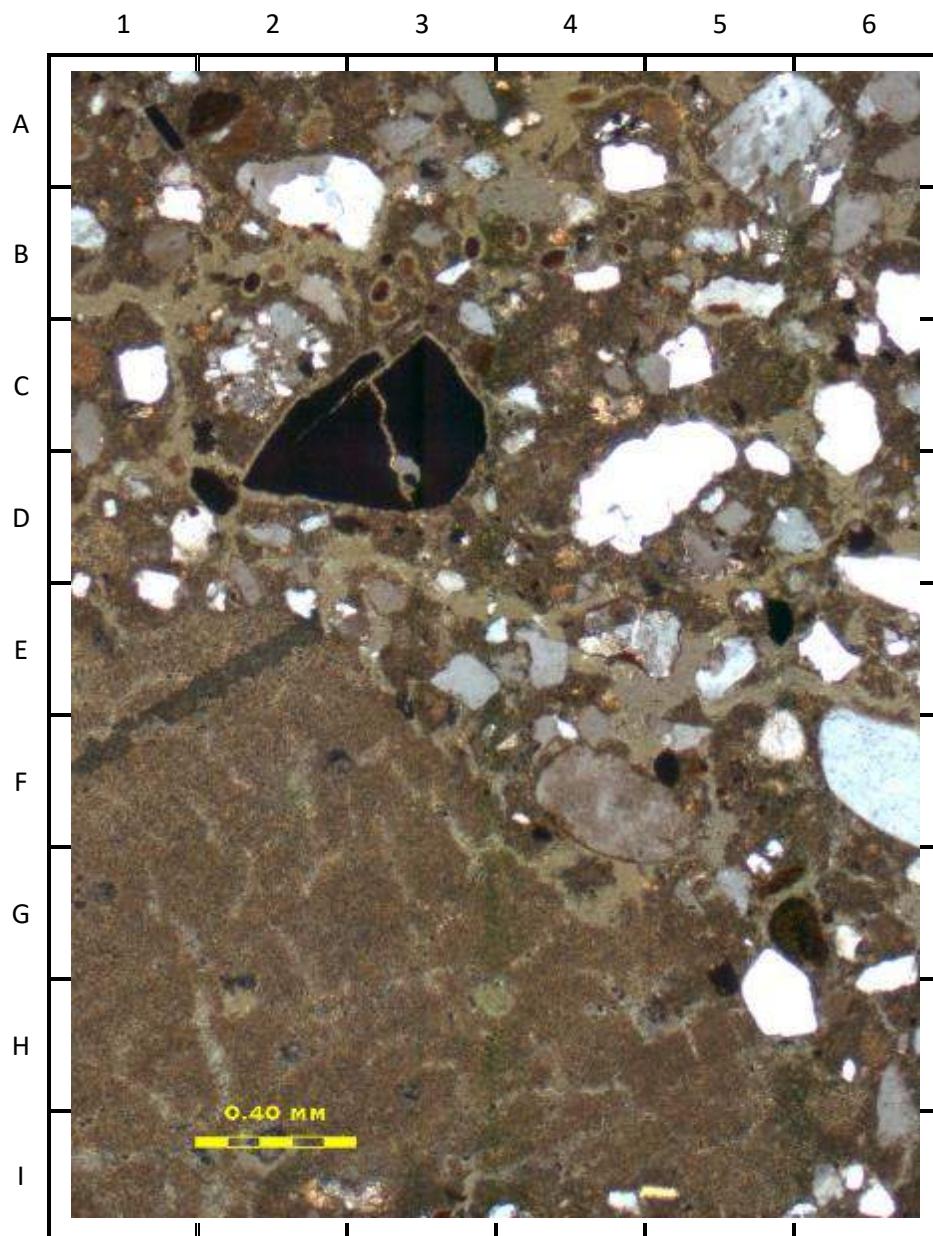


Figure C17

Sample K16494/6

Thin section, oblique polars: View showing the typical appearance of the base coat plaster in thin section. The base coat plaster contains abundant lime lumps visible for example around A3/4 and A6. Typical areas of carbonated lime matrix occur for example around E/F5. A camel hair resembling horse hair occurs in E3/4. Quartz particles can be seen for example in G5 and C5.

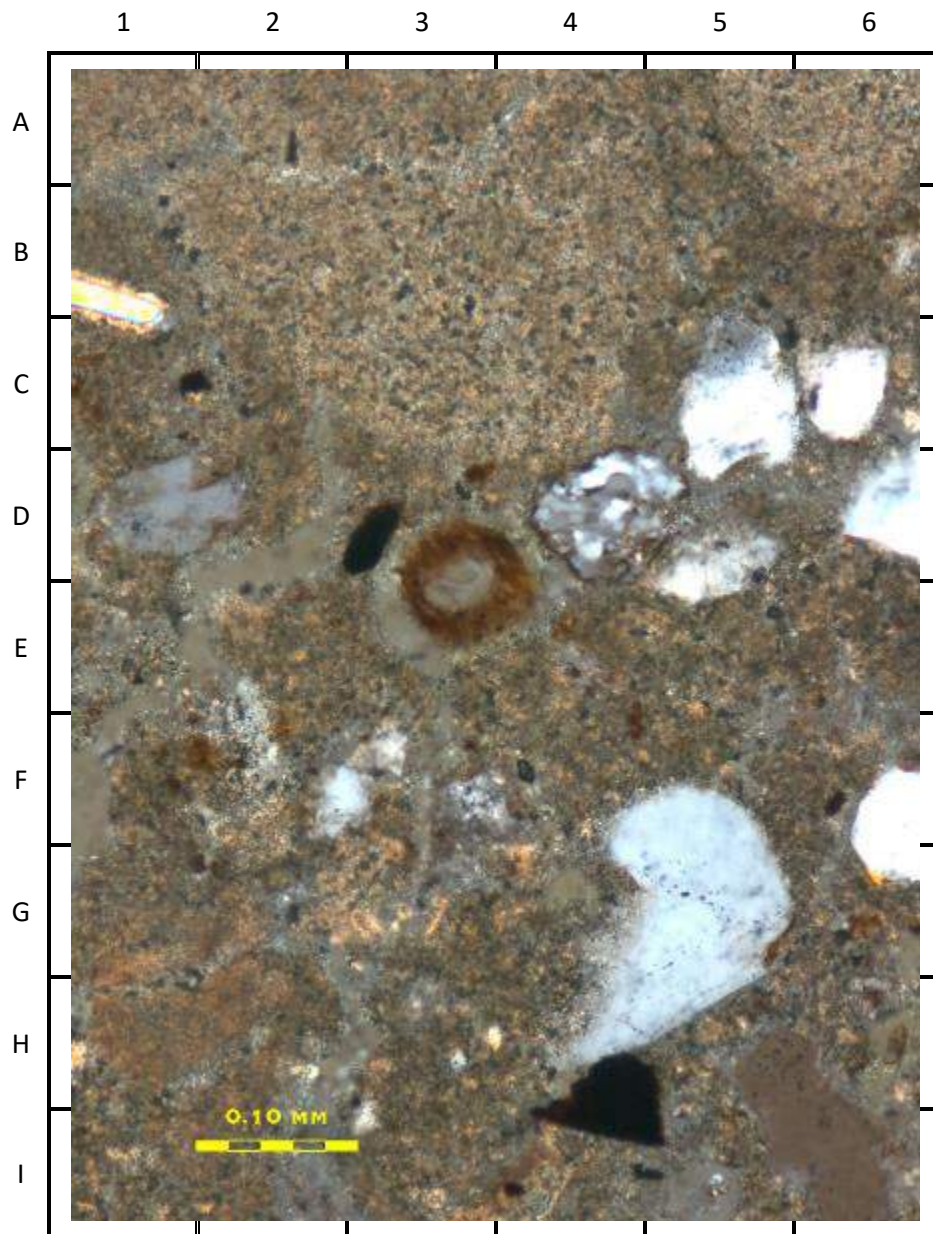
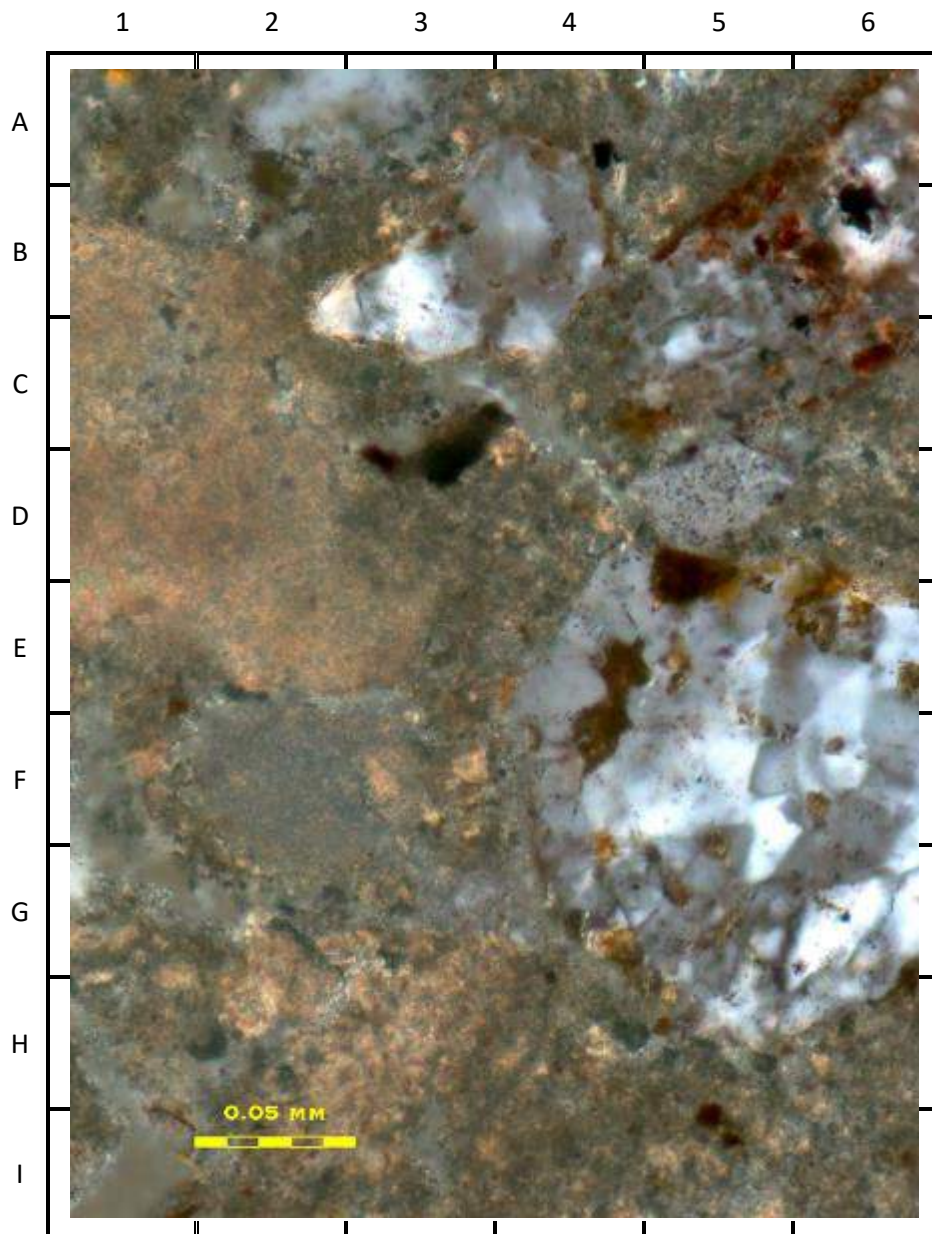


Figure C18

Sample K16494/6

Thin section, oblique polars: View showing an area of the base coat plaster in thin section. Fragments of undispersed lime occur in C/D1 and H2/3. A quartzite particle can be seen in F/G5. Areas of porous, carbonated lime matrix occur for example in I4 and E4.



APPENDIX D – PETROGRAPHIC PROCEDURES AND GLOSSARY

1. Preliminary examination:

The samples are examined with the binocular microscope as received and their dimensions and main features are recorded. The features observed include the following.

- (a) The presence and position of reinforcement.
- (b) The extent to which reinforcement is corroded.
- (c) The nature of the external surfaces of the concrete.
- (d) The features and distribution of macro and fine cracks.
- (e) The distribution and size range and type of the aggregate.
- (f) The type and condition of the cement paste.
- (g) Any superficial evidence of deleterious processes affecting the concrete.

2. Polished surfaces:

A plate is cut, where possible, from each sample. This is typically about 20 mm thick and usually provides as large a section of the sample as is possible and typically has a polished surface area of $>100\text{cm}^2$. The plate is polished to give a high quality surface that can be examined with a high quality binocular microscope or even with the petrological microscope if necessary. The polished plate is used to assess the following.

- (a) The size, shape and distribution of coarse and fine aggregate.
- (b) The coherence, colour, and porosity of the cement paste.
- (c) The distribution, size, shape, and content of voids.
- (d) The composition of the concrete in terms of the volume proportions of coarse aggregate, fine aggregate, paste and void.
- (e) The distribution of fine cracks and microcracks. Often the surface is stained with a penetrative dye, so that these cracks can be seen. Microcrack frequency is measured along lines of traverse across the surface.
- (f) The relative abundance of rock types in the coarse aggregate is assessed.

3. Thin sections:

A thin section is prepared for each sample as appropriate. The section is usually made from a plate cut at right angles to the external surface of the concrete, so that the outer 70 mm or so of the concrete are included in the section. Sometimes it is more appropriate to make the section from inner parts of the concrete. This might be appropriate where specific problems are being investigated for example. The section normally measures about 50 x 70 mm.

In manufacturing the thin section a plate some 10 mm thick is cut from the sample. This is impregnated with a penetrative resin containing a yellow fluorescent dye. The resin penetrates into cracks, microcracks, and capillary pores in the sample. One side of the impregnated plate is then polished and the plate is mounted on to a glass slide. The surplus sample is then removed and the plate is ground and polished to give a final thickness of between 20 and 30 micrometres. At all stages the cutting and grinding is carried out using an oil based coolant in order to prevent further hydration of the cement and excessive heating of the section. The thin section is covered and then examined with a high quality Zeiss petrological photomicroscope.

The thin section supplies the following types of information:

- (a) Details of the rock types present in the coarse and fine aggregate and in particular structures seen within those rocks.
- (b) Details of the aggregate properties are measured such as the degree of strain in quartz.
- (c) The size, distribution and abundance of phases in the cement paste are assessed including, for example, the occurrence of calcium hydroxide and the amount of residual unhydrated clinker.
- (d) The presence of cement replacement phases such as slag or PFA can usually be recognised (though the amount of these phases cannot be judged accurately). The presence of high alumina cement can be detected and the type of cement clinker can often be assessed.
- (e) Any products of processes of deterioration of either the cement paste or the aggregate can be recognised.

4. Broken surfaces:

After the specially prepared surfaces and sections are completed, the remainder of the core is examined with the binocular microscope. In particular, the pieces are broken to produce fresh surfaces. These surfaces allow the contents of voids to be studied and the nature of aggregate surfaces or crack surfaces to be investigated.

5. Composition:

Where the size of the sample is appropriate the composition of the sample can be measured using either the polished slice or the thin section, depending on the size of the sample and on details of the aggregate type and paste. The thin section is preferable, for example where large quantities of dust are present. The volume proportions are found by the method of point counting using a mechanical stage. The amount of coarse aggregate can also be assessed by this method if a distinction can be made between coarse and fine aggregate. The results obtained usually represent the sample reasonably, but may not represent the concrete.

6. Water/cement ratio:

The hydration processes of cement paste vary significantly with the original water/cement ratio. Concretes with a low water/cement ratio tend to leave substantial quantities of unhydrated cement clinker and to develop only limited amounts of coarsely crystalline calcium hydroxide. In particular, the extent to which calcium hydroxide is separated into layers on aggregate surfaces and occurs in voids and on void surfaces varies with the original water/cement ratio. The number and proportion of unhydrated cement clinker particles varies inversely with the original water/cement ratio. Comparison with standard concretes made with known water/cement ratios visually, and by measurement allows the water/cement ratio of the cement paste to be assessed directly. The standard error attached to the estimation of water/cement ratio by this means is considered to be approximately ± 0.1 for unaltered concrete of similar type that in the Sandberg Reference Concrete Collection. It should be noted that aggregate dust, the presence of admixtures and additives all contribute to uncertainty in the petrographic measurement of the water/cement ratio of the concrete.

7. Glossary:

The following is a short list of technical terms in common use in the petrographic examination of concrete⁴.

Alkali-aggregate reaction (AAR): This is a broad term encompassing both alkali carbonate reaction (ACR) and alkali silicate reaction and alkali-silica reaction (ASR). It refers to reactions between alkalis in usually derived from the cement in the cement paste and aggregate particles. Some forms of alkali-aggregate reaction such as ASR result in the formation of an alkali-silicate gel that is readily detectable in thin sections. Other forms of alkali-carbonate reaction such as ACR may not result gel formation.

Alkali carbonate reaction (ACR): This form of reaction is very rare in the UK and there is some debate over the precise mechanism of this reaction. Most documented cases of ACR involve argillaceous, dolomitic limestone. The reaction which is expansive is rarely associated with the formation of obvious gel deposits.

Alkali-silicate/silica reaction (ASR): This is by far the most common form of AAR and generally results from reactions between either microcrystalline, cryptocrystalline, or substantially strained quartz and associated microcrystalline quartz at grain margins and alkalis in cement paste. On rare occasions, ASR may result from the presence of highly reactive opaline silica in aggregate. Petrographic examination is the definitive method for the detection of this form of concrete deterioration. The reaction commonly results in the development of cracking that originates within reactive aggregate particles and continues into the surrounding paste and gel deposits are commonly associated with the occurrence of ASR.

Calcium aluminate cement (CAC): This is a general term that encompasses high alumina cement (HAC) as well as some of the more modern aluminate cements used in rapid setting concrete repair materials or some types of sprayed concretes and grouts.

Carbonation: Carbonation most commonly results from the exposure of concrete to atmospheric carbon dioxide and results in the conversion of portlandite to calcium carbonate and also affects some of the cement hydrate phases forming complex calcium silicate hydrate carbonate compounds. In damp conditions or in concrete exposed to moisture containing dissolved carbon dioxide, coarse-textured carbonation may develop and coarse crystals of calcium carbonate may develop within the cement paste. "Popcorn" calcite deposition (PCD) is one form of this type of carbonation.

Cracking: Cracks are classified using the following terms:

- **Macroscopic cracks:** These cracks are visible in the hand specimen or with the aid of a stereo binocular microscope and are typically >0.01mm wide.
- **Macrocrack:** These are cracks that are readily visible to the naked eye without the aid of a stereo binocular microscope and are typically >0.1mm wide.
- **Fine crack:** These are cracks that are only readily visible with a stereo binocular microscope or in thin section. Cracks of this type are typically between 0.01 and 0.10mm wide.
- **Microcracking:** These cracks cannot be detected with a stereo binocular microscope. They are typically <0.01mm wide and are most easily seen in petrographic thin sections containing fluorescent dye and by using fluorescent illumination.

Delayed ettringite formation (DEF): This term describes deleterious ettringite formation in concrete that has been cured at elevated temperatures, typically >65°C. Ettringite formation resulting from this process can be readily detected using thin sections and the ettringite tends to form in peripheral cracks around aggregate surfaces and sometimes within microcracks in the paste.

⁴ Applied Petrography Group. A code of practice for the petrographic examination of concrete (Author M A Eden), SR2, The Geological Society of London, London, 2010 (Available for download from <http://www.appliedpetrographygroup.com>).

Drying shrinkage cracking: Drying shrinkage microcracks tend to develop radially around the surfaces of fine aggregate particles in concrete. Fine cracks and macrocracks caused by drying shrinkage tend to be parallel-sided cracks and orientated perpendicular to concrete surfaces.

Ettringite: This is a very common calcium-alumino-sulfate mineral. It occurs in most concretes where moisture ingress has occurred. Ettringite formation may be deleterious in the case of DEF or sulfate attack where it can give rise to a deleterious expansion and distinctive forms of cracking but in most cases secondary ettringite formation is non-deleterious.

Fly ash (also known as PFA / pulverised fly ash): This material is a by-product of coal burning power stations and can be readily recognised in thin sections, where it is visible as spherical glass particles, some of which may be hollow. Hollow PFA particles may be referred to as cenospheres. PFA is also commonly associated with small quantities of graphite particles that appear black in thin section.

Fine crack: See section on cracking.

GGBS: Ground, granulated blast furnace slag. This material is commonly employed as a cement replacement material in concrete and can be easily recognised in thin section. The GGBS particles are typically angular and are composed almost entirely of glass.

High alumina cement (HAC): This is a form of cement manufactured from the fusion of limestone and bauxite. It is readily distinguishable in thin section from most other types of cement. Petrographic examination is the definitive method for the detection of carbonation in concrete containing HAC.

Macrocrack: See section on cracking.

Macroscopic: This is a general term referring to features that are visible to the naked eye or with the aid of a stereo microscope.

Microcrack: See section on cracking.

Microsilica: Well dispersed microsilica cannot be directly observed in thin sections. However, distinctive clots of undispersed microsilica are commonly present in concrete containing microsilica – even where most of the microsilica is well dispersed. Microsilica clots are isotropic, and tend to be spherical and are sometimes concentrically layered. They are typically <100µm in diameter.

PFA: See section on fly ash

Plastic shrinkage cracking: This form of cracking occurs in concrete prior to its hardening. It can be distinguished from many other forms of cracking in that it results in cracks that are generally restricted to the cement paste and are non-parallel sided. Cracks of this type typically appear on the concrete surface and commonly diminish in width rapidly with depth and the paste surrounding cracks of this type is commonly of locally high porosity reflecting the migration of moisture towards the cracks during the drying out of the concrete surfaces.

Porosity: This term is distinct from void content. It refers to microscopic pores within cement hydrates. Porosity is directly related to water/cement ratio, but is also strongly influenced by curing and many forms of concrete deterioration. Porosity is sometimes used as an indicator of water/cement ratio in hardened concrete.

Portland cement: Portland cement is the most common form of binder used in concrete and is manufactured from the burning of limestone and an alumino-silicate rock (clay or shale) at temperatures of up to 1500°C. There are many forms of Portland cement and it is commonly possible to distinguish sulfate-resisting and white Portland cement and ordinary Portland cement using petrographic thin sections.

Portlandite: Portlandite is calcium hydroxide and is one of the products formed during cement hydration. Portlandite is readily recognisable in thin sections and has a distinctively high birefringence that contrasts with the much lower birefringence of the hydrated cement phases.

Sulfate attack: This is a general term encompassing both conventional sulfate attack resulting in gypsum and ettringite formation, but also includes sulfate attack associated with thaumasite formation. Sulfate attack can be readily recognised in thin sections and commonly results in the development of surface-parallel cracks infilled with ettringite or thaumasite.

Thaumasite: This is a carbonate-sulfate calcium hydrate mineral with a complex composition. It is a common reaction product in concrete exposed to moisture containing both carbonate and sulfate ions. Thaumasite is most commonly encountered in concrete exposed to temperatures of $<4^{\circ}\text{C}$. Some forms of thaumasite can be readily distinguished from ettringite and have a high birefringence. However, some forms of thaumasite have a much lower birefringence and can be difficult to distinguish from ettringite without recourse to SEM micro-analysis.

Void: This describes empty spaces present in concrete that are typically greater than about 5 micrometres in diameter. It encompasses both entrained air voids (spherical voids typically $<1\text{mm}$ in diameter) as well as much larger entrapped air voids. It should be noted that it is possible for concrete to have a low porosity, but a high void content.

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Where test results are given, the results and our conclusions relate only to the samples tested and apply to the sample(s) as received, except where sampling has been conducted by Sandberg LLP.

Materials, samples and test specimens are retained for a period of 2 months from the issue of the final report.

Tests reported on sheets not bearing the UKAS mark in this report/certificate are not included in the UKAS accredited schedule for this laboratory.

Opinions and interpretations expressed herein are outside the scope for UKAS accreditation.

End of report



Hutton + Rostron Environmental Investigations Limited

11 Bloom Street, Manchester: Plaster condition survey

Site note 5 for 17 April and 26 July 2021, job no. 212.57
REVISION A - 25.04.22

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- 1 Introduction
- 2 Staff on site and contacts
- 3 Executive Summary
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- 5 Recommendations
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- 9 Administrative requirements

Attachments

A Photographs

B Drawings

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Prepared by:	Technical review by:	Administration by:
Chris Whitfield	Peter Bannister	Tracy Bannister

1 INTRODUCTION

1.1 AUTHORITY AND REFERENCES

Hutton + Rostron Environmental Investigations Limited carried out a site visit to 11 Bloom Street, Manchester on 17 April and 26 July 2021 in accordance with instructions from Manchester Design and Build Ltd by purchase order, dated 6 January 2021 reference 390. Drawings provided by Beech Design & Build Ltd. Ref 061 were used for the identification of structures. For the purpose of orientation in this report, the elevation facing Bloom Street was taken as facing north west

1.2 AIM

The aim of this survey was to investigate original lime plaster finishes and lath and plaster linings to ascertain their condition, vulnerability and service life as well as to identify composition and any defects relevant to the planned refurbishment

1.3 LIMITATIONS

This survey was confined to the accessible structures. Only demolition or exposure work can enable the condition of plaster to be determined with certainty, and this destroys what it is intended to preserve. Specialist investigative techniques are therefore employed as aids to the surveyor. No such technique can be 100 per cent reliable, but their use allows deductions to be made about the most probable condition of materials at the time of examination. Structures were not examined in detail except as described in this report, and no liability can be accepted for defects that may exist in other parts of the building. We have not inspected elements which are covered, unexposed or inaccessible and we are therefore unable to report that any such part is free from defect. The contents of this report do not imply the adoption of the role of Principal Designer by H+R for the purposes of the Construction Design and Management (CDM) Regulations 2015. No formal investigation of moisture distribution was made

2 STAFF ON SITE AND CONTACTS

2.1 H+R STAFF ON SITE

Chris Whitfield

2.2 PERSONNEL CONTACTED

Neil Kelly

3 EXECUTIVE SUMMARY

3.1 LIME PLASTER

3.1.1 Fourth and Third Floor

Walls were generally painted or undecorated. Plaster appears to have been removed from the Third floor north west walls post-fire to aid with drying of the masonry in response to an outbreak of dry rot fungus (*Serpula lacrymans*)

3.1.2 Second and First Floor

Walls were generally painted or undecorated but remnants of lime plaster indicated that north west walls were previously plastered. Surviving plaster to the north and west corners at first floor level were in poor condition with numerous areas of debonding. Short sections of lime plaster cornice also survived in these corners but was also in poor condition and at risk of detachment from the beams due to corrosion in the nail fixings

3.1.3 Upper and Lower Ground Floor

The walls were generally unpainted but included areas of non-original gypsum plaster, dot and dab plasterboard and cementitious tanking. Lime plaster was limited to the West entrance lobby which included decorative plaster mouldings. Some mouldings were missing and there was localised cracking but the plaster was generally in fair condition

3.2 LATH AND PLASTER

3.2.1 South staircase

The softwood stud partitions to the staircase were lined with modern gypsum plasterboard at Fourth and Third floor levels but at Second and First floor levels they were lined with lath and plaster to either side. However, these finishes were concealed by non-original timber panelling and modern plasterboard which impeded assessment of condition

3.2.2 West geometric staircase

The softwood staircase and its lath and plaster lined partitions were non-original and earlier lime plaster was visible to the south west wall (behind the partition). A newspaper dated 'May 15 1957' found embedded in the partition had wet plaster applied to it and probably dates these works. The lath and plaster had been skimmed with gypsum and some areas of partition had also been lined with plasterboard. The lath and plaster to the partitions was generally in fair condition but there was widespread cracking in the staircase soffit typical of movement/settlement and this requires further investigation

3.2.3 First floor ceilings

Softwood ceiling joists spanning beneath the floor beams supported sections of lath and plaster ceiling including plaster cornice within bays no.7-10. However, earlier wallpaper applied directly to the underside of the floor timbers and paint to the floor beams behind the cornice indicated that these ceilings were non-original. Ceilings were generally in poor condition with widespread cracking, mechanical damage and failure of the plaster 'keys'

3.2.4 West entrance lobby

The ornamental lath and plaster ceiling over the entrance lobby included decorative mouldings. There was some cracking but the ceiling was intact and in fair condition

4 OBSERVATIONS

Report should be read in conjunction with the Schedule of Photographs at Attachment A and Drawings at Attachment B

4.1 FOURTH FLOOR

See Figures 1-7 in the Schedule of Photographs

4.1.1 External walls

- 1 Decorative finish: The brickwork was painted with a cream/yellow paint finish. There was no evidence that the walls had previously been plastered

4.1.2 Internal partitions

- 1 South staircase: The softwood stud partitions were non-original and post-date the fire. The studwork was lined with insulated fibreboard and plasterboard
- 2 West staircase: The softwood stud partitions were non-original and post-date the fire. The studwork was lined with plasterboard

4.2 THIRD FLOOR

See Figures 8-15 in the Schedule of Photographs

4.2.1 External walls

- 1 Decorative finish: The brickwork was generally painted with an off-white paint finish. Although there was no surviving plaster at this level, the north-west walls may have previously been plastered with lime (removed post-fire). However, earlier paint to the brickwork indicated that the plaster would have been non-original

4.2.2 Staircases and partition walls

- 1 South staircase: The softwood stud partitions were non-original and post-date the fire. The studwork was lined with insulated fibreboard and plasterboard
- 2 West geometric staircase: The softwood stud partitions to the staircase were non-original and post-date the fire and the studwork was generally lined with plasterboard. However, the north west stud partition was lined with softwood sawn lath and lime plaster. There was localised mechanical damage and cracking but the lath and plaster was generally in fair condition

4.3 SECOND FLOOR

See Figures 16-24 in the Schedule of Photographs

4.3.1 External walls

- 1 Decorative finishes: The brickwork was generally painted with an off-white paint finish
- 2 Plaster: There were small remnants of lime plaster to the north west walls. Plaster appears to have been removed post-fire to aid drying in response to a dry rot outbreak. However, paint to the brick substrate (beneath the plaster remnants) indicated that this plaster was non-original

4.3.2 Staircases and partition walls

- 1 South staircase: The north east stud partition was lined with lath and plaster to both sides but this was concealed behind plasterboard. Lath and plaster condition could not be determined
- 2 West geometric staircase: The partitions to either side of the stairwell landing were lined with lath and plaster with a softwood dado panelling included to the south east partition. The lath and plaster was generally in a fair condition and there was no significant decay in the panelling but this was unlikely to be original. The partitions bounding the staircase were lined with lath and plaster with a gypsum skim. Cracking to the lath and plaster staircase soffit was widespread and localised areas were at risk of detachment

4.3.3 Ceiling

- 1 West corner: There were remnants of lime plaster cornice applied directly to the underside of the Third floor timbers. The bench run plaster cornice was supported by nail anchors. The remaining plaster was mechanically damaged and there was corrosion in the nail fixings. The cornice profile was generally in fair condition but due to corrosion in the nails it was at risk of detachment

4.4 FIRST FLOOR

See Figures 25-42 in the Schedule of Photographs

4.4.1 External walls

- 1 Decorative finish: The brickwork to the south east walls was generally painted with an off-white paint finish
- 2 Plaster: There was some surviving lime plaster to the brickwork in the north and west corners as well as remnants of lime plaster the length of the north west wall. Plaster appears to have been removed post-fire to aid drying in response to the dry rot outbreak. There was no evidence of any earlier decorative schemes beneath the surviving lime plaster in this area. The surviving lime plaster was in poor condition and had largely debonded

4.4.2 Staircases and partition walls

- 1 South staircase: The north east and north west stud partitions were lined with lath and plaster to both sides but this was concealed behind non-original panelling and modern plasterboard. Lath and plaster condition could not be determined but the plaster 'keys' were in poor condition where visible
- 2 West geometric staircase: The partitions to either side of the stairwell landing were lined with lath and plaster with a softwood skirting board. The lath and plaster lined partitions bounding the staircase were non-original as earlier lime plaster was visible to the south west wall. Apart from some localised mechanical damage the lath and plaster was generally in fair condition, however, cracking to the lath and plaster staircase soffit was widespread

4.4.3 Ceilings

- 1 Lath and plaster: There were surviving lath and plaster ceilings to the north west bays no. 7-10. However, earlier wallpaper applied directly to the underside of the floor timbers above the ceiling indicated that the lath and plaster was non-original. The lath and plaster was supported from softwood ceiling joists that spanned from

the Second floor beams. Earlier paint to the floor beams (behind the plaster cornice) also indicated that the cornice was non-original. Ceilings were generally in poor condition with widespread cracking and failure of the plaster 'keys'

- 2 North and West corners: There were remnants of lime plaster cornice applied directly to the underside of the Second floor timbers as described at 4.3.3. The cornice profile was generally intact but due to corrosion in the nail anchors it was loose and at risk of detachment

4.5 UPPER GROUND FLOOR

See Figures 43-58 in the Schedule of Photographs

4.5.1 External walls

- 1 Decorative finishes: Brickwork was largely undecorated but modern plasterboard had been applied in localised areas and plaster dabs remained where plasterboard had been removed. There was no evidence of lime plaster other than to the West entrance lobby
- 2 West entrance lobby: The external and internal brick walls were plastered with lime and included decorative plaster mouldings. Decorative glazed tiling had been applied to the brickwork at low-level but this had been overpainted. Some plaster mouldings were missing and mechanically damaged and although there was localised cracking through the plaster, it was generally in fair condition. A small number of tiles were missing and lower tiles were loose and at risk of detachment

4.5.2 Staircases and partition walls

- 1 West geometric staircase and lobby: The partitions to either side of the lobby were generally lined with lath and plaster with a softwood skirting board but there were also areas of modern plasterboard. The lath and plaster lined partitions bounding the staircase were non-original as earlier lime plaster was visible to the south west wall (see Fig 50). A newspaper dated 'May 15 1957' embedded within a stud partition probably dates from the period the staircase and lath and plaster bounding the staircase were constructed (see Fig 51 & 52). Apart from localised mechanical damage the lath and plaster was generally in fair condition. However, cracking to the lath and plaster staircase soffit was widespread and localised areas were at risk of detachment

4.5.3 Ceilings

- 1 West entrance lobby: The ornamental ceiling over the entrance was of lath and plaster and included decorative mouldings and cornice. There was localised cracking and damage in this ceiling but it was generally in fair condition

4.6 LOWER GROUND FLOOR

See Figures 59-62 in the Schedule of Photographs

4.6.1 External walls

- 1 Decorative finishes: Brickwork was largely undecorated but modern plasterboard had been applied in localised areas as well as a cementitious plaster tanking to the west corner. There was no evidence of lime plaster at this level

4.6.2 Staircases and partition walls

- 1 West entrance stairs: Ongoing water penetration in the west corner had resulted in damp and partial decay of the lath and plaster soffit beneath the entrance stair. The lath and plaster was in poor condition and beyond salvage

5 RECOMMENDATIONS

5.1 FOURTH FLOOR

- 1 Walls: No existing historical plaster at this level

5.2 THIRD - UPPER GROUND FLOOR

5.2.1 Preparation and detailed investigations

- 1 Survey limitations: H+R recommend that all non-historical finishes including non-original joinery, plasterboard, fibreboard, wallpaper, gypsum plaster and paint etc. are carefully removed from the external walls and internal partitions. Only then can full investigation of plaster condition be undertaken and quantitative information gained. H+R recommend early discussion with Paul Butler Associates (PBA) to clarify existing permissions with regard to removal of non-original finishes
- 2 Detailed investigations: Following the removal of non-original finishes allowance should be made for a detailed 'tap-test' of all lime plaster to locate areas of debonding and 'mark-up' the full extent of repairs required. H+R recommend that this element is undertaken by the plasterer appointed to undertake the repairs. The plasterer should be trained and experienced in conservation plastering

5.2.2 Plaster repairs

- 1 North west walls: The remnants of existing lime plaster at First floor level were mostly beyond salvage and required renewal. Allowance could be made for reinstating lime plaster to the north west walls at Third, Second and First floor level. However, given the considerable loss of original/early material as well as a lack of historical data there may be argument in not reinstating lime plaster and the client should seek advice from PBA. Consideration could be given to installing dry linings or retaining exposed brickwork
- 2 First floor ceilings: The existing lath and plaster and plaster cornice was largely beyond repair due to mechanical damage and corrosion of nail fixings and consideration should be given to wholesale replacement like for like. However, as these ceilings are non-original there may be argument for their removal and the client should seek advice from PBA. Alternatively, there may be scope in the design to preserve these existing ceilings above new ceiling structures without the need for repair
- 3 South staircase: Following removal of later finishes allowance should be made for localised repairs to the lath and plaster
- 4 West staircase and lobby: Following removal of modern finishes allowance should be made for localised repairs to the lath and plaster partitions. Allow for the wholesale removal and like for like reinstatement of the lath and plaster soffit. This will aid detailed investigation of the timber staircase by the Structural Engineer
- 5 West entrance lobby: Allow for localised repair of the ornamental plaster ceiling, mouldings and cornice including the reinstatement of missing enrichments to match the existing mouldings. Defective/debonding areas of lime wall plaster should be removed and reinstated like for like. The tiling should be cleaned of paint and loose/missing tiling reinstated. It may be necessary to temporarily remove the First floor floorboards above to enable detailed inspection of the decorative ceiling from above and provide access to undertake repairs. Extent of repairs to be confirmed following detailed condition assessment by the conservation plasterer

5.3 LOWER GROUND FLOOR

- 1 Walls: Any remnants of plaster and paint should be removed from the external brick walls. H+R recommend that a 'Type C' waterproofing system is applied to the external walls and this should be formally designed and installed with drainage by a specialist
- 2 West entrance stairs: Allow for renewal of the decayed lath and plaster soffit

