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# HENFAES BANGOR UNIVERSITY



## STAGE 4 REPORT

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Architecture | Interiors | Master Planning | Landscape | Client Representation

**Document Details**

Job no: 7765  
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Date: 26/02/2024  
Revision: Rev A  
Prepared by: MT  
Checked by: LAS

**Project Sign off**

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**Client**



**Project Team**



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# HEN FAES Stage 4 Report

## 1.0 Introduction

### 1.1 Introduction

This report delves into the evolution of design proposals from the conceptualisation RIBA Stage 2 to the elaboration of Stage 3, where strategies formulated during the earlier phase are refined. The primary focus is on developing a comprehensive design proposal for transforming an existing agricultural shed into a state-of-the-art laboratory. Concurrently, efforts are directed towards upgrading the existing F220 Laboratory and first floor/office area the visitor centre, 'Menterra,' also situated at Henfaes. The ultimate goal is to establish the new Centre for Environmental Biology (CEB).

To meet this objective, the conversion of the current agricultural structure will coincide with the enhancement of the F220 Laboratory.

In December 2022, FDG initiated a feasibility study appraisal, scrutinising options for the Henfaes site. This assessment addressed the site's current state/condition and encapsulated recommendations. Pick Everard, on behalf of Bangor University, prepared an Initial Order of Cost Estimate to support this study.

### 1.2 Executive Summary

This report collates work to date for the RIBA Stage 3 Developed Design, and provides a background view of the design proposals. Its objectives include:

- Agreement of project brief
- Project and Design Strategies
- Outline proposals for Architectural Designs
- Outline proposals for Structural Design
- Outline proposals for Mechanical and Electrical Services installations
- Preliminary specifications
- Development of the Project Cost Plan

### 1.3 Project Objectives

The existing CEB (Centre for Environmental Biotechnology) has been a major success resulting in significant research outputs in key exploitable areas for industry. The CEB enzymes catalogue may address a wide range of industrial processes, and its commercial exploitation represents an opportunity to generate new high value jobs for the North Wales economy.

Bangor has the components to develop a well-honed system that, in essence, is an Enzymes Discovery Factory that:

- Is capable of using the platform to continue to isolate and characterize new enzymes, adding to the existing catalogue of 1,000+ opportunities already identified;
- Has the breadth of expertise to understand how they will be used in industrial/environmental processes, materials, environmental monitoring and remediation of sites;
- Has the expertise in the organisation to support their commercial development.

This project will explore the use of biological processes as effective, efficient and low carbon alternatives to products and industrial manufacturing processes. Based at Bangor University, the project will research unique enzymes and how they can transform into products that have less impact on the environment than current materials and industrial chemicals. This will support uptake of lower impact manufacturing technologies by businesses and work towards de-carbonisation.

The CEB and BioComposites Centre, working collaboratively, would present a strong team to stimulate commercial partnership development which could lead to new innovations and job creation in the University and in partner companies.

The project will be used to:

- Enhance the current basic enzyme research equipment that feeds potential enzymes into the scale-up facility
- Create a fully equipped scale-up facility for the pre-industrial testing of enzymes in specific industrial conditions.

Having such a pilot facility will mean that the enzymes catalogue can be further developed from its current research phase to a commercial R&D programme, enabling multiple opportunities to be assessed and moved through to TRL4+ stages of development more rapidly, and hence more effectively capture value for the North Wales and broader economy. The proposed facilities are based on medium scale enzyme testing which will provide a step forward for large organisations and make the technology accessible to SMEs and start-ups.

An independent report has identified opportunities in the growing industrial segments of biofuels, bioplastics, bioremediation and fine chemicals. Enzymes are available in the current catalogue that have applications in these markets. But without a pilot scale facility, they will not be developed and a significant economic opportunity will be missed.

There is also an increasing demand for skills to support the emerging Biotech sector in North Wales. The Regional Skills and Employment Plan projects that there will be a 15% increase needed in professional occupations and a 13% increase needed in associated professional and technical occupations. To meet the skills needs of the region, and the wider economy, technical skills across the spectrum are required, from degree apprenticeships through to Masters and PhD opportunities.

### 1.4 Project Team

#### Client Team

John Latchford

Neil McLeod

Peter Golyshin

Rob Elias

Soo Vinnicombe

#### Design Team

##### Discipline

Architect / Lead consultant

Structural & Civils Engineer

M&E Consultant

Principal Designer

QS/ Project Manager

Approved Inspector

Flood Consequence Assessor

Ecological Survey

#### Bangor University

CEB Health & Safety

Capital Program Manager (Estates)

End User

End User

CEB Business Justification Case Lead

##### Company

Fairhursts Design Group

Caulmert Engineering

McCann and Partners

Safer Sphere

Pick Everard

TBC

Aegaea

Ascerta

##### Primary Contact

Laura Sherliker

Jonathan Parry / Jonathan Sykes

Darian Jones

Allan Briscoe

Matthew Rostron

Oliver Harvey

Liz Kenyon

## 2.0 Scope of Work

### 2.1 Scope of Work

#### Building 1 – ‘The Shed’ The Scale-Up facility

The existing agricultural building will be upgraded and refurbished to provide the scale-up facility which would be used for pre-industrial scale experiments.

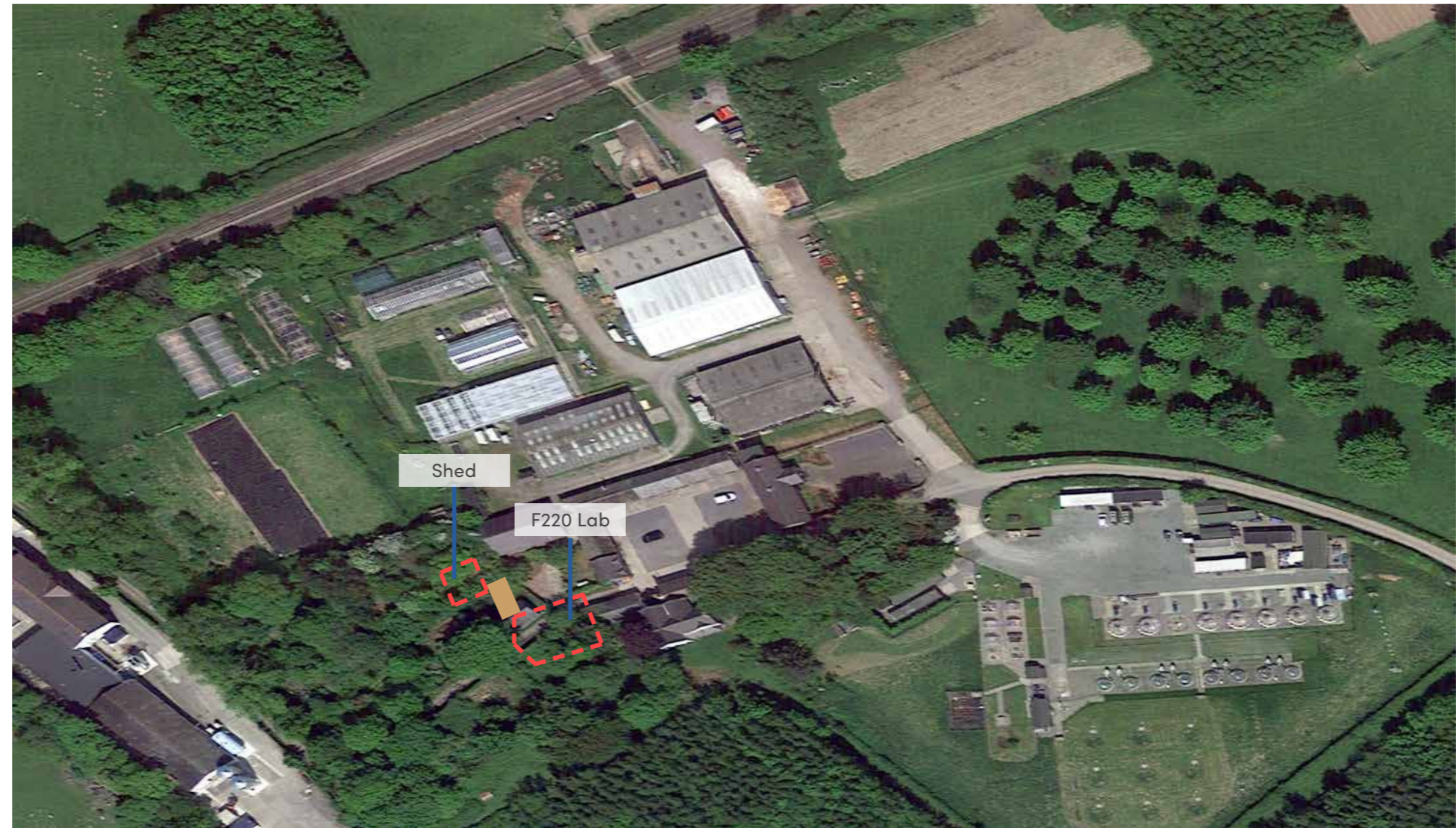
Improvements to be made include: - Provision of mains services to the building, mains power supply from the adjacent substation, water supply from local services, connection to the existing septic tank and allowances for provision of meters to record usage of the steel shed.

Electrical installations to the building including lighting, emergency lighting, small power, data, heating, fire / safety systems and BWIC. Upgrades to building fabric including internal insulation to the wall cladding panels, plasterboard ceiling with insulation panels under the metal roof, infill of rear roller shutter door and fitting a new window, replacement of the front roller shutter door to new insulated overhead door with wicket door, and suitable finishing of the existing floor slab with a vinyl covered skirting. Improvements to the external areas including a strip of vegetation, upgrading of existing pathways and the provision of external lighting and access.

#### Building 2 – F220 The Lab

The lab refurbishment will provide preparation and basic analysis facilities as well as training space.

Improvements to be made include: Replacement of floor finishes, new wall finishes, upgrading of Internal doors, upgrade of ceiling finishes, and lighting. Alterations to existing laboratory furniture including, replacement of worktops, replacement of module fronts and painting existing metal frames, Allowances for miscellaneous Lab furniture, cupboards etc. and repair and retain the existing fumehood.