5.4 REPAIR AND REINSTATEMENT

- 1 Preparation: Areas of defective, loose and salt-damaged wall plaster should be carefully cut back to the sound plaster or brick substrate. The brick substrate should be hand cleaned by wire brush to remove debris and any salts and prepared for application by raking out the mortar joints to a depth of around 10mm to provide a 'key' for the new plaster. Remove any built-in bonding timbers and brick-up/fill with lime mortar. The walls above Lower Ground Floor level are currently dry so no drying measures are currently recommended. However, allowance should be made for accelerated drying of the masonry if significant water penetration is allowed to occur during the redevelopment
- 2 Lime plaster to masonry walls: The methodology should be agreed by the conservation plasterer and the reinstated lime mix be characteristic of the existing
- 3 Lath and plaster to partitions and ceilings: Decayed or damaged laths should be replaced with new machine sawn laths and lime plaster reinstated as per above
- 4 Redecoration: Redecorate only when the plaster has dried out. Note: Drying /shrinkage cracks may appear where the new plaster adjoins the existing plaster. These can be filled during decoration. The lime plaster should be decorated with a highly vapour permeable decorative finish. Lime paint, lime wash, distemper and casein paints are traditional finishes for new work

6 H+R WORK ON SITE

- 6.1** H+R inspected original/early plaster and lath and plaster, as necessary, so as to ascertain the condition, vulnerability and service life

7 PROPOSED ACTION BY H+R

- 7.1** H+R will advise on repair and conservation of timber elements, so as to minimise the risk of decay after refurbishment if instructed
- 7.2** H+R will advise on remedial detailing, so as to minimise the risk of damp and decay problems after refurbishment if instructed
- 7.3** H+R will advise on conservation of original fabric with regard to damp, decay and salt damage, as necessary and if instructed
- 7.4** H+R will review proposed remedial details as these become available if instructed
- 7.5** H+R will return to site to inspect sample remedial details if instructed
- 7.6** H+R will liaise with conservation and historic building authorities, if instructed, so as to ensure the cost-effective conservation of original fabric
- 7.7** H+R will liaise with building guarantors, as necessary, so as to ensure the issuing of collateral warranties and building guarantees at practical completion, if required
- 7.8** H+R will return to site to inspect other buildings on site for structurally significant decay; and advise on timbers at risk of decay during the latent defect period due to water penetration before and during refurbishment if instructed

8 INFORMATION REQUIRED BY H+R

- 8.1** H+R require up-to-date copies of project programmes, as these become available
- 8.2** H+R require copies of up-to-date lists of project personnel and contact lists as these become available
- 8.3** H+R require copies of proposed remedial details for comment as these become available
- 8.4** H+R should be informed as a matter of urgency if further significant water penetration occurs onto site; so that advice can be given on cost-effective remedial measures, to minimise the risk of cost or programme overruns and so as to minimise the risk of damp or decay problems during the latent defect period

9 ADMINISTRATIVE REQUIREMENTS

- 9.1** H+R require formal instructions for further investigations and consultancy on this project
- 9.2** H+R require confirmation of distribution of digital and printed copies of reports and site notes

Attachment A



Fig 1:

Fourth floor; showing white paint to the external walls. There was no evidence that the walls had ever been plastered at this level



Fig 2:

Fourth floor; showing evidence of dry rot irrigation/injected fungicide to the external walls



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Photographs
17 April & 26 July 2021

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Fig 3:

Fourth floor, South staircase; showing softwood stud partitions lined with insulated fibreboard and plasterboard. This partition post-dates the fire



Fig 4:

Fourth floor, South staircase; showing a close-up of the insulated fibreboard which had been overlaid with plasterboard



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Fig 5:

Fourth floor, West staircase; showing the non-original softwood stud partition around the staircase that leads to the Fourth floor. Plasterboard had recently been removed



Fig 6:

Fourth floor, West staircase; showing the non-original softwood stud partition that bounds the spiral staircase. The finishes were of modern gypsum plasterboard



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Fig 7:

Fourth floor, West staircase; showing a close-up of the two skins of gypsum plasterboard



Fig 8:

Third floor; showing white paint to the external walls. There was no historical lime plaster applied to the external walls at this level



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Fig 9:

Third floor; showing white paint to the south east wall and plasterboard to the southern staircase partition



Fig 10:

Third floor; showing remnants of paint in an area subject to injected fungicide treatment. Paint was probably removed post-fire to aid evaporation from the wet masonry



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Fig 11:

Third floor, South staircase; showing softwood stud partitions lined with insulated plasterboard. This partition post-dates the fire

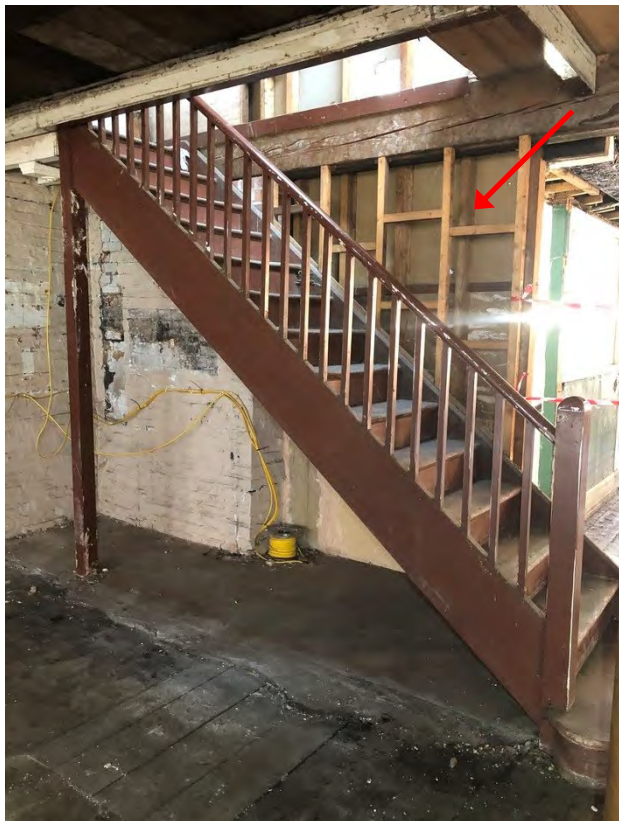


Fig 12:

Third floor, West staircase; showing the non-original softwood stud partition around the staircase that was lined with plasterboard



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Fig 13:

Third floor, West staircase; showing the north west stud partition that was lined with softwood lath and lime plaster. Although there was localised mechanical damage and cracking of the lime plaster, the plaster 'keys' were intact where visible and the lath and plaster was largely repairable



Fig 14:

Third floor, West staircase; showing the void between the stud partition and the partition bounding the spiral staircase. The plaster 'keys' of the lath and plaster generally appeared to be in good condition where visible. Note that the curved staircase was lined with plasterboard



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Fig 15:

Third floor, West staircase; showing a general view of the staircase that was of softwood construction. No significant decay detected in the structure and timbers were dry. The partition walls bounding the staircase were lined with plasterboard above but lath and plaster below

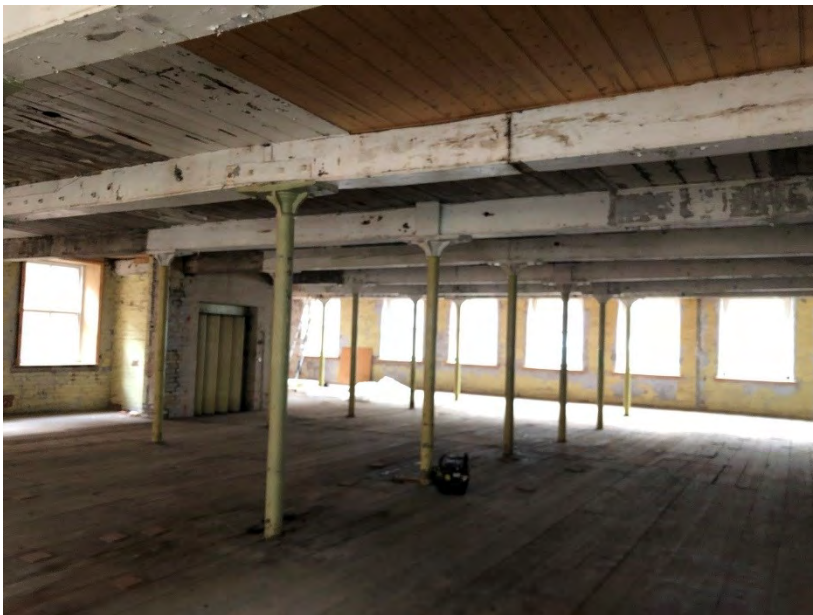


Fig 16:

Second floor; showing yellow paint to the external walls. There were remnants of lime plaster to the north east wall but plaster appeared to have been removed post-fire



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Fig 17:

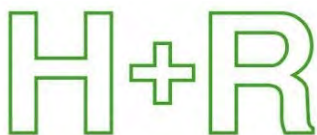
Second floor, West corner; showing remnants of a moulded plaster cornice. The cornice was cracked and mechanically damaged and sections had debonded from the substrate. The cornice had been secured to the timber beams with nails but the nails had largely corroded

Note that the brickwork beneath has had its lime plaster removed but that it had previously been painted a blue/white colour



Fig 18:

Second floor, West corner; showing remnants of a softwood timber skirting board. Note that the existing skirting boards post date the blocking-up of the fireplace and therefore almost certainly non-original



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Fig 19:

Second floor, North east wall; showing blue/white paint scheme to the external wall. Note that lime plaster had been removed from this wall post-fire



Fig 20:

Second floor, West corner; showing remnants of lime plaster applied over the earlier painted decorative scheme



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Fig 21:

Second floor, South staircase; showing the stud partition that included lath and plaster concealed behind the plasterboard outer linings. The modern finishes require removal before detailed assessment of the lath and plaster can be undertaken



Fig 22:

Second floor, South staircase; showing a view inside the stud partition. Note lath and plaster had been applied to either side of the studwork



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Fig 23:

Second floor, West staircase; showing a small area of lath and plaster and vertical softwood timber dado panelling. There was localised mechanical damage but the lath and plaster was repairable. There was no significant defect in the timber panelling



Fig 24:

Second floor, West staircase; showing lath and plaster with softwood skirting board bounding the spiral staircase



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Fig 25:

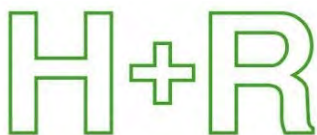
First floor, West corner; showing remnants of lime plaster to the external walls. Plaster was in poor condition and largely debonded

Note that there was no evidence of previous decorative schemes to the brickwork



Fig 26:

First floor, West corner; showing remnants of lime plaster cornice applied to the underside of the floor timbers



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Fig 27:

First floor, North west elevation;
showing a short section of retained
softwood skirting board. Note that the
brickwork to this wall was previously
plastered with lime



Fig 28:

First floor; showing small areas of
surviving lath and plaster from bays
no.7-10. The lath and plaster was non-
original



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Photographs
17 April & 26 July 2021

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Fig 29:

First floor, Bay no.9-10; showing a view through an opening in the lath and plaster ceiling. Note earlier wallpaper applied to the underside of the floor as found elsewhere



Fig 30:

First floor, Bay no.8-9; showing lath and plaster applied to the underside of ceiling joists that span from floor beam to beam. Note the earlier printed wallpapers applied to a machine made open-weave linen backing fixed to the underside of the floor above the lath and plaster ceiling



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Photographs
17 April & 26 July 2021



Fig 31:

First floor, Bay no.8-9; showing nails that provide a fixings for the lime plaster cornice to the floor beam. The nails had corroded and the cornice was vulnerable to detachment



Fig 32:

First floor, Bay no.8-9; showing extensive cracking and failure of the lath and plaster ceiling



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Fig 33:

First floor, North corner; showing remnants of lime plaster to the external walls. Plaster was in poor condition and largely debonded. Repair had also been undertaken with gypsum plaster in this area. A small section of plaster cornice survived here

Note that there was no evidence of previous decorative schemes to the brickwork



Fig 34:

First floor, Lift area; showing remnants of plaster to the external wall and lift wall. The plaster was non-original and in very poor condition in this area



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Fig 35:

First floor, Lift area; showing earlier paint finish to the brickwork beneath the lime plaster



Fig 36:

First floor, South staircase; showing non-original softwood timber panelling to the staircase partition



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Fig 37:

First floor, South staircase; showing a view through the timber panelling identifying lath and plaster to either side of the studwork. Note that the plaster 'keys' were inadequate



Fig 38:

First floor, South staircase; showing modern plasterboard applied over the lath and plaster in the stairwell. The condition of the lath and plaster behind is unknown



11 Bloom Street, Manchester
Photographs
17 April & 26 July 2021



Fig 39:

First floor, South staircase; showing modern plasterboard and timber panelling applied over lath and plaster



Fig 40:

First floor, South staircase; showing timber panelling applied over the lath and plaster. Note that these finishes predate the insertion of the lift shaft brickwork



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Photographs
17 April & 26 July 2021



Fig 41:

First floor, West staircase; showing lath and plaster with softwood skirting to the staircase partition. Plaster was generally in fair condition with localised mechanical damage



Fig 42:

First floor, West staircase; showing lath and plaster within the stairwell



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Fig 43:

Upper ground floor; showing plaster dabs following removal of plasterboard. There were no earlier plaster or paint finishes



Fig 44:

Upper ground floor, North entrance lobby; showing modern plasterboard and non-original gypsum plaster finishes



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Fig 45:

Upper ground floor, North east extension; showing painted brick and some use of plasterboard. There were no historic lime plasters in this area



Fig 46:

Upper ground floor, south east corner; showing no decorative finishes to the external brickwork



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Fig 47:

Upper ground floor, West staircase lobby; showing lath and lime plaster to the stud partitions. Plaster was in good condition



Fig 48:

Upper ground floor, West staircase lobby; showing the backside of the lath and plaster to the staircase. The plaster 'keys' were in good condition where visible



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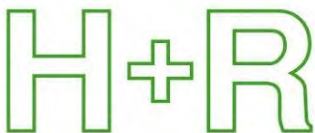
Fig 49:

Upper ground floor, West staircase;
showing a view of the underside of the
staircase



Fig 50:

Upper ground floor, West staircase;
showing a view of the void behind the
lath and plaster staircase. Note the
original/early lime plaster to the
external wall



11 Bloom Street, Manchester
Photographs
17 April & 26 July 2021



Fig 51:

Upper ground floor, West staircase; showing the backside of the lath and plaster to the staircase partitions. Note the newspaper/magazines wedged between the staircase and the laths

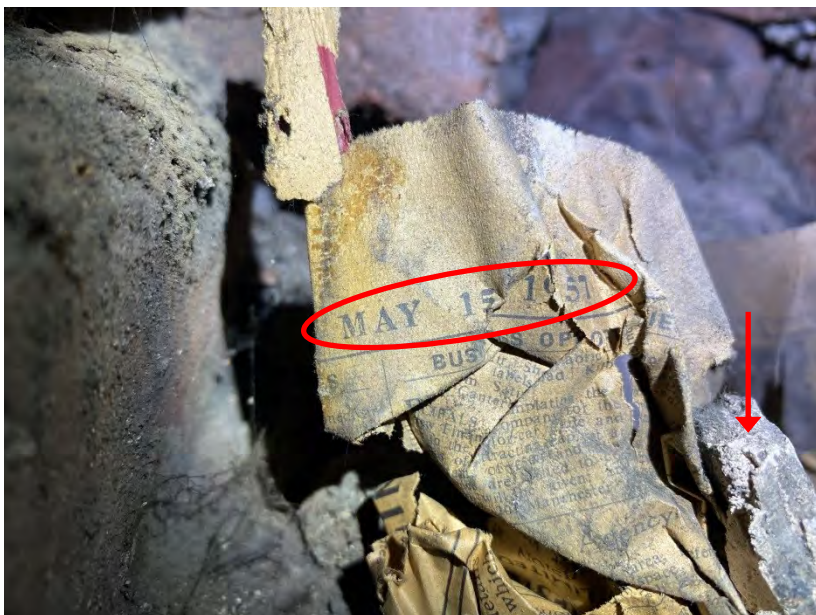


Fig 52:

Upper ground floor, West staircase; showing the date (1957) on the newspaper which probably dates from the period the staircase was constructed. Note that the section of lime plaster had been applied over the newspaper



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Fig 53:

Upper ground floor, West staircase; showing the backside of the lath and plaster as well as later timber fibreboard to the staircase. The plaster 'keys' in this partition were inconsistent on original application



Fig 54:

Upper ground floor, West staircase lobby; showing lath and plaster to the partition and a lath and plaster ceiling. Plaster was generally in good condition



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Fig 55:

Upper ground floor, West entrance lobby; showing a decorative lath and plaster ceiling and lime plaster to the external walls



Fig 56:

Upper ground floor, West entrance lobby; showing examples of minor cracking in the decorative ceiling, mouldings and cornice



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Fig 57:

Upper ground floor, West entrance lobby; showing lime plaster and decorative mouldings to the internal brick wall. Plaster was generally in fair condition but with localised mechanical damage

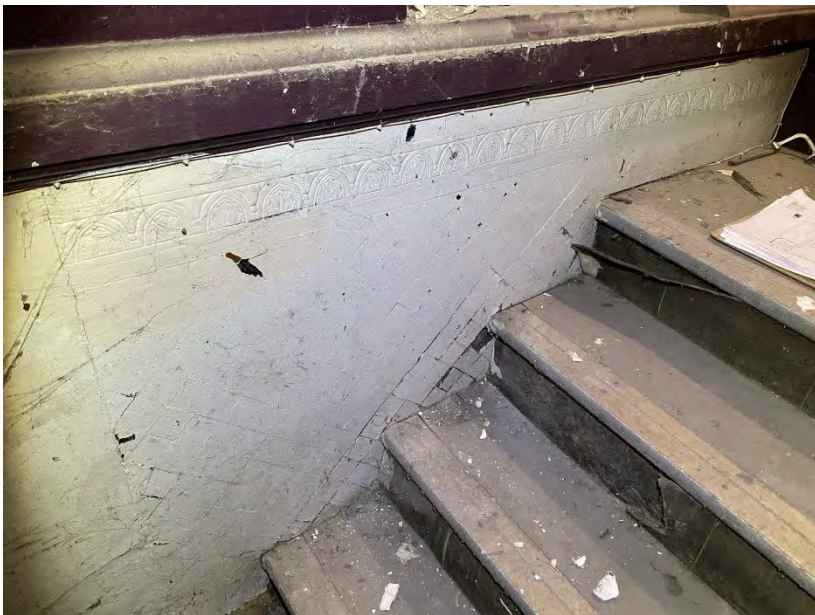


Fig 58:

Upper ground floor, West entrance lobby; showing painted glazed tiling at low level. A proportion of the tiles were loose and a small number were missing



11 Bloom Street, Manchester
Photographs
17 April & 26 July 2021



Fig 59:

Lower ground floor; showing a general view of the undecorated masonry



Fig 60:

Lower ground floor, South east corner; showing use of cementitious plaster tanking to the external walls. The plaster had largely debonded



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Fig 61:

Lower ground floor, North east extension; showing some use of non-original gypsum plaster. Plaster had almost entirely debonded from the masonry



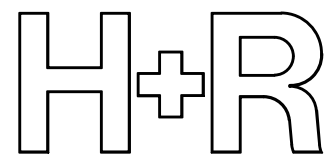
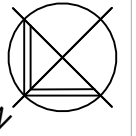
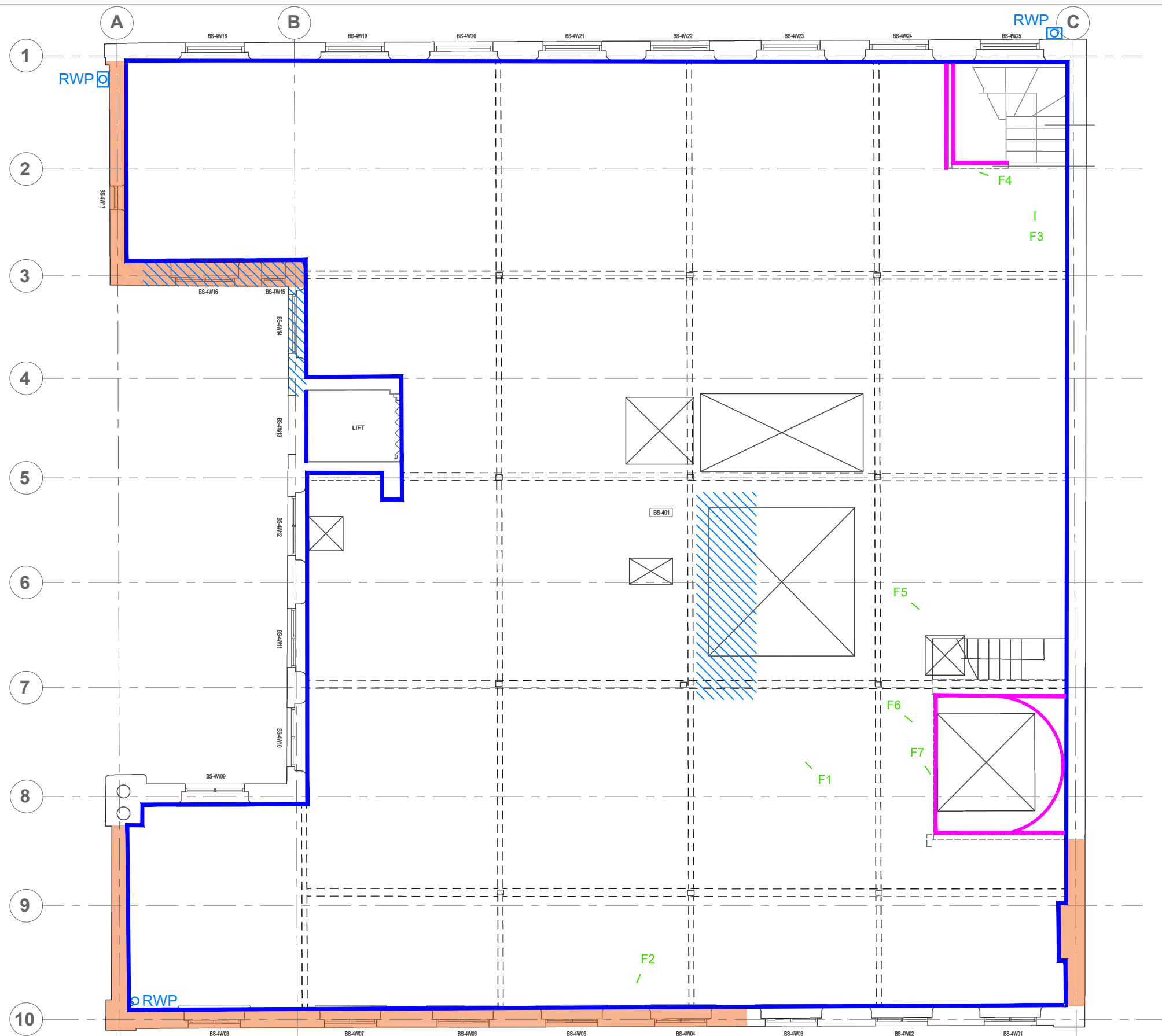
Fig 62:

Lower ground floor, West entrance stairs; showing the use of lath and plaster to the underside of the stairs. The area was subject to water penetration and the lath and plaster was damp and partially decayed



11 Bloom Street, Manchester
Photographs
17 April & 26 July 2021

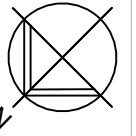
Attachment B



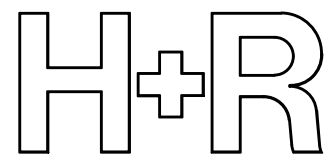
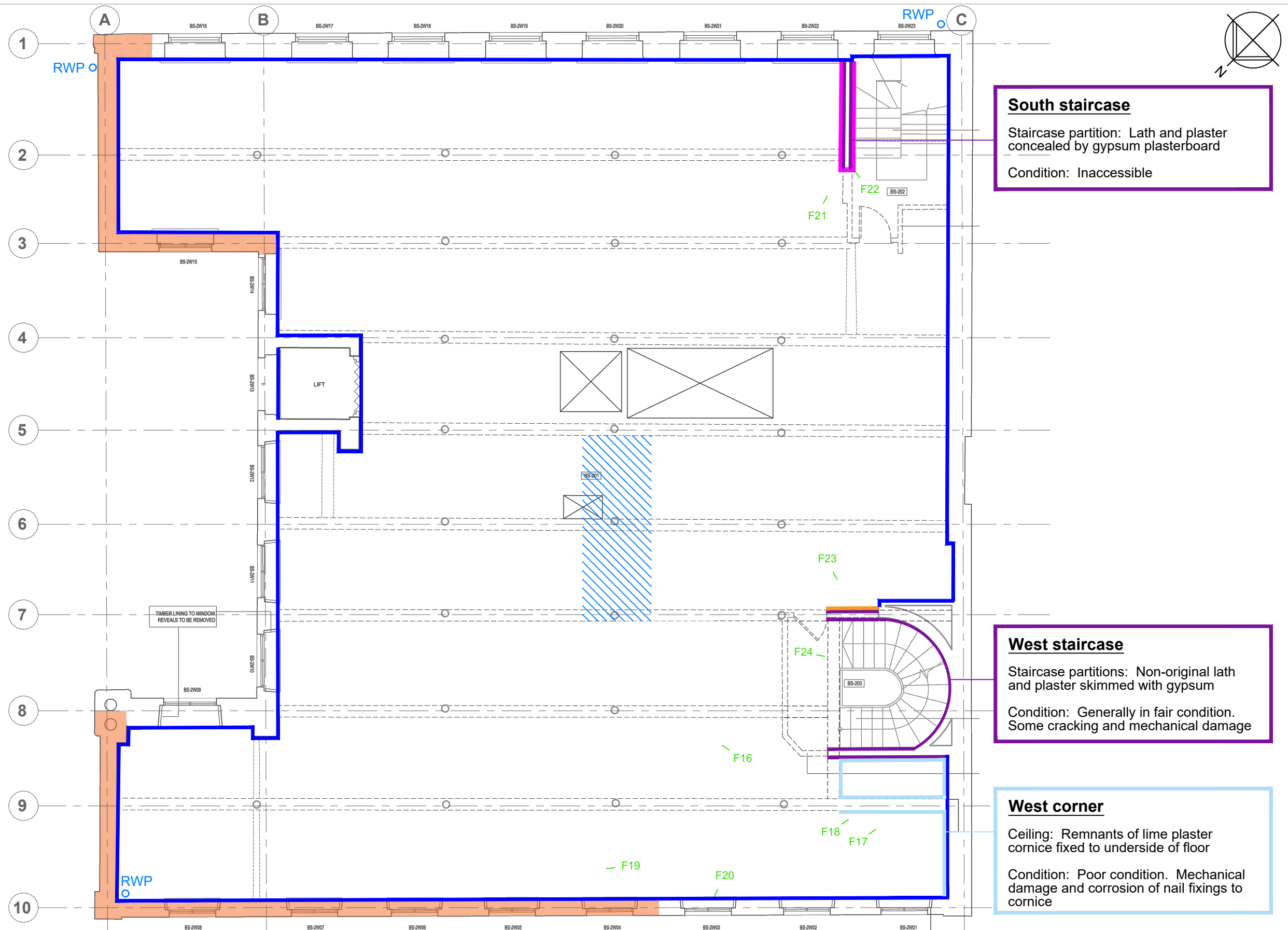
11 Bloom Street, Manchester - Fourth Floor
Plaster condition survey
17 April and 26 July 2021

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- Key:**
- /// Area subject to water penetration
 - F1 Photograph location
 - Original/early lime plaster
 - Lath and plaster
 - Painted brick
 - Modern plasterboard
 - Masonry subject to injected fungicide treatment



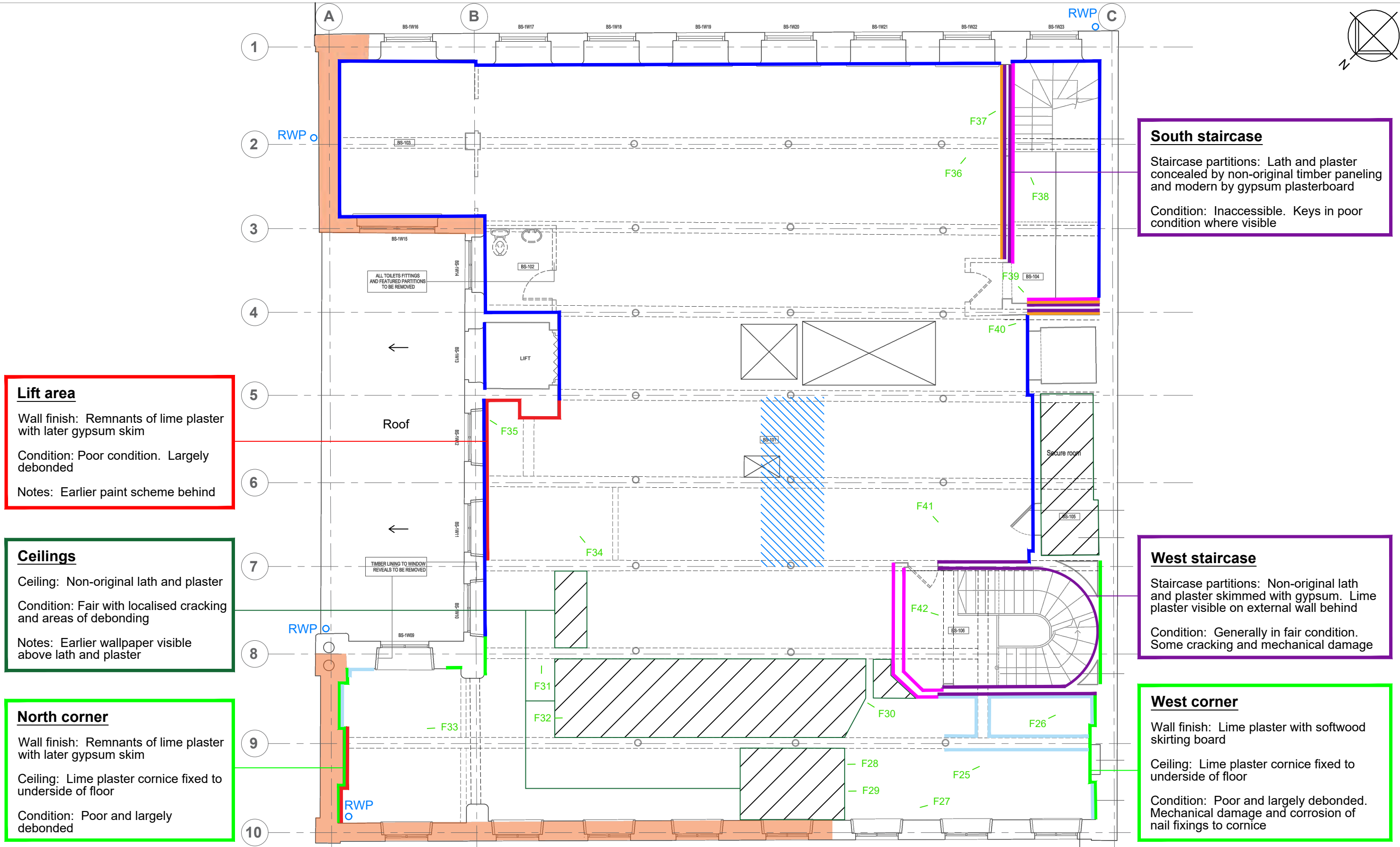
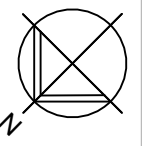
Condition: Generally in fair condition.
Some mechanical damage



11 Bloom Street, Manchester - Second Floor
 Plaster condition survey
 17 April and 26 July 2021

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- Key:**
- //// Area subject to water penetration
 - F1 Photograph location
 - Lath and plaster
 - Painted brick
 - Modern plasterboard
 - Timber panelling
 - Masonry subject to injected fungicide treatment
 - Plaster cornice



Lift area

Wall finish: Remnants of lime plaster with later gypsum skim

Condition: Poor condition. Largely debonded

Notes: Earlier paint scheme behind

Ceilings

Ceiling: Non-original lath and plaster

Condition: Fair with localised cracking and areas of debonding

Notes: Earlier wallpaper visible above lath and plaster

North corner

Wall finish: Remnants of lime plaster with later gypsum skim

Ceiling: Lime plaster cornice fixed to underside of floor

Condition: Poor and largely debonded

South staircase

Staircase partitions: Lath and plaster concealed by non-original timber paneling and modern by gypsum plasterboard

Condition: Inaccessible. Keys in poor condition where visible

West staircase

Staircase partitions: Non-original lath and plaster skimmed with gypsum. Lime plaster visible on external wall behind

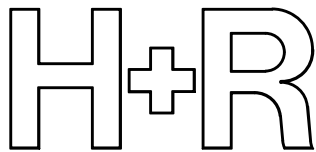
Condition: Generally in fair condition. Some cracking and mechanical damage

West corner

Wall finish: Lime plaster with softwood skirting board

Ceiling: Lime plaster cornice fixed to underside of floor

Condition: Poor and largely debonded. Mechanical damage and corrosion of nail fixings to cornice



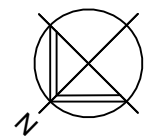
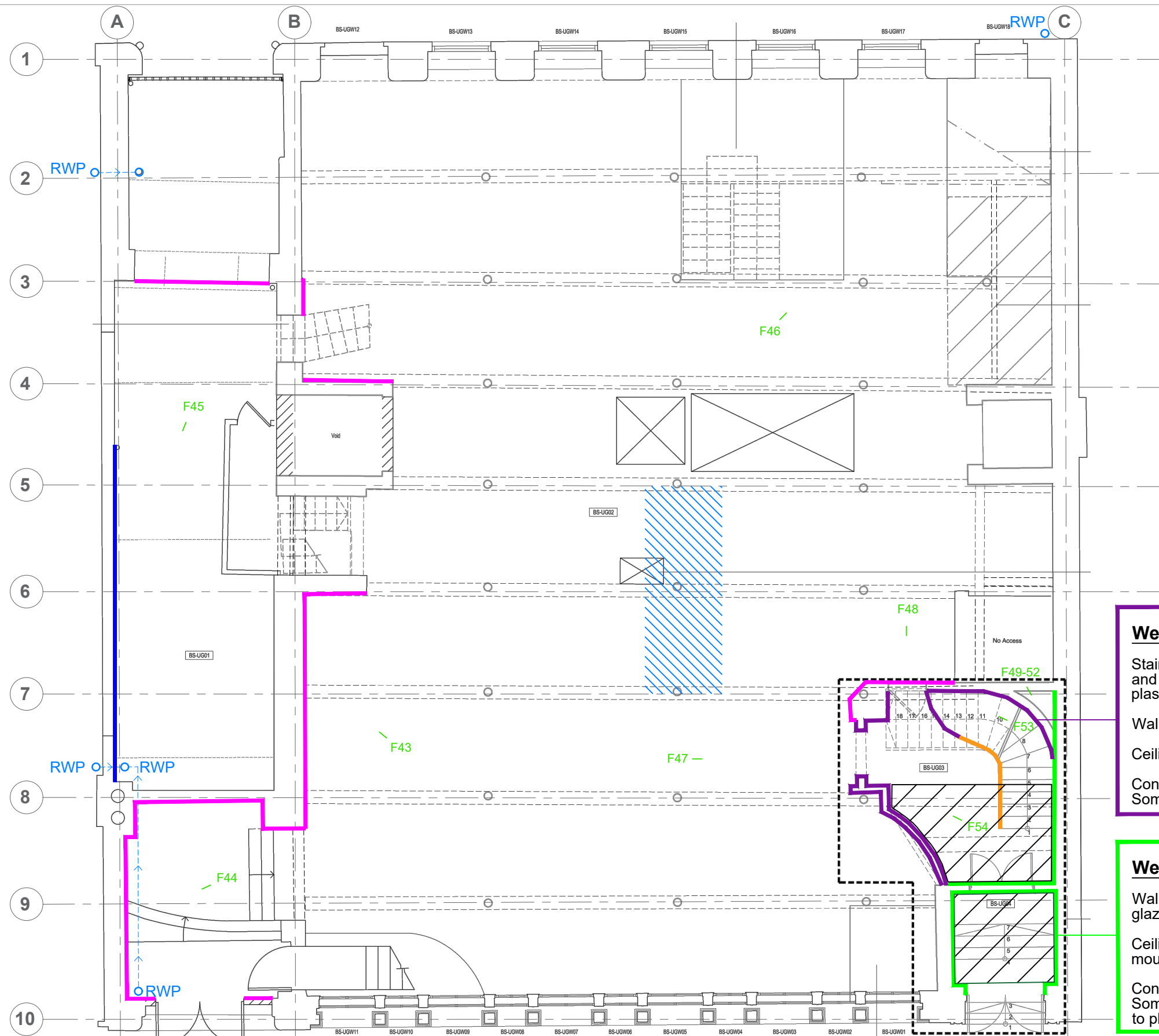
11 Bloom Street, Manchester - First Floor

Plaster condition survey

17 April and 26 July 2021

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Key:		Area subject to water penetration		Plaster cornice
		Photograph location		Non-original lime/gypsum plaster
		Original/early lime plaster		Timber panelling
		Lath and plaster		Lath and plaster ceiling
		Painted brick		
		Modern plasterboard		
		Masonry subject to injected fungicide treatment		



West staircase and lobby

Staircase partitions: Non-original lath and plaster skimmed with gypsum. Lime plaster visible on external wall behind

Wall finish: Lime plaster

Ceiling: Lath and plaster

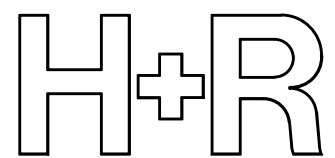
Condition: Generally in good condition. Some cracking and mechanical damage

West entrance lobby

Wall finish: Lime plaster with low-level glazed tiling

Ceiling: Decorative lath and plaster with mouldings and cornice

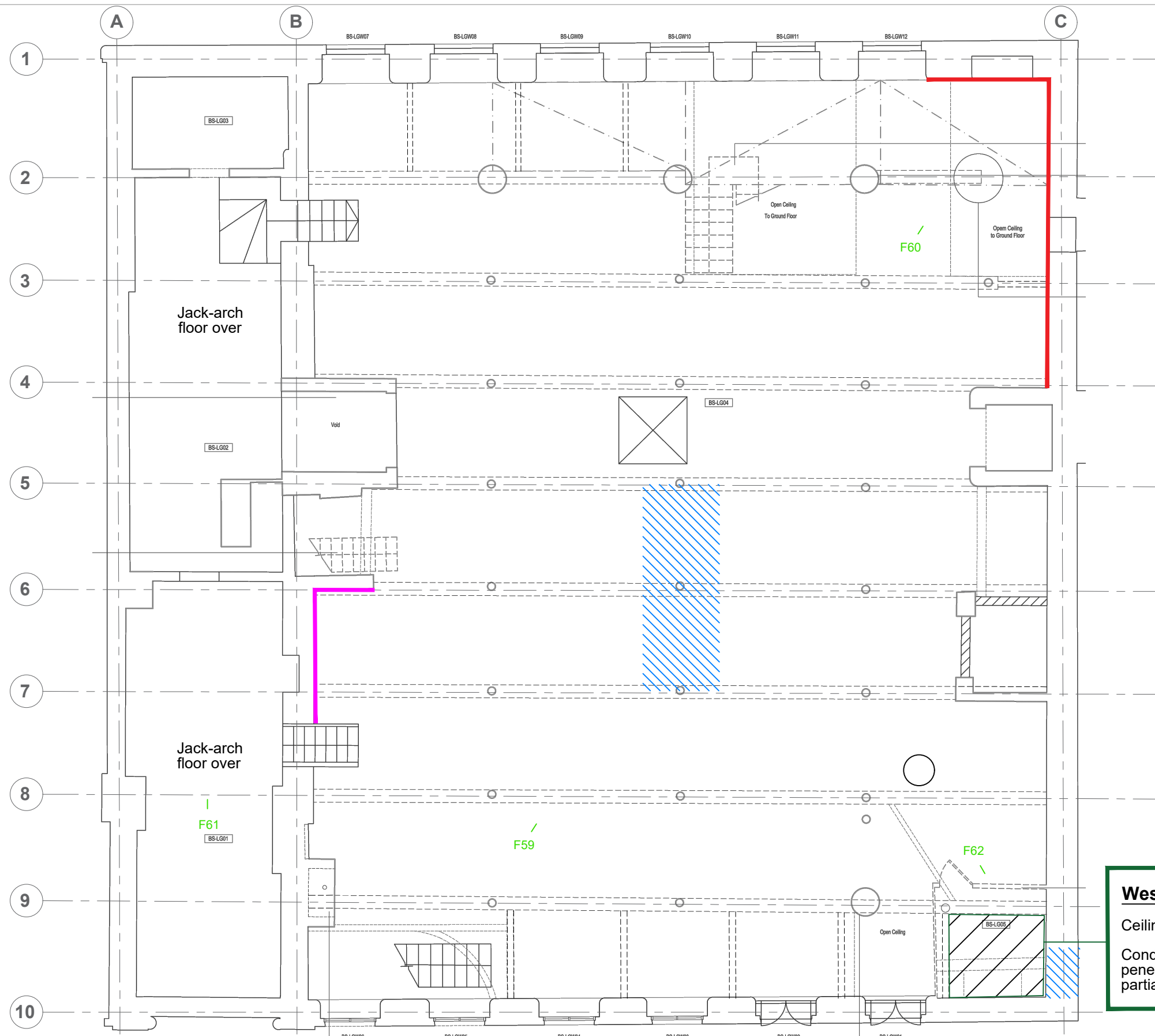
Condition: Generally in fair condition. Some cracking and mechanical damage to plaster. Some missing/loose tiles



11 Bloom Street, Manchester - Upper Ground Floor
 Plaster condition survey
 17 April and 26 July 2021

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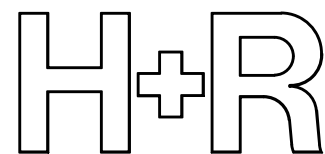
- Key:**
- Area subject to water penetration
 - Photograph location
 - Original/early lime plaster
 - Lath and plaster
 - Modern plasterboard
 - Painted brick
 - Plaster cornice
 - Non-original lime/gypsum plaster
 - Timber panelling
 - Lath and plaster ceiling



West entrance stairs

Ceiling: Lath and plaster beneath stair

Condition: Area subject to water penetration. Lath and plaster damp and partially decayed



11 Bloom Street, Manchester - Lower Ground Floor

Plaster condition survey

17 April and 26 July 2021

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- Key:**
-  Area subject to water penetration
 -  Photograph location
 -  Lath and plaster
 -  Modern plasterboard
 -  Non-original lime/gypsum plaster
 -  Lath and plaster ceiling

D – Review of Timber Panelling 10.02.2022 [updated 05.04.2022]



Job Number:	14.936
Project:	Mindel and Bloom
Client:	Beech
Date:	May 2022

Introduction

This Note assesses features/fabric uncovered during strip-out works at Mindel House and 11 Bloom Street. The note is provided in support of applications to discharge conditions attached to the planning permission (11a) and listed building consent for each building (4a). The buildings were inspected on 10.02.2022 and discussion is provided below based on heritage status. Following review of the identified features a heritage assessment is provided.