Aerial view highlighting 3 buildings and demolition shed

## 3.0 Design Changes Stage 3 to Stage 4

- Additional colours
- Modification to furniture layout
- Bund size alteration
- External works (light position additional works notete)
- Plant to new trench area noted
- Manterra omitted from scope

## 4.0 Next Steps

Outstanding elements for review:

- Principal Designer's additional review for finalised documents
- Finalised Risk register and access maintenance strategy
- Building control engagement (not complied U-value agreement)
- Engagement with local fire brigade finalis site overall fire strategy agreement
- Finalised equipments





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31 Dale Street  
Manchester  
M1 1EY  
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Southampton  
Manor Park, Minstead  
Southampton  
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Nine Hills Road  
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+44 (0) 1223 803868

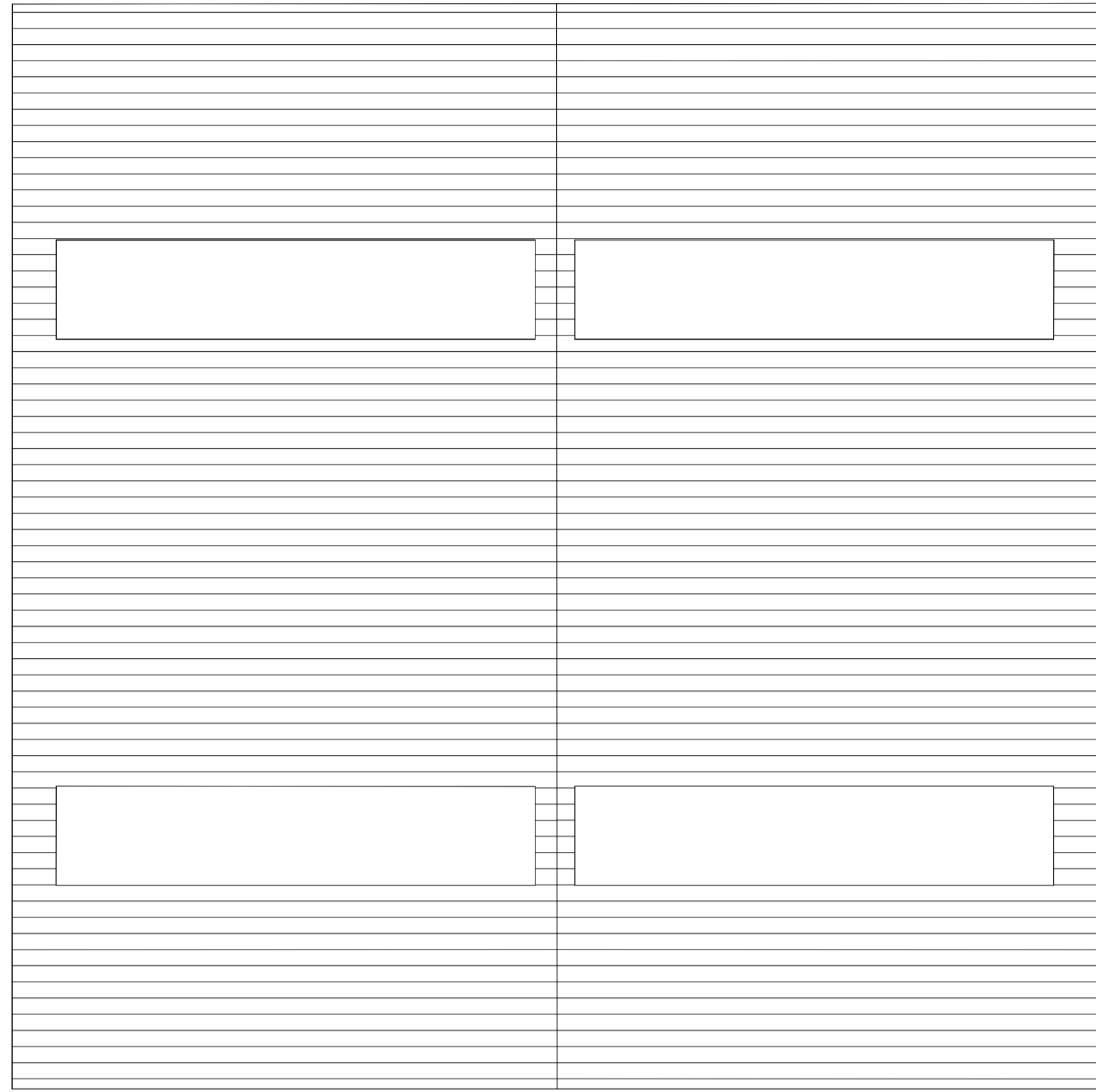
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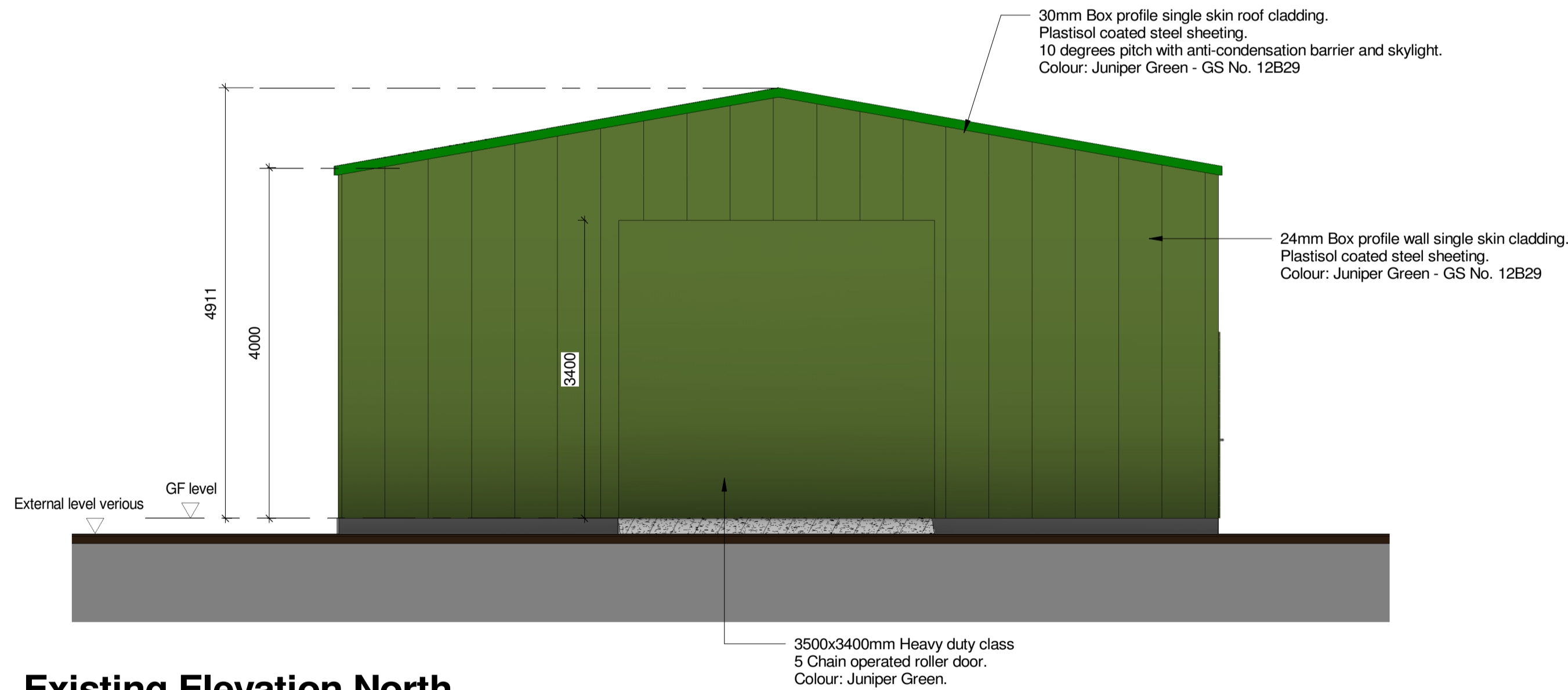
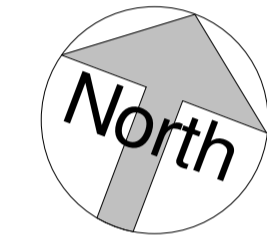
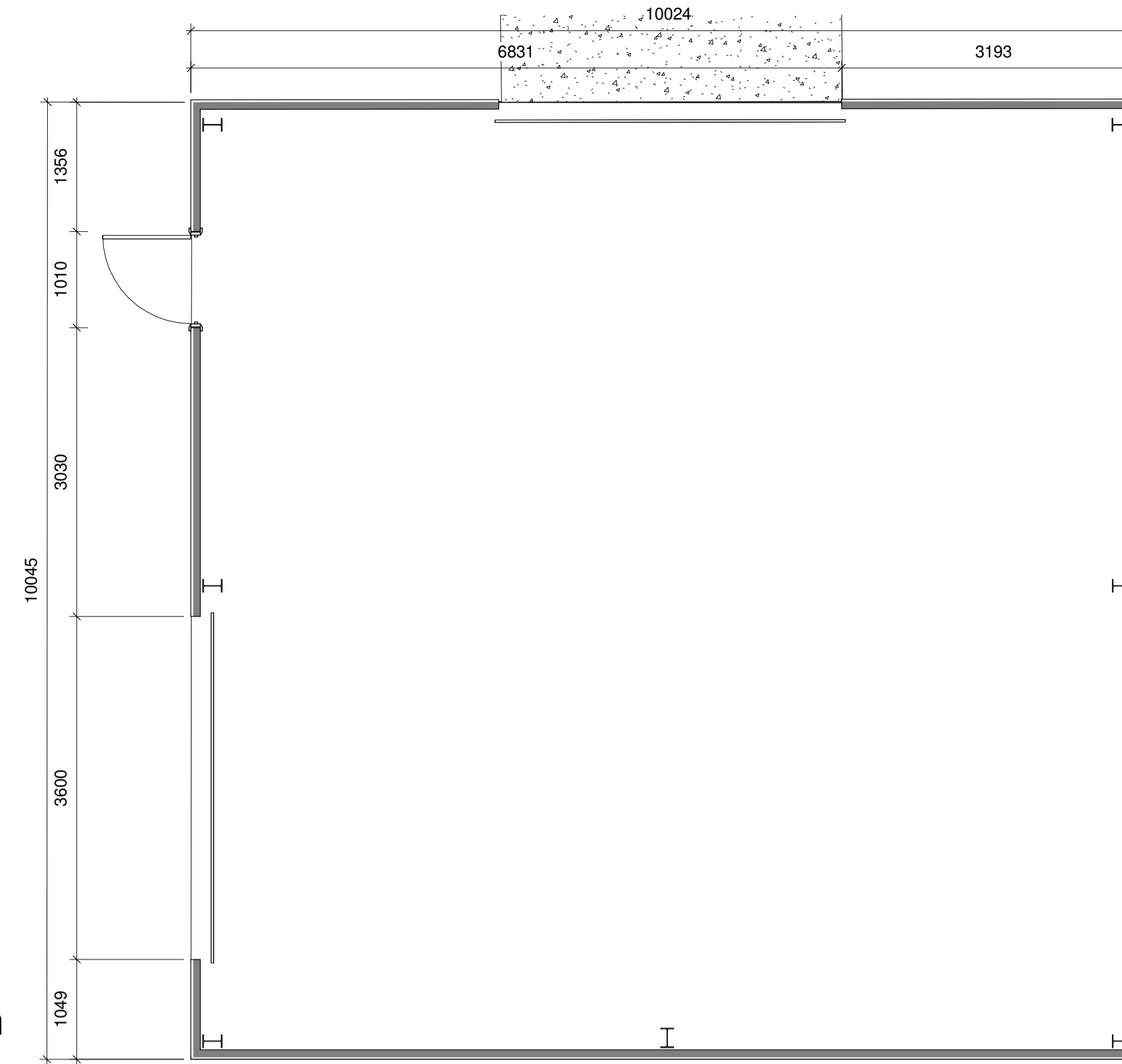