Review of Features

Panelling at Mindel House

The timber panelling through the floors in Mindel House appears to be of the same date, likely early-mid 20th century.

The panelling construction shows a crude finish around beams and where they butt up against stanchions, suggesting they were added later.

The timber panelling forming the toilets on the second floor butt up against the centre of the window, forming a timber mullion visible from the exterior and suggesting it as a later addition. The timber panelling on the fourth floor appears to be the same date, likely early – mid 20th century.

The timber office walling to the first floor has boards of the same width and butts up to the wall directly adjacent to a revealed fireplace. This suggests that the area was originally an office, although the proximity of the timber wall to the fireplace suggests it was inserted after the fireplace went out of use.



Example of timber panelling found on third floor



Example of timber panelling found on third floor



Example of timber panelling found around lift on third floor



Example of timber panelling found on first floor



Panelling around stanchion



Crude panelling installation detail around stanchion



Panelling / partitions on second floor



Panelling / partitions on second floor



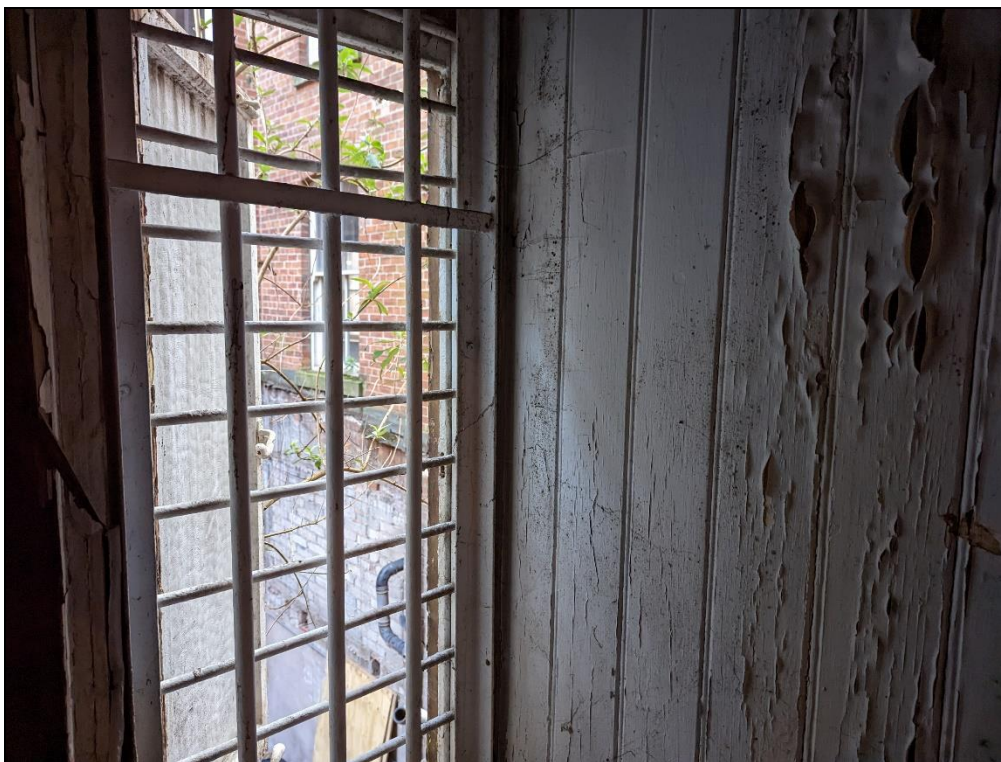
Panelling on first floor



Panelling forming toilets on first floor



Panelling forming toilets on first floor



Panelling butting up to window in toilets



windows as viewed from outside showing inserted timber mullion in centre



Timber panelling forming office of first floor



Timber panelling up to revealed fireplace floor



Timber panelling cut around sprinkler system



Timber partition / panelling at fourth floor.



Timber partition / panelling at fourth floor.

The timber panelling around the modern lift appears to be modern and is wider than the rest of the panelling found throughout, suggesting it was added during a different period.





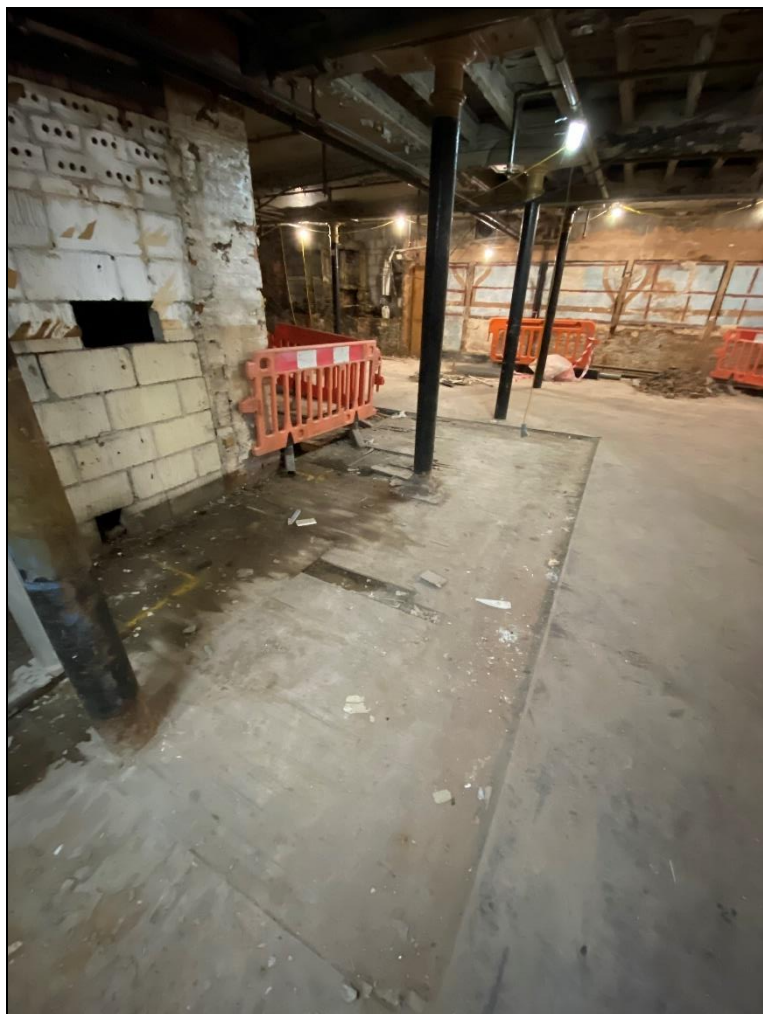
Rough finish of panelling around lift

Timber floor in basement of Mindel House

Timber flooring around the central lift shaft was observed and appears to comprise historic boards. Investigation by Hutton + Rostron has suggested that the boards are not thought to be original to this setting and may have been recycled from a late 19th Century warehouse or mill building.



Historic boards around the lift shaft at basement level.



Historic boards around the lift shaft at basement level.



Historic boards around the lift shaft at basement level.

Timber floor in basement of Bloom Street

The timber boards appear to be original, although in a very poor condition. This timber area appears to have only been in the centre of the room, rather than across the whole basement. The line of the concrete which butts up against the edge of the boards is straight, with the occasional offset. This is reminiscent of stone flags having been in place prior to the concrete, suggesting that the basement had flags around the outside with timber boards to the centre.



Decayed timber boards butted by concrete



Line of concrete butting against timber boards evocative of flag stones



Boards supported on stone walls



Brick wall supporting boards at junction with concrete, showing a pink lime mortar suggestive of 19th century construction



Floorboard finish around stanchion

Heritage Assessment

The approach to the features identified within this note (and other historic features) is set out within the 'Additional Features' report prepared by Manchester Design & Build. The overall approach is as summarised as follows:

- 1. Skirting** – Retained, preserved and encapsulated.
- 2. Cornicing** - Retained, preserved and encapsulated.
- 3. Timber Panelling** – Refurbished, re-located to common corridors.
- 4. Timber Partitions** – Retained in place, timber panelling re-used in common corridors, retained as façade to common corridors or removed from building.
- 5. Timber basement floor** – Replaced with new boards to match existing.
- 6. Safe Door** – Refurbished and retained in place.
- 7. Hoist Doors** – Retained, refurbished and relocated.
- 8. Lift Doors** – Retained, refurbished and relocated.
- 9. External Gates** – Retained, refurbished, repositioned or removed from site.
- 10. Fire Alarm Bell, Valves, Gauge and Sprinkler System** – Sprinkler pipes to be removed, Valves, gauges and alarm bell to be retained, refurbished and repositioned.

The above adopts a heritage-led hierarchical approach to historic features, first seeking to retain and repair in-situ, then if not possible, for instance due to the approved residential conversion layout, sensitively relocate/reuse with appropriate identification of the relocation. Where fabric cannot be feasibly retained replacement is identified.

The approach recognises the value of retained historic fabric with details of appropriate repair/relocated etc. identified. Subject to the appropriate specification / methodology then the approach is considered acceptable in heritage terms. Whilst some adaption and alteration is necessary to allow for features to be incorporated this is considered acceptable and justifiable in order to facilitate the viable reuse of the buildings.

E – Sprinkler Assessment - Piccadilly Warehouse

Loss Prevention Consultancy Ltd

For Manchester Design and Build Limited



Review of obsolete automatic fire sprinkler system in Piccadilly Warehouse,
Minshull Street, Manchester

By

Stewart Kidd MA, MSc, FIFireE, FIFSM, FSyl, CPP, FSA (Scot),
Chartered Security Professional

Report: 22/1067

28 January 2021

Loss Prevention Consultancy Ltd
For Manchester Design and Build Limited

**Review of obsolete automatic fire sprinkler system in the
Piccadilly Warehouse, Minshull Street, Manchester**

I have been instructed to review the condition of the fire sprinkler system presently installed in the former Piccadilly Warehouse, Minshull Street, Manchester. I am advised that the property is to be converted into apartments.

Introduction

Automatic fire sprinkler systems were developed in the NW of England in the last quarter of the 19th century primarily to protect warehouses and cotton mills from fire. These systems were designed to provide property protection (and were not intended for the safety of occupants) and were normally installed at the behest of the building's fire insurer.

At the time, most fire insurance companies were all members of the Fire Offices' Committee¹ which rated warehouses according to their levels of fire resistance and the cost of insurance for stored goods in a sprinkler protected warehouse would be considerably lower than in an unsprinklered warehouse. In 1885 the Mutual Fire Insurance Company of Manchester published the world's first standards for the installation of automatic fire sprinkler systems, and these became the First Edition of the *FOC Rules for Automatic Sprinkler Systems*².

The Sprinkler System

The sprinkler system in the Piccadilly Warehouse, as far as can be ascertained, was probably installed between in the years before the First World War. The main sprinkler valve marked 'Mather & Platt' was in production from 1890 until 1948. (Photo 1) Its alarm components almost certainly date from no earlier than 1910. However, many of the visible sprinkler heads date from the 1960/70's - possibly having been installed when alterations were undertaken when the building's use changed from warehousing to offices. The alterations undertaken included extensions to the water distribution pipework and relocation of sprinkler heads as well as new heads.

Other components of interest include the large pressure gauges (Photo 2) and the rotary alarm gongs. Photo 3A shows the interior of the building with the gongs painted in white. Photo 3B shows the exterior of the gongs in red – these are a common sight in urban areas in Lancashire and the NW. Photo 3C shows the detail of the sprinkler valve warning plate which is intended to assist the fire brigade when responding to a protected building. This would originally have been painted white with red lettering.

¹ 1868-1985 <https://aim25.com/cats/118/17180.htm>

² <https://www.bafsa.org.uk/wp-content/uploads/bsk-pdf-manager/2017/06/BIF-26-Sprinklers-and-the-Insurance-Industry.pdf>

Much of the sprinkler pipework appears in poor condition with evidence of past leakage at the joints – not unusual in a pipe threaded system of this age. Perhaps the oldest part of the visible pipework is shown at Photo 4A. Photo 4B shows what may be the oldest sprinkler head in the building, possibly pre-WW1. For comparison, Photo 5 shows a relatively modern sprinkler head probably installed in the 1970's or later when the building's use changed. It will be possible to date the head precisely by close examination of the deflector or yoke which I was not able to do at the time of my visit.

Much of the pipework in the system is visibly corroded as are other components – for example, the alarm valve in Photo 6. The extent of the external corrosion suggests a high probability that internally, all the pipework and valves will be in very poor condition from corrosion ('rusticles') and accumulation of silt etc. Experience suggests that the distribution pipe network in mains-fed sprinkler systems (such as this one) can accumulate significant internal debris which it is impossible to remove and in operating systems requires the pipework to be replaced - this required under the 25 year testing regime imposed by BS EN 12845-2109 and the LPC Sprinkler Rules (which replaced the FOC Rules in 1987

The Proposed Conversion

While residential properties in England which are 11m or higher above ground level are now required to be protected by a BS 9251/BS EN 16925 sprinkler system, this only applies to projects commenced after 26 November 2020. I am advised that the planning process for the conversion to residential use began before this date so there is no mandatory provision for a fire suppression system as part of the conversion work.

Even if there were, it should be emphasised that re-use of the existing sprinkler system (or any of its parts) to protect the proposed adaptive reconstruction simply is not feasible. Not only is the pipework in poor condition – likely to be even worse internally - but it will be in the wrong place and of the wrong dimensions for the coverage demanded by a modern residential sprinkler system. There would also be contractual issues in that no certificated sprinkler installer would undertake work involving the re-use of questionable components which could not be covered by a Certificate of Conformity which is mandatory under BS 9251 and BS EN 16925.

It is my view that retaining the pipework, even if isolated and rendered non-functional, also poses issues for the fabric of the adaptive reconstruction implicit in the conversion of the existing building to residential use:

1. AD-B-3(4) compliance will be impacted by the presence of sprinkler pipe transiting new fire barriers - all transits would need to be additionally fire stopped. The presence of the system may also result in the construction of voids and cavities with all that implies in compliance with AD-B-5.16, 5.24 (and fire resistance to 6.7 as the building is over three storeys.) I believe the project will also have problems in complying with the requirements for compartmentation as specified in AD-B-7.1 to 7.7.

2. It is certain that given the age of the pipework there will be significant internal microbially-induced corrosion (MIC). MIC is caused by bacterial microbes in combination with four other environmental conditions: metals (host location), nutrients, water, and oxygen (although some types of bacteria need only very small amounts of oxygen). In addition, some microbial reactions will only occur within certain temperature ranges. The bacteria that cause MIC are ubiquitous in the environment and piping materials, so when all these environmental conditions are present, microbial growth will occur – and continue until the dissolved oxygen is consumed. Once the

nutrients in the water are consumed, the microbes may become dormant, but the existing external corrosion will continue to destroy the structure of pipework and valves if these are left *in situ*.

3. At the time of my visit, the pressure indications on the gauges suggested that the system upstream of the stop and alarm valves was pressurised at 3.5 Bar. This in itself presents a hazard to the construction process during the conversion of the building³.

4. The MIC within the pipework may be presently stable but as soon as the water is drained, the fresh supply of air will allow the microbes to become active, and corrosion re-commence. Draining the system will also generate the possibility of release of water contaminated by *Legionella pestis* during the process and the resultant contaminated water may need special disposal as it will fall into Fluid Category 4 under the Water Regulations.

5. The system is directly fed from a service (towns') main connection which will need to be isolated in any case. Great care should be taken undertaking this as there may not be any back-flow prevention so that the service main could be catastrophically affected by the entry of contaminated Category 4 sprinkler water. This could result in the imposition of serious penalties by the water supplier or the Environment Agency

Heritage Value of Preserved Fire Protection Systems

I do not believe there is any real merit in retaining the sprinkler pipework, valves and heads in the Piccadilly Warehouse as they will not bring any particular aesthetic or heritage value to the building and, of course, are not a rare survivor as many (most?) late 19th century warehouse and industrial buildings in this area were sprinkler protected. Many of the older mill and warehouse buildings still in use retain such equipment.

While it would be possible to conserve and refurbish the valves and related components and individual sections of pipework for display these will almost certainly be in inappropriate areas or where parts of the new structure impact on their visibility. It's hard to see how the alarm valves in Photos 1 and 6 could be displayed *in situ* given their present locations.

While I have great sympathy and support for any intention to protect and display industrial heritage, I don't believe that this is likely to be feasible within the proposed re-development.

It might be worth considering removing the better of the two sprinkler alarm valves and displaying this in a public space such as a foyer or entrance lobby - with suitable interpretative information. Equally, the rotary alarm gongs could be refurbished and retained on the exterior of the building together with the sprinkler stop valve sign, but it's likely that the internal portions would have to be removed as part of the adaptive reconstruction.

However, there is a potential downside to this suggestion in that many buildings with sprinkler systems utilise external alarm gongs and stop valve signs and confusion could occur if the fire and rescue services were to respond to this building after conversion and were misled into thinking that the building is still protected by a working sprinkler system. It's also possible that if there are visible sprinkler heads present in the building this might equally mislead residents or visitors into think that the building is sprinkler protected.

³ UK insurers presently pay out more for water damage on Construction All Risks policies than they do for fire damage!

As an alternative it has been suggested in similar contexts that the whole sprinkler system could be removed, cleaned, conserved and reinstalled. As a fire engineer with a special interest and expertise in heritage protection I have worked on many buildings where we have tried to retain historic fire fighting equipment which tells a key part of a building's history. However, I've never heard of any project to remove, conserve and reinstate a whole sprinkler system. Not only would the cost be prohibitive but I do not believe it would be feasible as by far the greater part of the pipework is beyond salvation and would need to be replaced with modern materials. This would not, in my opinion, be a valid, rational approach to preserving the history of the building and would essentially be a pastiche rather than preservation and conservation.

Disposition of the Sprinkler System

If it is decided, as I recommend, to remove the system in its entirety, it is likely that a home for most of the major components and the older sprinkler heads could be found in the redeveloped Greater Manchester fire brigade museum which has recently re-opened in the former Rochdale fire station as 'Fireground'⁴. I would be happy to liaise with the museum if this would be helpful.

Conclusion & Recommendations

1. It should be recognised that although there has been a sprinkler system in the warehouse building for more than 100 years, it lacks significant authenticity and originality having been modified over the years to take account changes of use and the layout of the building. Much pipework and many sprinkler heads date from the 1970's. (Photo 5)
2. However desirable from a heritage conservation perspective, retention of a non-functioning sprinkler system is likely to prove both impractical and potentially hazardous. This is not only because of the extent of corrosion and poor state of many of the components but also because display or preservation *in situ* will not be feasible. It's also likely that any attempt to remove, conserve and display components in isolation will lead to a loss of context and authenticity. I believe it will also prove difficult to provide any meaningful ways of displaying the large alarm valves within the converted building. Corrosion will continue after the system is drained and may cause serious problems for the owner and occupiers of the building in future.
3. Conservation and retention of the rotary alarm gongs on the exterior of the building would seem to be relatively simple but sadly, will create potential confusion with the fire and rescue service which might reasonably expect that the presence of the gongs meant that the building was still equipped with a working sprinkler system.
4. The preferred option, in my opinion, would be for retention and display of the older and larger parts of the system. This could most easily involve their careful relocation to a suitable venue for conservation and public display. I am sure that the new Greater Manchester fire museum in Rochdale would be interested in providing a 'safe home' as part of its collection which is to be expanded to include displays of firefighting equipment constructed by local companies such as Mather & Platt.

⁴ <https://www.fireground.org.uk>

5. As an immediate priority, the supply of water to the system from the local service mains should be isolated with due attention paid to the prevention of contamination of the mains by backflow. This would require the sprinkler system to be fully drained first. Care should be taken at this time to minimise those working in the building when the system is drained from any potential hazard from *Legionella pestis*.

I would be happy to advise further on any of these matters.

Photos



Photo 1: Detail of Sprinkler Alarm Valve

Despite the Mather & Platt nameplate, this is a Dowson Taylor 'Type A' alarm valve. Dowson Taylor merged with Mather & Platt in 1896.



Photo 2: Pressure Gauges



Photo 3A Interior of building showing rear of rotary alarm gongs



Photo 3B Exterior of building showing red painted rotary alarm gongs



Photo 3C Sprinkler Marker Plate (directly below alarm gongs)

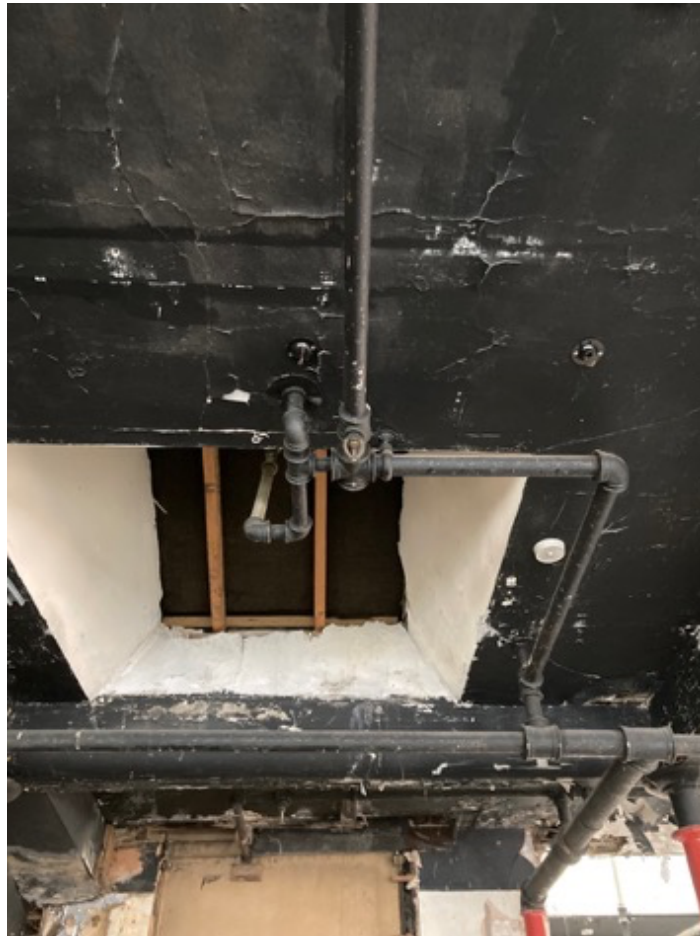


Photo 4A: Old pipework and sprinkler head – certainly pre-WW2

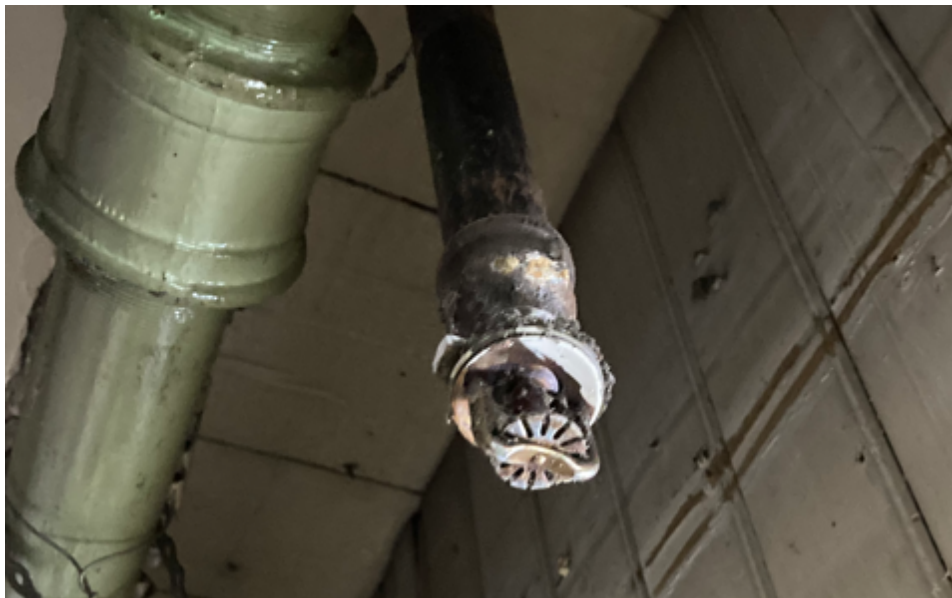


Photo 4B: Probably oldest visible sprinkler head
Note external corrosion on range pipe above head



Photo 5: Modern sprinkler head and pipework



Photo 6: Extensively corroded alarm valve

Consultants' Qualifications and Experience

Stewart Kidd has worked in security and fire protection since 1974. He has provided consultancy and expert witness services since 1997.

He was the Director of the Fire Protection Association from 1989 – 1997. He is a former President and now Life Vice President of the Institute of Fire Safety Manager and a member (by examination) of the Institution of Fire Engineers since 1979 and a Fellow since 1995. He was elected a Chartered Security Professional in 2012. From 2001 – 2016 he was Director and Secretary General of the British Automatic Fire Sprinkler Association. He continues to advise the association and leads on the use of fire suppression systems for the protection of heritage and historic buildings and represents the sprinkler industry on several British Standards committees including sprinklers, water mist and fire protection systems.

He is the author of eight books on fire and security topics including the Historic Scotland's *Guide for Practitioners No 7*, the Scottish Building Standards ACOP on heritage fire safety. He also chaired the UK Working Party on the Protection of Historic Buildings from Fire set up after the Hampton Court fire. The output from this work was the FPA's guide *Heritage Under Fire* which he edited. From 2003-2007 he was the UK nominee to the EU's COST C17 Action on protection of heritage. He is presently Vice Chairman and a Trustee of the Fire Service National Museum Trust. He is a Fellow of the Society of Antiquaries of Scotland with a significant interest in industrial archaeology and cinema and theatre buildings.

F – PW- Metalworks Refurbishment Methodology



Bloom & Mindel

Manchester

Method Statement

For Steel work Refurbishments

**To External Gates, Internal Shutters, Radiators
& Fireplaces.**

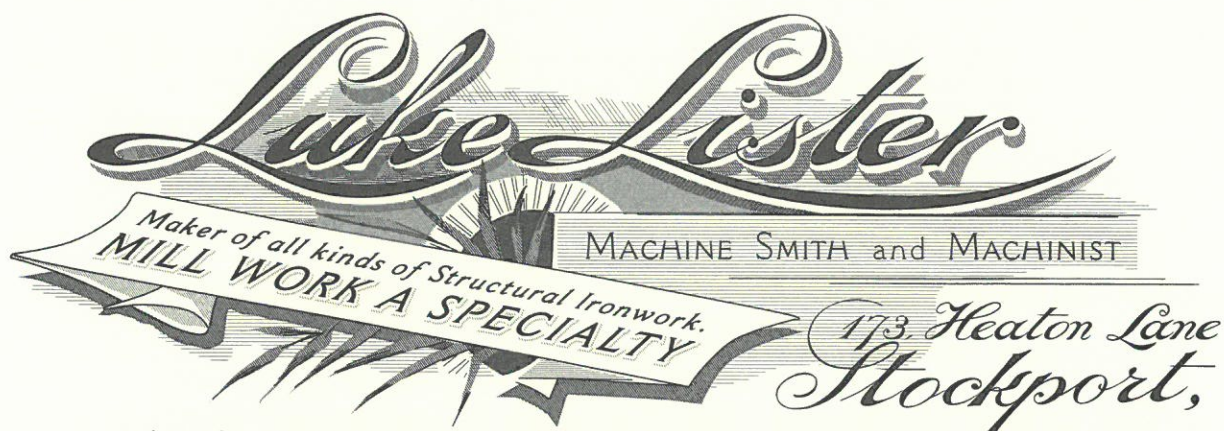
- **Removal of Items.**

Where the items need to be removed for repairs and refitting, great care will be taken to cut away the old existing fixtures as to not damage the original metalwork or the surrounding masonry, only the old bolts/fixings will be touched. Where the masonry is then missing, repairs will be carried out by others.

- **Scope of Works.**

All the items which are to be worked on will need the same care and attention when the works are carried out, whether they are staying in original position or moving to a new site with-in the building. These repairs will be carried out to not damage or pit the original metal. Further damage to original metal will be avoided by use of micro stripping along with the use of rotary wire brushes which gently remove rust without further damage. When sections are too rotten/corroded these will be cut away and replaced using the same section of material and fixed as the original would have been. This will either be by welding or of mechanical fixing to complement the original integrity of the section we are repairing.

Concertina shutters, scissor gates and all the other openings itemised which are to be refurbished/repared in situ will be checked to find out which sections of metal, if any, need to be repaired or new sections completely replaced, it will become clear



when the micro cleaning and wire brushing has taken place just how much the metalwork has deteriorated and need replacing. Cleaned with a wire brush and all joints on the numerous pivoting intersections oiled and freed-up and the running tracks cleaned and checked for any repairs (as above) carried out. All parts of the sliding sections should then be loose enough for free travel and to be ready for a paint covering. This will initially need to be coated with a chemical stabilizing solution called 'ferrozinc 525', coating prior to a primer and a top coat paint finish.

- **Re-Siting.**

Where items are to be relocated there needs to be manufactured a suitable galvanized bracket system designed to suit all the applications on the list. These will be made by ourselves off-site and used as and where applicable. The design can be approved later and used where needed.

- **Removal of items.**

If it is decided that it would be easier to remove any items from site for repairs these would be carried out in our work-shop near the site in Stockport. This would enable smaller items or badly corroded ones to be repaired out of the way and refitted at a later date when the site is ready for them. These repairs would be carried out in a similar way to the items above.

- **Extra Care**

When cleaning the items within this project the processes used to carry out is done in a careful manner as to preserve the originality of the metals. Whatever method is used it is important to bear in mind that the removed material may be highly toxic. In particular, historic paint may contain lead and other heavy metals, with implications for both personal health and the environment. To allow other contactors to carry on working I intend to use hand & power tools to clean the items as we can make sure no additional damage is caused and surrounding areas are not compromised. This will also allow us to keep the work area contained and the removal of debris straightforward.

- **Restoration Techniques**



As evidenced, architectural ironwork had a huge range of applications from ornamental to structural. This, paired with historical significance will determine any conservation plan & have obvious implications on which restoration method is used.

Since wrought iron is now only available as a recycled material, its retention and sympathetic restoration is even more important. Generally the aim is to stabilise, halt or slow further deterioration through cleaning or recoating and where necessary repair.

- **Mechanical Cleaning.**

Needle guns & descaling chisels can quickly & efficiently remove thick layers of paint & rust. Nominal dust is produced making it a suitable method when dealing with ironwork covered in hazardous lead based paints. Care will be taken however as there is a chance of surface damage but this can be mitigated in skilled hands.

- **Blast Cleaning.**

Any blast cleaning required in either water or grit/sand based I believe would need to be carried out off site by skilled professionals, where all residue can be controlled and disposed of appropriately allowing the site to be clear of such hazards.

- **Flame Cleaning**

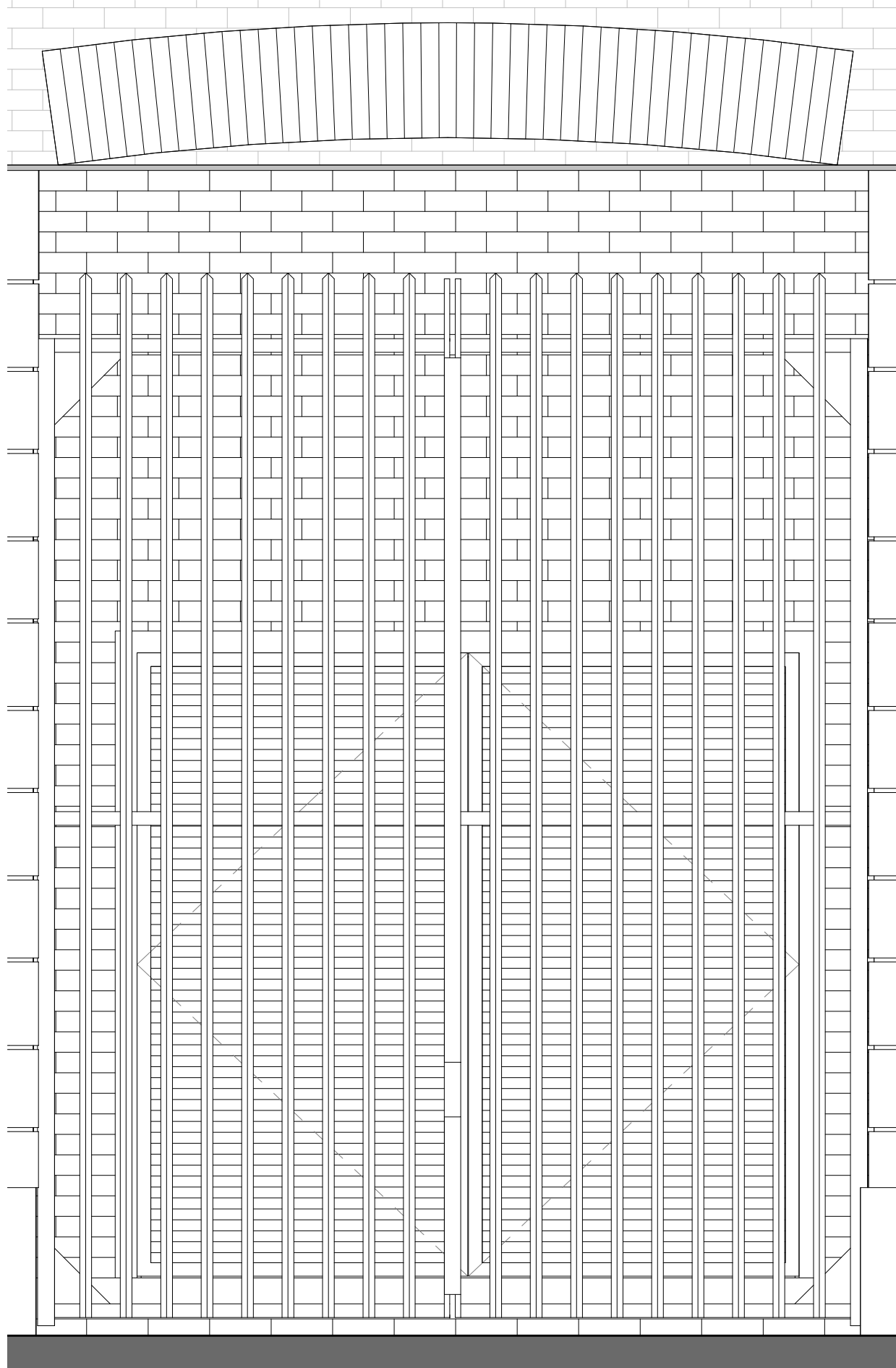
Any areas deemed suitable for small local heating with a flame to remove rust. This process has been found to be good at removing rust and paint when used on small areas, making sure all residues are collected and fumes are removed by electric venting.