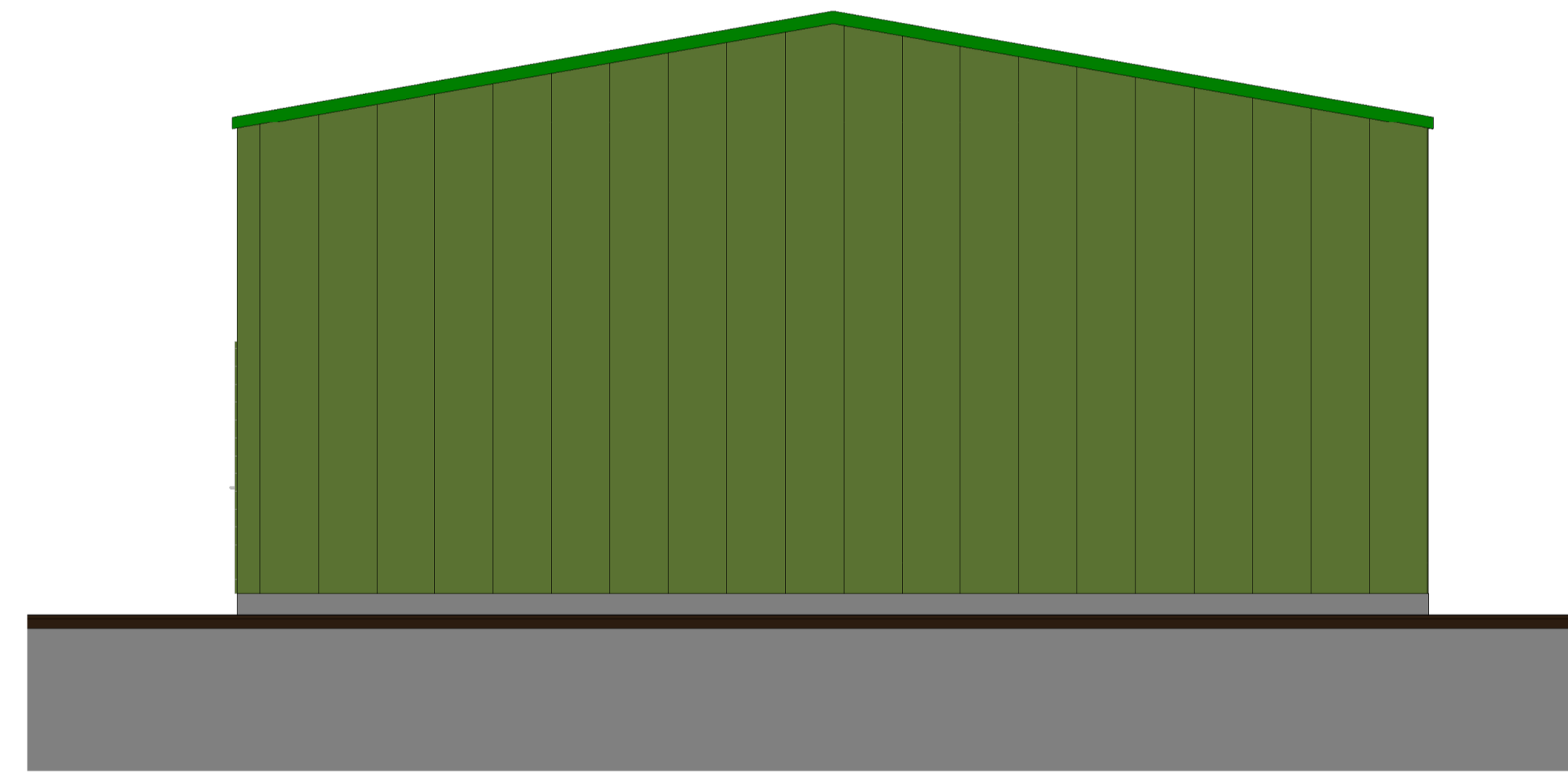
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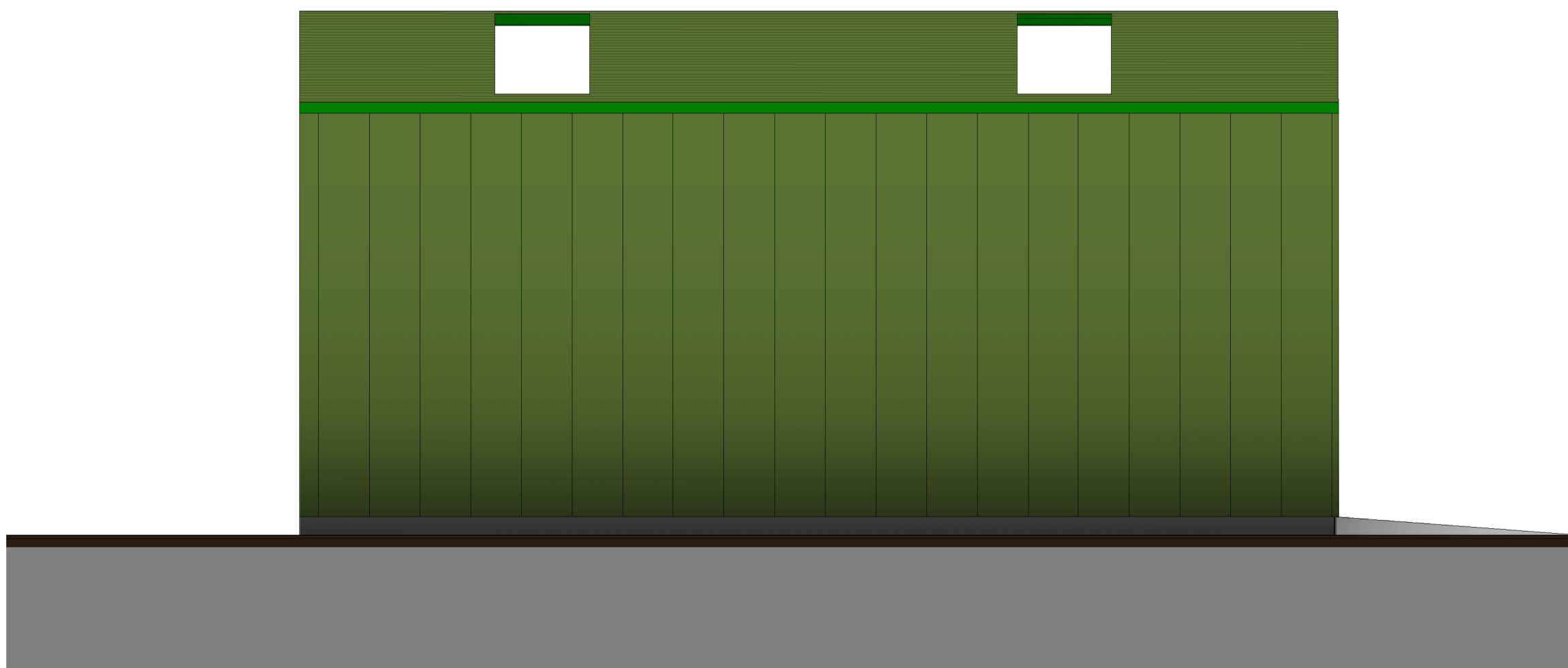
**Existing GF Plan**  
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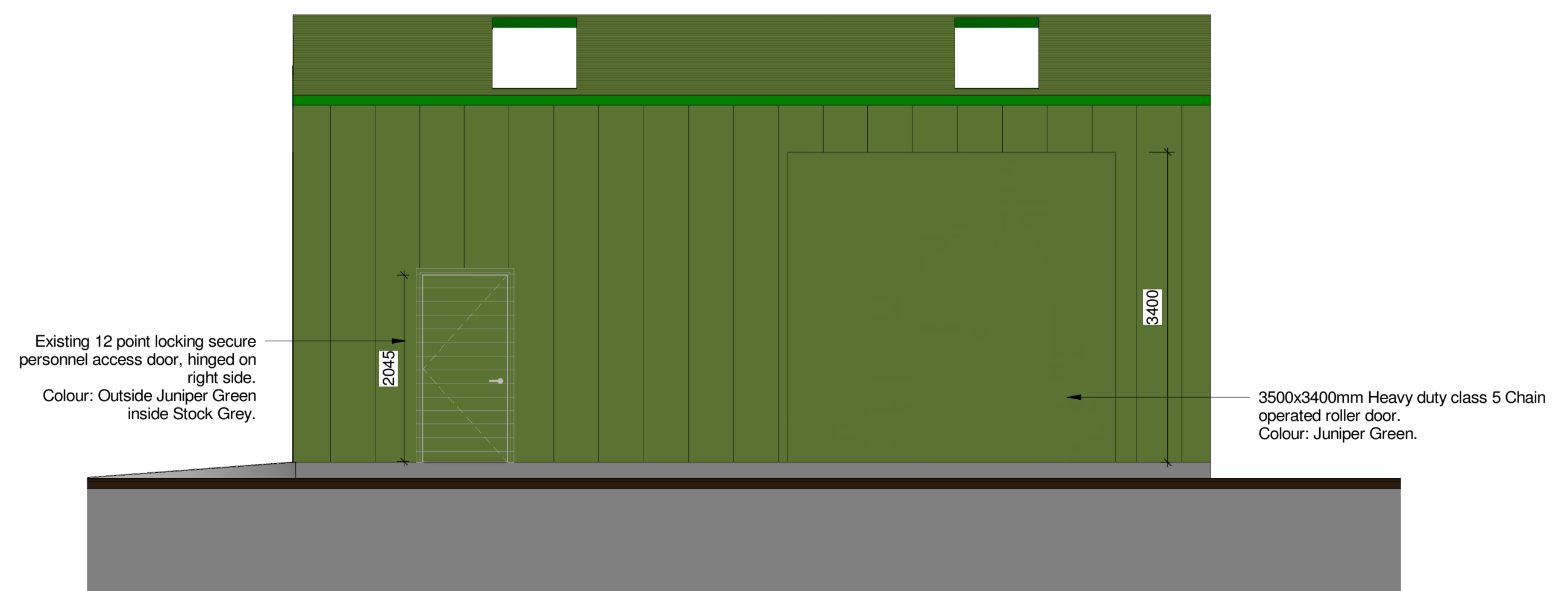
**Existing Elevation North**  
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**Existing Elevation South**  
1 : 50



**Existing Elevation East**  
1 : 50



**Existing Elevation West**  
1 : 50

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1:1250	M	0	2.5	5	7.5	10	12.5

Rev	Stage	Description	By	Date
P02	Stage 4	Issue	MT	26/02/24
P01	Stage 3	Issue	MT	01/12/23

Project Status	Drawing Status
Stage 4	Tender

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Bangor University  
Henfaes

Drawing  
Existing Plan and Elevations

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11/06/23	1 : 50	

Drawn By	Checked	LS
MT		

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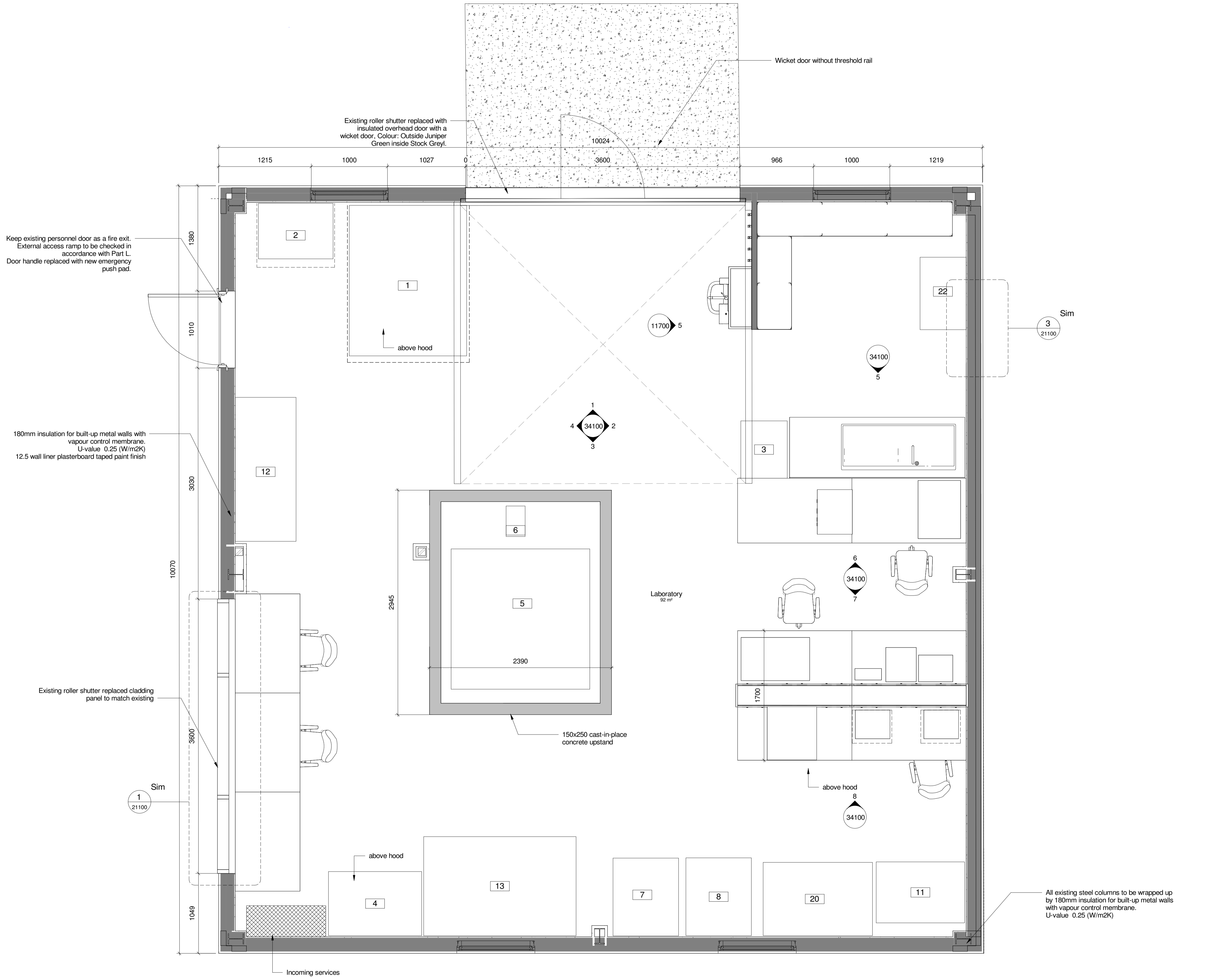
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Project No	Status	Rev
P7765-11090		P02

7765-FDG-A-11090

13/03/2024 10:16:36



**Proposed GF Plan**  
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1:1250	M	0	10	20	30	40	50

**KEYPLAN**

Proposed East Elevation  
Proposed West Elevation

Rev	Description	By	Date
P04	Stage 4 Issue	MT	26/02/24
P03	Revised bioreactor size and size of upstand area	MT	11/12/23
P02	Stage 3 Issue	MT	01/12/23
P01	Revised Equipment layout followed building survey	MT	03/11/23

Project Status: **Stage 4** Drawing Status: **Tender**

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Drawing: **GA Proposed Plan**

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P7765-SBC-11100 SO P04  
7765-FDG-Z0-L1-DR-A-11100

13/03/2024 10:16:38  
A1

**Notes**

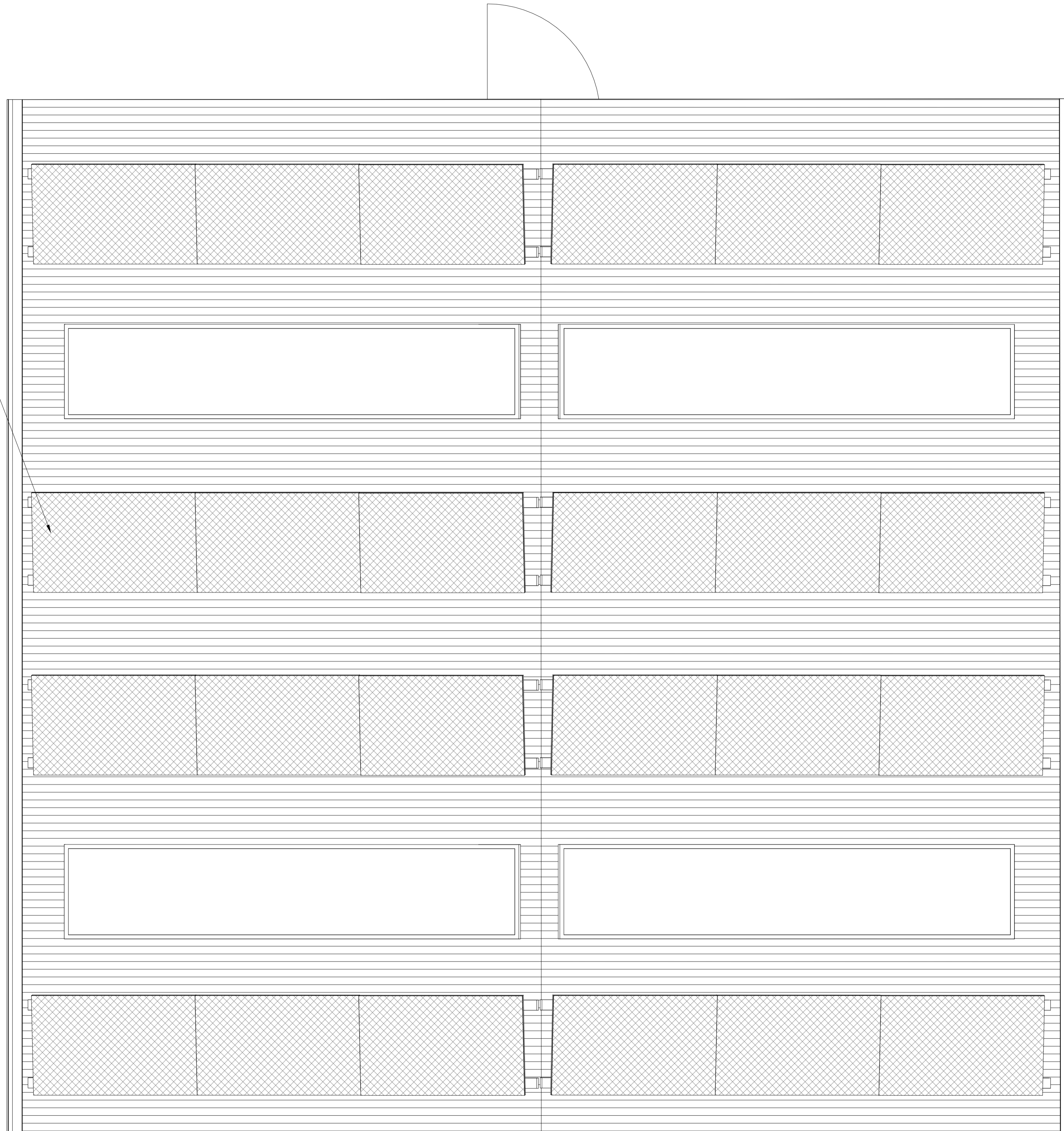
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1:500	M	0	5	10	15	20	25
1:1250	M	0	10	20	30	40	50

New Photovoltaic panels set on the existing roof. SE to confirm weight load and support.



**Roof Plan**  
1 : 25

P01	Stage 4 Issue	MT	26/02/24
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Rev	Description	By	Date
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Drawing: Proposed Roof Plan

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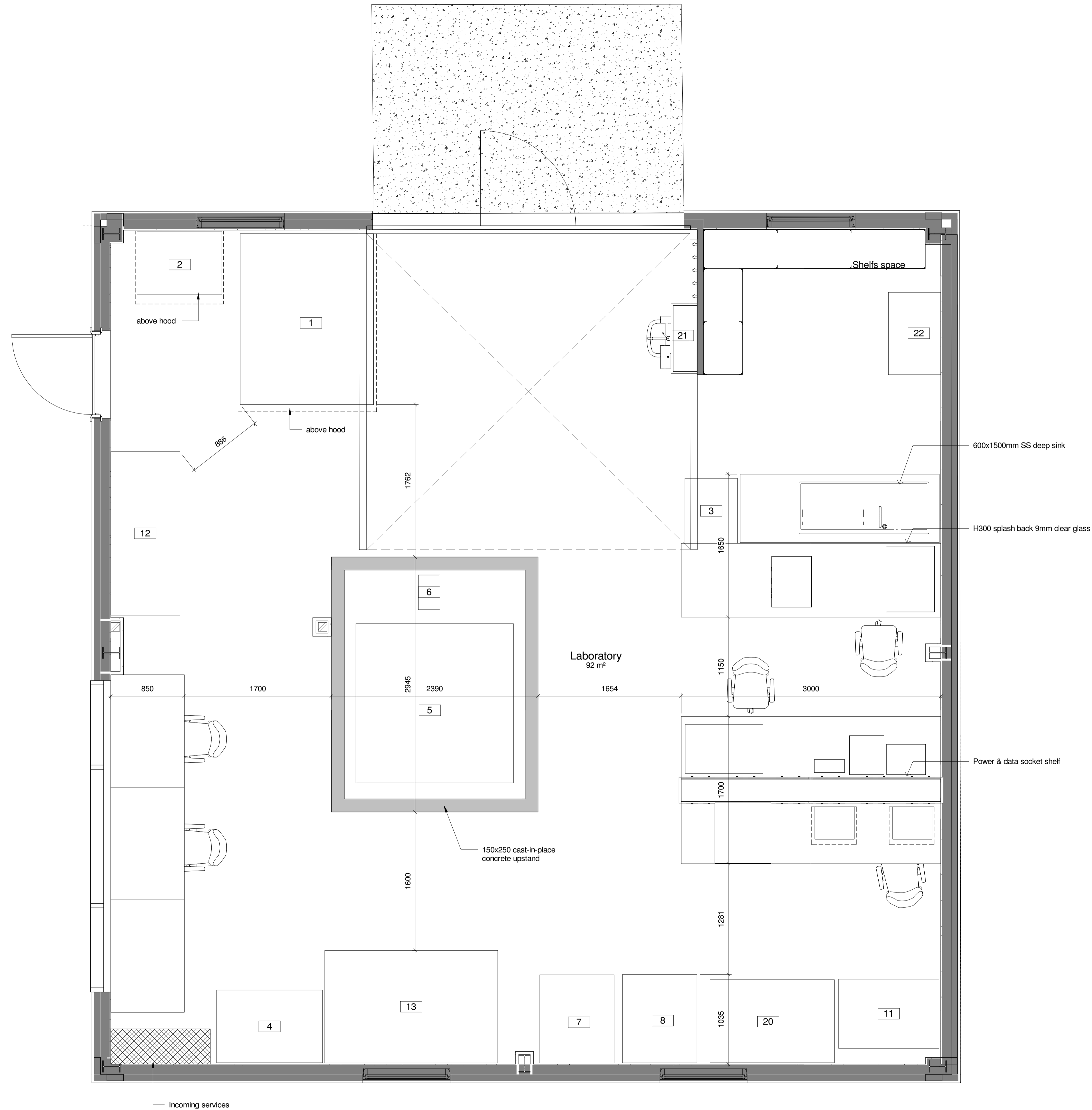
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Project No	P7765-11101	Status	Rev	P01
Sheet No	7765-FDG-A-11101			



## Equipment List

- Dimensions - W x D x H (mm)
- 1 Autoclave 1540 x 1975 x 2590
  - 2 Autoclave 980 x 740 x 1365
  - 3 Dishwasher 609 x 752 x 1643
  - 4 Hot air steriliser 1224 x 840 x 1720
  - 5 Bioreactor (pilot-scale) 1840 x 1820 x 2190
  - 6 Steam generator 400 x 250 x 560 for bioreactor
  - 7 Continuous flow centrifuge 710 x 1020 x 1520
  - 8 High-speed and ultracentrifuges 710 x 1020 x 1520
  - 10 Freeze dryer 460 x 585 x 510
  - 11 Concentrator (dialysis) 1160 x 800 x 1650
  - 12 Safety cabinet 1900 x 798 x 1522
  - 13 Fume hood 1300 x 2500 x 2000 (TBC)
  - 14 Spray dryer mini 600 x 700 x 1100
  - 15 2 No. of Benchtop bioreactors 455 x 375 x 740
  - 16 Small benchtop items, total footprint 700 x 3000
    - 16a Shaking incubators innova 40 559 x 762 x 610
    - 16b 2 No. of Platform shakers 450 x 350 x 350
    - 16c Air compressor 400x 450 x 450
    - 16d 2 No. of Peristaltic pumps 350 x 150 x 320
    - 16e 2 No. of Eppendorf Cryocube 900 x 566 x 800
  - 20 Preparative FPLC cabinet 1435 x 960 x 1994
  - 21 Safety Station
  - 22 Ice Machine 950 x 605 x 1083