Martin Lister

G – 013-MDB-PW-XX-EL-A-0003-A – IRONWORKS GATES ALLEYWAY

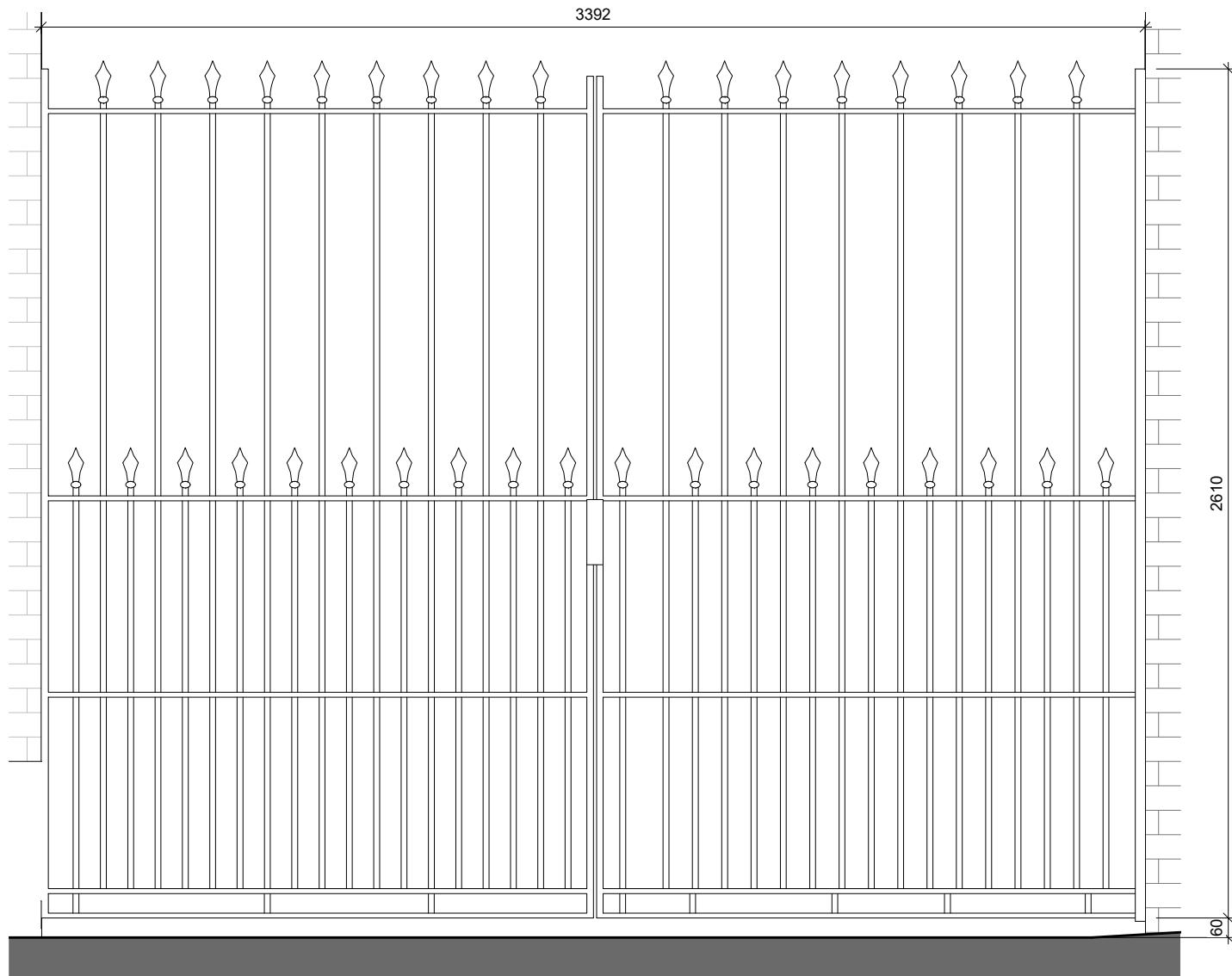
GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED
2. ALL LEVELS ARE IN METRES UNLESS OTHERWISE STATED
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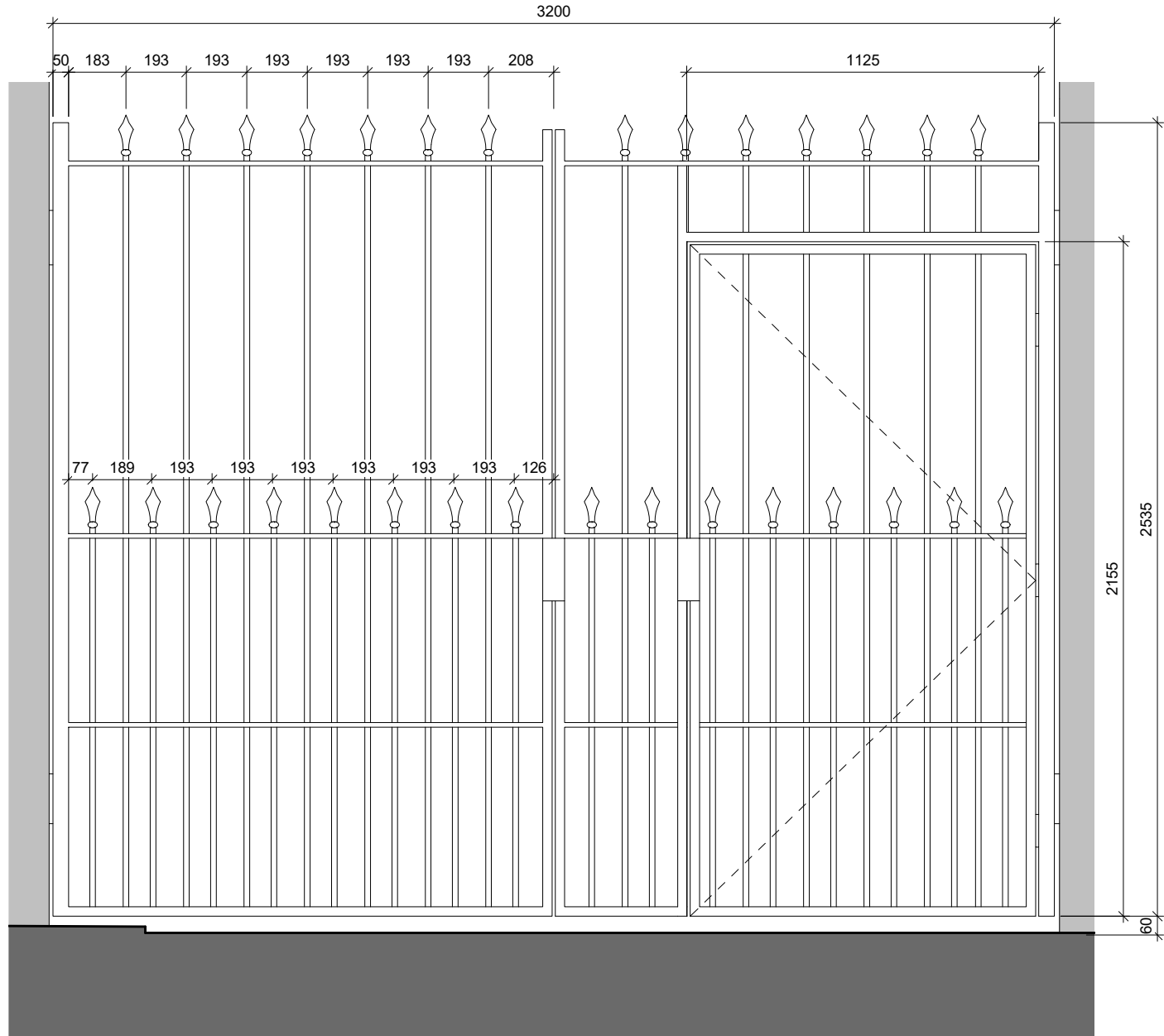
1 Existing Refurbished Hovel Gate - Richmond St.

Existing (presumed) iron work gate with later steel repairs to be refurbished and restored with materials similar to existing. Re-painted black and adjusted to fit between reveal. New central locking mechanism to be installed.



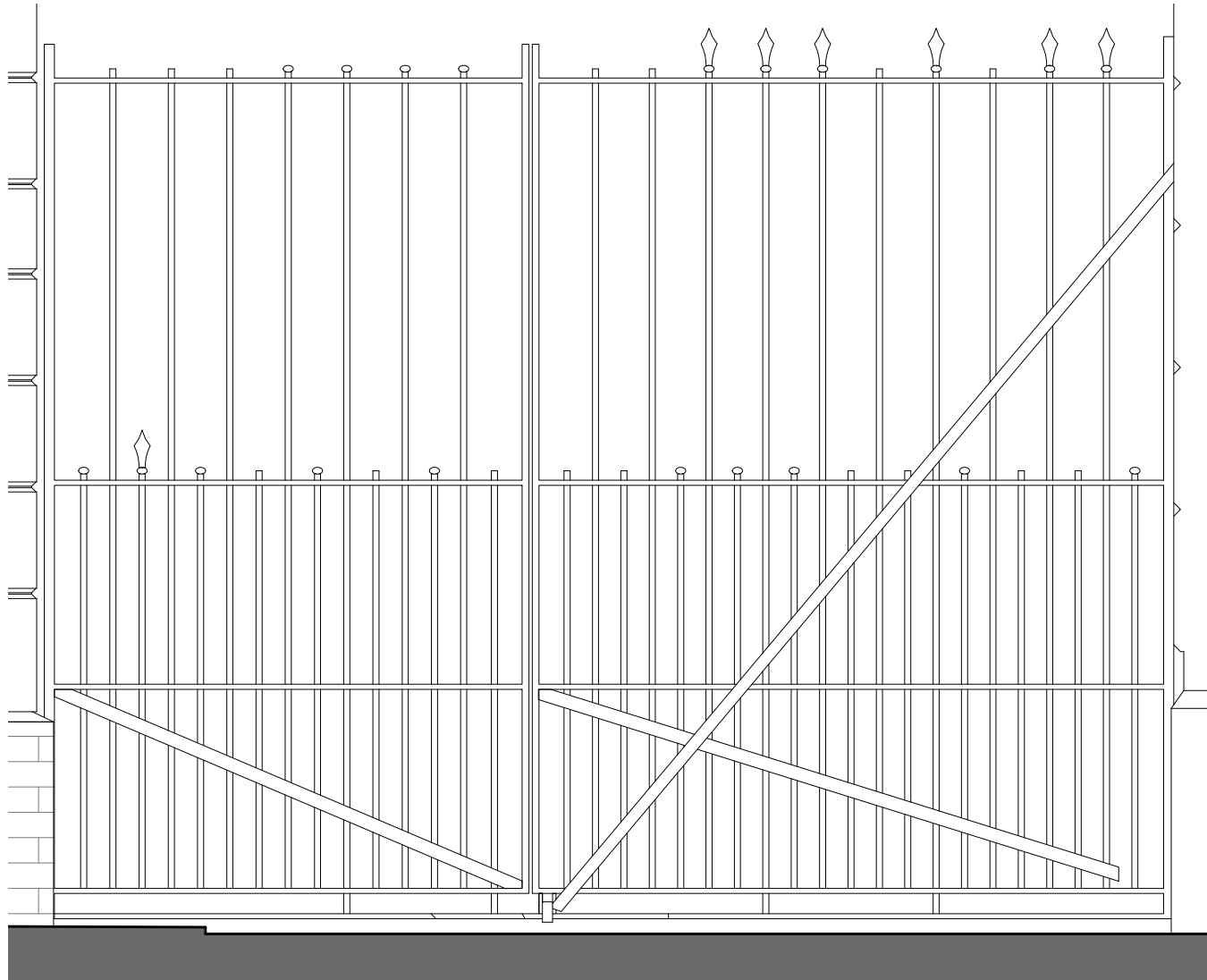
2 New Imitation of Existing Gate - Richmond St.

New gate to imitate existing Bloom St. Gate (5). Painted black with central locking mechanism.



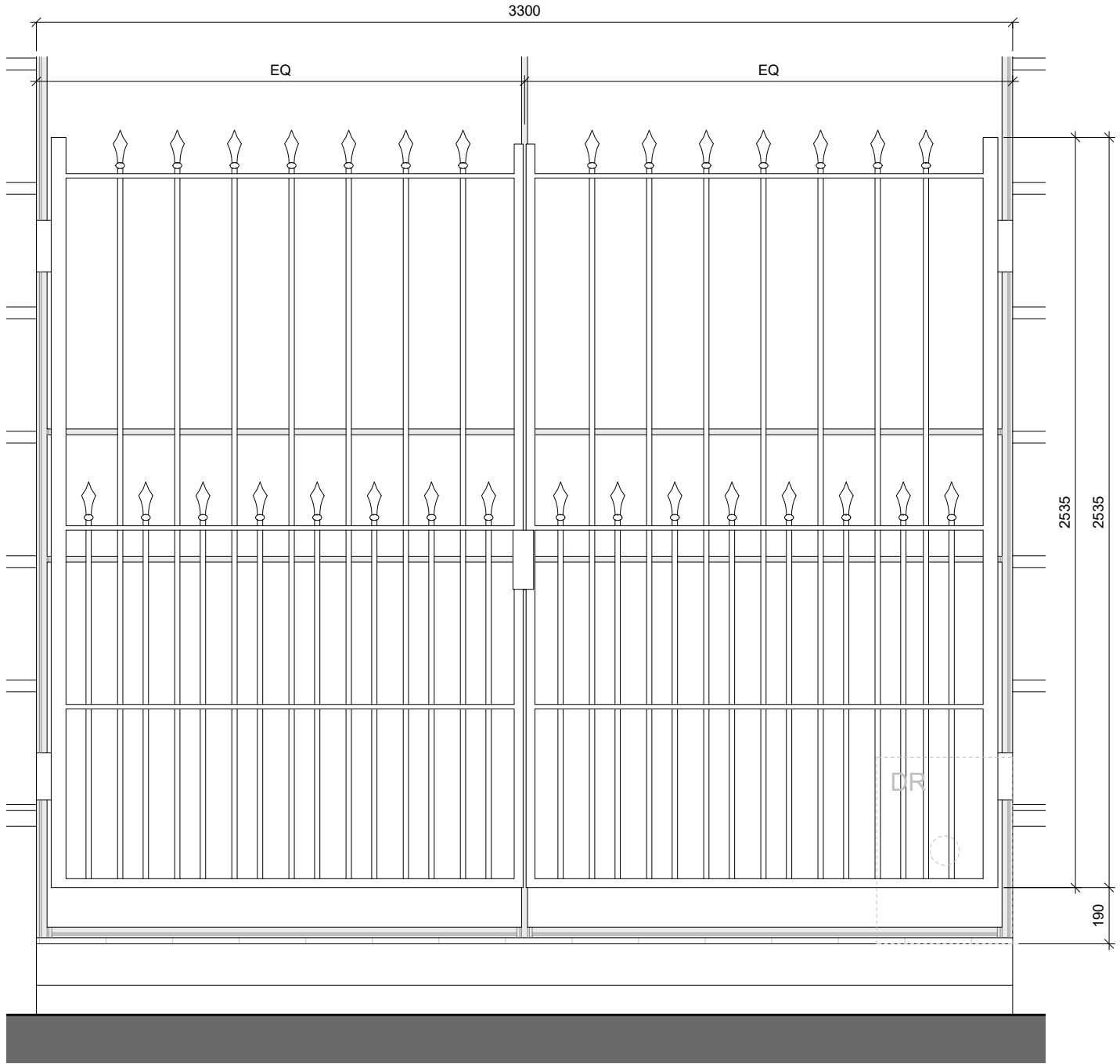
3 New Imitation of Existing Gate (with pedestrian access) - Bloom St.

New gate to imitate existing Bloom St. Gate (5). Painted black with central locking mechanism for vehicle and in-built DDA compliant pedestrian access gate with maglock and self-closing mechanism connected to callpoint system, specified by M&E consultant.



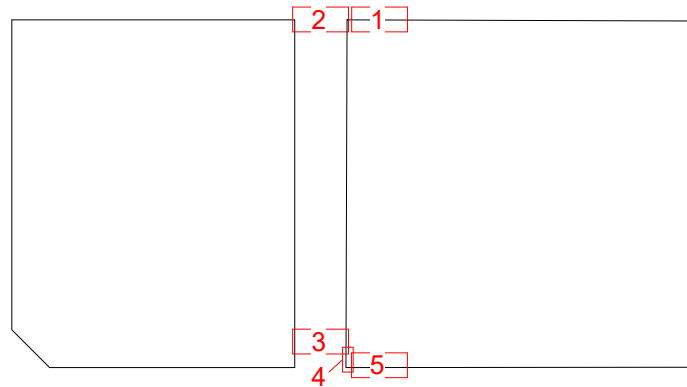
4 Existing Refurbished Gate - Bloom St.

Existing iron work gate to be made good, vandalised rails to be straightened and fixed with materials similar to existing. Failed paint and rust removed and gate to be re-painted black and hinge mechanism fixed. Gate to be afixed open in current/ former open position.



5 New Imitation of Existing Gate - Bloom St.

New gate to imitate existing Bloom St. Gate (5). Painted black fixed shut and fitted between reveals to former Bloom St. building opening. Dry Riser Inlet to be surface mounted to step in front of gate, lower rail in localised area to be adjusted to fit inlet into building and through Curtain wall behind gate.



REFERENCE PLAN GATES

Contractor to provide method statement for works and confirm and agree all measurements, fixing locations and existing gate dimensions on site prior to production of, or works to any gates.

A ISSUED FOR APPROVAL NP 11.05.22

Rev Description By Date



PICCADILLY WAREHOUSE

PROJECT:

IRONWORK GATES
ALLEYWAY

DRAWING TITLE:

PLANNING

DRAWING STATUS: NP

DRAWN: NP CHECKED: NP

SCALE @ A1: As indicated DATE: 18.03.22

013-MDB-PW-XX-EL-A-0003 A

DRAWING NUMBER:

REV

(A1)

H – 013-PW-EXISTING METALWORKS SCHEDULE

INTERNAL METALWORKS SCHEDULE

DOOR/ SHUTTER TYPE	IMAGE	LOCATION	GENERAL APPROACH	COUNT
CONCERTINA SHUTTER & HIDDEN SECURITY SHUTTER GATE		BS - 1ST FLOOR	REFURBISH & RETAIN IN OPEN POSITION	2
CONCERTINA SHUTTER & HIDDEN SECURITY SHUTTER GATE		BS - 2ND FLOOR	REFURBISH & RETAIN IN OPEN POSITION	2
CONCERTINA SHUTTER & HIDDEN SECURITY SHUTTER GATE		BS - 3RD FLOOR	REFURBISH & RETAIN IN OPEN POSITION	2
CONCERTINA SHUTTER & HIDDEN SECURITY SHUTTER GATE		BS - 4TH FLOOR	REFURBISH & RETAIN IN OPEN POSITION	2
SUB-TOTAL				8

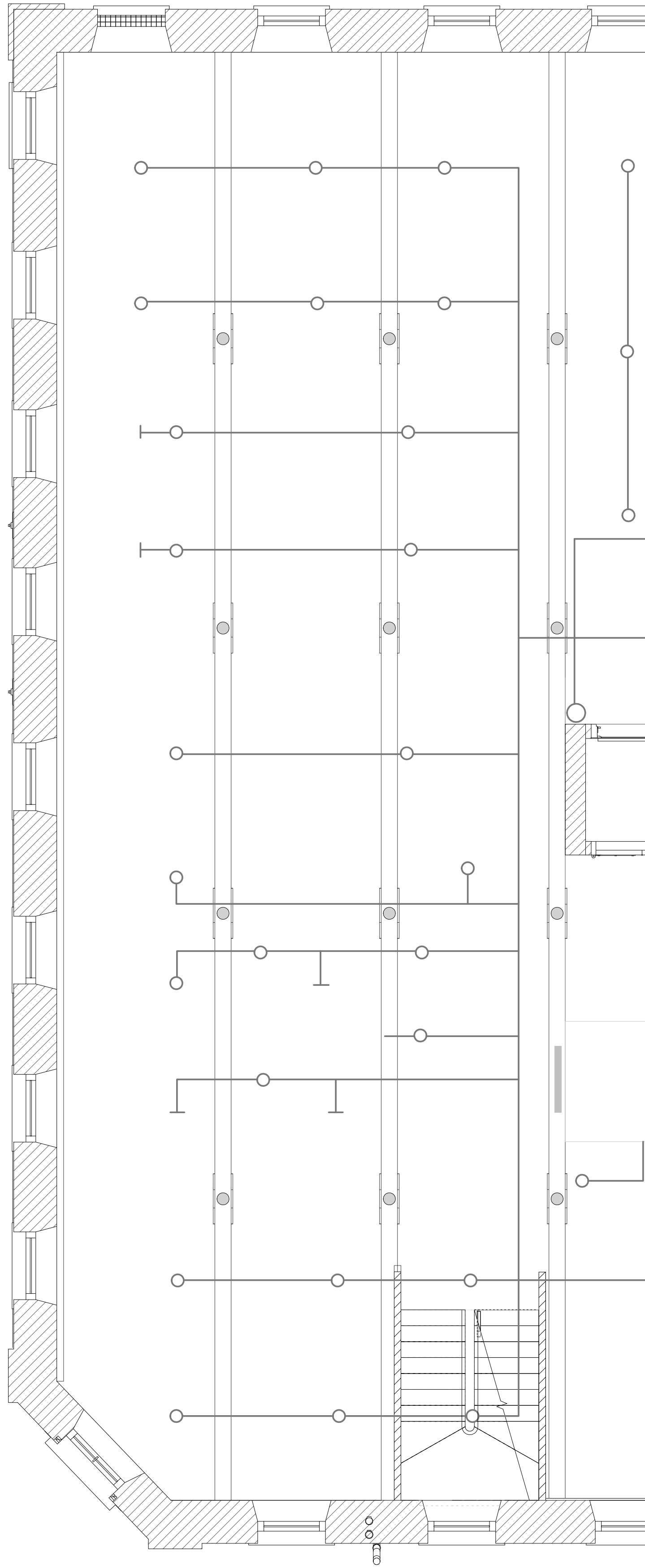
CONCERTINA SHUTTER & HIDDEN SECURITY SHUTTER GATE		MH - LG FLOOR	REFURBISH & RETAIN IN CLOSE VICINITY TO ORIGINA LOCATION	2
CONCERTINA SHUTTER & HIDDEN SECURITY SHUTTER GATE		MH - UG FLOOR	REFURBISH & RETAIN IN CLOSE VICINITY TO ORIGINA LOCATION	2
CONCERTINA SHUTTER & HIDDEN SECURITY SHUTTER GATE		MH - 1ST FLOOR	REFURBISH & RETAIN IN OPEN POSITION	2
CONCERTINA SHUTTER & HIDDEN SECURITY SHUTTER GATE		MH - 2NDFLOOR	REFURBISH & RETAIN IN OPEN POSITION	2
CONCERTINA SHUTTER & HIDDEN SECURITY SHUTTER GATE		MH - 3RD FLOOR	REFURBISH & RETAIN IN OPEN POSITION	2
CONCERTINA SHUTTER & HIDDEN SECURITY SHUTTER GATE		MH - 4TH FLOOR	REFURBISH & RETAIN IN OPEN POSITION	2
SUB-TOTAL				12

HOIST SLIDER & DECORATIVE PANEL		MH - UG FLOOR	REFURBISH & RETAIN IN CLOSE VICINITY TO ORIGINAL LOCATION	1
HOIST SLIDER, DECORATIVE PANEL, SECURITY SCISSOR SHUTTER		MH - 1ST FLOOR	REFURBISH & RETAIN IN CLOSE VICINITY TO ORIGINAL LOCATION	2
HOIST DOOR & DECORATIVE PANEL		MH - 2ND FLOOR	REFURBISH & RETAIN IN CLOSE VICINITY TO ORIGINAL LOCATION	1
HOIST SLIDER & DECORATIVE PANEL		MH - 3RD FLOOR	REFURBISH & RETAIN IN CLOSE VICINITY TO ORIGINAL LOCATION	1
HOIST SLIDER & DECORATIVE PANEL		MH - 4TH FLOOR	REFURBISH & RETAIN IN CLOSE VICINITY TO ORIGINAL LOCATION	1
SUB-TOTAL				6

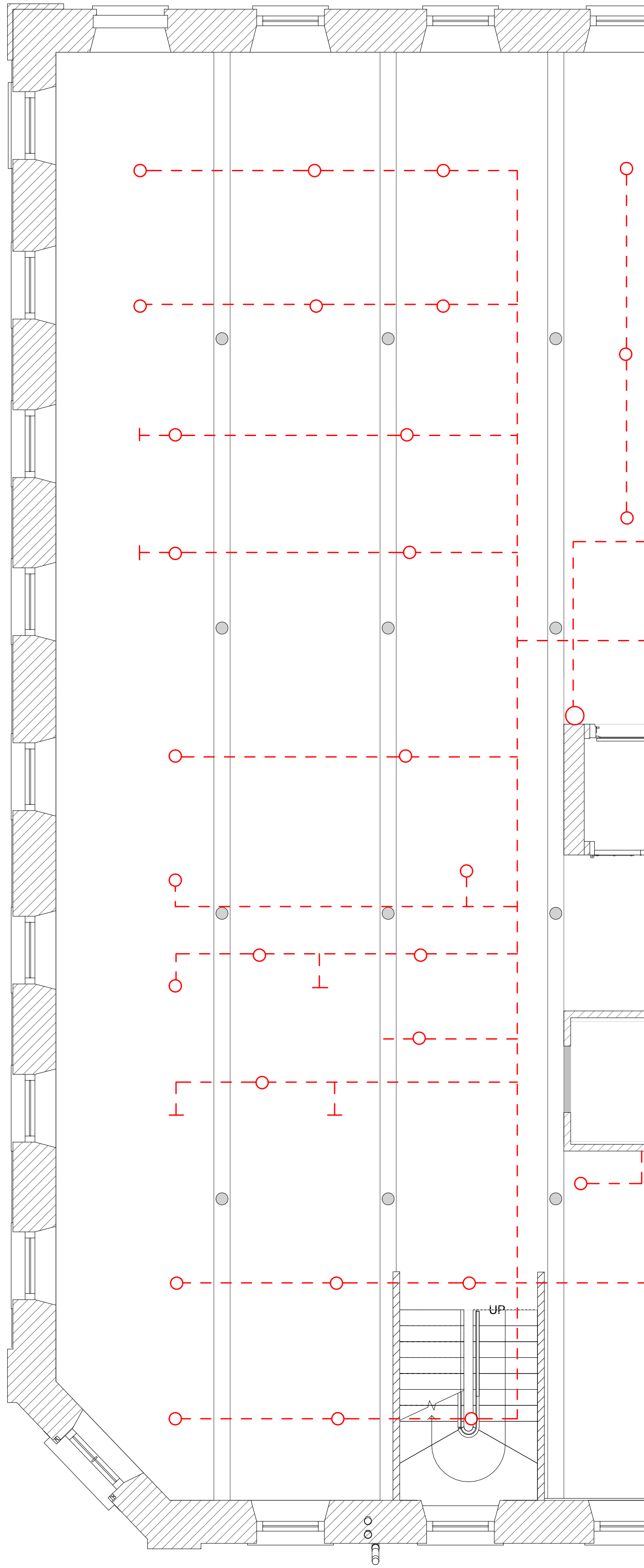
REAR HOIST DOORS	 TYPICAL IMAGE. DOOR INACCESSIBLE	MH - UG FLOOR	REFURBISH & RETAIN IN ORIGINAL LOCATION	1
REAR HOIST DOORS		MH - 1ST FLOOR	REFURBISH & RETAIN IN ORIGINAL LOCATION	1
REAR HOIST DOORS		MH - 2ND FLOOR	REFURBISH & RETAIN IN ORIGINAL LOCATION	1
REAR HOIST DOORS		MH - 3RD FLOOR	REFURBISH & RETAIN IN ORIGINAL LOCATION	1
REAR HOIST DOORS		MH - 4TH FLOOR	REFURBISH & RETAIN IN ORIGINAL LOCATION	1
SUB-TOTAL				5

SUB-BASEMET DOOR		MH - SUB-BASEMENT	REFURBISH & RETAIN IN ORIGINAL LOCATION	1
SUB-TOTAL				1
SAFE DOOR		MH - LG - FLOOR	REFURBISH & RETAIN IN ORIGINAL LOCATION	1
SAFE DOOR		BS - 1ST FLOOR	REFURBISH & RETAIN IN ORIGINAL LOCATION	1
SUB-TOTAL				2
FIREPLACE		MH - 1ST FLOOR	REFURBISH & RETAIN IN ORIGINAL LOCATION	1
FIREPLACE		BS - 3RD FLOOR	REMOVE BRICKWORK, REFURBISH & RETAIN IN ORIGINAL LOCATION	1
SUB-TOTAL				2
GRAND TOTAL				36

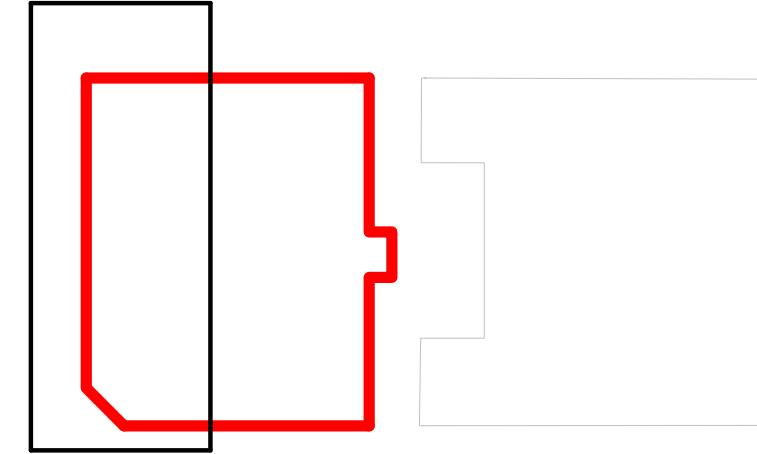
I – SPRINKLER DRAWINGS



MH - TYPICAL EXISTING CEILING PLAN
1 : 50



MH - TYPICAL EXISTING SPRINKLER RETENTION PLAN
1 : 50



REFERENCE PLAN
1 : 500

LEGEND:

- SPRINKLER SYSTEM CUT/ENDS
- SPRINKLER HEAD AND PIPE
- SPRINKLER SYSTEM TO BE REMOVED

GENERAL NOTES

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Rev Description By Date



PICCADILLY WAREHOUSE

PROJECT:

MINDEL HOUSE
TYPICAL SPRINKLER
SPRINKLER REMOVAL SYSTEM

DRAWING TITLE

PLANNING

DRAWING STATUS

DRAWN: AM CHECKED: NP

SCALE: @ A3: As indicated DATE: 17.05.22

013-MDB-MH-ZZ-PL-A-0001

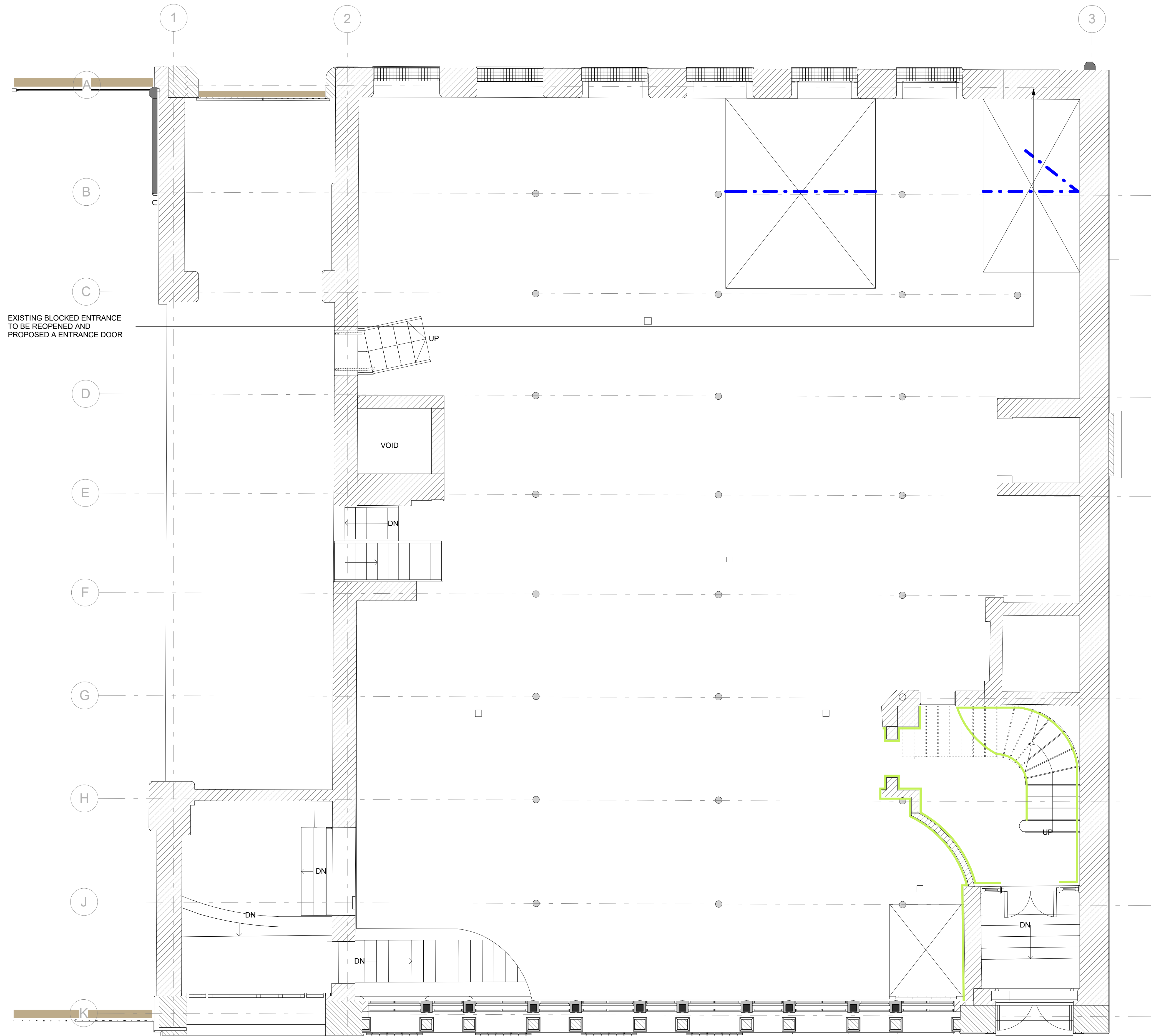
DRAWING NUMBER REV:

J – Radiator Schedule

INTERNAL OPENINGS METALWORKS SCHEDULE

RADIATOR	IMAGE	LOCATION	GENERAL APPROACH	COUNT
PIPE FREE STANDING		MH - 1ST FLOOR NE CORNER	REFURBISH & RELOCATE	1
TO BE DETERMINED		MH - 1ST FLOOR NW CORNER	REFURBISH & RELOCATE	1
COLUMN		MH - 2ND FLOOR CENTRE OF NORTH FAÇADE	REFURBISH & RELOCATE	1
CAST IRON		MH - 2ND FLOOR NE CORNER	REFURBISH & RELOCATE	1
COLUMN		MH - 2ND FLOOR EAST FAÇADE	REFURBISH & RELOCATE	1
COLUMN		MH - 2ND FLOOR NE CORNER EAST FAÇADE	REFURBISH & RELOCATE	1
COLUMN		MH - 2ND FLOOR SE CORNER EAST FAÇADE	REFURBISH & RELOCATE	1
COLUMN		MH - 4TH FLOOR NORTH FAÇADE	REFURBISH & RELOCATE	1
COLUMN		MH - 4TH FLOOR NW CORNER	REFURBISH & RELOCATE	1
WALL MOUNTED FLAT PANEL		MH - 4TH FLOOR NORTH FAÇADE	REFURBISH & RELOCATE	1
TOTAL				10

K – Additional Features Drawing Package



BS - 00 - EXISTING GROUND FLOOR - ADDITIONAL HISTORICAL FEATURES -
POST SOFT STRIP
1 : 50

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REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

PROPOSED DRAWING:
013-MDB-BS-00-PL-A-0101

RETENTION DRAWING:
013-MDB-BS-00-PL-A-0102

LEGEND:

- TIMBER WALL
- SKIRTING
- CORNICE
- SAFE DOOR
- CONCERTINA INDUSTRIAL SHUTTER
- METAL SCISSOR GATE
- GATES
- BLOCKED WINDOW
- STEEL BEAM

Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

BLOOM STREET
POST SOFT STRIP PLAN
GROUND FLOOR

DRAWING TITLE

PLANNING

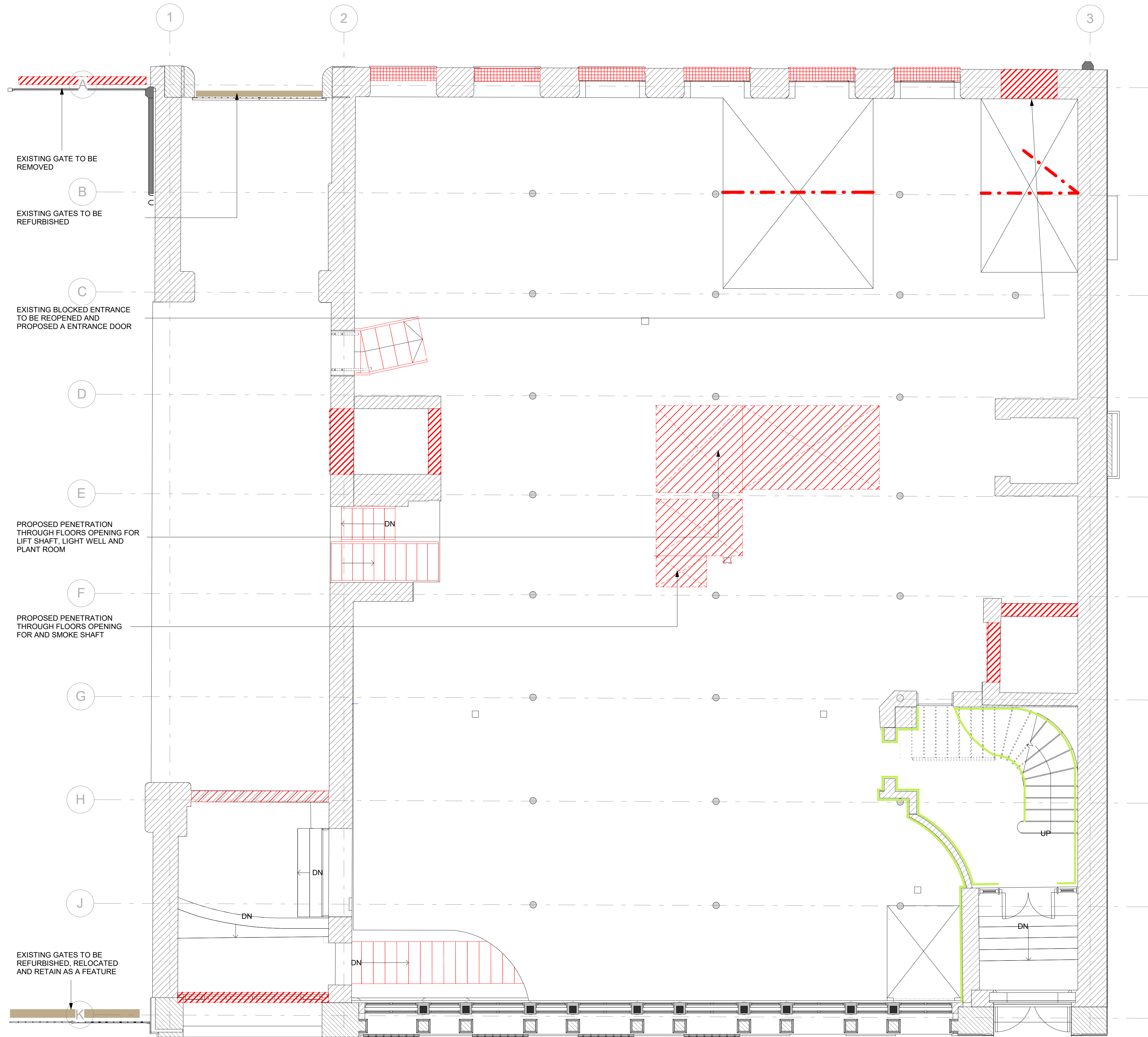
DRAWING STATUS

DRAWN: AM CHECKED: NP

SCALE: As indicated DATE: 31.01.22

013-MDB-BS-00-PL-A-0100

DRAWING NUMBER REV:



EXISTING GATE TO BE REMOVED

EXISTING GATES TO BE REFURBISHED

EXISTING BLOCKED ENTRANCE TO BE REOPENED AND PROPOSED A ENTRANCE DOOR

PROPOSED PENETRATION THROUGH FLOORS OPENING FOR LIFT SHAFT, LIGHT WELL AND PLANT ROOM

PROPOSED PENETRATION THROUGH FLOORS OPENING FOR AND SMOKE SHAFT

EXISTING GATES TO BE REFURBISHED, RELOCATED AND RETAIN AS A FEATURE

BS - 00 - EXISTING GROUND FLOOR - ADDITIONAL HISTORICAL FEATURES
RETENTION
1:50

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7. THIS DRAWING SHALL NOT BE DUPLICATED WITHOUT THE EXPRESS WRITTEN PERMISSION OF BEECH DESIGN AND BUILD LIMITED.

REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-BS-00-PL-A-0100

PROPOSED DRAWING:
013-MDB-BS-00-PL-A-0101

LEGEND:

SKIRTING TO BE ENCAPSULATED

CORNICE TO BE ENCAPSULATED

SAFE DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE

CONCERTINA INDUSTRIAL SHUTTER - TO BE REFURBISHED AND INCORPORATED AS A FEATURE IN THE APARTMENTS

METAL SCISSOR GATE TO BE REFURBISHED AND RETAINED AS A FEATURE

GATES TO BE REFURBISHED / PROPOSED TO MATCH EXISTING

ELEMENT TO BE REMOVED

BLOCKED WINDOW TO BE REOPENED

STEEL BEAM TO BE REMOVED

EXISTING STAIRS TO BE REFURBISHED AND MADE GOOD. SKIRTING AND CORNICING TO BE REFURBISHED, ENCLOSED WALL TO BE RESTORED

Rev Description By Date

MANCHESTER
design + build

CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

BLOOM STREET
RETENTION PLAN
GROUND FLOOR

DRAWING TITLE

PLANNING

DRAWING STATUS

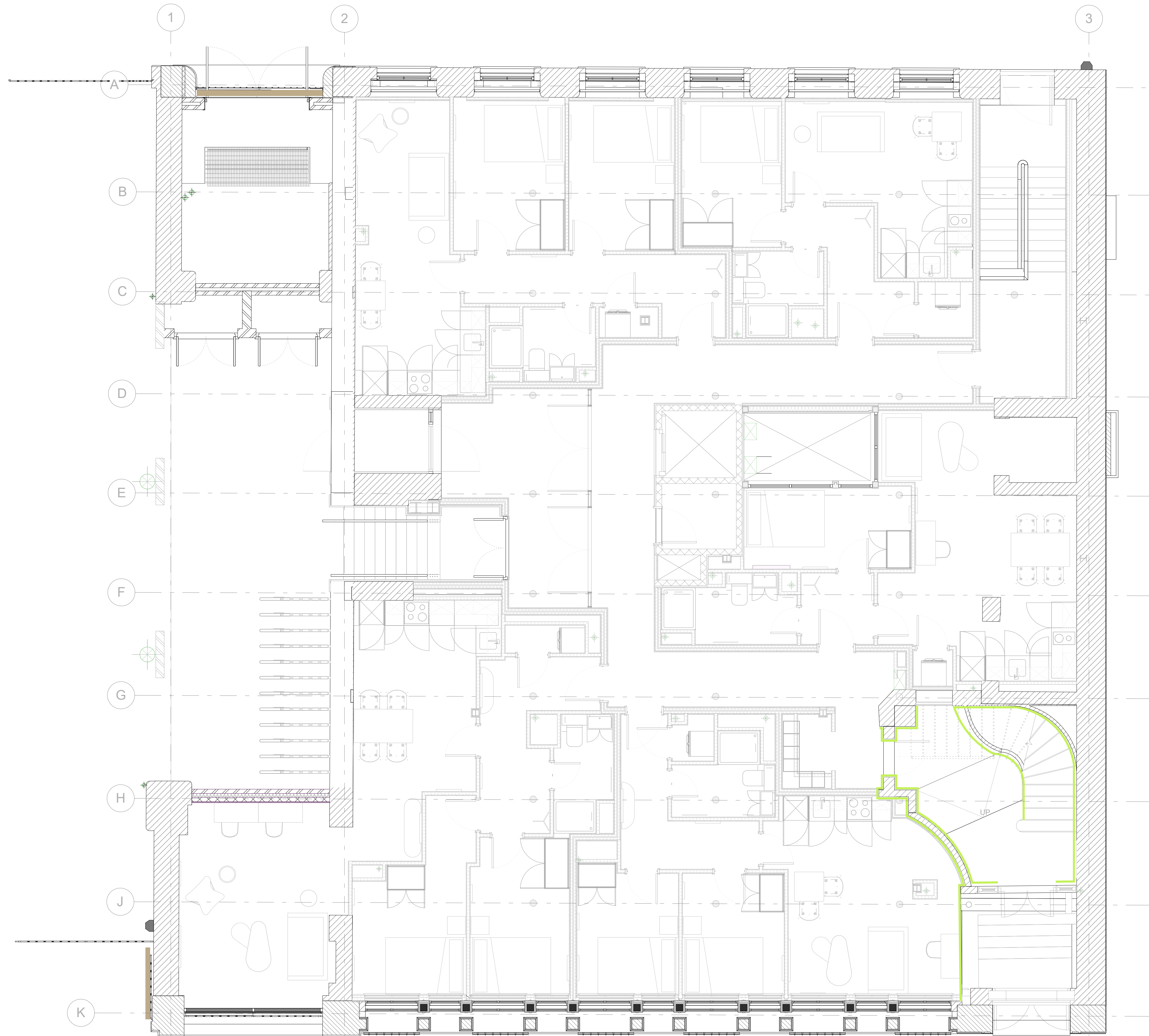
DRAWN: AM CHECKED: NP

SCALE: As indicated DATE: 22.02.22

013-MDB-BS-00-PL-A-0102

DRAWING NUMBER REV:

(A3)



BS - 00 - PROPOSED GROUND FLOOR - PROPOSED ADDITIONAL HISTORICAL FEATURES
1:50

REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-BS-00-PL-A-0100

RETENTION DRAWING:
013-MDB-BS-00-PL-A-0102

LEGEND:

- SKIRTING TO BE ENCAPSULATED
- CORNICE TO BE ENCAPSULATED
- SAFE DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE
- CONCERTINA INDUSTRIAL SHUTTER - TO BE REFURBISHED AND INCORPORATED AS A FEATURE IN THE APARTMENTS
- METAL SCISSOR GATE TO BE REFURBISHED AND RETAINED AS A FEATURE
- GATES TO BE REFURBISHED / PROPOSED TO MATCH EXISTING

GENERAL NOTES

- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED
- ALL LEVELS ARE IN METRES UNLESS OTHERWISE STATED
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Rev Description By Date



CLIENT:
PROJECT: PICCADILLY WAREHOUSE

BLOOM STREET
PROPOSED PLANS
GROUND FLOOR

DRAWING TITLE
PLANNING

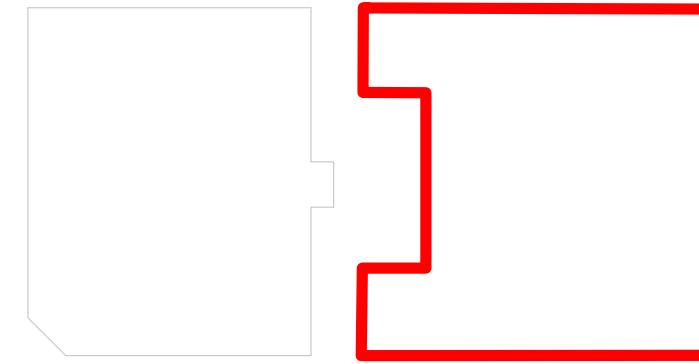
DRAWING STATUS
DRAWN: AM CHECKED: NP

SCALE: @ A1: As indicated DATE: 23.02.22

013-MDB-BS-00-PL-A-0101 REV.



BS - 01 - EXISTING FIRST FLOOR - ADDITIONAL HISTORICAL FEATURES - POST
SOFT STRIP
1:50



REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

PROPOSED DRAWING:
013-MDB-BS-01-PL-A-0101

RETENTION DRAWING:
013-MDB-BS-01-PL-A-0102

LEGEND:

- TIMBER WALL
- SKIRTING
- CORNICE
- SAFE DOOR
- CONCERTINA INDUSTRIAL SHUTTER
- METAL SCISSOR GATE
- GATES
- BLOCKED WINDOW
- STEEL BEAM

GENERAL NOTES

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Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

BLOOM STREET
POST SOFT STRIP PLAN
FIRST FLOOR

DRAWING TITLE

PLANNING

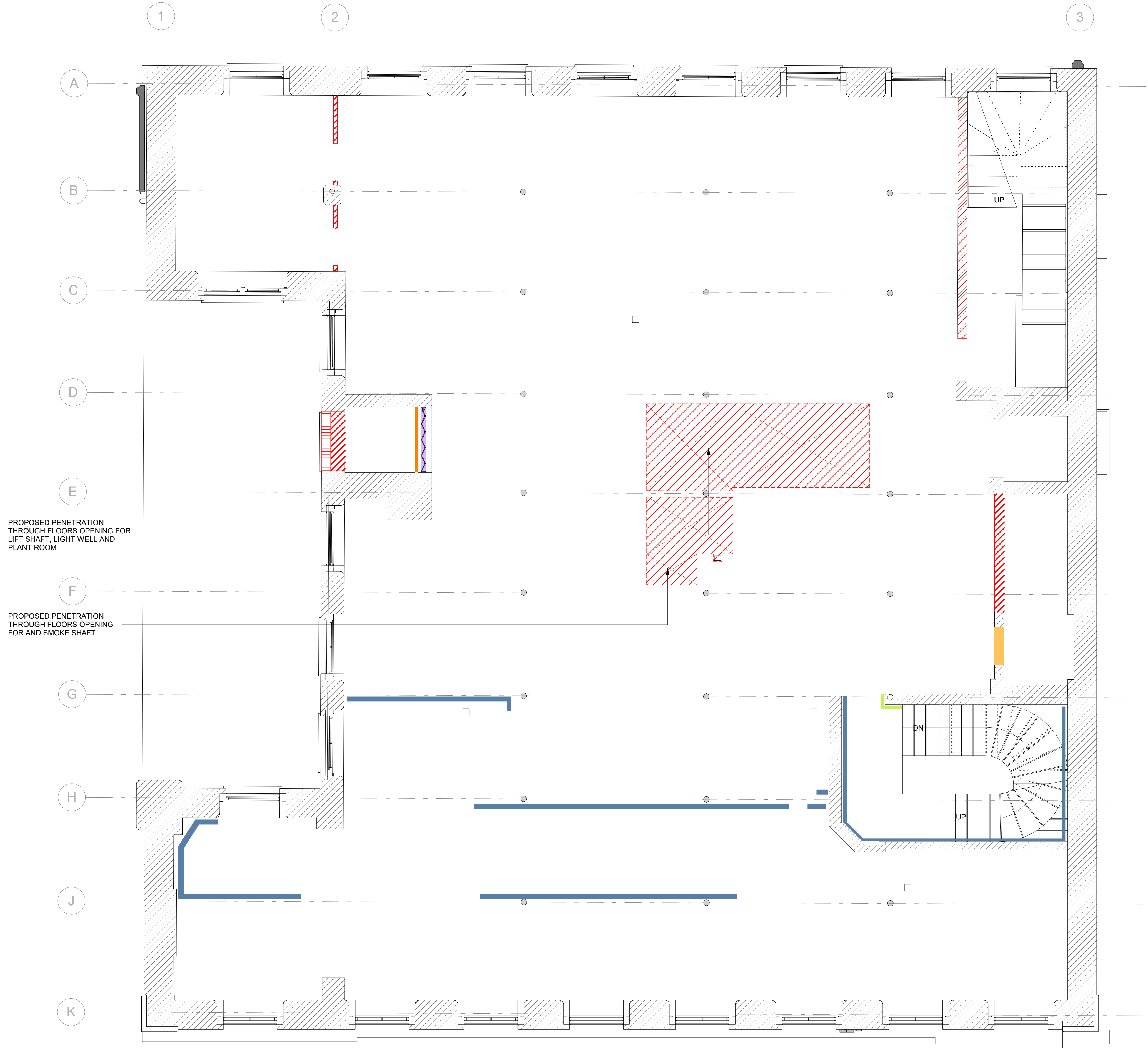
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DRAWN: AM CHECKED: NP

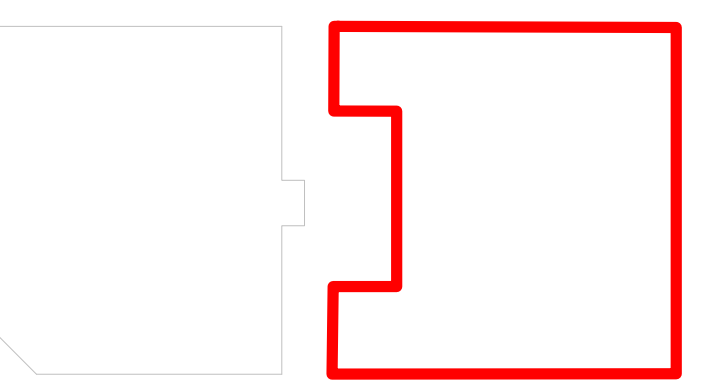
SCALE: As indicated DATE: 31.01.22

013-MDB-BS-01-PL-A-0100

DRAWING NUMBER REV:



BS - 01 - EXISTING FIRST FLOOR - ADDITIONAL HISTORICAL FEATURES
RETENTION
1 : 50



REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-BS-01-PL-A-0100

PROPOSED DRAWING:
013-MDB-BS-01-PL-A-0101

LEGEND:

SKIRTING TO BE ENCAPSULATED

CORNICE TO BE ENCAPSULATED

SAFE DOOR TO BE REFURBISHED
AND RETAINED AS A FEATURE

CONCERTINA INDUSTRIAL SHUTTER -
TO BE REFURBISHED AND
INCORPORATED AS A FEATURE IN
THE APARTMENTS

METAL SCISSOR GATE TO
BE REFURBISHED AND
RETAINED AS A FEATURE

GATES TO BE REFURBISHED /
PROPOSED TO MATCH EXISTING

ELEMENT TO BE REMOVED

BLOCKED WINDOW TO BE
REOPENED

STEEL BEAM TO BE
REMOVED

EXISTING STAIRS TO BE REFURBISHED AND MADE
GOOD. SKIRTING AND CORNICING TO BE
REFURBISHED, ENCLOSED WALL TO BE RESTORED

GENERAL NOTES

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Rev Description By Date



CLIENT:

PROJECT:
PICCADILLY WAREHOUSE

DRAWING TITLE:
BLOOM STREET
RETENTION PLAN
FIRST FLOOR

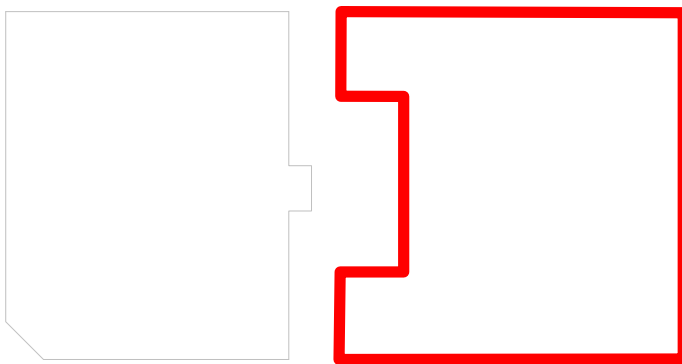
DRAWING STATUS:
DRAWN: AM CHECKED: NP
SCALE: As indicated DATE: 22.02.22

DRAWING NUMBER:
013-MDB-BS-01-PL-A-0102

REV. (A3)



BS - 01 - PROPOSED FIRST FLOOR - PROPOSED ADDITIONAL HISTORICAL FEATURES
1 : 50



REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-BS-01-PL-A-0100

RETENTION DRAWING:
013-MDB-BS-01-PL-A-0102

LEGEND:

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- CORNICE TO BE ENCAPSULATED
- SAFE DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE
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Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE
PROJECT:

BLOOM STREET
PROPOSED PLANS
FIRST FLOOR

DRAWING TITLE

PLANNING

DRAWING STATUS

DRAWN: AM CHECKED: NP

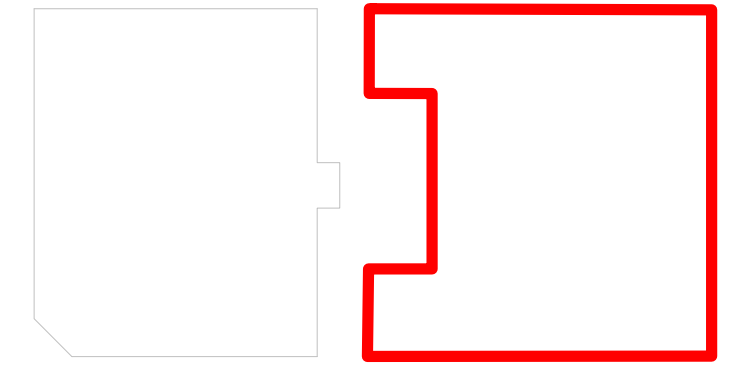
SCALE: @ A1: As indicated DATE: 23.02.22

013-MDB-BS-01-PL-A-0101

DRAWING NUMBER REV:



BS - 02 - EXISTING SECOND FLOOR - ADDITIONAL HISTORICAL FEATURES -
POST SOFT STRIP
1:50



REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

PROPOSED DRAWING:
013-MDB-BS-02-PL-A-0101

RETENTION DRAWING:
013-MDB-BS-02-PL-A-0102

LEGEND:

- TIMBER WALL
- SKIRTING
- CORNICE
- SAFE DOOR
- CONCERTINA INDUSTRIAL SHUTTER
- METAL SCISSOR GATE
- GATES
- BLOCKED WINDOW
- STEEL BEAM

GENERAL NOTES

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Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

BLOOM STREET
POST SOFT STRIP PLAN
SECOND FLOOR

DRAWING TITLE

PLANNING

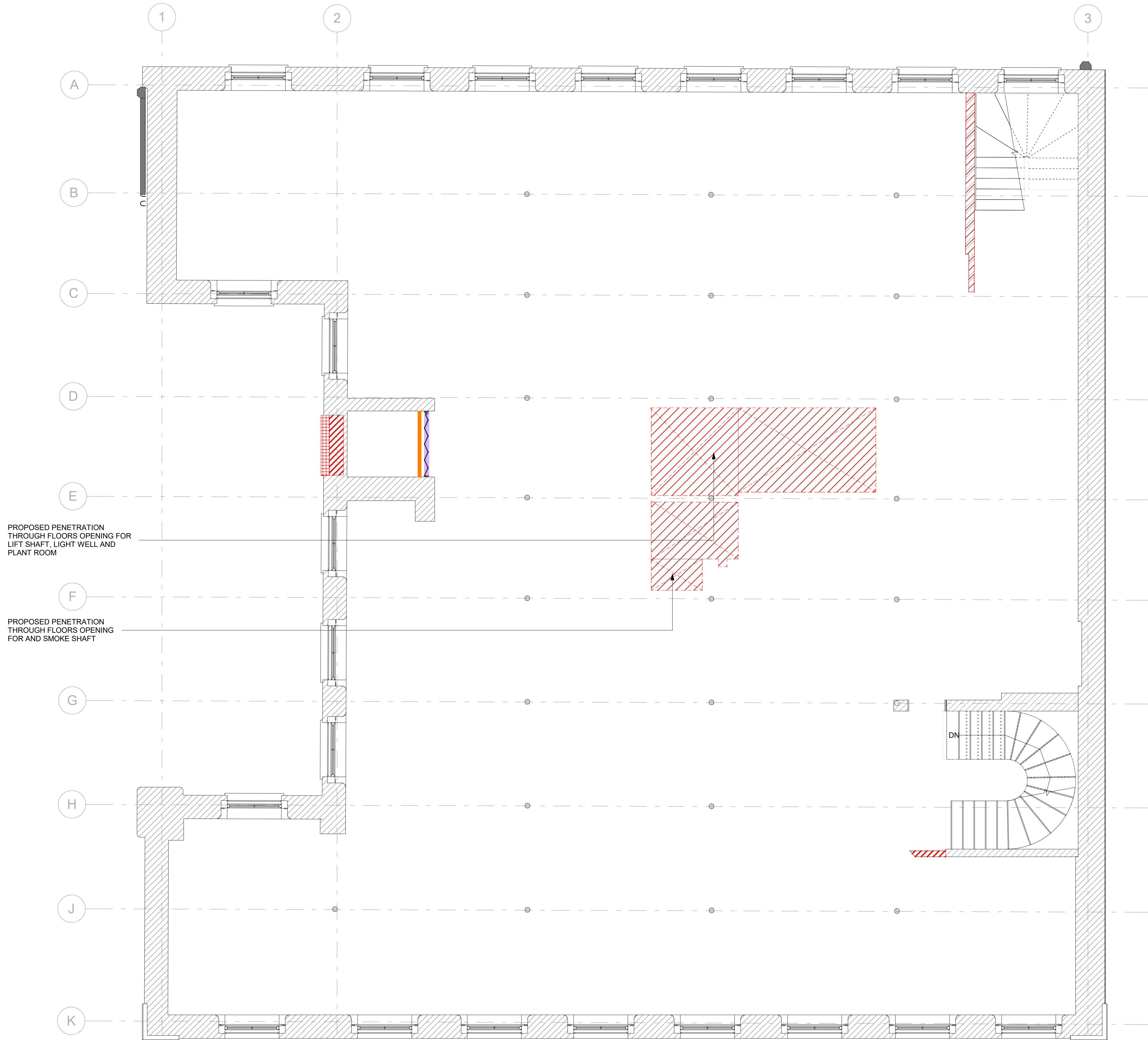
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DRAWN: AM CHECKED: NP

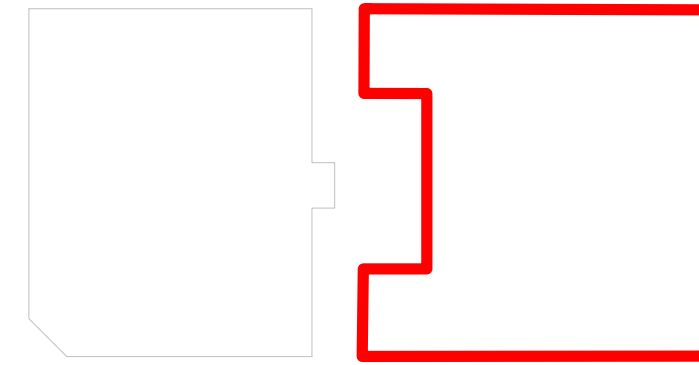
SCALE: As indicated DATE: 31.01.22

013-MDB-BS-02-PL-A-0100

DRAWING NUMBER REV:



BS - 02 - EXISTING SECOND FLOOR - ADDTIONAL HISTORICAL FEATURES
RETENTION
1 : 50



REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-BS-02-PL-A-0100

PROPOSED DRAWING:
013-MDB-BS-02-PL-A-0101

LEGEND:

SKIRTING TO BE ENCAPSULATED

CORNICE TO BE ENCAPSULATED

SAFE DOOR TO BE REFURBISHED
AND RETAINED AS A FEATURE

CONCERTINA INDUSTRIAL SHUTTER -
TO BE REFURBISHED AND
INCORPORATED AS A FEATURE IN
THE APARTMENTS

METAL SCISSOR GATE TO
BE REFURBISHED AND
RETAINED AS A FEATURE

GATES TO BE REFURBISHED /
PROPOSED TO MATCH EXISTING

ELEMENT TO BE REMOVED

BLOCKED WINDOW TO BE
REOPENED

STEEL BEAM TO BE
REMOVED

EXISTING STAIRS TO BE REFURBISHED AND MADE
GOOD. SKIRTING AND CORNICING TO BE
REFURBISHED, ENCLOSED WALL TO BE RESTORED

GENERAL NOTES

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Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

BLOOM STREET
RETENTION PLAN
SECOND FLOOR

DRAWING TITLE

PLANNING

DRAWING STATUS

DRAWN: AM CHECKED: NP

SCALE: @ A1: As indicated DATE: 22.02.22

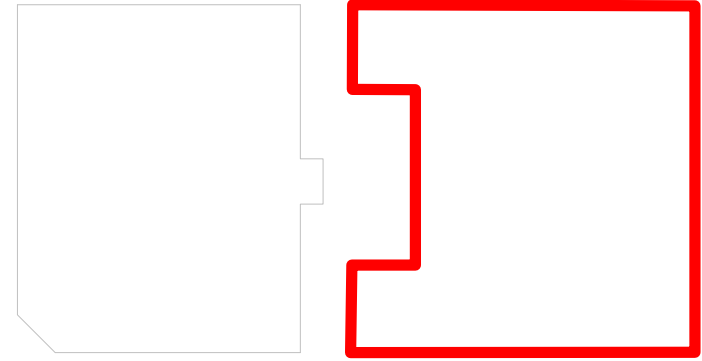
013-MDB-BS-02-PL-A-0102

DRAWING NUMBER REV:



BS - 02 - PROPOSED SECOND FLOOR - PROPOSED ADDITIONAL HISTORICAL FEATURES
1:50

- GENERAL NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
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REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH
EXISTING DRAWING:
013-MDB-BS-02-PL-A-0100
RETENTION DRAWING:
013-MDB-BS-02-PL-A-0102

- LEGEND:**
- SKIRTING TO BE ENCAPSULATED
 - CORNICE TO BE ENCAPSULATED
 - SAFE DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE
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 - GATES TO BE REFURBISHED / PROPOSED TO MATCH EXISTING

Rev Description By Date

MANCHESTER
design+build

CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

**BLOOM STREET
PROPOSED PLANS
SECOND FLOOR**

DRAWING TITLE

PLANNING

DRAWING STATUS

DRAWN: AM CHECKED: NP

SCALE: As indicated DATE: 23.02.22

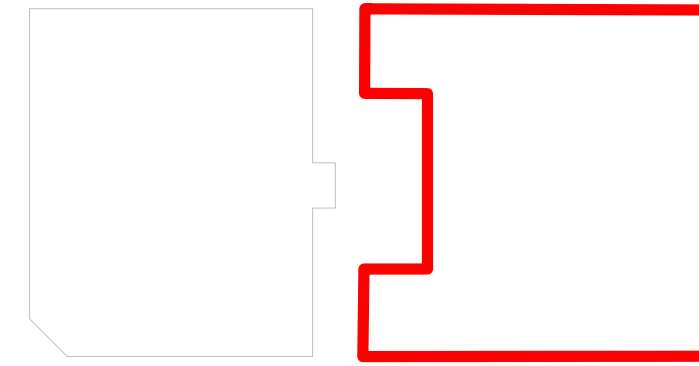
013-MDB-BS-02-PL-A-0101 REV.

(A3)



BRICKED FIREPLACE TO BE
REOPENED AND RETAINED

BS - 03 - EXISTING THIRD FLOOR - ADDITIONAL HISTORICAL FEATURES - POST
SOFT STRIP
1:50



REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

PROPOSED DRAWING:
013-MDB-BS-03-PL-A-0101

RETENTION DRAWING:
013-MDB-BS-03-PL-A-0102

LEGEND:

- TIMBER WALL
- SKIRTING
- CORNICE
- SAFE DOOR
- CONCERTINA INDUSTRIAL SHUTTER
- METAL SCISSOR GATE
- GATES
- BLOCKED WINDOW
- STEEL BEAM

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Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

BLOOM STREET
POST SOFT STRIP PLAN
THIRD FLOOR

DRAWING TITLE

PLANNING

DRAWING STATUS

DRAWN: AM CHECKED: NP

SCALE: As indicated DATE: 31.01.22

061_BS-03-PL-A-0100

DRAWING NUMBER REV:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED
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TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-BS-03-PL-A-0100

PROPOSED DRAWING:
013-MDB-BS-03-PL-A-0101

SKIRTING TO BE ENCAPSULATED

 CORNICE TO BE ENCAPSULATED

SAFE DOOR TO BE REFURBISHED
AND RETAINED AS A FEATURE

CONCERTINA INDUSTRIAL SHUTTER -
TO BE REFURBISHED AND
INCORPORATED AS A FEATURE IN
THE APARTMENTS

METAL SCISSOR GATE TO BE REFURBISHED AND RETAINED AS A FEATURE

 GATES TO BE REFURBISHED /
PROPOSED TO MATCH EXISTING

 ELEMENT TO BE REMOVED

 BLOCKED WINDOW TO BE REOPENED

— • — STEEL BEAM TO BE REMOVED

EXISTING STAIRS TO BE REFURBISHED AND MADE GOOD. SKIRTING AND CORNICING TO BE REFURBISHED. ENCLOSED WALL TO BE RESTORED

Rev	Description	By	Date
-----	-------------	----	------



CLIENT

PICCADILLY WAREHOUSE

PROJE

BLOOM STREET
RETENTION PLAN
THIRD FLOOR

DRAWING TITLE:

PLANNING

DRAWING STATUS

AM

NP

DRAWN: _____ CHECKED: _____

SCALE @ A1: **As indicated** | DATE: 22.02

013-MDB-BS-03-PL-A-0102

(11)

This architectural floor plan illustrates a building floor with a grid system (1-3 horizontally, A-K vertically). The plan includes structural walls, columns, and various openings. Key features include:

- Stairs:** A staircase is located in the top right corner, and a curved staircase is in the bottom right corner.
- Proposed Penetrations:** Red hatched areas indicate proposed penetrations through floors for a lift shaft, light well, and plant room. Arrows point to these areas with the text: "PROPOSED PENETRATION THROUGH FLOORS OPENING FOR LIFT SHAFT, LIGHT WELL AND PLANT ROOM".
- Bricked Fireplace:** A bricked fireplace is indicated in the bottom left corner, with the text: "BRICKED FIREPLACE TO BE REOPENED AND RETAINED".
- Other Features:** A small orange and purple hatched area is shown near the center, and a red hatched area is near the bottom left corner.

BS - 03 - EXISTING THIRD FLOOR - ADDITIONAL HISTORICAL FEATURES
RETENTION

1:50



BS - 03 - PROPOSED THIRD FLOOR - PROPOSED ADDITIONAL HISTORICAL FEATURES
1:50

- GENERAL NOTES
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REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-BS-03-PL-A-0100

PROPOSED DRAWING:
013-MDB-BS-03-PL-A-0102

LEGEND:

- SKIRTING TO BE ENCAPSULATED
- CORNICE TO BE ENCAPSULATED
- SAFE DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE
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Rev Description By Date

MANCHESTER
design+build

CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

**BLOOM STREET
PROPOSED PLANS
THIRD FLOOR**

DRAWING TITLE

PLANNING

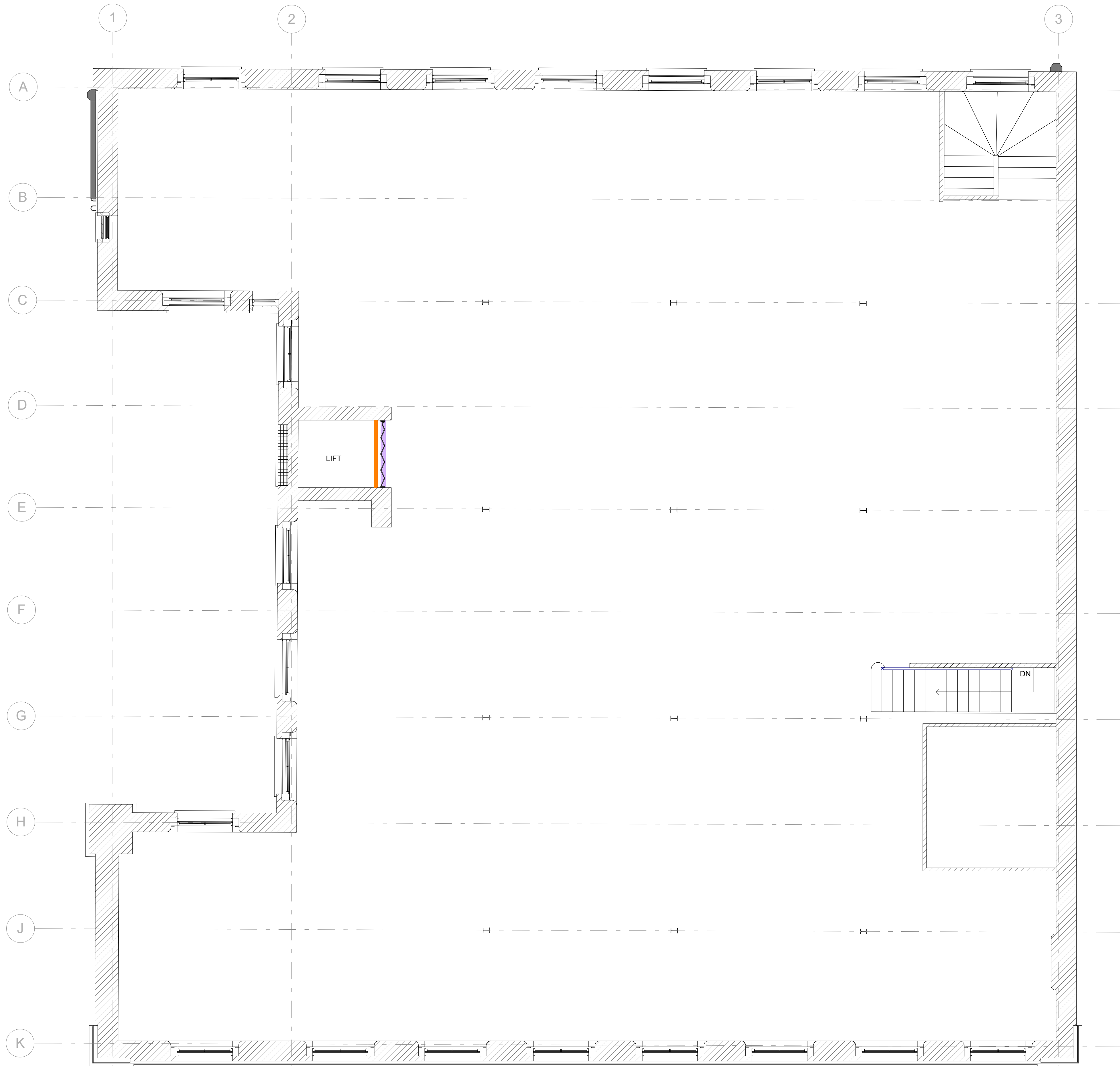
DRAWING STATUS

DRAWN: AM CHECKED: NP

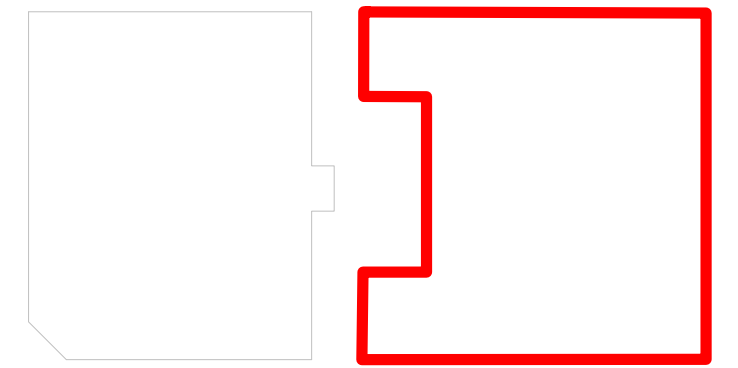
SCALE: As indicated DATE: 23.02.22

013-MDB-BS-03-PL-A-0101

DRAWING NUMBER REV:



BS - 04 - EXISTING FOURTH FLOOR - ADDITIONAL HISTORICAL FEATURES -
POST SOFT STRIP
1:50



REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

PROPOSED DRAWING:
013-MDB-BS-04-PL-A-0101

RETENTION DRAWING:
013-MDB-BS-04-PL-A-0102

LEGEND:

- TIMBER WALL
- SKIRTING
- CORNICE
- SAFE DOOR
- CONCERTINA INDUSTRIAL SHUTTER
- METAL SCISSOR GATE
- GATES
- BLOCKED WINDOW
- STEEL BEAM

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- ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT EDITION OF THE BUILDING REGULATIONS 1991 (INCLUDING AMENDMENTS) AND ALL RELEVANT BRITISH STANDARDS/CODES OF PRACTICE.
- CONTRACTOR IS RESPONSIBLE FOR THE CORRECT SETTING OUT OF THE WORKS ON SITE. ALL DIMENSIONS TO BE CHECKED PRIOR TO FABRICATION OF MATERIALS.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS AND SPECIFICATIONS.
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Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

BLOOM STREET
POST SOFT STRIP PLAN
FOURTH FLOOR

DRAWING TITLE

PLANNING

DRAWING STATUS

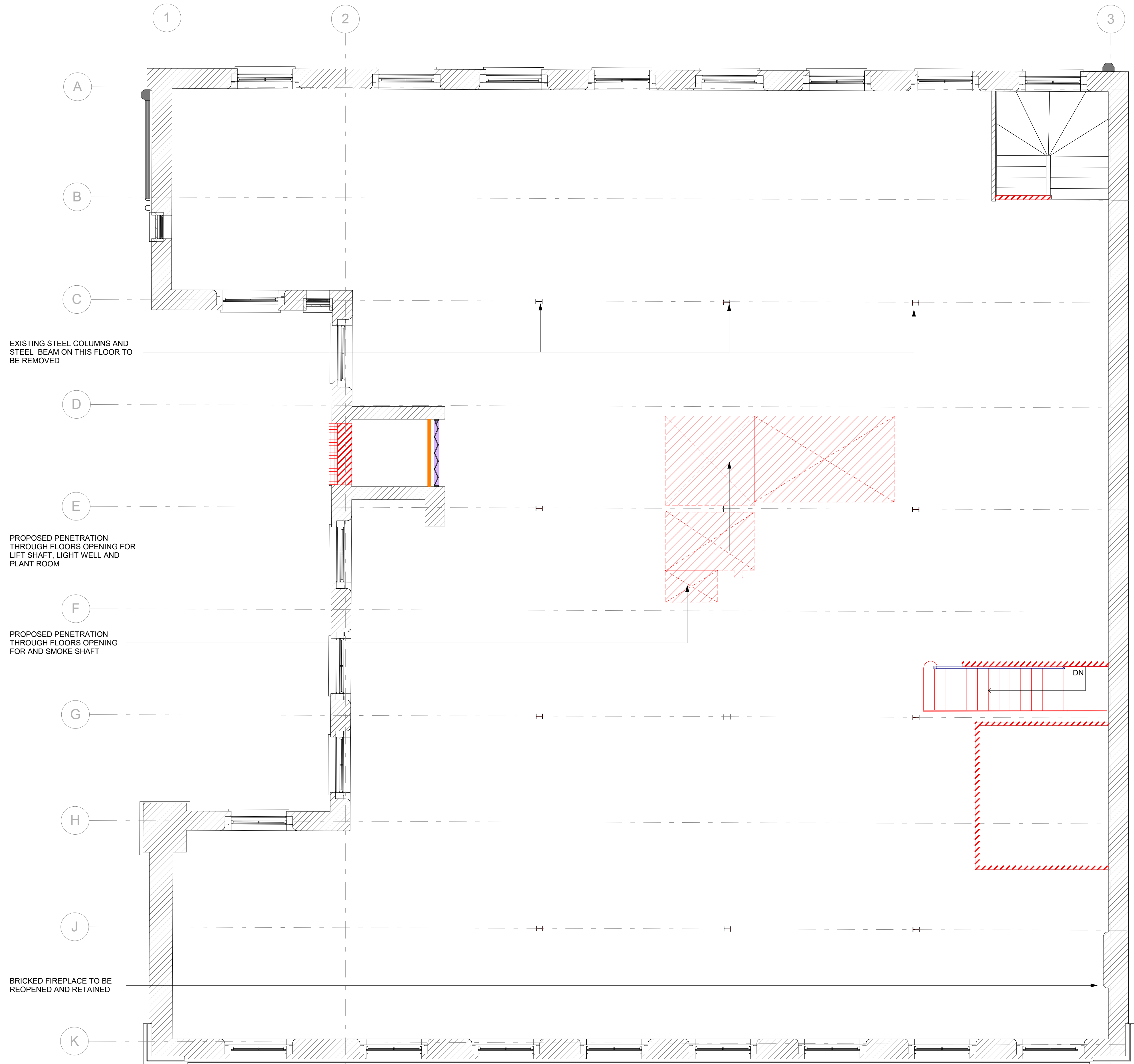
DRAWN: AM CHECKED: NP

SCALE: @ A1: As indicated DATE: 31.01.22

013-MDB-BS-04-PL-A-0100

DRAWING NUMBER REV:

(A1)



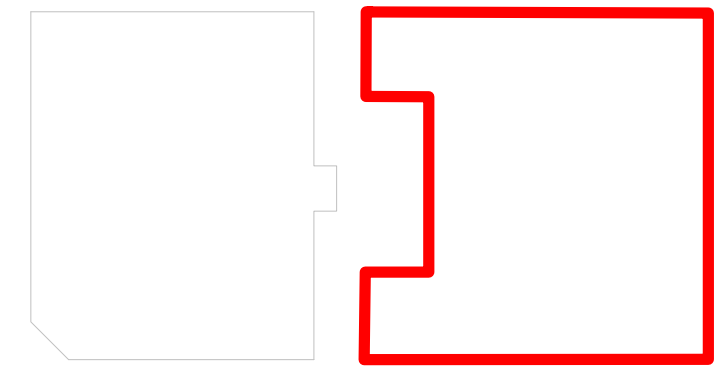
EXISTING STEEL COLUMNS AND STEEL BEAM ON THIS FLOOR TO BE REMOVED

PROPOSED PENETRATION THROUGH FLOORS OPENING FOR LIFT SHAFT, LIGHT WELL AND PLANT ROOM

PROPOSED PENETRATION THROUGH FLOORS OPENING FOR AND SMOKE SHAFT

BRICKED FIREPLACE TO BE REOPENED AND RETAINED

BS - 04 - EXISTING FOURTH FLOOR - ADDITIONAL HISTORICAL FEATURES RETENTION
1:50



REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-BS-04-PL-A-0100

PROPOSED DRAWING:
013-MDB-BS-04-PL-A-0101

LEGEND:

SKIRTING TO BE ENCAPSULATED

CORNICE TO BE ENCAPSULATED

SAFE DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE

CONCERTINA INDUSTRIAL SHUTTER - TO BE REFURBISHED AND INCORPORATED AS A FEATURE IN THE APARTMENTS

METAL SCISSOR GATE TO BE REFURBISHED AND RETAINED AS A FEATURE

GATES TO BE REFURBISHED / PROPOSED TO MATCH EXISTING

ELEMENT TO BE REMOVED

BLOCKED WINDOW TO BE REOPENED

STEEL BEAM TO BE REMOVED

EXISTING STAIRS TO BE REFURBISHED AND MADE GOOD. SKIRTING AND CORNICING TO BE REFURBISHED, ENCLOSED WALL TO BE RESTORED

EXISTING STEEL COLUMNS AND BEAMS TO BE REMOVED

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL LEVELS ARE IN METRES UNLESS OTHERWISE STATED.
3. DIMENSIONS ARE NOT TO BE SCALED FROM THE DRAWING.
4. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT EDITION OF THE BUILDING REGULATIONS 1991 (INCLUDING AMENDMENTS) AND ALL RELEVANT BRITISH STANDARDS/CODES OF PRACTICE.
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Rev Description By Date



CLIENT:

PROJECT: PICCADILLY WAREHOUSE

PROJECT: BLOOM STREET RETENTION PLAN

PROJECT: FOURTH FLOOR

DRAWING TITLE: PLANNING

DRAWING STATUS: DRAWN: AM CHECKED: NP

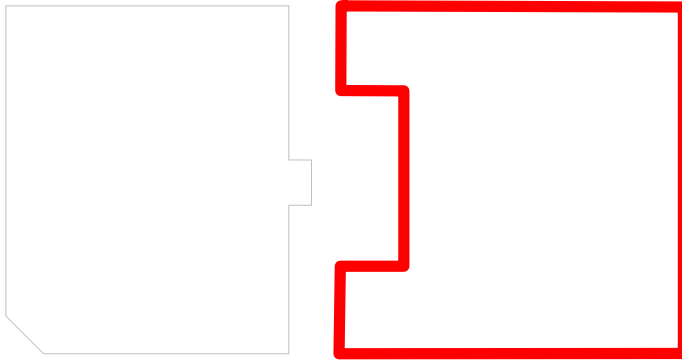
SCALE: As indicated DATE: 22.02.22

013-MDB-BS-04-PL-A-0102

DRAWING NUMBER: REV:



BS - 04 - PROPOSED FOURTH FLOOR - ADDITIONAL HISTORICAL FEATURES
1:50



REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-BS-04-PL-A-0100

RETENTION DRAWING:
013-MDB-BS-04-PL-A-0102

LEGEND:

SKIRTING TO BE ENCAPSULATED

CORNICE TO BE ENCAPSULATED

SAFE DOOR TO BE REFURBISHED
AND RETAINED AS A FEATURE

CONCERTINA INDUSTRIAL SHUTTER -
TO BE REFURBISHED AND
INCORPORATED AS A FEATURE IN
THE APARTMENTS

METAL SCISSOR GATE TO
BE REFURBISHED AND
RETAINED AS A FEATURE

GATES TO BE REFURBISHED /
PROPOSED TO MATCH EXISTING

GENERAL NOTES

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Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE
PROJECT:

BLOOM STREET
PROPOSED PLANS
FOURTH FLOOR

DRAWING TITLE

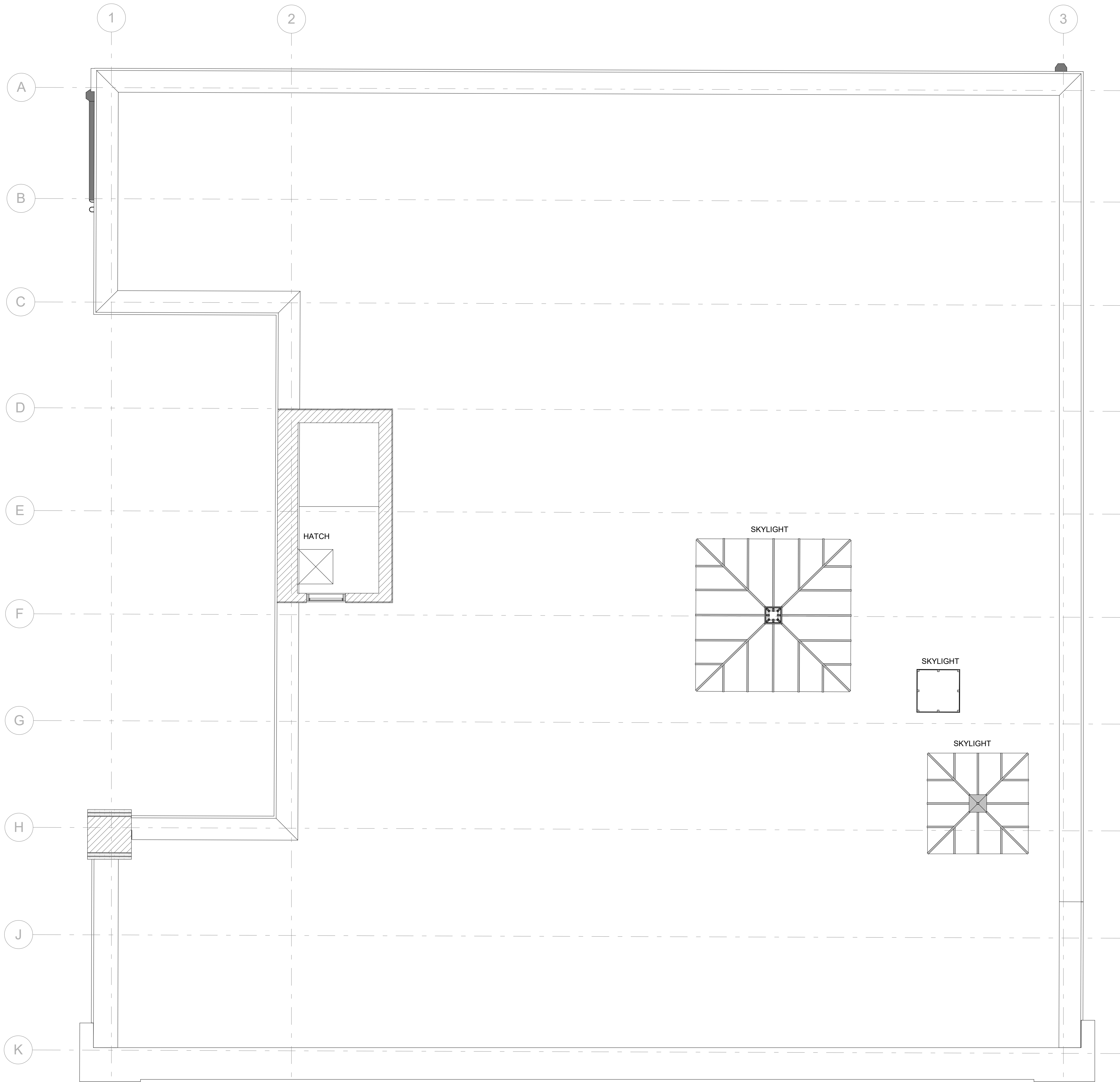
DRAWING STATUS

DRAWN: AM CHECKED: NP

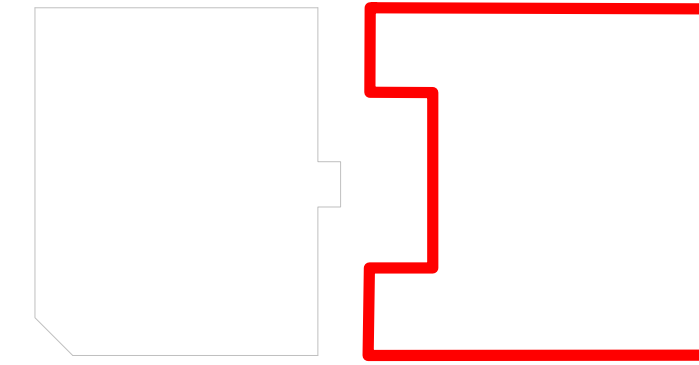
SCALE: @ A1: As indicated DATE: 23.02.22

013-MDB-BS-04-PL-A-0101

DRAWING NUMBER REV:



BS - RF - EXISTING ROOF - ADDITIONAL HISTORICAL FEATURES - POST SOFT STRIP
1:50



REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

PROPOSED DRAWING:
013-MDB-BS-05-PL-A-0101

RETENTION DRAWING:
013-MDB-BS-RF-PL-A-0102

GENERAL NOTES

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Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

BLOOM STREET
POST SOFT STRIP PLAN
ROOF PLAN

DRAWING TITLE

PLANNING

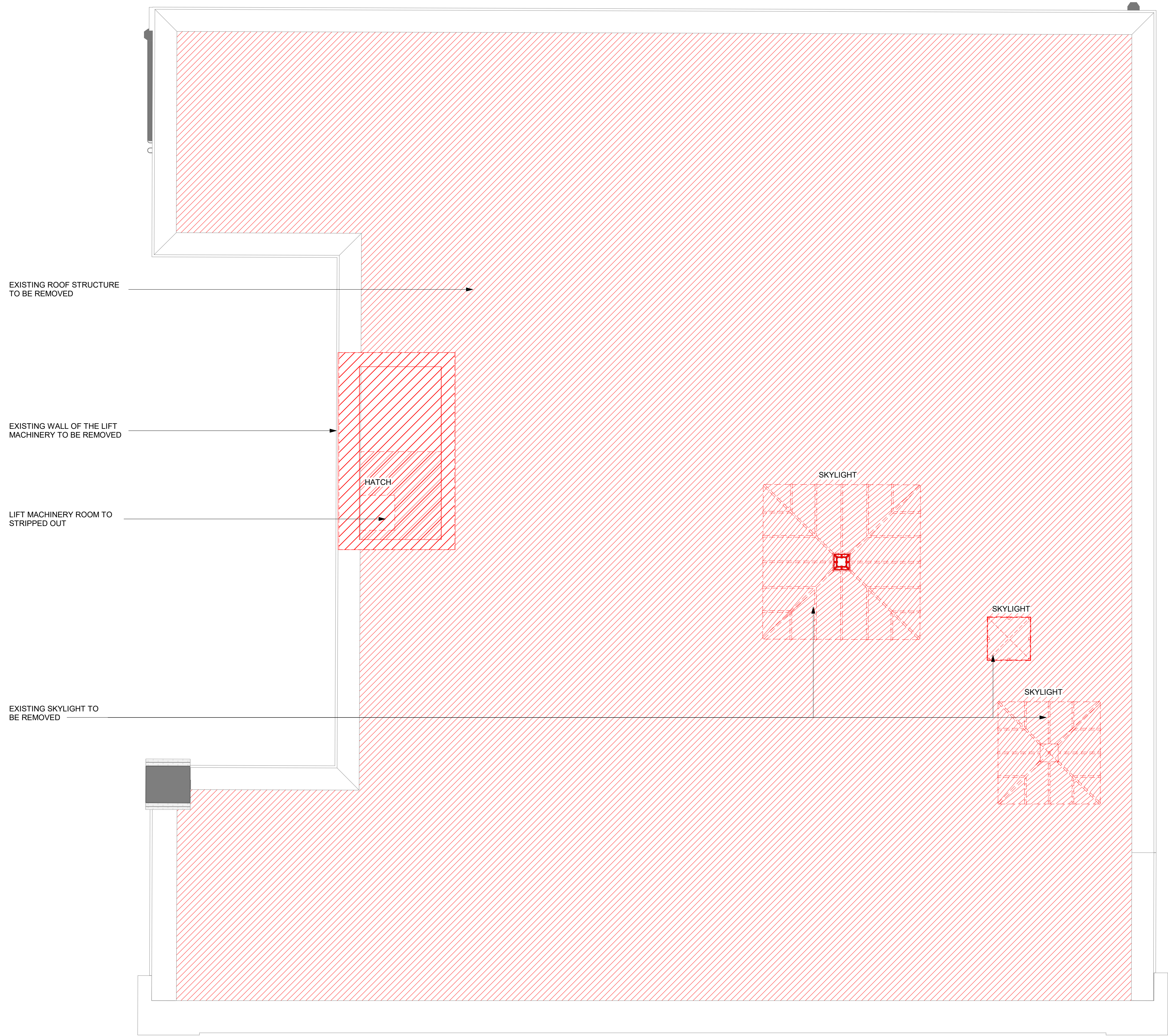
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DRAWN: AM CHECKED: NP

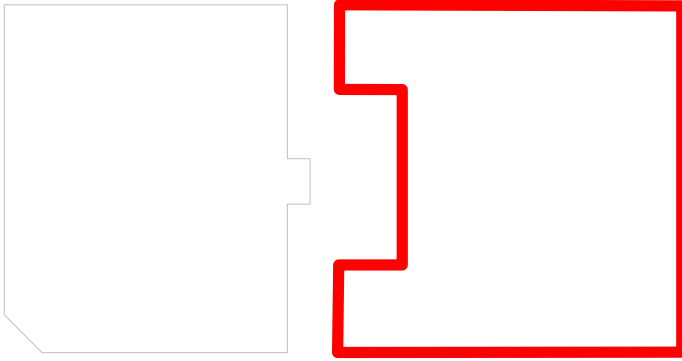
SCALE: @ A1: As indicated DATE: 31.01.22

013-MDB-BS-RF-PL-A-0100

DRAWING NUMBER REV:



BS - RF - EXISTING ROOF - ADDTIONAL HISTORICAL FEATURES RETENTION
1:50



REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-BS-RF-PL-A-0100

PROPOSED DRAWING:
013-MDB-BS-05-PL-A-0101

LEGEND:

 ELEMENT TO BE REMOVED

GENERAL NOTES

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Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

BLOOM STREET
RETENTION PLAN
ROOF PLAN

DRAWING TITLE

PLANNING

DRAWING STATUS

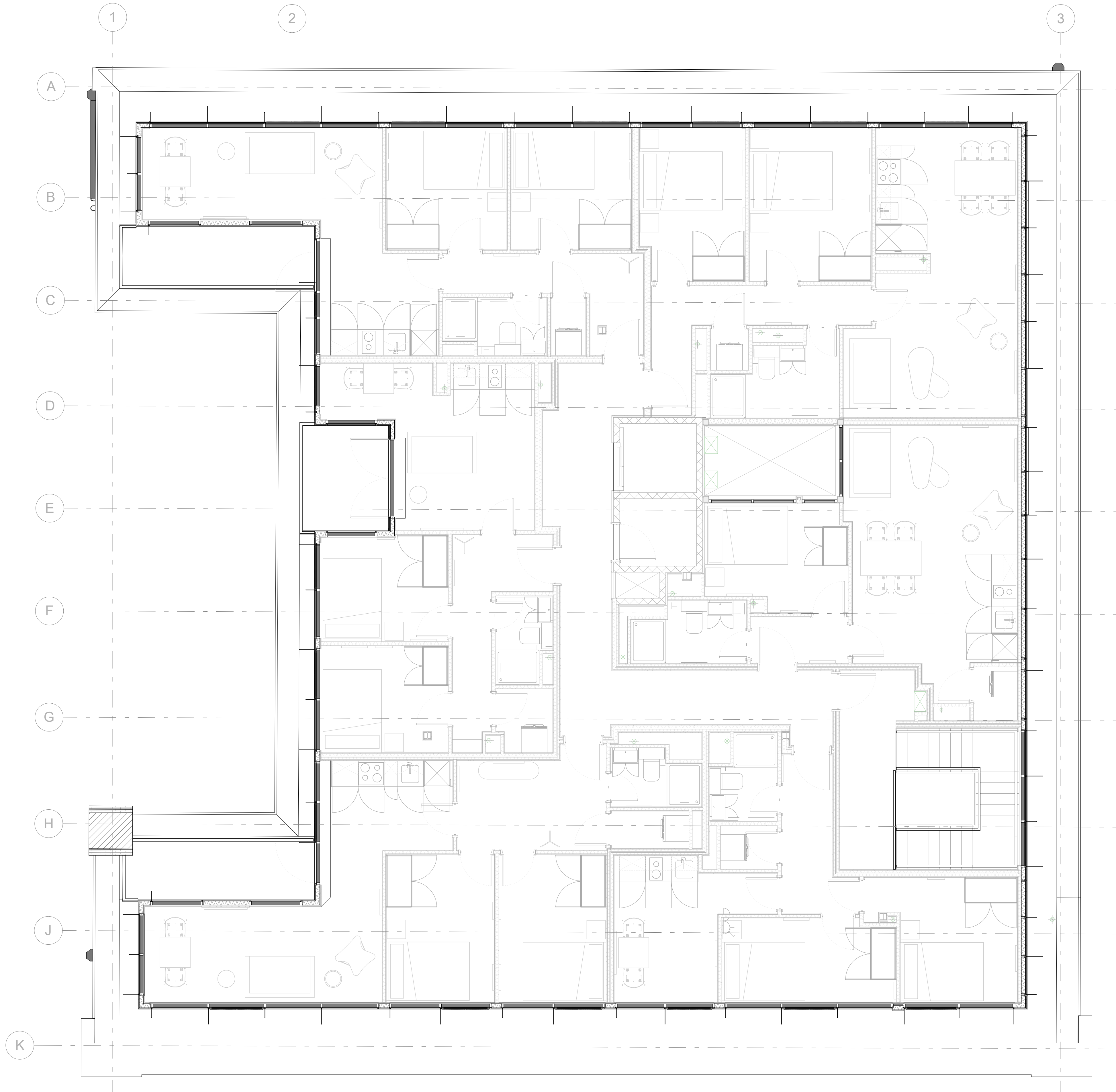
DRAWN: AM CHECKED: NP

SCALE: @ A3: As indicated DATE: 22.02.22

013-MDB-BS-RF-PL-A-0102

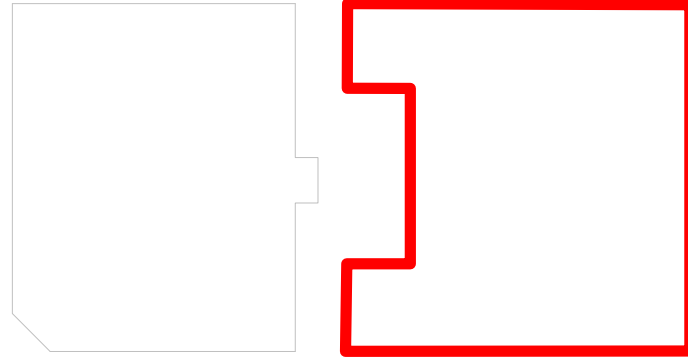
DRAWING NUMBER REV:

(A3)



BS - 05 - PROPOSED FIFTH FLOOR - ADDTIONAL HISTORICAL FEATURES
1:50

- GENERAL NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
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 3. DIMENSIONS ARE NOT TO BE SCALED FROM THE DRAWING.
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REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-BS-RF-PL-A-0100

RETENTION DRAWING:
013-MDB-BS-RF- PL-A-0102

LEGEND:

SKIRTING TO BE ENCAPSULATED

CORNICE TO BE ENCAPSULATED

SAFE DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE

CONCERTINA INDUSTRIAL SHUTTER - TO BE REFURBISHED AND INCORPORATED AS A FEATURE IN THE APARTMENTS

METAL SCISSOR GATE TO BE REFURBISHED AND RETAINED AS A FEATURE

GATES TO BE REFURBISHED / PROPOSED TO MATCH EXISTING

Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

BLOOM STREET
PROPOSED PLANS
FIFTH FLOOR

DRAWING TITLE

PLANNING

DRAWING STATUS

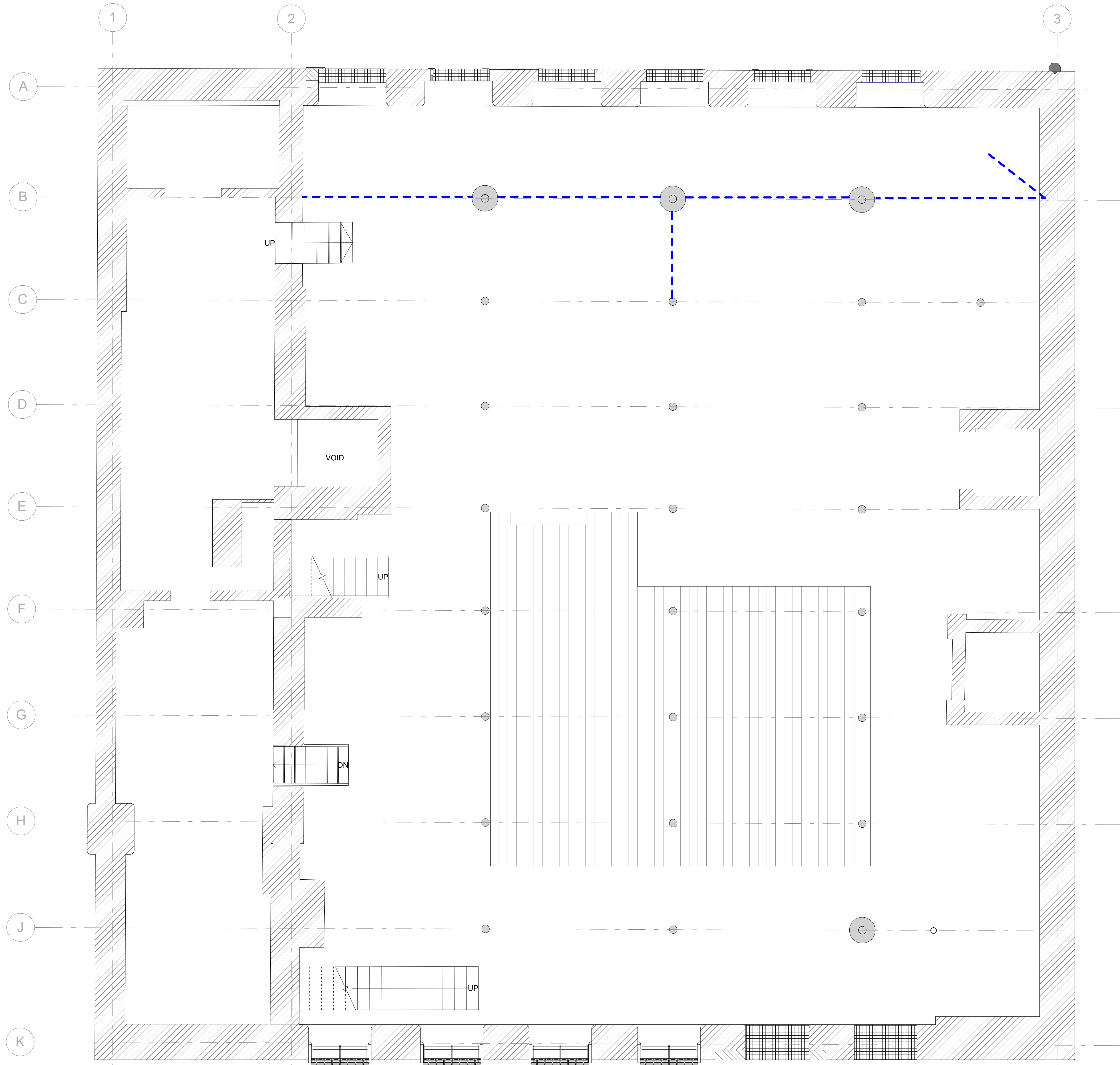
DRAWN: AM CHECKED: NP

SCALE: As indicated DATE: 23.02.22

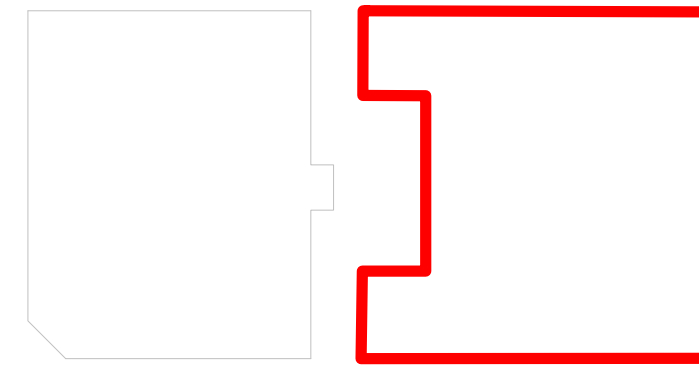
013-MDB-BS-05-PL-A-0101

DRAWING NUMBER REV:

(A3)



BS - B1 - EXISTING BASEMENT FLOOR - ADDITIONAL HISTORICAL FEATURES -
POST SOFT STRIP
1:50



REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

PROPOSED DRAWING:
013-MDB-BS-B1-PL-A-0101

RETENTION DRAWING:
013-MDB-BS-B1-PL-A-0102

LEGEND:

- TIMBER WALL
- SKIRTING
- CORNICE
- SAFE DOOR
- CONCERTINA INDUSTRIAL SHUTTER
- METAL SCISSOR GATE
- GATES
- BLOCKED WINDOW
- STEEL BEAM

GENERAL NOTES

- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
- ALL LEVELS ARE IN METRES UNLESS OTHERWISE STATED.
- DIMENSIONS ARE NOT TO BE SCALED FROM THE DRAWING.
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Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

BLOOM STREET
POST SOFT STRIP PLAN
BASEMENT FLOOR

DRAWING TITLE

PLANNING

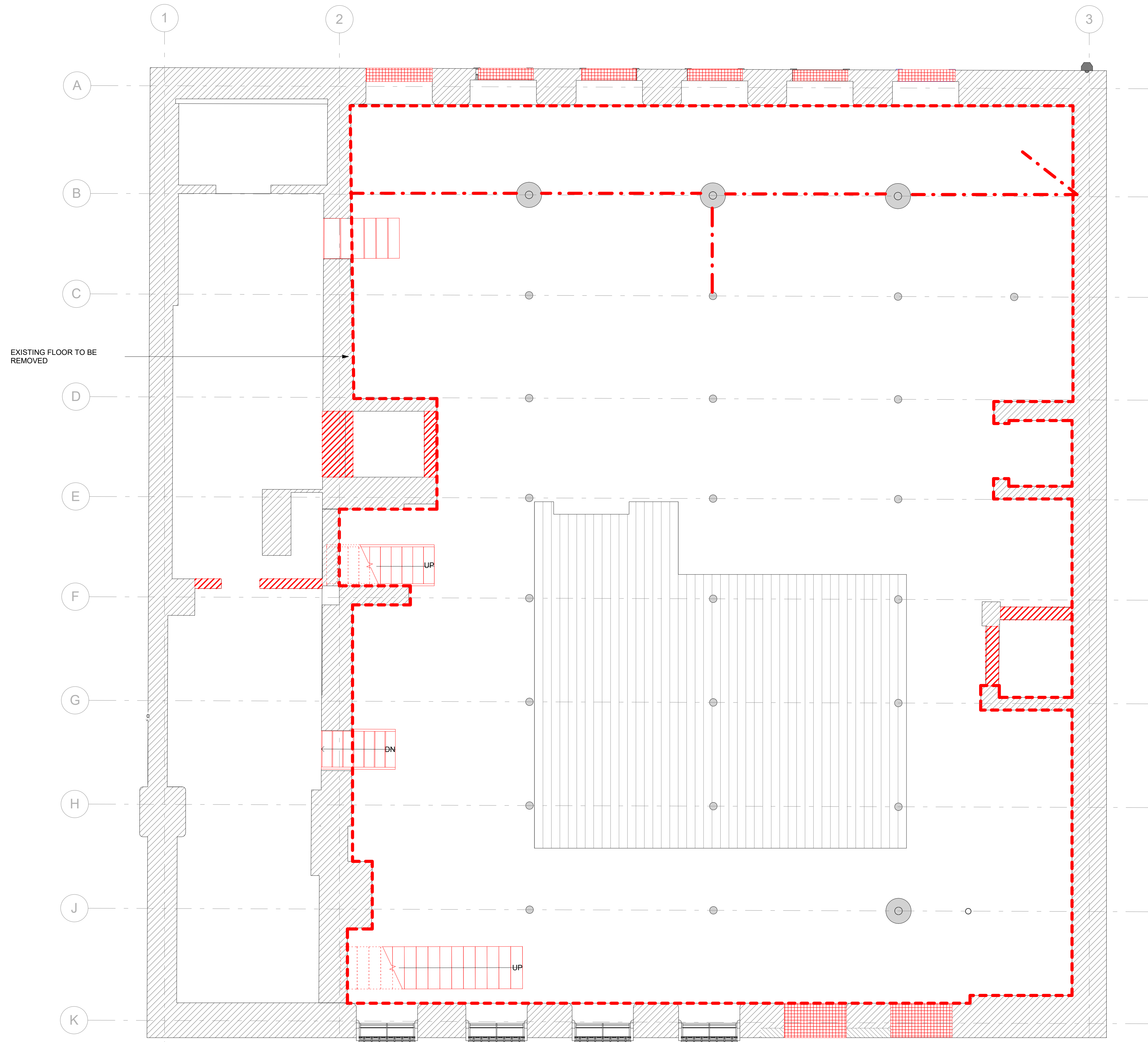
DRAWING STATUS

DRAWN: AM CHECKED: NP

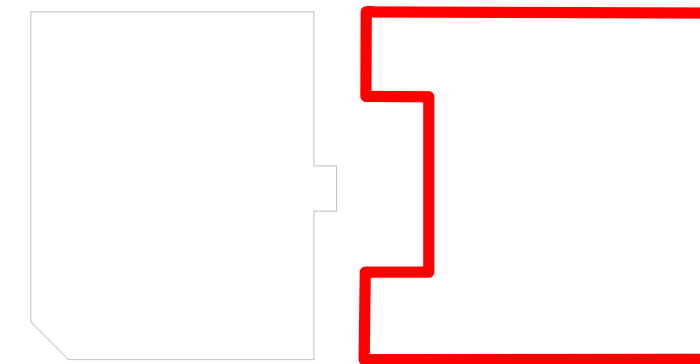
SCALE: As indicated DATE: 31.01.22

061_BS-B1-PL-A-0100

DRAWING NUMBER REV:



BS - B1 - EXISTING BASEMENT FLOOR - ADDITIONAL HISTORICAL FEATURES
RETENTION
1:50



REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-BS-B1-PL-A-0100

PROPOSED DRAWING:
013-MDB-BS-B1-PL-A-0101

LEGEND:

SKIRTING TO BE ENCAPSULATED

CORNICE TO BE ENCAPSULATED

SAFE DOOR TO BE REFURBISHED
AND RETAINED AS A FEATURE

CONCERTINA INDUSTRIAL SHUTTER -
TO BE REFURBISHED AND
INCORPORATED AS A FEATURE IN
THE APARTMENTS

METAL SCISSOR GATE TO
BE REFURBISHED AND
RETAINED AS A FEATURE

GATES TO BE REFURBISHED /
PROPOSED TO MATCH EXISTING

ELEMENT TO BE REMOVED

BLOCKED WINDOW TO BE
REOPENED

STEEL BEAM TO BE
REMOVED

EXISTING STAIRS TO BE REFURBISHED AND MADE
GOOD. SKIRTING AND CORNICING TO BE
REFURBISHED, ENCLOSED WALL TO BE RESTORED

GENERAL NOTES

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Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

BLOOM STREET
RETENTION PLAN
BASEMENT

DRAWING TITLE

PLANNING

DRAWING STATUS

DRAWN: AM CHECKED: NP

SCALE: As indicated DATE: 22.02.22

013-MDB-BS-B1-PL-A-0102

DRAWING NUMBER REV:



BS - B1 - PROPOSED BASEMENT FLOOR - PROPOSED ADDITIONAL HISTORICAL FEATURES
1:50

- GENERAL NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
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REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-BS-B1-PL-A-0100

RETENTION DRAWING:
013-MDB-BS-B1-PL-A-0102

LEGEND:

- SKIRTING TO BE ENCAPSULATED
- CORNICE TO BE ENCAPSULATED
- SAFE DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE
- CONCERTINA INDUSTRIAL SHUTTER - TO BE REFURBISHED AND INCORPORATED AS A FEATURE IN THE APARTMENTS
- METAL SCISSOR GATE TO BE REFURBISHED AND RETAINED AS A FEATURE
- GATES TO BE REFURBISHED / PROPOSED TO MATCH EXISTING

Rev Description By Date



CLIENT:

PROJECT: PICCADILLY WAREHOUSE

BLOOM STREET
PROPOSED PLANS
BASEMENT FLOOR

DRAWING TITLE: PLANNING

DRAWING STATUS: DRAWN: AM CHECKED: NP

SCALE: As indicated DATE: 23.02.22

013-MDB-BS-B1-PL-A-0101

DRAWING NUMBER: REV:

(A3)

- GENERAL NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
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REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

PROPOSED DRAWING:
013-MDB-MH-00-PL-A-0101

RETENTION DRAWING:
013-MDB-MH-00-PL-A-0102

LEGEND:

- TIMBER PANELLING
- TIMBER WALL
- EXISTING EXTERNAL AND INTERNAL ROTARY ALARM GONG
- SPRINKLER SYSTEM VALVES
- METAL SCISSOR GATE
- SKIRTING
- CORNICE
- RADIATOR
- CONCERTINA INDUSTRIAL SHUTTER
- HOIST SLIDER
- HOIST DOOR
- SAFE DOOR
- BLOCKED WINDOW

EXISTING ACCESS TO FIRE STAIRS TO BE RETAINED AND BLOCKED UP TO ONE SIDE

LIFT

ORIGINAL CENTRAL HOIST LOCATION

PERSONNEL LIFT

UP

UP

EXISTING ENTRANCE ACCESS

SPRINKLER ORIGINAL VALVE SYSTEM AND PRESSURE GAUGES WITHIN BOXING OUT.