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1:1250	M	10	20	30

KEYPLAN

Rev	Description	By	Date
P04	Stage 4 Issue	MT	26/02/24
P03	Revised bioreactor size and size of upstand area	MT	11/12/23
P02	Add Shelf, relocate equipment 14 & 16a	MT	30/11/23
P01	Revised equipment layout and size	MT	28/11/23

Project Status	Drawing Status
Stage 4	Tender

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Drawing  
**Equipment Layout Plan**

Date	Scale	Sheet
08/11/16	1 : 25	@ A1

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Project No	Status	Rev
P7765-11200	Final	P04
7765-FDG-DR-A-11200		

**Proposed GF Layout Plan**  
1 : 25

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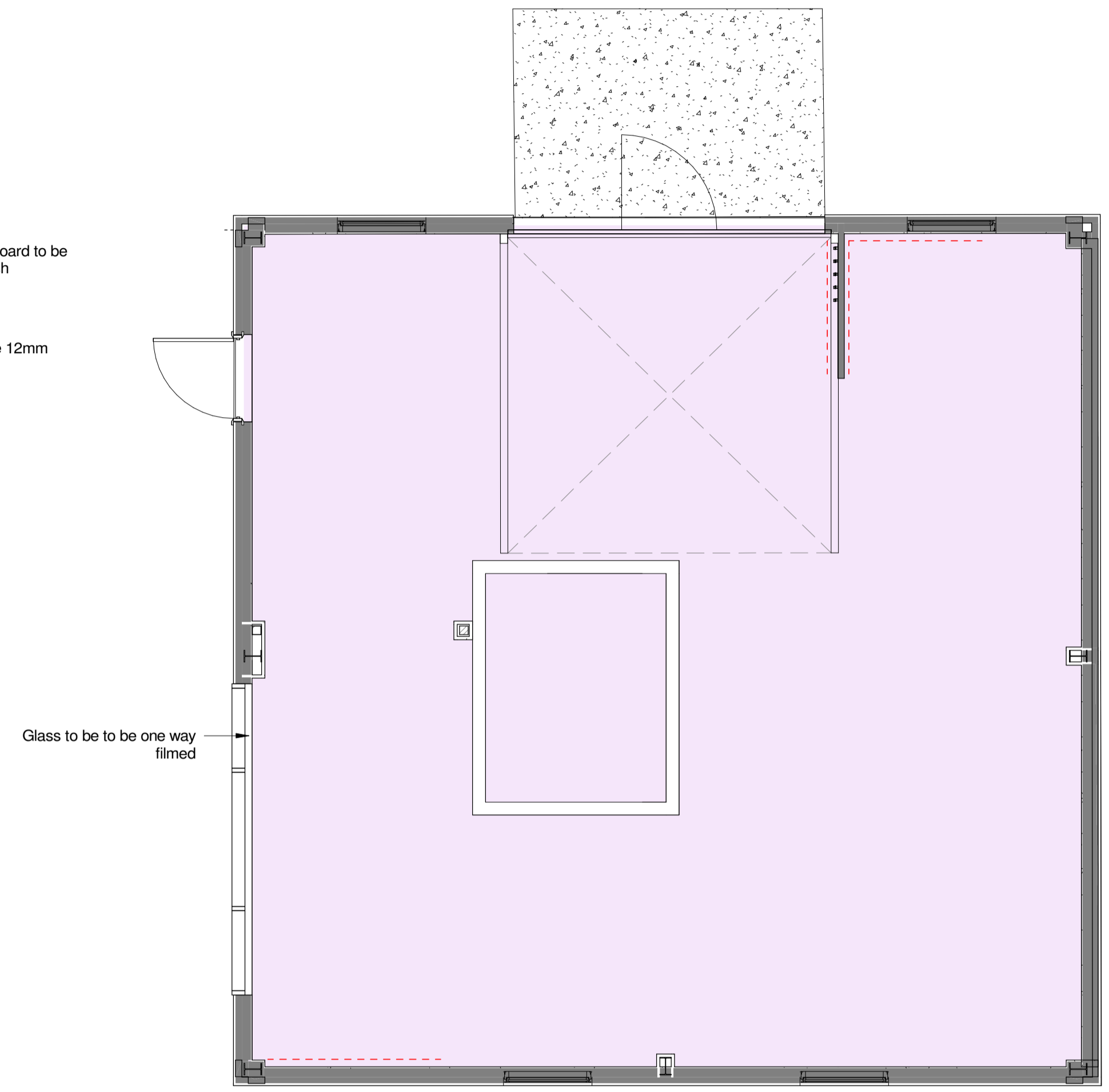
**KEYPLAN**

**Floor Finish**

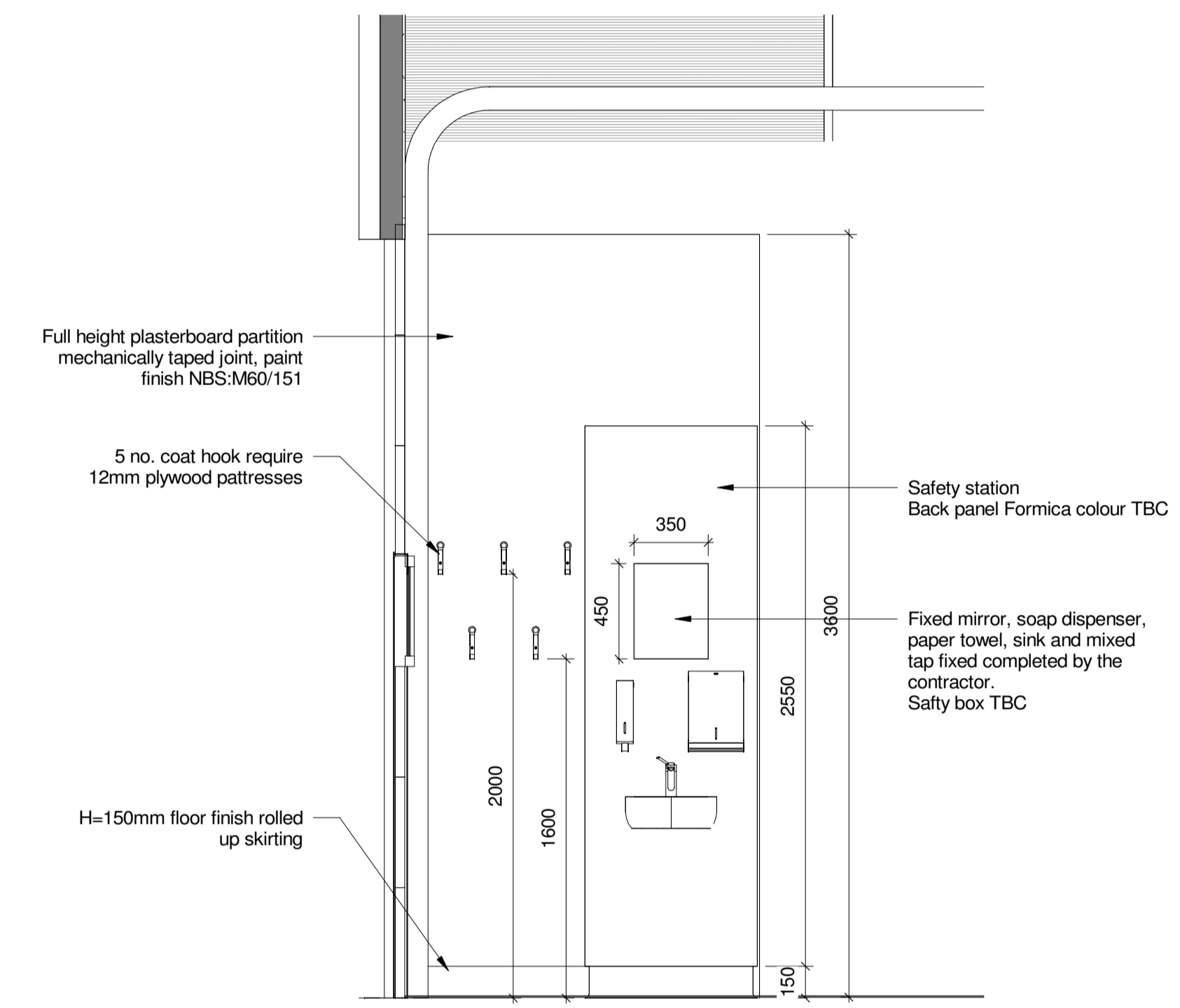
□ PVC  
Refer to NBS M50/150

\* All Wall and ceiling plasterboard to be mechanically taped paint finish NBS: M60/111

--- Marked wall require 12mm plywood pattresses



**Internal Finishes Plan Proposed**  
1 : 50



**Coat hook & Safety Station**  
1 : 25

P03	Stage 4 Issue	MT	26/02/24
P02	Revised bioreactor size and size of upstand area	MT	11/12/23
P01	Stage 3 Issue	MT	01/12/23

Rev	Description	By	Date
Stage 4	Tender		

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Drawing  
**Internal Finishes Plan**

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+44 (0)1223 803 868

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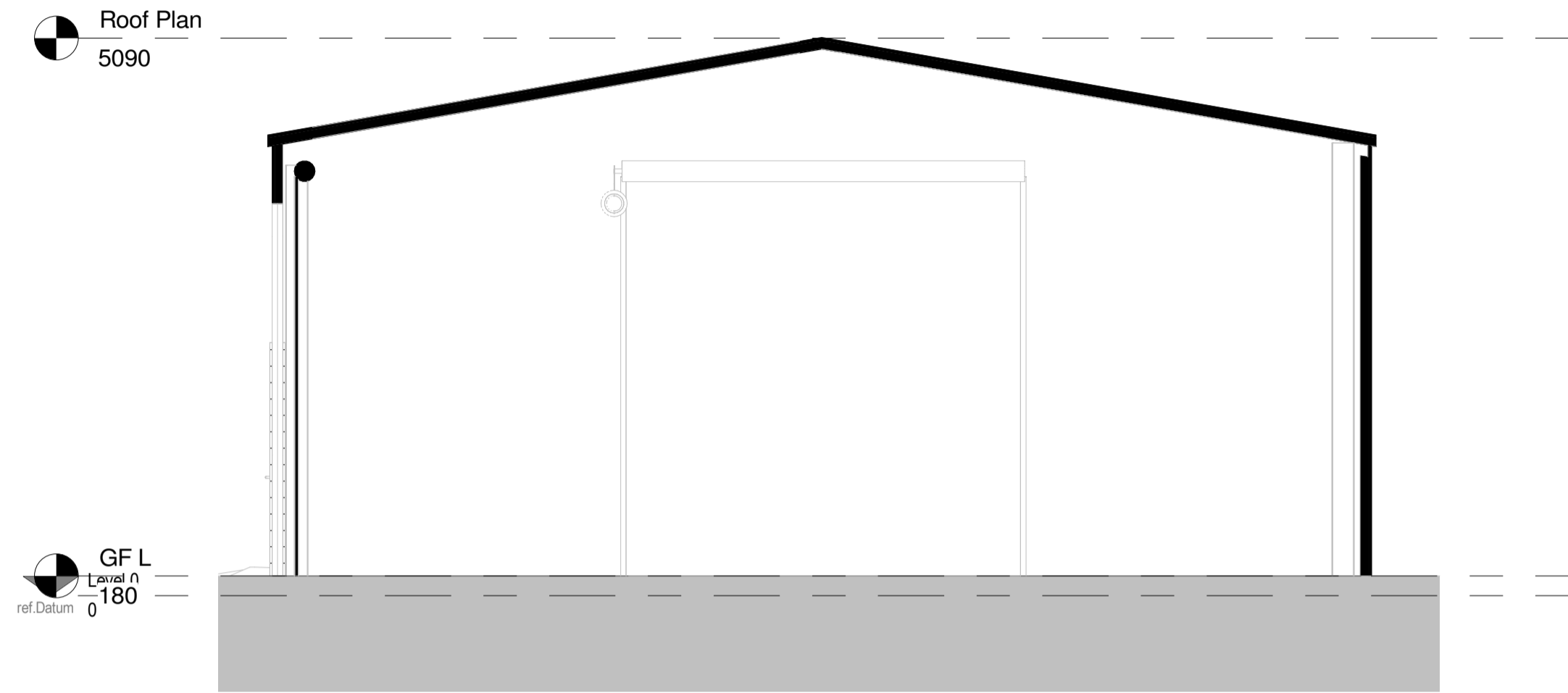
**Notes**

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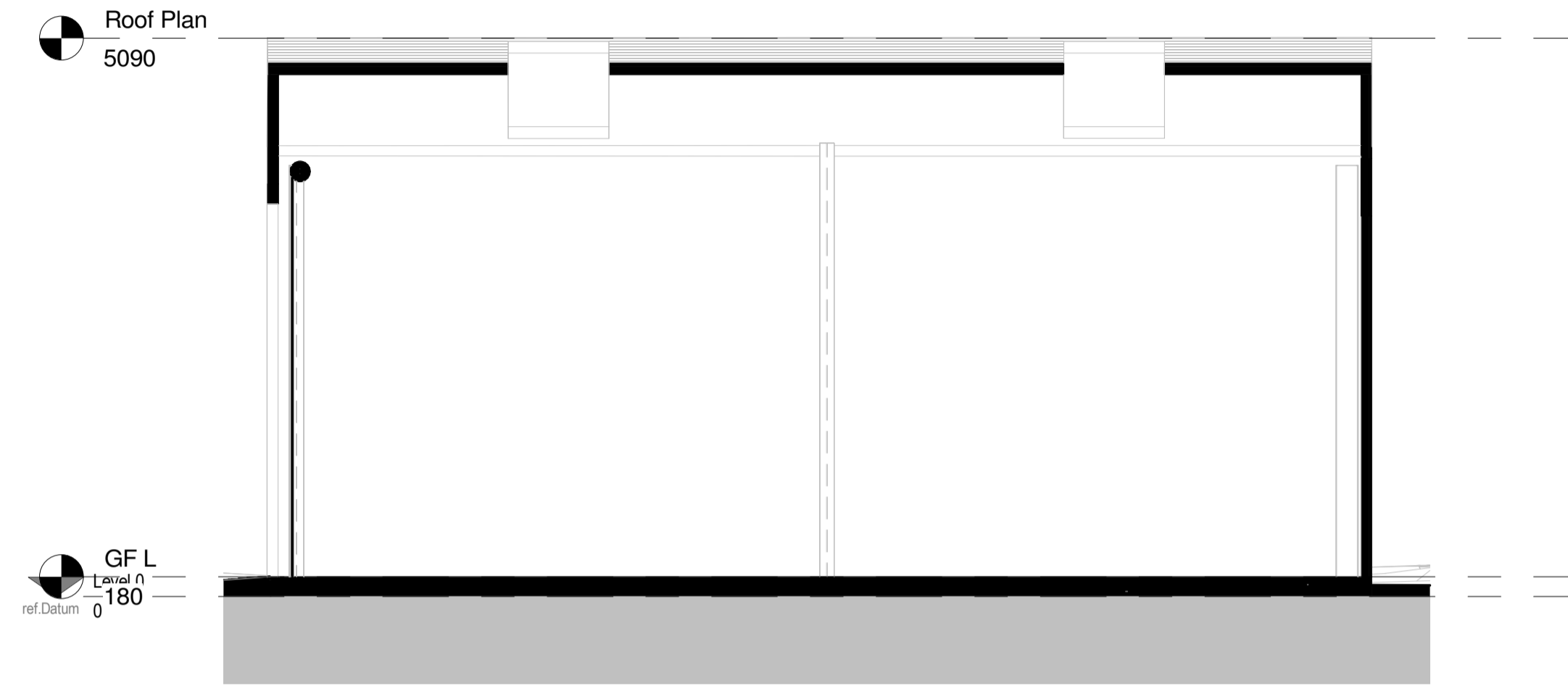
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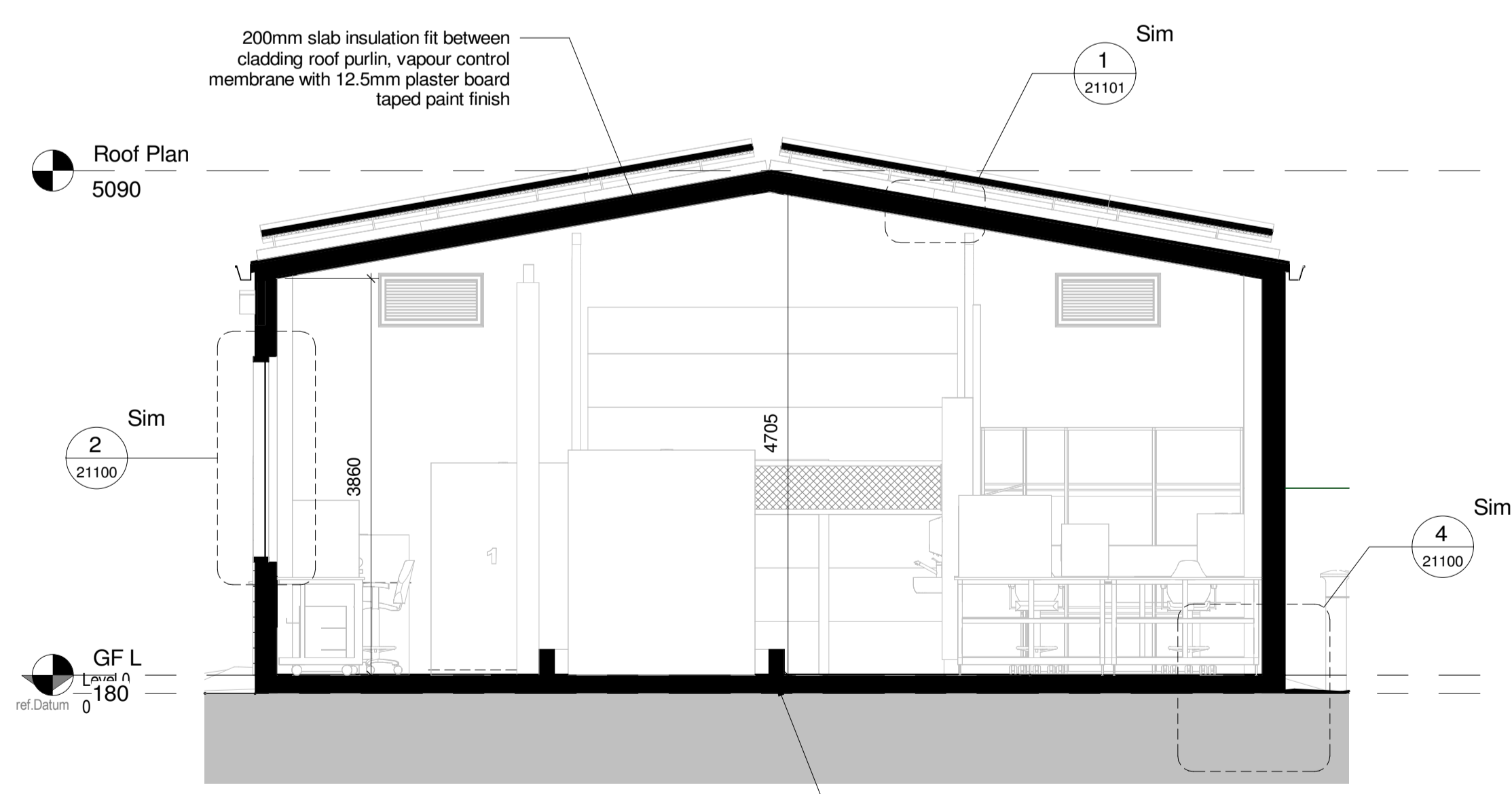
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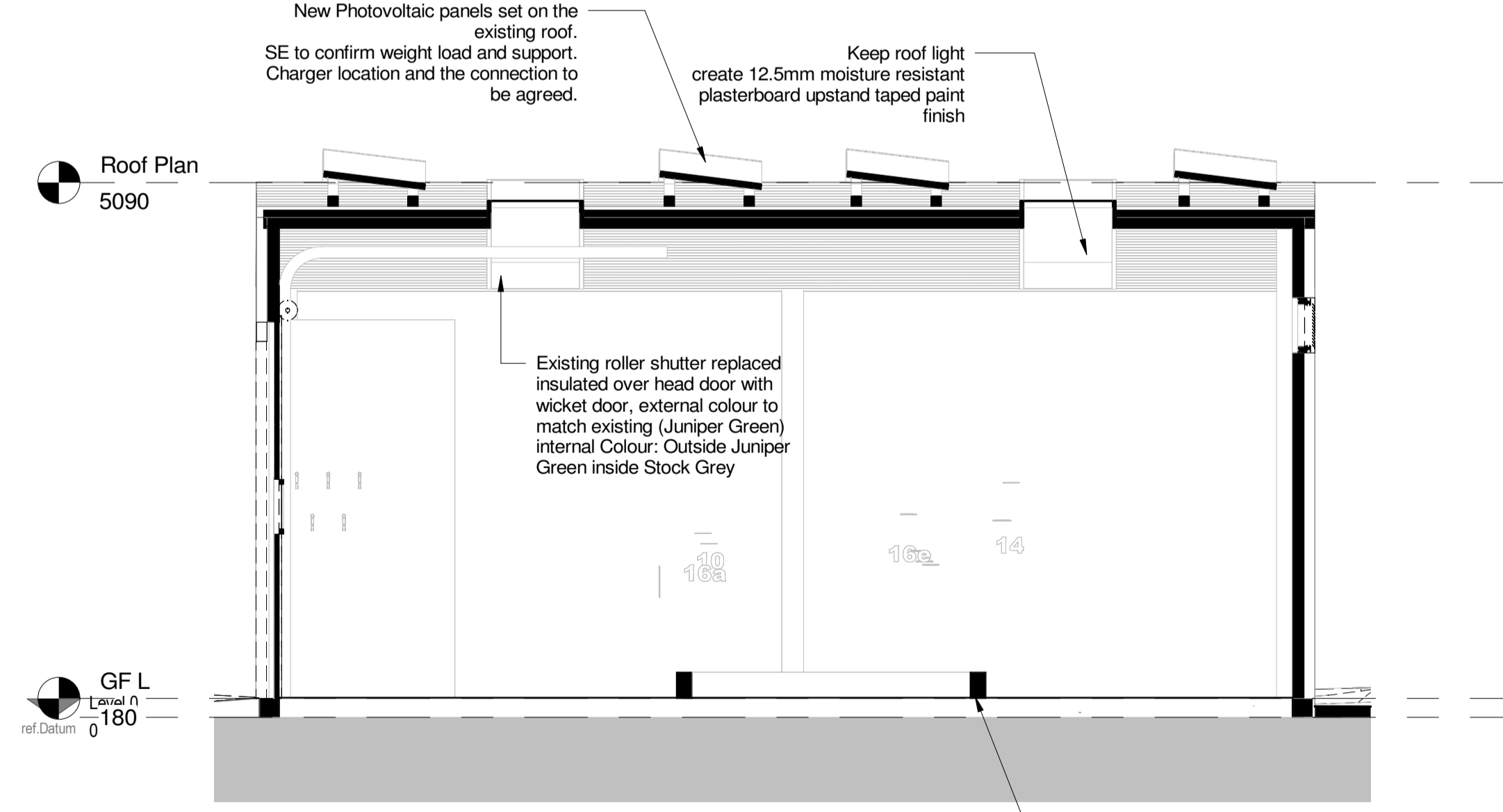
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1 : 50