MH - 00 - EXISTING GROUND FLOOR - ADDITIONAL HISTORICAL FEATURES -
POST SOFT STRIP
1:50

Rev Description By Date

MANCHESTER
design+build

CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

MINDLE HOUSE
POST SOFT STRIP PLAN
GROUND FLOOR

DRAWING TITLE

PLANNING

DRAWING STATUS

DRAWN: AM CHECKED: NP

SCALE: As indicated DATE: 15.02.22

013-MDB-MH-00-PL-A-0100 REV:

- GENERAL NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
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REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-MH-00-PL-A-0100

PROPOSED DRAWING:
013-MDB-MH-00-PL-A-0101

LEGEND:

TIMBER PANELLING TO BE REFURBISHED AND RETAINED

EXISTING EXTERNAL AND INTERNAL ROTARY ALARM GONG TO BE RETAINED IN SITU AND REFURBISHED AS FEATURE

SPRINKLER SYSTEM VALVES RETAINED AS FEATURE.

METAL SCISSOR GATE TO BE REFURBISHED AND RELOCATED AS A FEATURE

SKIRTING TO BE ENCAPSULATED

CORNICE TO BE ENCAPSULATED

RADIATOR TO BE REFURBISHED AND RELOCATED

CONCERTINA INDUSTRIAL SHUTTER - TO BE REFURBISHED AND INCORPORATED AS A FEATURE IN THE APARTMENTS

HOIST SLIDER TO BE REFURBISHED, RELOCATED AS A FEATURE

HOIST DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE

SAFE DOOR TO BE REFURBISHED, RELOCATED AS A FEATURE

ELEMENT TO BE REMOVED

BLOCKED WINDOW TO BE REOPENED

EXISTING STAIRS TO BE REFURBISHED AND MADE GOOD. SKIRTING AND CORNICING TO BE REFURBISHED, ENCLOSED WALL TO BE RESTORED

EXISTING PERSONNEL LIFT TO BE REMOVED READY TO RECEIVE NEW LIFT.

EXISTING CENTRAL HOIST TO BE REMOVED WITH SHAFT TO BE REUSED FOR PLANT AND SERVICE RISER. EXISTING DOORS TO BE RETAINED IN SITU WHEREVER POSSIBLE OR RELOCATED AS FEATURE.

Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

MINDLE HOUSE
RETENTION PLANS
GROUND FLOOR PLAN

DRAWING TITLE

PLANNING

DRAWING STATUS

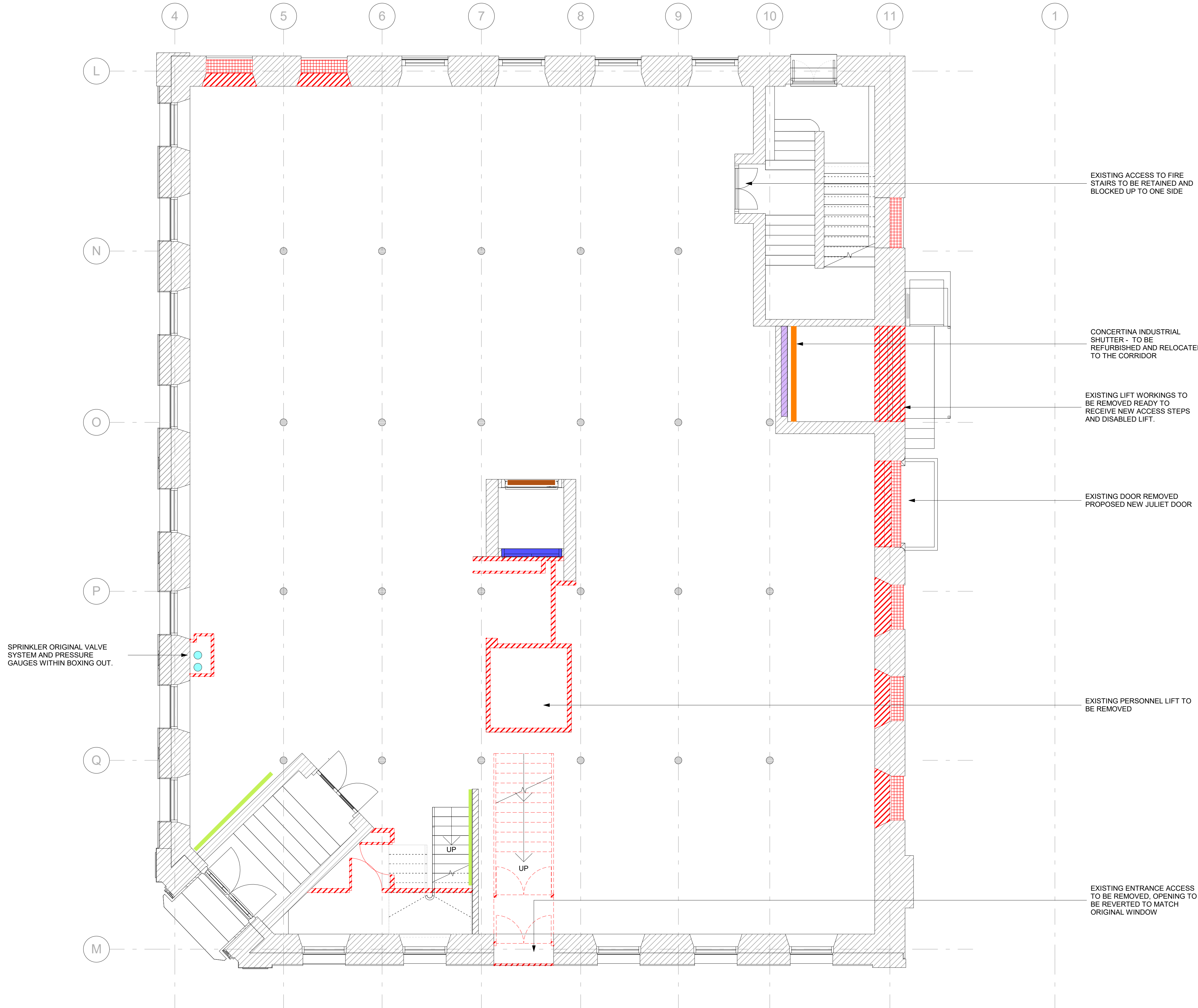
DRAWN: AM CHECKED: NP

SCALE: As indicated DATE: 17.02.2022

013-MDB-MH-00-PL-A-0102

DRAWING NUMBER REV:

(A3)



MH - 00 - EXISTING GROUND FLOOR - ADDITIONAL HISTORICAL FEATURES

RETENTION

1 : 50

GENERAL NOTES

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2. ALL LEVELS ARE IN METRES UNLESS OTHERWISE STATED.
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REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-MH-00-PL-A-0100

RETENTION DRAWING:
013-MDB-MH-00-PL-A-0102

LEGEND:

TIMBER PANELLING TO BE REFURBISHED AND RETAINED

EXISTING EXTERNAL AND INTERNAL ROTARY ALARM GONG TO BE RETAINED IN SITU AND REFURBISHED AS FEATURE

SPRINKLER SYSTEM VALVES RETAINED AS FEATURE.

SCISSOR GATE METAL DOOR TO BE REFURBISHED, RELOCATED AS A FEATURE

SKIRTING TO BE ENCAPSULATED

CORNICE TO BE ENCAPSULATED

RADIATOR TO BE REFURBISHED AND RELOCATED

CONCERTINA INDUSTRIAL SHUTTER - TO BE REFURBISHED AND INCORPORATED AS A FEATURE IN THE APARTMENTS

HOIST SLIDER TO BE REFURBISHED, RELOCATED AS A FEATURE

HOIST DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE

SAFE DOOR TO BE REFURBISHED, RELOCATED AS A FEATURE

EXISTING STAIRS TO BE REFURBISHED AND MADE GOOD. SKIRTING AND CORNICING TO BE REFURBISHED, ENCLOSED WALL TO BE RESTORED

EXISTING PERSONNEL LIFT TO BE REMOVED READY TO RECEIVE NEW LIFT.

Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

MINDLE HOUSE
PROPOSED PLANS
GROUND FLOOR PLAN

DRAWING TITLE

PLANNING

DRAWING STATUS

DRAWN: AM CHECKED: NP

SCALE: As indicated DATE: 23.02.22

013-MDB-MH-00-PL-A-0101

DRAWING NUMBER REV:

(A3)



SPRINKLER ORIGINAL VALVE
SYSTEM AND PRESSURE
GAUGES WITHIN BOXING OUT.

SCISSOR GATE METAL DOOR TO
BE REFURBISHED, RELOCATED
AS A FEATURE

EXISTING LIFT WORKINGS TO
BE REMOVED READY TO
RECEIVE NEW ACCESS STEPS
AND DISABLED LIFT.

CONCERTINA INDUSTRIAL
SLIDING SHUTTER - TO BE
REFURBISHED AND RELOCATED
TO THE CORRIDOR

EXISTING DOOR REMOVED
PROPOSED NEW JULIET DOOR

MH - 00 - PROPOSED GROUND FLOOR - ADDITIONAL HISTORICAL FEATURES
1 : 50

- GENERAL NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
 2. ALL LEVELS ARE IN METRES UNLESS OTHERWISE STATED.
 3. DIMENSIONS ARE NOT TO BE SCALED FROM THE DRAWING.
 4. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT EDITION OF THE BUILDING REGULATIONS 1991 (INCLUDING AMENDMENTS) AND ALL RELEVANT BRITISH STANDARDS/CODES OF PRACTICE.
 5. CONTRACTOR IS RESPONSIBLE FOR THE CORRECT SETTING OUT OF THE WORKS ON SITE. ALL DIMENSIONS TO BE CHECKED PRIOR TO FABRICATION OF MATERIALS.
 6. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS AND SPECIFICATIONS.
 7. THIS DRAWING SHALL NOT BE DUPLICATED WITHOUT THE EXPRESS WRITTEN PERMISSION OF BEECH DESIGN AND BUILD LIMITED.

REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

PROPOSED DRAWING:
013-MDB-MH-01-PL-A-0101

RETENTION DRAWING:
013-MDB-MH-01-PL-A-0102

LEGEND:

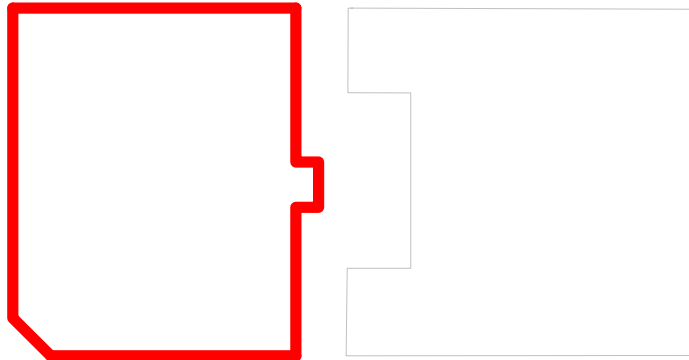
- TIMBER PANELLING
- TIMBER WALL
- EXISTING EXTERNAL AND INTERNAL ROTARY ALARM GONG
- SPRINKLER SYSTEM VALVES
- METAL SCISSOR GATE
- SKIRTING
- CORNICE
- RADIATOR
- CONCERTINA INDUSTRIAL SHUTTER
- HOIST SLIDER
- HOIST DOOR
- SAFE DOOR
- BLOCKED WINDOW

EXISTING ACCESS TO FIRE STAIRS TO BE RETAINED AND BLOCKED UP TO ONE SIDE



MH - 01 - EXISTING FIRST FLOOR - ADDITIONAL HISTORICAL FEATURES - POST
SOFT STRIP
1:50

- GENERAL NOTES
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REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-MH-01-PL-A-0100

PROPOSED DRAWING:
013-MDB-MH-01-PL-A-0101

LEGEND:

TIMBER PANELLING TO BE REFURBISHED AND RETAINED

EXISTING EXTERNAL AND INTERNAL ROTARY ALARM GONG TO BE RETAINED IN SITU AND REFURBISHED AS FEATURE

SPRINKLER SYSTEM VALVES RETAINED AS FEATURE.

METAL SCISSOR GATE TO BE REFURBISHED AND RELOCATED AS A FEATURE

SKIRTING TO BE ENCAPSULATED

CORNICE TO BE ENCAPSULATED

RADIATOR TO BE REFURBISHED AND RELOCATED

CONCERTINA INDUSTRIAL SHUTTER - TO BE REFURBISHED AND INCORPORATED AS A FEATURE IN THE APARTMENTS

HOIST SLIDER TO BE REFURBISHED, RELOCATED AS A FEATURE

HOIST DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE

SAFE DOOR TO BE REFURBISHED, RELOCATED AS A FEATURE

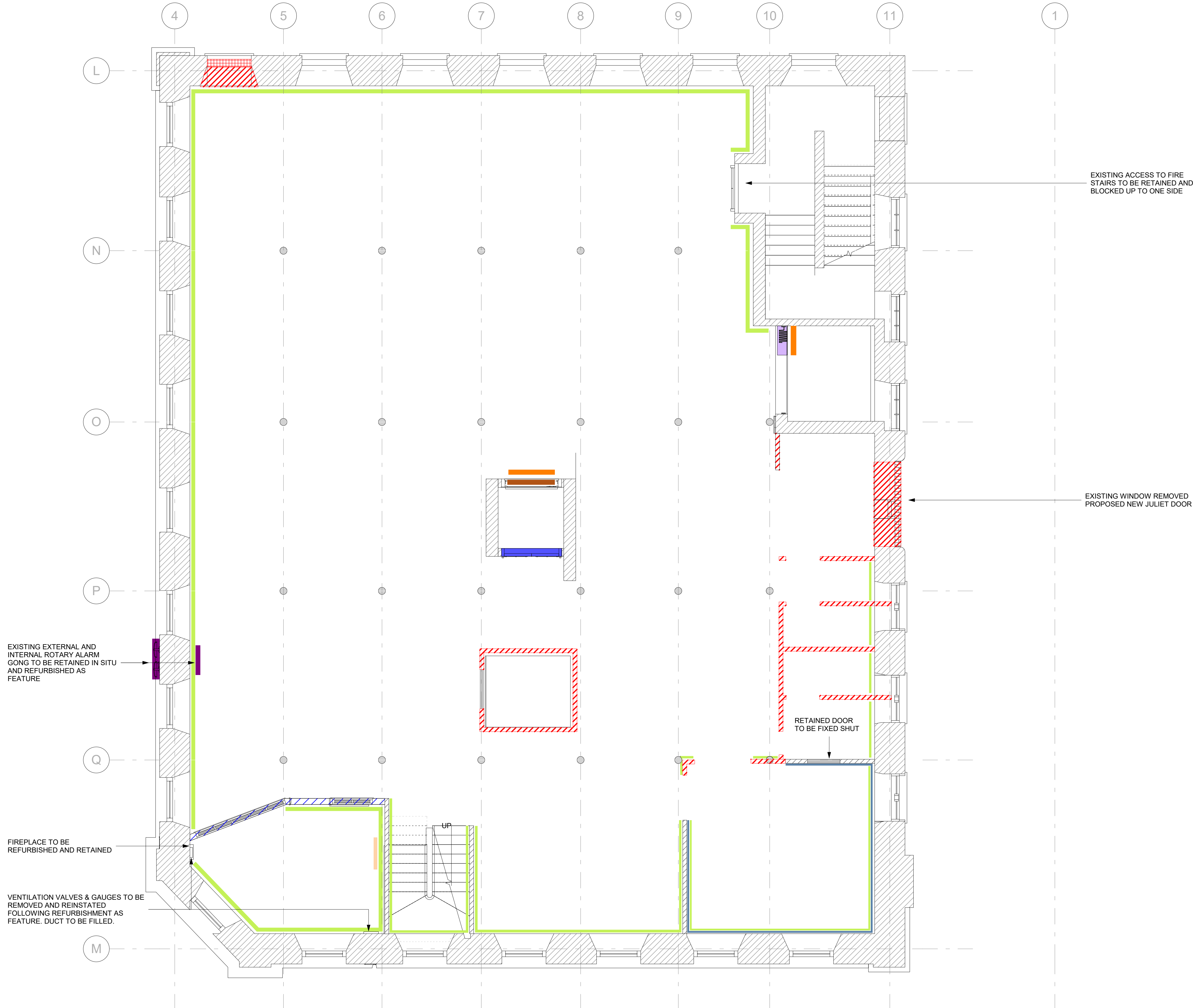
ELEMENT TO BE REMOVED

BLOCKED WINDOW TO BE REOPENED

EXISTING STAIRS TO BE REFURBISHED AND MADE GOOD. SKIRTING AND CORNICING TO BE REFURBISHED, ENCLOSED WALL TO BE RESTORED

EXISTING PERSONNEL LIFT TO BE REMOVED READY TO RECEIVE NEW LIFT.

EXISTING CENTRAL HOIST TO BE REMOVED WITH SHAFT TO BE REUSED FOR PLANT AND SERVICE RISER. EXISTING DOORS TO BE RETAINED IN SITU WHEREVER POSSIBLE OR RELOCATED AS FEATURE.



MH - 01 - EXISTING FIRST FLOOR - ADDTIONAL HISTORICAL FEATURES
RETENTION
1:50

Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

MINDEL HOUSE
RETENTION PLANS
FIRST FLOOR PLAN

DRAWING TITLE

PLANNING

DRAWING STATUS

DRAWN: AM CHECKED: NP

SCALE: @ A1: As indicated DATE: 17.02.2022

013-MDB-MH-01-PL-A-0102

DRAWING NUMBER REV:

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TO BE READ IN CONJUNCTION WITH

RETENTION DRAWING:
013-MDB-MH-01-PL-A-0102

 TIMBER PANELLING TO BE
REFURBISHED AND RETAINED

● SPRINKLER SYSTEM VALVES
RETAINED AS FEATURE.

SKIRTING TO BE ENCAPSULATED

CORNICE TO BE ENCAPSULATED

**RADIATOR TO BE REFURBISHED
AND RELOCATED**

CONCERTINA INDUSTRIAL SHUTTER -
TO BE REFURBISHED AND
INCORPORATED AS A FEATURE IN
THE APARTMENTS

HOIST SLIDER TO BE REFURBISHED,
RELOCATED AS A FEATURE

 HOIST DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE

SAFE DOOR TO BE
REFURBISHED, RELOCATED AS
A FEATURE

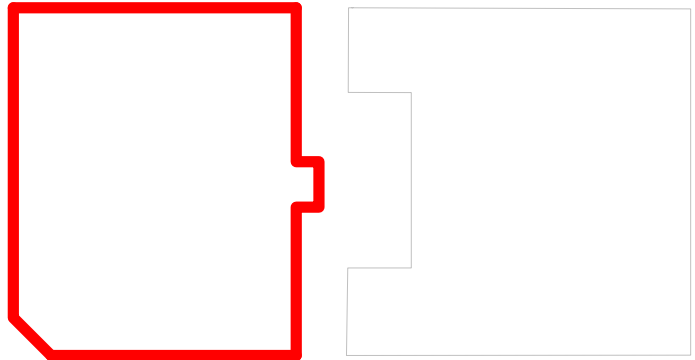
EXISTING STAIRS TO BE REFURBISHED AND MADE GOOD. SKIRTING AND CORNICING TO BE REFURBISHED, ENCLOSED WALL TO BE RESTORED

EXISTING PERSONNEL LIFT TO BE REMOVED
READY TO RECEIVE NEW LIFT.

VENTILATION VALVES & GAUGES TO BE REMOVED AND REINSTATED FOLLOWING REFURBISHMENT AS FEATURE. DUCT TO BE FILLED.

1:50

- GENERAL NOTES
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REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

PROPOSED DRAWING:
013-MDB-MH-02-PL-A-0101

RETENTION DRAWING:
013-MDB-MH-02-PL-A-0102

LEGEND:

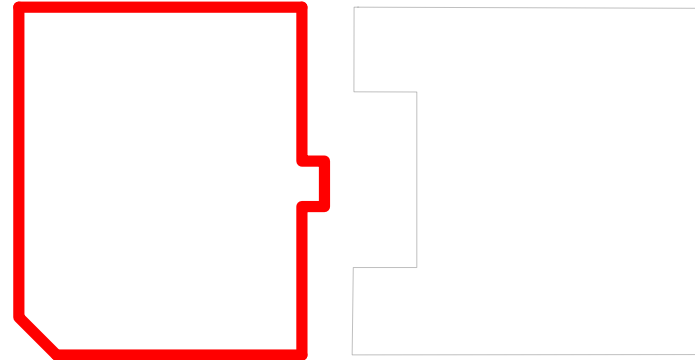
- TIMBER PANELLING
- TIMBER WALL
- EXISTING EXTERNAL AND INTERNAL ROTARY ALARM GONG
- SPRINKLER SYSTEM VALVES
- METAL SCISSOR GATE
- SKIRTING
- CORNICE
- RADIATOR
- CONCERTINA INDUSTRIAL SHUTTER
- HOIST SLIDER
- HOIST DOOR
- SAFE DOOR
- BLOCKED WINDOW



MH - 02 - EXISTING SECOND FLOOR - ADDITIONAL HISTORICAL FEATURES -
POST SOFT STRIP
1 : 50

GENERAL NOTES

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REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-MH-02-PL-A-0100

PROPOSED DRAWING:
013-MDB-MH-02-PL-A-0101

LEGEND:

TIMBER PANELLING TO BE REFURBISHED AND RETAINED

EXISTING EXTERNAL AND INTERNAL ROTARY ALARM GONG TO BE RETAINED IN SITU AND REFURBISHED AS A FEATURE

SPRINKLER SYSTEM VALVES RETAINED AS FEATURE.

METAL SCISSOR GATE TO BE REFURBISHED AND RELOCATED AS A FEATURE

SKIRTING TO BE ENCAPSULATED

CORNICE TO BE ENCAPSULATED

RADIATOR TO BE REFURBISHED AND RELOCATED

CONCERTINA INDUSTRIAL SHUTTER - TO BE REFURBISHED AND INCORPORATED AS A FEATURE IN THE APARTMENTS

HOIST SLIDER TO BE REFURBISHED, RELOCATED AS A FEATURE

HOIST DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE

SAFE DOOR TO BE REFURBISHED, RELOCATED AS A FEATURE

ELEMENT TO BE REMOVED

BLOCKED WINDOW TO BE REOPENED

EXISTING STAIRS TO BE REFURBISHED AND MADE GOOD. SKIRTING AND CORNICING TO BE REFURBISHED, ENCLOSED WALL TO BE RESTORED

EXISTING PERSONNEL LIFT TO BE REMOVED READY TO RECEIVE NEW LIFT.

EXISTING CENTRAL HOIST TO BE REMOVED WITH SHAFT TO BE REUSED FOR PLANT AND SERVICE RISER. EXISTING DOORS TO BE RETAINED IN SITU WHEREVER POSSIBLE OR RELOCATED AS FEATURE.



EXISTING ACCESS TO FIRE STAIRS TO BE RETAINED AND BLOCKED UP TO ONE SIDE

EXISTING DOOR REMOVED
PROPOSED NEW JULIET DOOR

MH - 02 - EXISTING SECOND FLOOR - ADDITIONAL HISTORICAL FEATURES
RETENTION
1 : 50

Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

MINDEL HOUSE
RETENTION PLANS
SECOND FLOOR PLAN

DRAWING TITLE

PLANNING

DRAWING STATUS

DRAWN AM CHECKED NP

SCALE @ A1: As indicated DATE 17.02.2022

013-MDB-MH-02-PL-A-0102

DRAWING NUMBER REV.

- GENERAL NOTES
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REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-MH-02-PL-A-0100

RETENTION DRAWING:
013-MDB-MH-02-PL-A-0102

LEGEND:

- TIMBER PANELLING TO BE REFURBISHED AND RETAINED
- EXISTING EXTERNAL AND INTERNAL ROTARY ALARM GONG TO BE RETAINED IN SITU AND REFURBISHED AS FEATURE
- SPRINKLER SYSTEM VALVES RETAINED AS FEATURE.
- SCISSOR GATE METAL DOOR TO BE REFURBISHED, RELOCATED AS A FEATURE
- SKIRTING TO BE ENCAPSULATED
- CORNICE TO BE ENCAPSULATED
- RADIATOR TO BE REFURBISHED AND RELOCATED
- CONCERTINA INDUSTRIAL SHUTTER - TO BE REFURBISHED AND INCORPORATED AS A FEATURE IN THE APARTMENTS
- HOIST SLIDER TO BE REFURBISHED, RELOCATED AS A FEATURE
- HOIST DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE
- SAFE DOOR TO BE REFURBISHED, RELOCATED AS A FEATURE

EXISTING STAIRS TO BE REFURBISHED AND MADE GOOD. SKIRTING AND CORNICING TO BE REFURBISHED, ENCLOSED WALL TO BE RESTORED

EXISTING PERSONNEL LIFT TO BE REMOVED READY TO RECEIVE NEW LIFT.



MH - 02 - PROPOSED SECOND FLOOR - ADDITIONAL HISTORICAL FEATURES
1:50

Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

MINDEL HOUSE
PROPOSED PLANS
SECOND FLOOR PLAN

DRAWING TITLE

PLANNING

DRAWING STATUS

DRAWN: AM CHECKED: NP

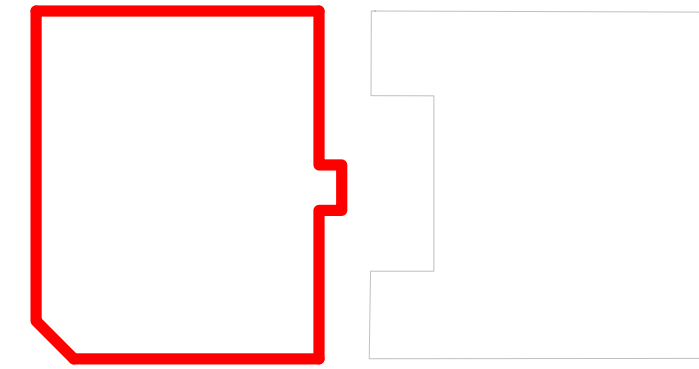
SCALE: @ A1: As indicated DATE: 23.02.22

013-MDB-MH-02-PL-A-0101

DRAWING NUMBER REV:



MH - 03 - EXISTING THIRD FLOOR - ADDITIONAL HISTORICAL FEATURES - POST
SOFT STRIP
1 : 50



REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

PROPOSED DRAWING:
013-MDB-MH-03-PL-A-0101

RETENTION DRAWING:
013-MDB-MH-03-PL-A-0102

LEGEND:

- TIMBER PANELLING
- TIMBER WALL
- EXISTING EXTERNAL AND INTERNAL ROTARY ALARM GONG
- SPRINKLER SYSTEM VALVES
- METAL SCISSOR GATE
- SKIRTING
- CORNICE
- RADIATOR
- CONCERTINA INDUSTRIAL SHUTTER
- HOIST SLIDER
- HOIST DOOR
- SAFE DOOR
- BLOCKED WINDOW

GENERAL NOTES

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Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

MINDEL HOUSE
POST SOFT STRIP PLAN
THIRD FLOOR

DRAWING TITLE

PLANNING

DRAWING STATUS

DRAWN: AM CHECKED: NP

SCALE: As indicated DATE: 15.02.22

013-MDB-MH-03-PL-A-0100

DRAWING NUMBER REV:

(A3)

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED
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TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-MH-03-PL-A-0100

PROPOSED DRAWING:
013-MDB-MH-03-PL-A-0101

 TIMBER PANELLING TO BE
REFURBISHED AND RETAINED

EXISTING EXTERNAL AND
INTERNAL ROTARY ALARM GONG
TO BE RETAINED IN SITU AND
REFURBISHED AS FEATURE

● SPRINKLER SYSTEM VALVES
RETAINED AS FEATURE.

METAL SCISSOR GATE TO BE REFURBISHED AND RELOCATED AS A FEATURE

SKIRTING TO BE ENCAPSULATED

 CORNICE TO BE ENCAPSULATED

**RADIATOR TO BE REFURBISHED
AND RELOCATED**

CONCERTINA INDUSTRIAL SHUTTER -
TO BE REFURBISHED AND
INCORPORATED AS A FEATURE IN
THE APARTMENTS

HOIST SLIDER TO BE REFURBISHED,
RELOCATED AS A FEATURE

 HOIST DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE

SAFE DOOR TO BE
REFURBISHED, RELOCATED AS
A FEATURE

 ELEMENT TO BE REMOVED

 BLOCKED WINDOW TO BE REOPENED

EXISTING STAIRS TO BE REFURBISHED AND MADE GOOD. SKIRTING AND CORNICING TO BE REFURBISHED, ENCLOSED WALL TO BE RESTORED

EXISTING PERSONNEL LIFT TO BE REMOVED
READY TO RECEIVE NEW LIFT.

EXISTING CENTRAL HOIST TO BE REMOVED WITH
SHAFT TO BE REUSED FOR PLANT AND SERVICE
RISER. EXISTING DOORS TO BE RETAINED IN SITU
WHEREVER POSSIBLE OR RELOCATED AS FEATURE.

Rev	Description	By	Date
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CLIENT:

PICCADILLY WAREHOUSE

PROJECT: _____

MINDEL HOUSE
RETENTION PLANS
THIRD FLOOR PLAN

DRAWING TITLE:

PLANNING

DRAWING STATUS:

DRAWN: AM | CHECKED: NP

SCALE @ A1: As indicated | DATE: 17.02.2022

013-MDB-MH-03-PL-A-0102
DRAWING NUMBER:

(A1)

RETENTION

1:50

- GENERAL NOTES
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REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-MH-03-PL-A-0100

RETENTION DRAWING:
013-MDB-MH-03-PL-A-0102

LEGEND:

TIMBER PANELLING TO BE REFURBISHED AND RETAINED

EXISTING EXTERNAL AND INTERNAL ROTARY ALARM GONG TO BE RETAINED IN SITU AND REFURBISHED AS FEATURE

SPRINKLER SYSTEM VALVES RETAINED AS FEATURE.

SCISSOR GATE METAL DOOR TO BE REFURBISHED, RELOCATED AS A FEATURE

SKIRTING TO BE ENCAPSULATED

CORNICE TO BE ENCAPSULATED

RADIATOR TO BE REFURBISHED AND RELOCATED

CONCERTINA INDUSTRIAL SHUTTER - TO BE REFURBISHED AND INCORPORATED AS A FEATURE IN THE APARTMENTS

HOIST SLIDER TO BE REFURBISHED, RELOCATED AS A FEATURE

HOIST DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE

SAFE DOOR TO BE REFURBISHED, RELOCATED AS A FEATURE

EXISTING STAIRS TO BE REFURBISHED AND MADE GOOD. SKIRTING AND CORNICING TO BE REFURBISHED, ENCLOSED WALL TO BE RESTORED

EXISTING PERSONNEL LIFT TO BE REMOVED READY TO RECEIVE NEW LIFT.



MH - 03 - PROPOSED THIRD FLOOR - ADDTIONAL HISTORICAL FEATURES
1 : 50

Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

MINDEL HOUSE
PROPOSED PLANS
THIRD FLOOR PLAN

DRAWING TITLE

PLANNING

DRAWING STATUS

DRAWN: AM CHECKED: NP

SCALE: @ A1: As indicated DATE: 23.02.22

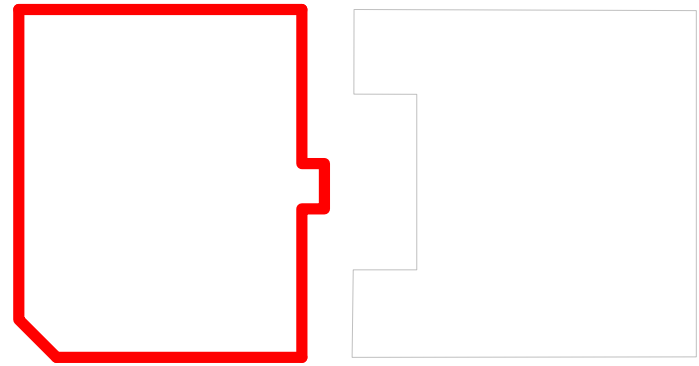
013-MDB-MH-03-PL-A-0101

DRAWING NUMBER REV:

(A3)



MH - 04 - EXISTING FOURTH FLOOR - ADDITIONAL HISTORICAL FEATURES -
POST SOFT STRIP
1 : 50



REFERENCE PLAN

EXISTING ACCESS TO FIRE
STAIRS TO BE RETAINED AND
BLOCKED UP TO ONE SIDE

TO BE READ IN CONJUNCTION WITH

PROPOSED DRAWING:
013-MDB-MH-04-PL-A-0101

RETENTION DRAWING:
013-MDB-MH-04-PL-A-0102

LEGEND:

- TIMBER PANELLING
- TIMBER WALL
- EXISTING EXTERNAL AND
INTERNAL ROTARY ALARM GONG
- SPRINKLER SYSTEM VALVES
- METAL SCISSOR GATE
- SKIRTING
- CORNICE
- RADIATOR
- CONCERTINA INDUSTRIAL SHUTTER
- HOIST SLIDER
- HOIST DOOR
- SAFE DOOR
- BLOCKED WINDOW

GENERAL NOTES

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Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

MINDEL HOUSE
POST SOFT STRIP PLAN
FOURTH FLOOR

DRAWING TITLE

PLANNING

DRAWING STATUS

DRAWN: AM CHECKED: NP

SCALE: As indicated DATE: 15.02.22

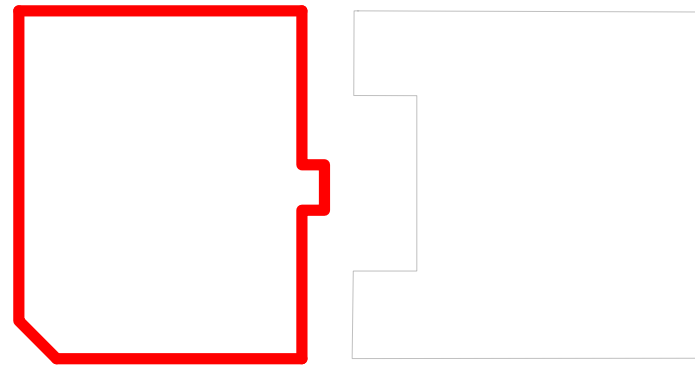
013-MDB-MH-04-PL-A-0100

DRAWING NUMBER REV:

(A3)

GENERAL NOTES

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REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
013-MDB-MH-04-PL-A-0100

PROPOSED DRAWING:
013-MDB-MH-04-PL-A-0101

LEGEND:

- TIMBER PANELLING TO BE REFURBISHED AND RETAINED
- EXISTING EXTERNAL AND INTERNAL ROTARY ALARM GONG TO BE RETAINED IN SITU AND REFURBISHED AS FEATURE
- SPRINKLER SYSTEM VALVES RETAINED AS FEATURE.
- METAL SCISSOR GATE TO BE REFURBISHED AND RELOCATED AS A FEATURE
- SKIRTING TO BE ENCAPSULATED
- CORNICE TO BE ENCAPSULATED
- RADIATOR TO BE REFURBISHED AND RELOCATED
- CONCERTINA INDUSTRIAL SHUTTER - TO BE REFURBISHED AND INCORPORATED AS A FEATURE IN THE APARTMENTS
- HOIST SLIDER TO BE REFURBISHED, RELOCATED AS A FEATURE
- HOIST DOOR TO BE REFURBISHED AND RETAINED AS A FEATURE
- SAFE DOOR TO BE REFURBISHED, RELOCATED AS A FEATURE
- ELEMENT TO BE REMOVED
- BLOCKED WINDOW TO BE REOPENED

EXISTING STAIRS TO BE REFURBISHED AND MADE GOOD. SKIRTING AND CORNICING TO BE REFURBISHED, ENCLOSED WALL TO BE RESTORED

EXISTING PERSONNEL LIFT TO BE REMOVED
READY TO RECEIVE NEW LIFT.