**Existing Section 1-1'**  
1 : 50



**Proposed Section A-A'**  
1 : 50



**Proposed Section 1-1'**  
1 : 50

P02	Stage 4 Issue	MT	26/02/24
P01	Stage 3 Issue	MT	01/12/23

Rev	Description	By	Date
Stage 4	Tender		

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Drawing  
**Existing and Proposed Sections**

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Project No	P7765-12100	Status	Rev	P02
Sheet No	7765-FDG-A-12100			

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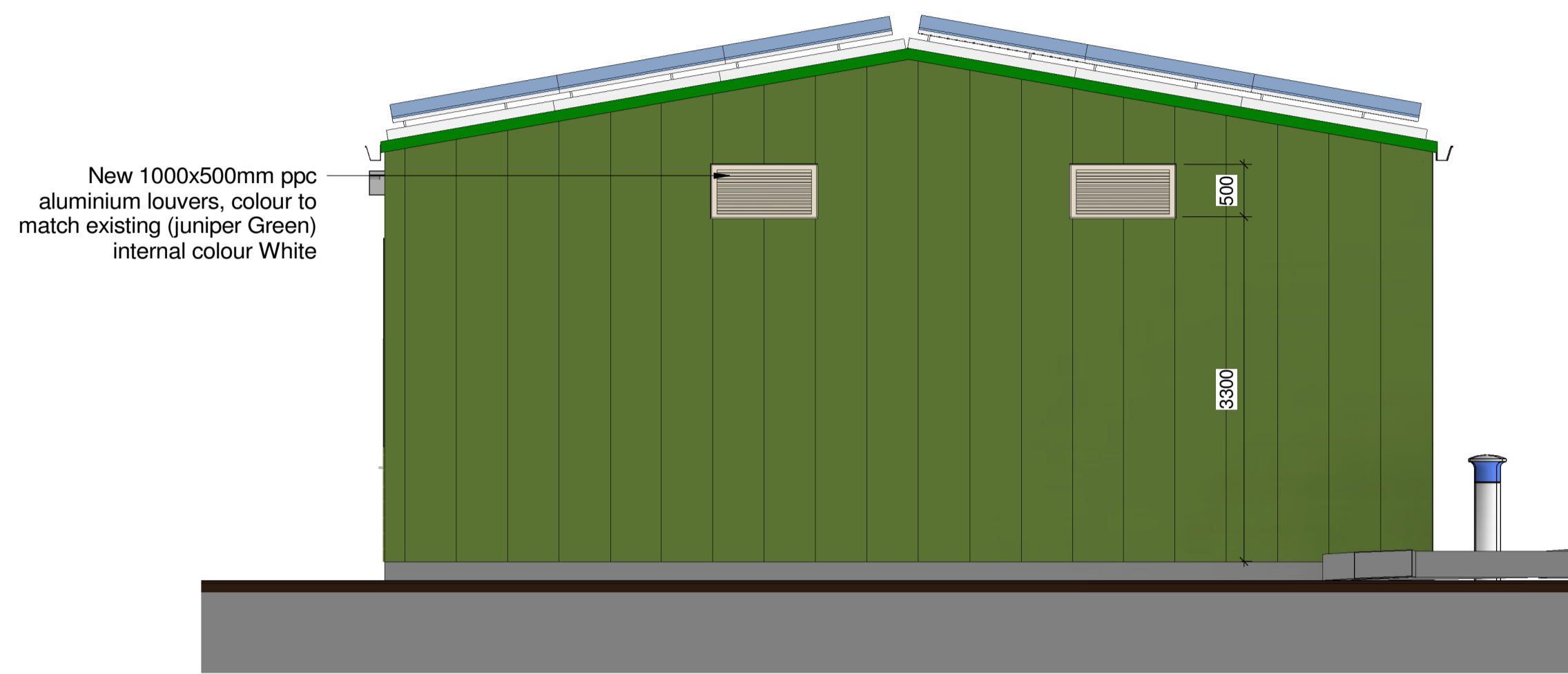
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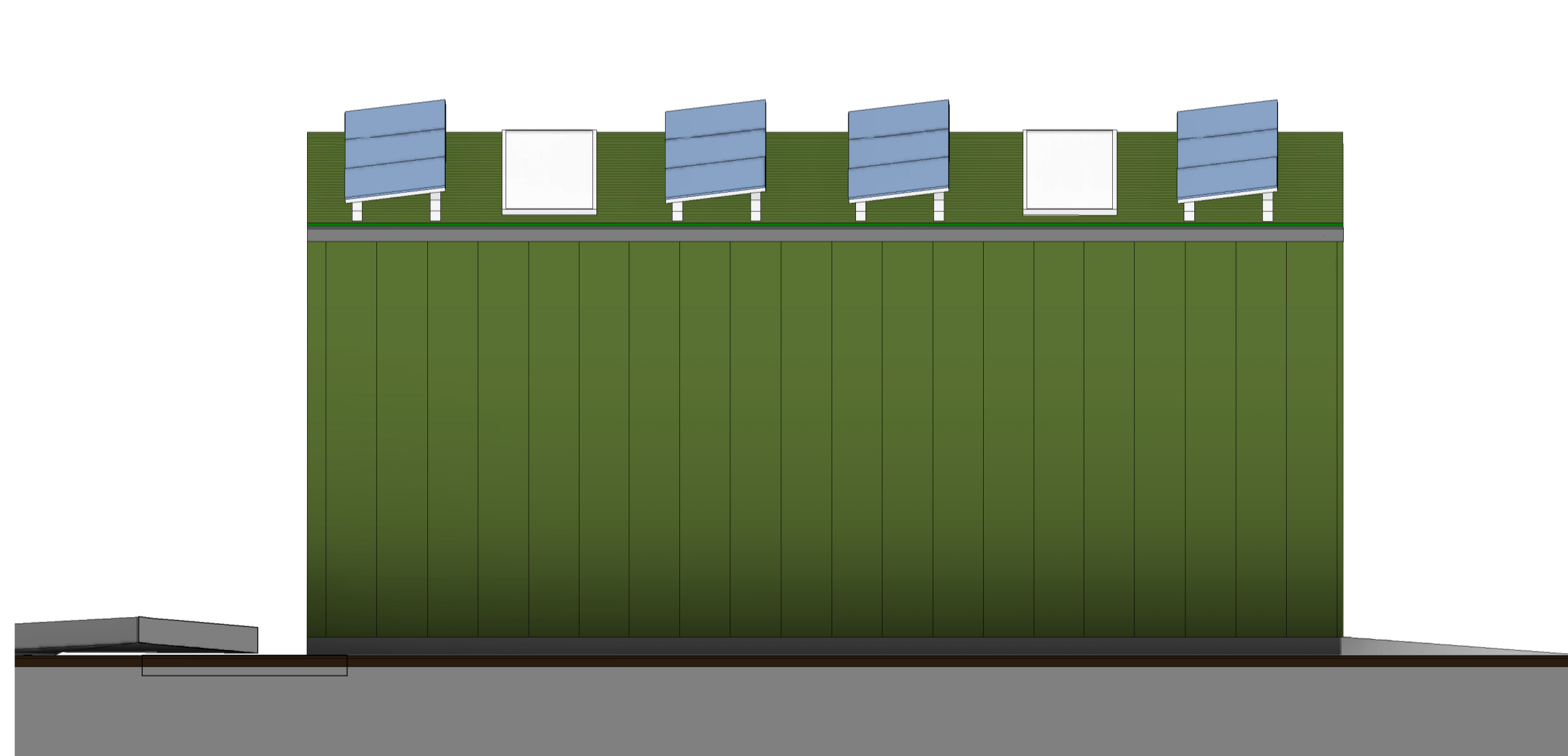
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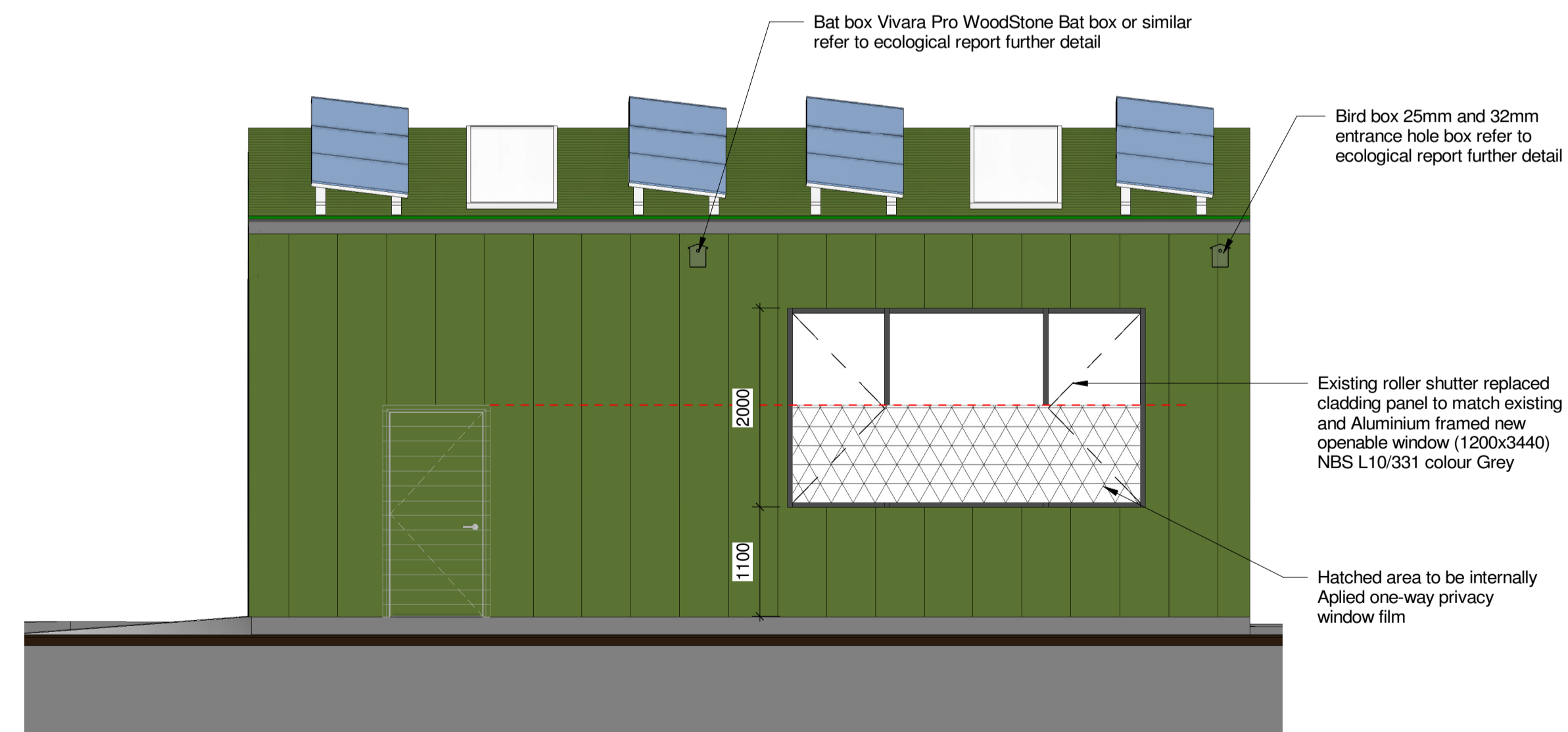
**Proposed Elevation North**  
1 : 50



**Proposed Elevation South**  
1 : 50



**Proposed Elevation East**  
1 : 50



**Proposed Elevation West**  
1 : 50

P02	Stage 4 Issue	MT	26/02/24
P01	Stage 3 Issue	MT	01/12/23

Rev	Description	By	Date

Project Status	Drawing Status
Stage 4	Tender

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Drawing  
**Proposed Elevations**

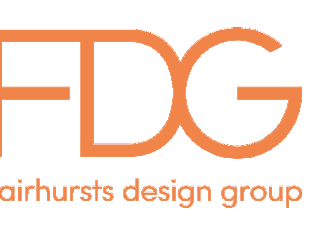
Date	11/06/23	Scale	1 : 50	@ A1
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1:100	mm	0	1000	2000	3000	4000	5000
1:200	mm	0	1000	2000	3000	4000	5000
1:500	M	0	10	20	30	40	50
1:1250	M	0	10	20	30	40	50

**Legend**

- Existing 30mins Fire Resisting Construction
- Existing 60mins Fire Resisting Construction
- 30mins Fire Resisting Construction
- 60mins Fire Resisting Construction
- Cavity barrier ceiling void
- Cavity Barrier Floor Void 60mins Fire Resistance
- FE Means of Escape Storey or Final Exit
- DRI Dry Riser Inlet
- DR O Dry Riser Outlet
- SV Smoke Vent
- FP Fire Alarm Panel
- Disabled Refuge
- Fire Escape route two way direction
- Fire Escape route single direction
- 13000 Est Travel distance
- EX1 Fire Exit Sign Straight Ahead
- EX2 Fire Exit Sign either Left or Right
- EX3 Fire Exit Sign down or up stairs
- EX4 Fire Exit Sign Final Exit
- All non glazed areas of this facade (East) to achieve 60mins (integrity) 15 mins (insulation) fire resistance from inside building to out. Doors excluded.
- Proprietary vertical cavity barrier in raised access floor 30mins fire resistance (30 integrity/15 insulation) from both sides. All services penetrations to be fire stopped.