EXISTING CENTRAL HOIST TO BE REMOVED WITH SHAFT TO BE REUSED FOR PLANT AND SERVICE RISER. EXISTING DOORS TO BE RETAINED IN SITU WHEREVER POSSIBLE OR RELOCATED AS FEATURE.

EXISTING ACCESS TO FIRE STAIRS TO BE RETAINED AND BLOCKED UP TO ONE SIDE

EXISTING DOOR REMOVED
PROPOSED NEW JULIET DOOR



MH - 04 - EXISTING FOURTH FLOOR - ADDTIONAL HISTORICAL FEATURES
RETENTION
1 : 50

Rev Description By Date



CLIENT:

PROJECT: PICCADILLY WAREHOUSE

DRAWING TITLE:

MINDEL HOUSE
RETENTION PLANS
FOURTH FLOOR PLAN

PLANNING

DRAWING STATUS:

DRAWN: AM CHECKED: NP

SCALE: As indicated DATE: 17.02.2022

013-MDB-MH-04-PL-A-0102

DRAWING NUMBER: REV:

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REFERENCE PLAN

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EXISTING DRAWING:
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RETENTION DRAWING:
013-MDB-MH-04-PL-A-0102

LEGEND:

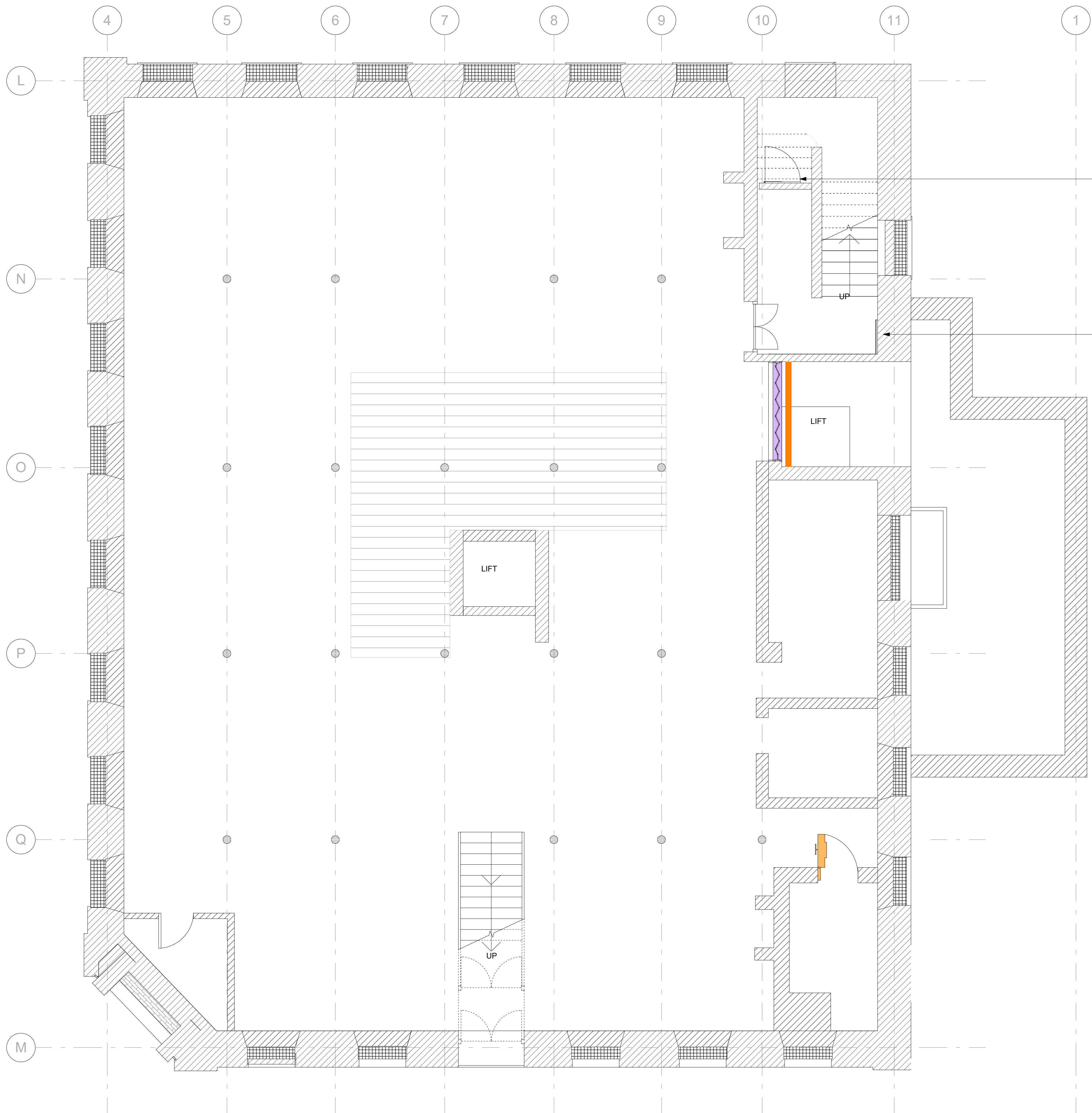
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EXISTING STAIRS TO BE REFURBISHED AND MADE GOOD. SKIRTING AND CORNICING TO BE REFURBISHED, ENCLOSED WALL TO BE RESTORED

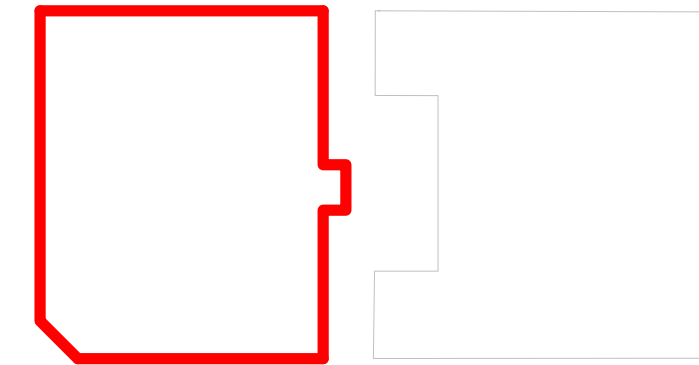
EXISTING PERSONNEL LIFT TO BE REMOVED READY TO RECEIVE NEW LIFT.



MH - 04 - PROPOSED FOURTH FLOOR - ADDITIONAL HISTORICAL FEATURES
1:50



MH - B1 - EXISTING BASEMENT FLOOR - ADDITIONAL HISTORICAL FEATURES -
POST SOFT STRIP
1 : 50



REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

PROPOSED DRAWING:
013-MDB-MH-B1-PL-A-0101

RETENTION DRAWING:
013-MDB-MH-B1-PL-A-0102

LEGEND:

- TIMBER PANELLING
- TIMBER WALL
- EXISTING EXTERNAL AND INTERNAL ROTARY ALARM GONG
- SPRINKLER SYSTEM VALVES
- METAL SCISSOR GATE
- SKIRTING
- CORNICE
- RADIATOR
- CONCERTINA INDUSTRIAL SHUTTER
- HOIST SLIDER
- HOIST DOOR
- SAFE DOOR
- BLOCKED WINDOW

EXISTING METAL DOOR TO BE
REFURBISHED AND RETAINED

EXISTING METAL DOOR TO SUB-
BASEMENT TO BE RETAINED BUT
FIXED SHUT.

GENERAL NOTES

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Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE
PROJECT:

MINDLE HOUSE
POST SOFT STRIP PLAN
BASEMENT

DRAWING TITLE

PLANNING

DRAWING STATUS

DRAWN: AM CHECKED: NP

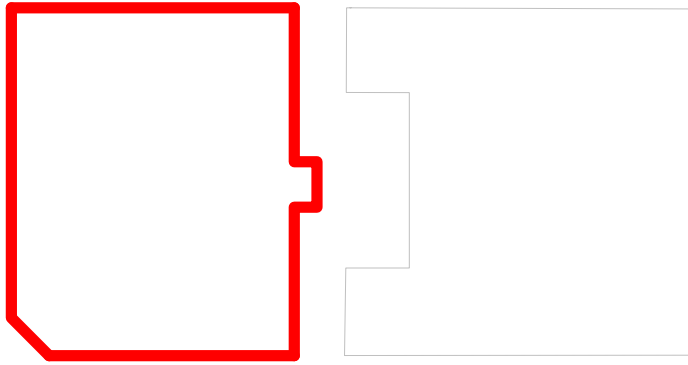
SCALE: As indicated DATE: 15.02.22

013-MDB-MH-B1-PL-A-0100

DRAWING NUMBER REV:

(A3)

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013-MDB-MH-B1-PL-A-0100

PROPOSED DRAWING:
013-MDB-MH-B1-PL-A-0101

LEGEND:

TIMBER PANELLING TO BE
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EXISTING EXTERNAL AND
INTERNAL ROTARY ALARM GONG
TO BE RETAINED IN SITU AND
REFURBISHED AS FEATURE

SPRINKLER SYSTEM VALVES
RETAINED AS FEATURE.

METAL SCISSOR GATE TO
BE REFURBISHED AND
RELOCATED AS A FEATURE

SKIRTING TO BE ENCAPSULATED

CORNICE TO BE ENCAPSULATED

RADIATOR TO BE REFURBISHED
AND RELOCATED

CONCERTINA INDUSTRIAL SHUTTER -
TO BE REFURBISHED AND
INCORPORATED AS A FEATURE IN
THE APARTMENTS

HOIST SLIDER TO BE REFURBISHED,
RELOCATED AS A FEATURE

HOIST DOOR TO BE REFURBISHED
AND RETAINED AS A FEATURE

SAFE DOOR TO BE
REFURBISHED, RELOCATED AS
A FEATURE

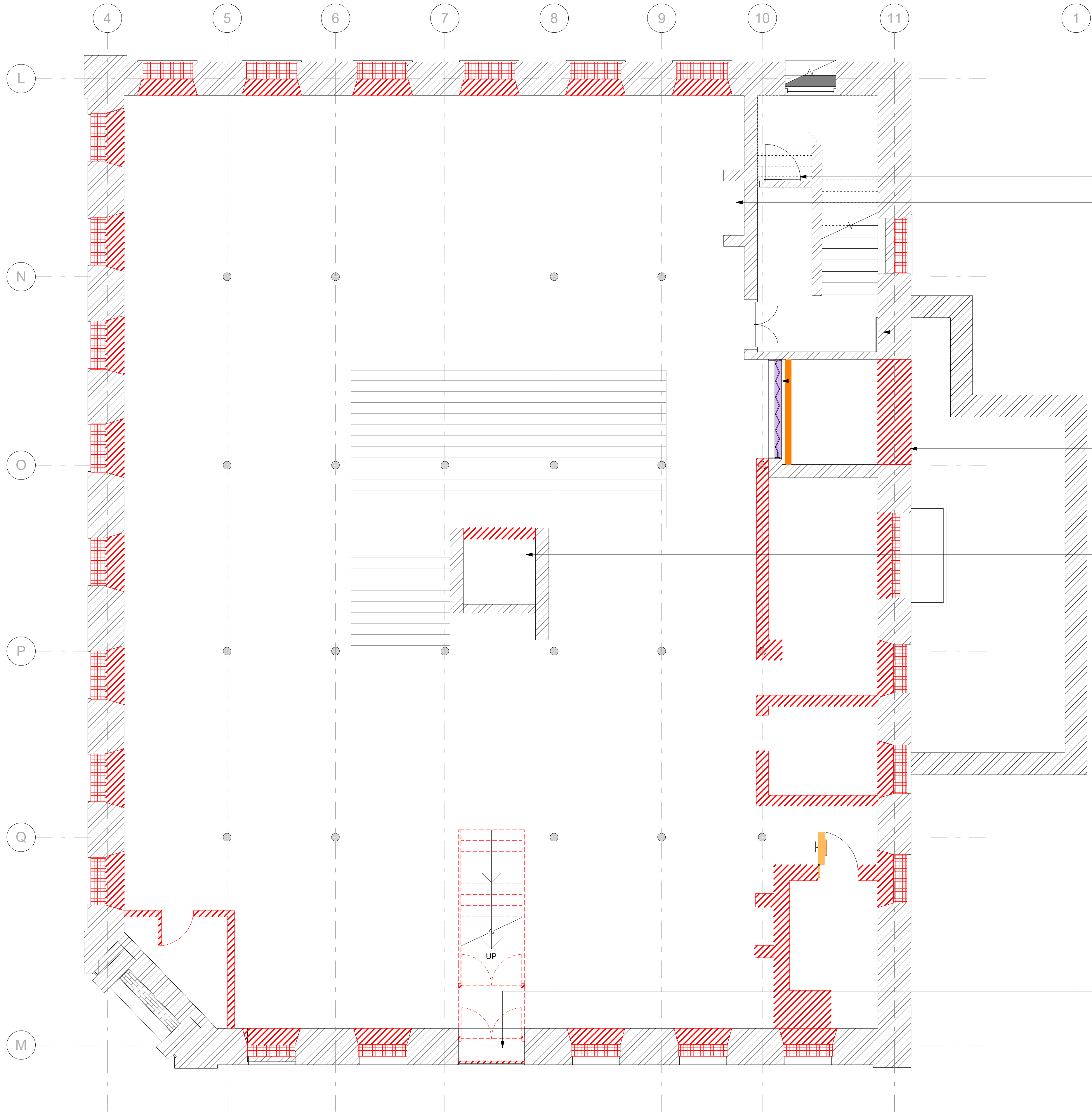
ELEMENT TO BE REMOVED

BLOCKED WINDOW TO BE
REOPENED

EXISTING STAIRS TO BE REFURBISHED AND MADE
GOOD. SKIRTING AND CORNICING TO BE
REFURBISHED, ENCLOSED WALL TO BE RESTORED

EXISTING PERSONNEL LIFT TO BE REMOVED
READY TO RECEIVE NEW LIFT.

EXISTING CENTRAL HOIST TO BE REMOVED WITH
SHAFT TO BE REUSED FOR PLANT AND SERVICE
RISER. EXISTING DOORS TO BE RETAINED IN SITU
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EXISTING METAL DOOR TO BE
REFURBISHED AND RETAINED
EXISTING ACCESS TO FIRE
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BLOCKED UP TO ONE SIDE

EXISTING METAL DOOR TO SUB-
BASEMENT TO BE RETAINED BUT
FIXED SHUT.

CONCERTINA INDUSTRIAL
SHUTTER - TO BE REFURBISHED
AND RELOCATED TO THE
CORRIDOR

EXISTING LIFT WORKINGS TO
BE REMOVED READY TO
RECEIVE NEW ACCESS STEPS
AND DISABLED LIFT.

EXISTING CENTRAL HOIST TO
BE REMOVED WITH SHAFT TO
BE REUSED FOR A PLANT AND
SERVICE RISER

EXISTING ENTRANCE ACCESS
TO BE REMOVED, OPENING TO
BE REVERTED TO MATCH
ORIGINAL WINDOW

MH - B1 - EXISTING BASEMENT FLOOR - ADDTIONAL HISTORICAL FEATURES
RETENTION
1:50

Rev Description By Date



CLIENT:

PICCADILLY WAREHOUSE

PROJECT:

MINDLE HOUSE
RETENTION PLANS
BASEMENT FLOOR PLAN

DRAWING TITLE

PLANNING

DRAWING STATUS

DRAWN AM

CHECKED: NP

SCALE @ A1: As indicated DATE: 17.02.2022

013-MDB-MH-B1-PL-A-0102

DRAWING NUMBER

REV.

(A1)

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013-MDB-MH-B1-PL-A-0100

RETENTION DRAWING:
013-MDB-MH-B1-PL-A-0102

LEGEND:

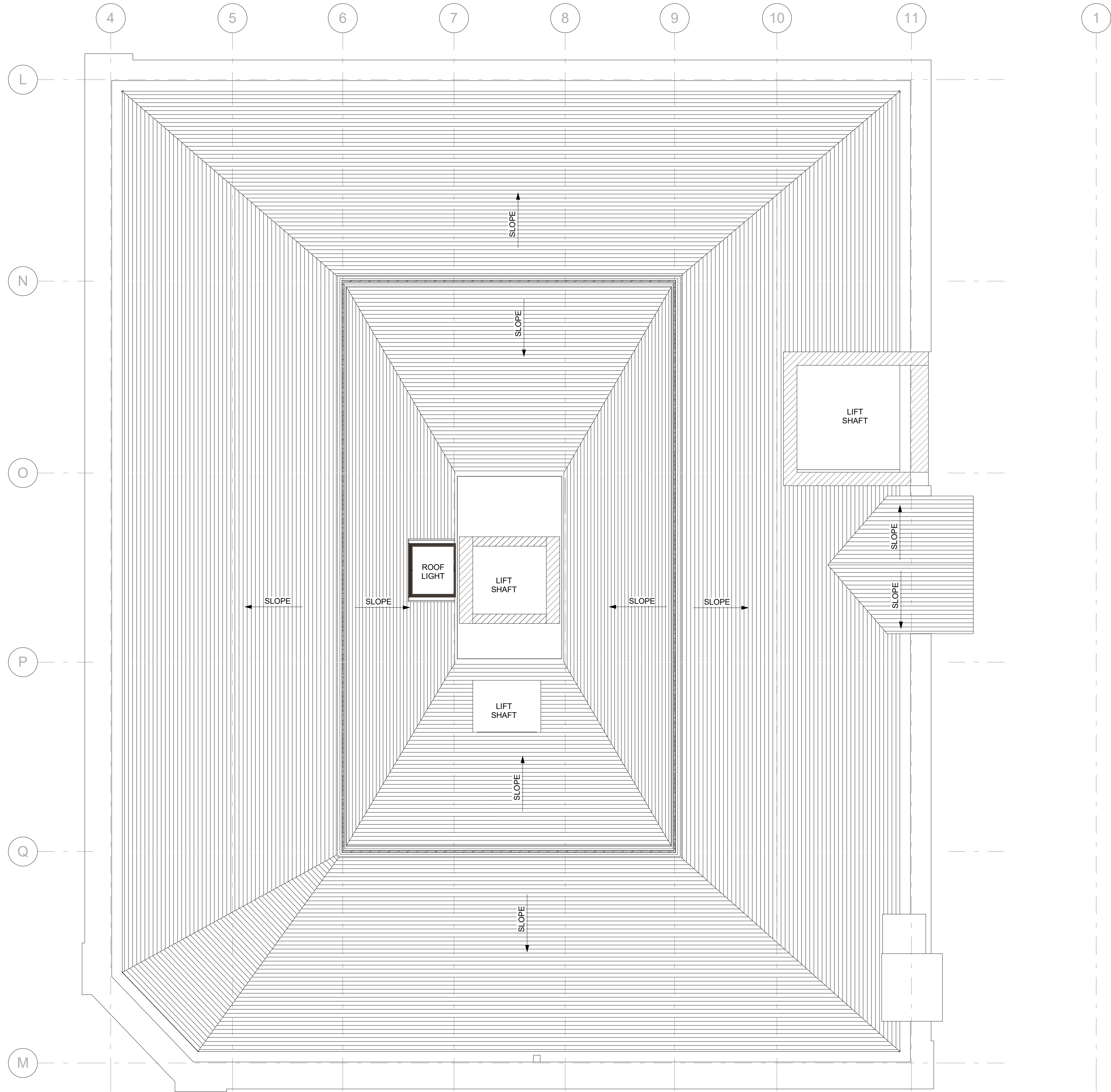
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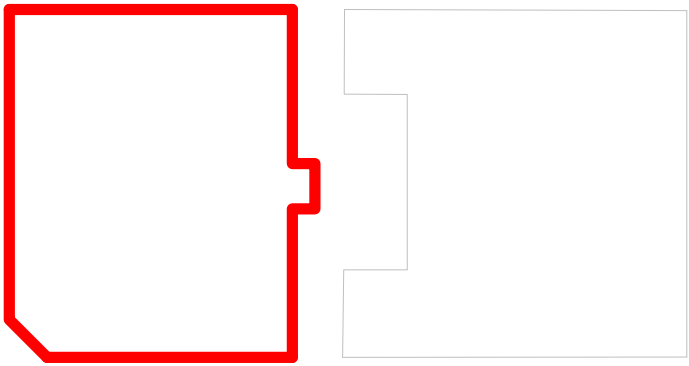
EXISTING PERSONNEL LIFT TO BE REMOVED READY TO RECEIVE NEW LIFT.



MH - B1 - BASEMENT FLOOR - PROPOSED ADDITIONAL HISTORICAL FEATURES
1:50



MH - RF - EXISTING ROOF - ADDTIONAL HISTORICAL FEATURES - POST SOFT STRIP
1:50



REFERENCE PLAN

TO BE READ IN CONJUNCTION WITH

PROPOSED DRAWING:
013-MDB-MH-RF-PL-A-0101

RETENTION DRAWING:
013-MDB-MH-RF-PL-A-0102

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Rev Description By Date



PICCADILLY WAREHOUSE

PROJECT:

MINDEL HOUSE
POST SOFT STRIP PLAN
ROOF LEVEL

DRAWING TITLE

PLANNING

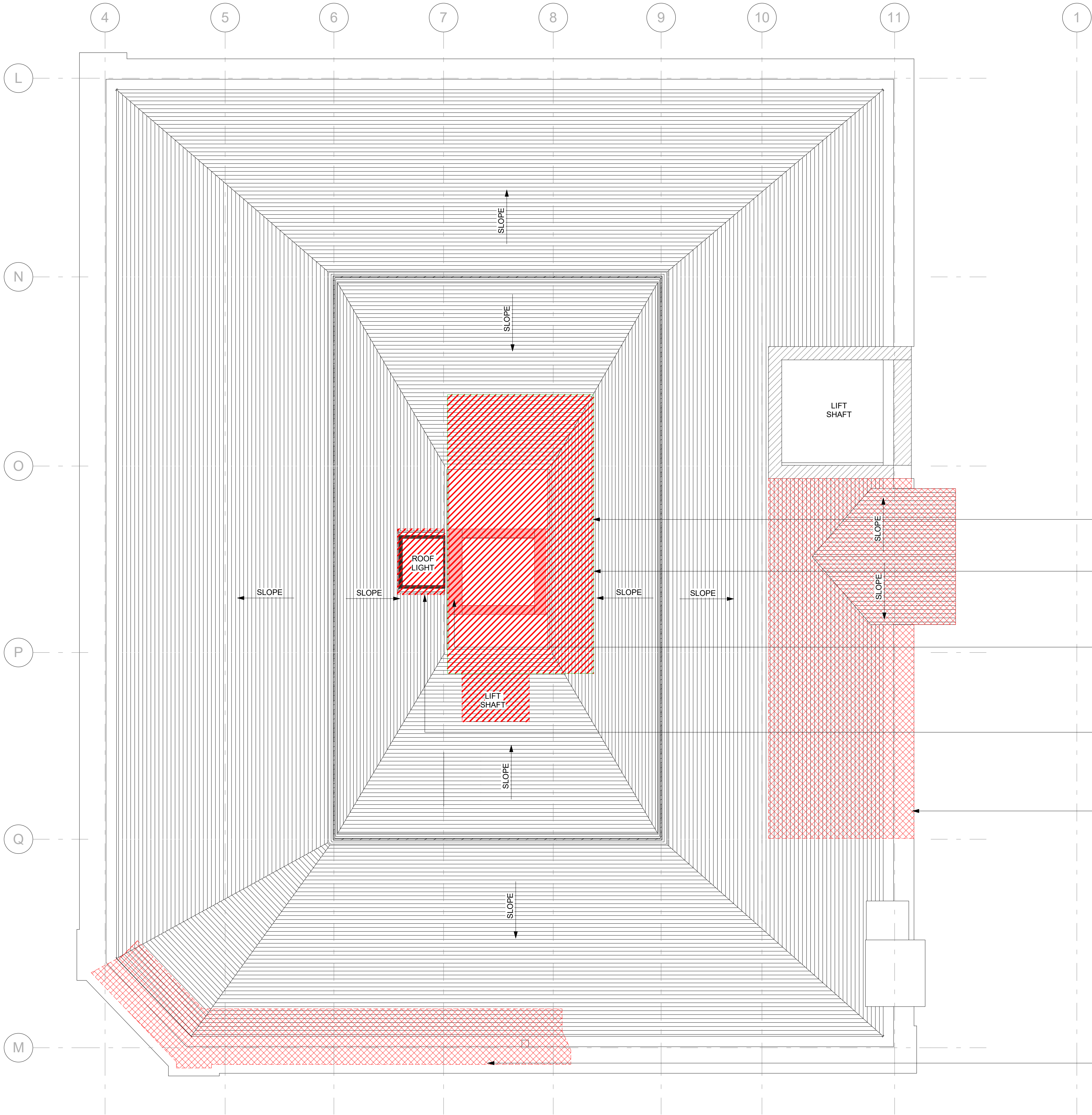
DRAWING STATUS

DRAWN: AM CHECKED: NP

SCALE: @ A3: As indicated DATE: 15.02.22

013-MDB-MH-RF-PL-A-0100

DRAWING NUMBER REV:



MH - RF - EXISTING ROOF - ADDITIONAL HISTORICAL FEATURES RETENTION
1:50

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PROPOSED DRAWING:
013-MDB-MH-RF-PL-A-0101

LEGEND:

 ELEMENT TO BE REMOVED

EXISTING FLAT ROOFTO BE
REMOVED TO AMKE WAY FOR
NEW FLAT ROOF BUILD UP AND
PLANT GANTRY FLOOR

FLOOR TYPE - 3 PLANT ROOM
GRATE FLOOR
REFER TO FLOOR TYPE DETAILS:
MS-ZZ-DT-A-2302

EXISTING CENTRAL HOIST WALL
TO BE REMOVED ABOVE 3800
LEVEL FROM FOURTH FLOOR
FFL. EXACT HEIGHT TBC AFTER
FURTHER INVESTIGATION

EXISTING ROOF LIGHT
OPENING CLOSED UP WITH
MATERIALS TO MATCH
EXISTING

EXISTING EXTERNAL WALLS TO BE
REMOVED BECAUSE OF WATER DAMP
PENETRATION AND REINSTETED
ACCORDING TO SE DETAILS.
IN ABEYANCE UNTIL SUCH TIME
INVESTIGATION WORKS HAVE BEEN
PERFORMED. EXACT AREA TBC ON
SITE. REFER TO H+R PLASTER
CONDITION SURVEY

EXISTING EXTERNAL WALL TO
BE REMOVED BECAUSE OF
WATER DAMP PENETRATION
AND REPLACE ACCORDING TO
SE DETAILS.
IN ABEYANCE UNTIL SUCH
TIME INVESTIGATION WORKS
HAVE BEEN PERFORMED.
REFER TO H+R PLASTER
CONDITION SURVEY.

Rev Description By Date



PICCADILLY WAREHOUSE

PROJECT:
MINDEL HOUSE
RETENTION PLANS
ROOF LEVEL

DRAWING TITLE

PLANNING

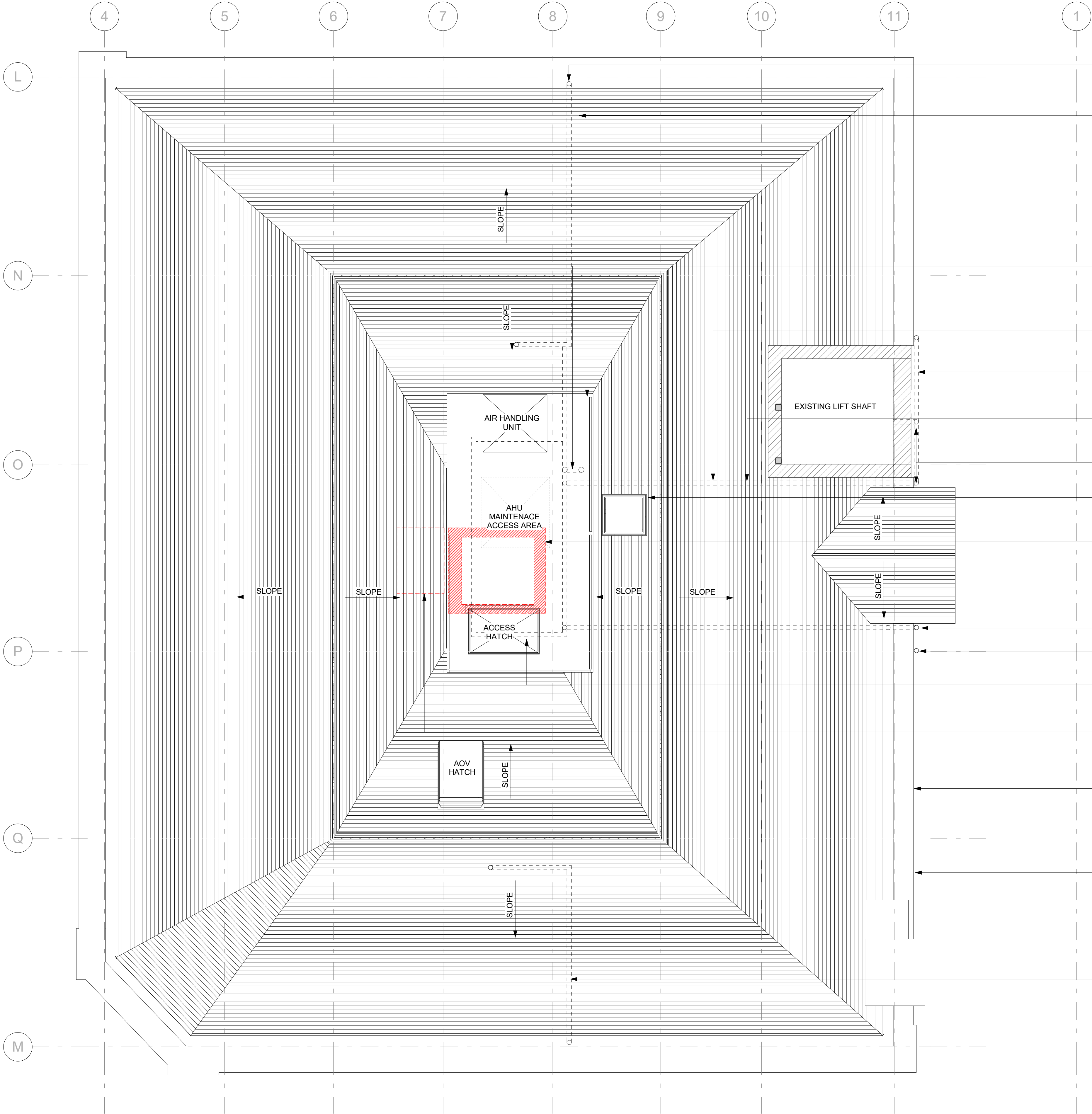
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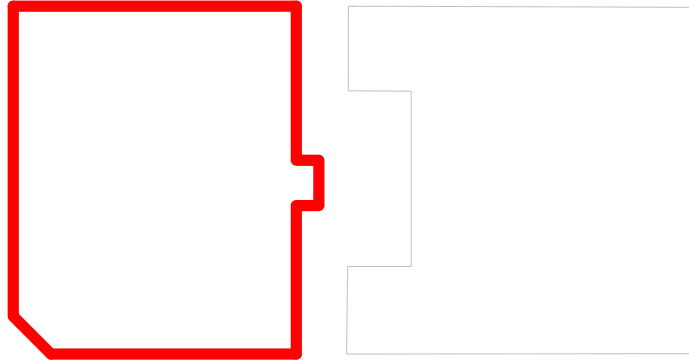
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013-MDB-MH-RF-PL-A-0102

DRAWING NUMBER REV:



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TO BE READ IN CONJUNCTION WITH

EXISTING DRAWING:
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RETENTION DRAWING:
013-MDB-MH-RF-PL-A-0102

SLATE PITCHED ROOFS

GENERAL NOTES
Pitched re-roofing works to be undertaken in accordance with the following:

BS 5534:2014 + A2:2018 - Slating and Tiling for Pitched Roofs and Vertical Cladding - Code of Practice
BS EN 12328-1:2014 - Slate and stone for discontinuous roofing and external cladding
BS 8000-8:2013 - Workmanship on Building Sites - Code of Practice for Slating and Tiling of Roofs and Walls
BS 7913: 2013 - Guide to the conservation of historic buildings
BS EN 13707 - Flexible Sheets for Waterproofing and Water Vapour Control
Historic England Guidance - Energy Efficiency and Historic Buildings Insulating Pitched Roofs at Ceiling Level
BS EN 12588: 2006 and BS6915 Code of Practice - Lead Sheet Roofing

ROOF STRUCTURE GENERAL
The existing timber roof structure is to be repaired in-situ. The full scope of structural timber repairs is to be confirmed on site by the structural engineer. Final re-roofing details subject to structural timber repairs.

EXISTING ROOFING SLATE
Existing roofing slate sample has been sent for petrographic test analysis. Replacement slates to be sourced from Welsh Slate / Penrhyn Quarry (unless test results confirm otherwise).

STRIPPING OUT/DEMOLITION WORKS
Existing slates and ridge and hip tiles to be carefully removed and stacked and sorted with defective tiles and slates discarded. Nails to be carefully removed to protect existing slates taking care to minimise splitting or enlarging nail holes. Carefully remove all lead flashings, valley gutters, battens, and existing underlay sarking felts etc. from all pitched roof areas. Carry out work carefully to minimise damage and loss of existing materials to be reused and ensure adjoining / abutting roof structures are not disturbed. Carefully sort and set aside all existing materials for inspection and re-use.

ROOF REINSTATEMENT
To all pitched roofs supply and lay new flexible vapour permeable membrane suitable for use with an open rafter arrangement directly over the rafters to the minimum horizontal lap as per the manufacturer's recommendations (e.g. Dupont Tyvek Supro / Permavent Apex). To all pitched roofs re-slate using existing previously removed re-salvaged slates (to the outer roof pitches where possible) and or with new Welsh Slate to match existing fixed onto new 50 x 25mm lanalised factory graded softwood battens double nailed with approved copper nails. Slates to be laid to gauges, laps etc as existing. Replacement new roof slate samples to be provided for approval by the Contract Administrator prior to installation.

RIDGES/HIPS
Re-bed blue clay ridge and hip tiles to match existing with carefully mitred joints. Existing tiles to be re-used where feasible.

INSULATION
Breathable insulation (e.g. Thermafleece) to be installed at ceiling level to comply with current Building Regulations 0.16 W/m² K.

FLASHINGS/VALLEYS/GUTTERS
The contractor is to allow to replace and reinstate all abutment flashings, valley boards and to re-line valley gutters with new Code 5 lead. Perimeter gutters to be re-lined with Code 6 lead in-conjunction with re-roofing works. Existing parapet stone copings (presently capped with felt) to be encapsulated with Code 6 lead in-conjunction with re-lining perimeter gutters. All lead works to comply with Lead Development Association technical recommendations.

RAINWATER DRAINAGE
Existing heritage cast iron pipework to be retained. Otherwise all existing UPVC drainage pipework to be removed. Existing roof outlets to drain internally with new internal concealed pipework in-conjunction with new approved combined drainage system. Overflow chute outlets to be lined in Code 6 lead.

CENTRAL VALLEY / FLAT ROOFS
Existing felt waterproofing to flat roofs to be replaced with new three layer built up insulated high performance mineral surfaced elastomeric felt on new plywood structural deck with timber firrings (to replace existing defective flat timber decking) e.g. Bauder Total Roof System (colour: blue/grey as existing). All works to comply with BS EN 13707 - Reinforced Bitumen Membrane Sheets and BS8747:2007 UK guide for reinforced bitumen membranes.

MH - RF - PROPOSED ROOF - ADDTIONAL HISTORICAL FEATURES
1:50

Rev	Description	By	Date
			
CLIENT:			
PROJECT:			
PICCADILLY WAREHOUSE			
MINDEL HOUSE PROPOSED PLANS ROOF LEVEL			
DRAWING TITLE			
PLANNING			
DRAWING STATUS			
DRAWN	AM	CHECKED	NP
SCALE @ A1: As indicated			
DATE: 23.02.22			
013-MDB-MH-RF-PL-A-0101			
DRAWING NUMBER			
REV.			