To be read in conjunction with the Fire Engineering Report

Rev	Stage 4 Issue	By	MT	Date	26/02/24
Project Status	Stage 4	Drawing Status	Tender		

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Client / Project  
**Bangor University**  
**Henfaes**

Drawing  
**Site Fire Strategy Plan**

Date	20/11/123	Scale	As indicated	Sheet	@ A1
Drawn By	-	Checked By	MT	Checked	Checker

Manchester:  
 5th Floor, 31 Dale St  
 Manchester M1 1EY  
 +44 (0)161 831 7200

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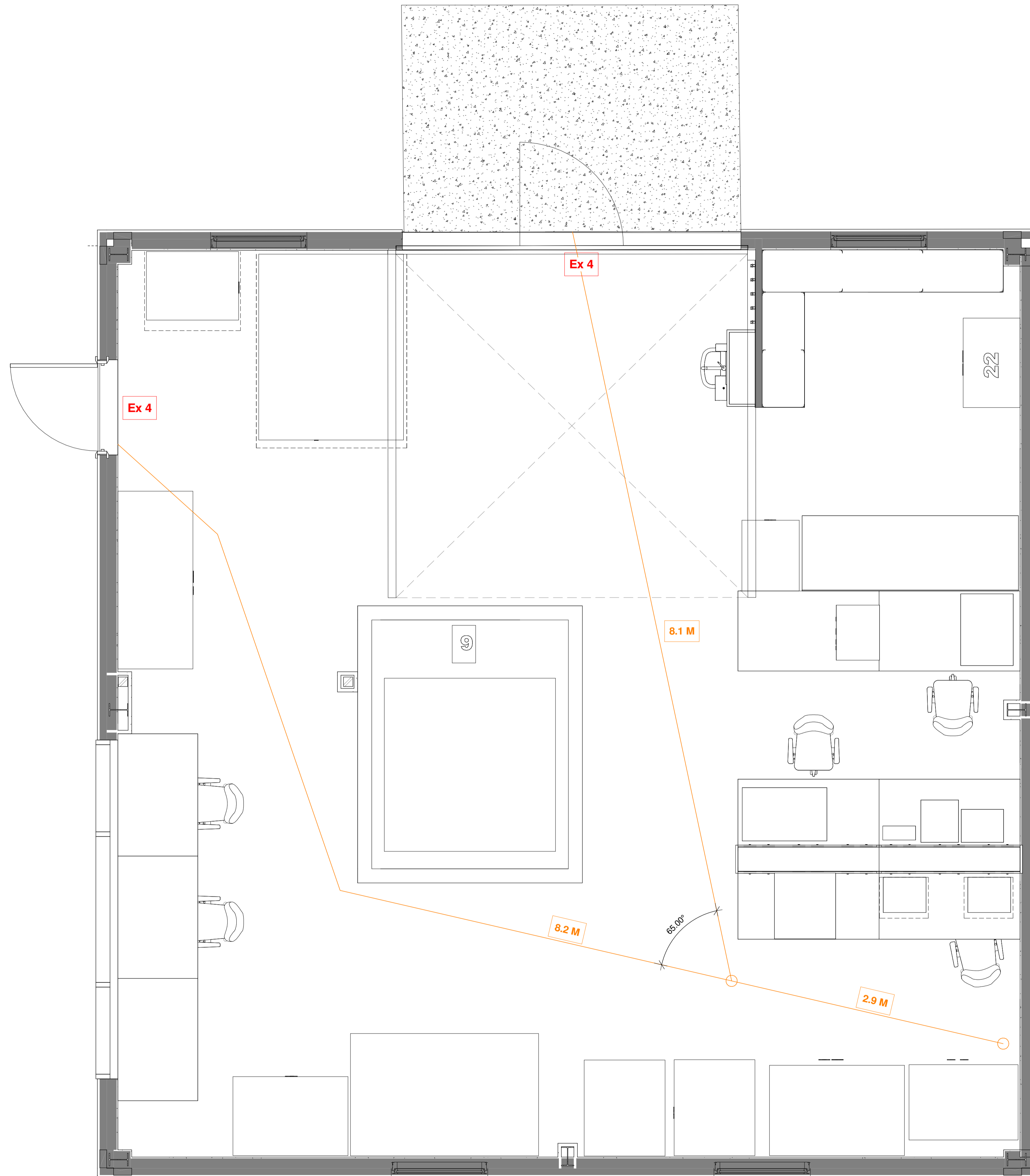
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Project No	P7765-19100	Status	Rev	P01
Drawing No	7765-FDG-DR-A-19100			



# Fire Strategy GA Plan

1 : 25



## Note

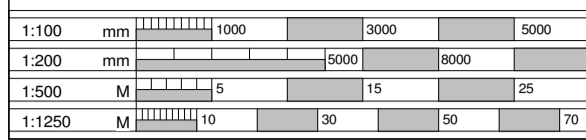
- Fire break glass point refer to MEP
- Fire/ smoke detector refer to MEP
- Fire alarm panel refer to MEP

## Notes

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## Legend

- Existing 30mins Fire Resisting Construction
- Existing 60mins Fire Resisting Construction
- 30mins Fire Resisting Construction
- 60mins Fire Resisting Construction
- Cavity barrier ceiling void
- Cavity Barrier Floor Void 60mins Fire Resistance
- Means of Escape Storey or Final Exit
- Dry Riser Inlet
- Dry Riser Outlet
- Smoke Vent
- Fire Alarm Panel
- Disabled Refuge
- Fire Escape route two way direction
- Fire Escape route single direction
- Est Travel distance
- Fire Exit Sign Straight Ahead
- Fire Exit Sign either Left or Right
- Fire Exit Sign down or up stairs
- Fire Exit Sign Final Exit
- All non glazed areas of this facade (East) to achieve 60mins (integrity) 15 mins (insulation) fire resistance from inside building to out. Doors excluded.
- Proprietary vertical cavity barrier in raised access floor 30mins fire resistance (30 integrity/15 insulation) from both sides. All services penetrations to be fire stopped.

To be read in conjunction with the Fire Engineering Report

P01	Stage 4 Issue	MT	26/02/24
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Rev	Description	By	Date
Project Status	Stage 4	Drawing Status	Tender

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Drawing  
Fire Strategy GA Plan

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Drawn By	MT	Checked	Checker
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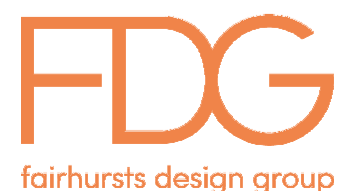
Southampton:  
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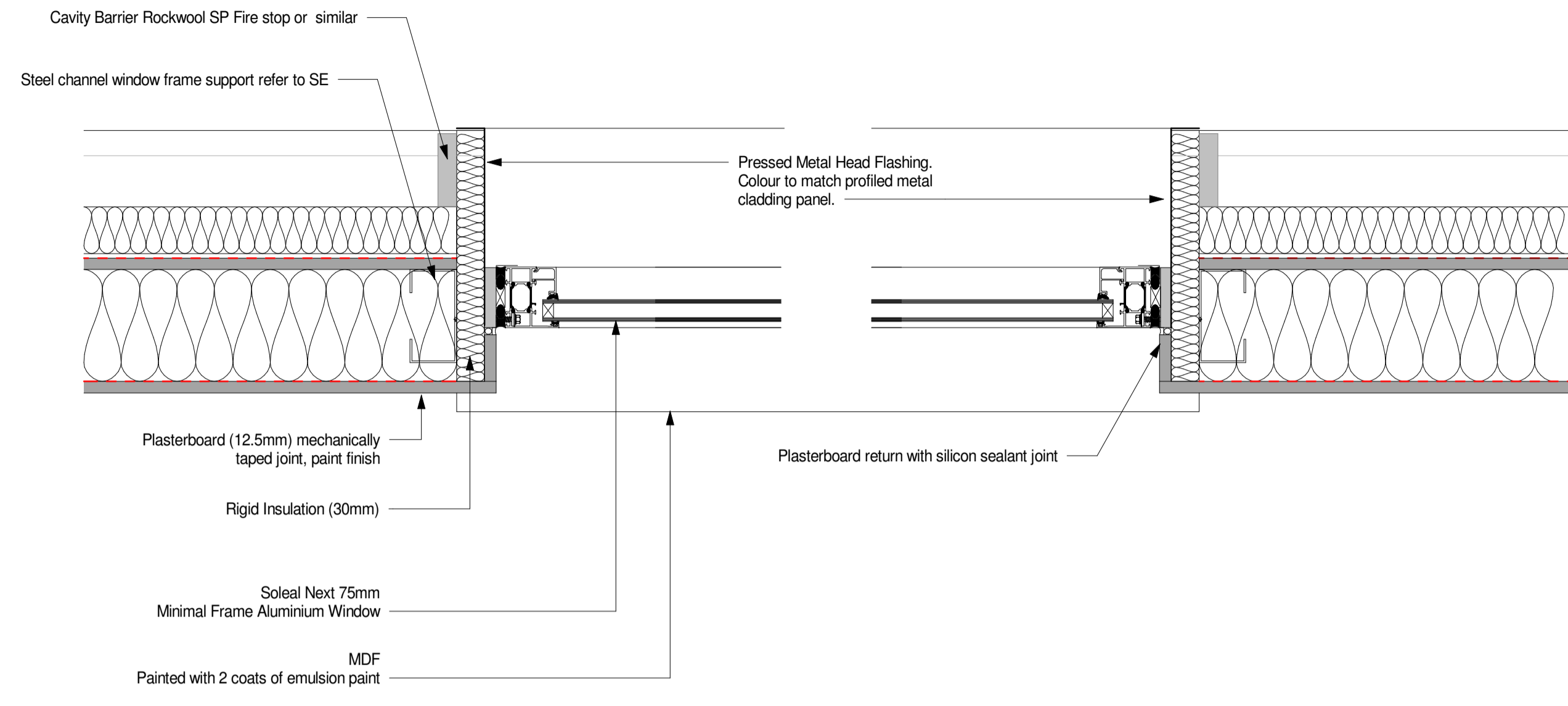
Cambridge:  
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20 Station Road  
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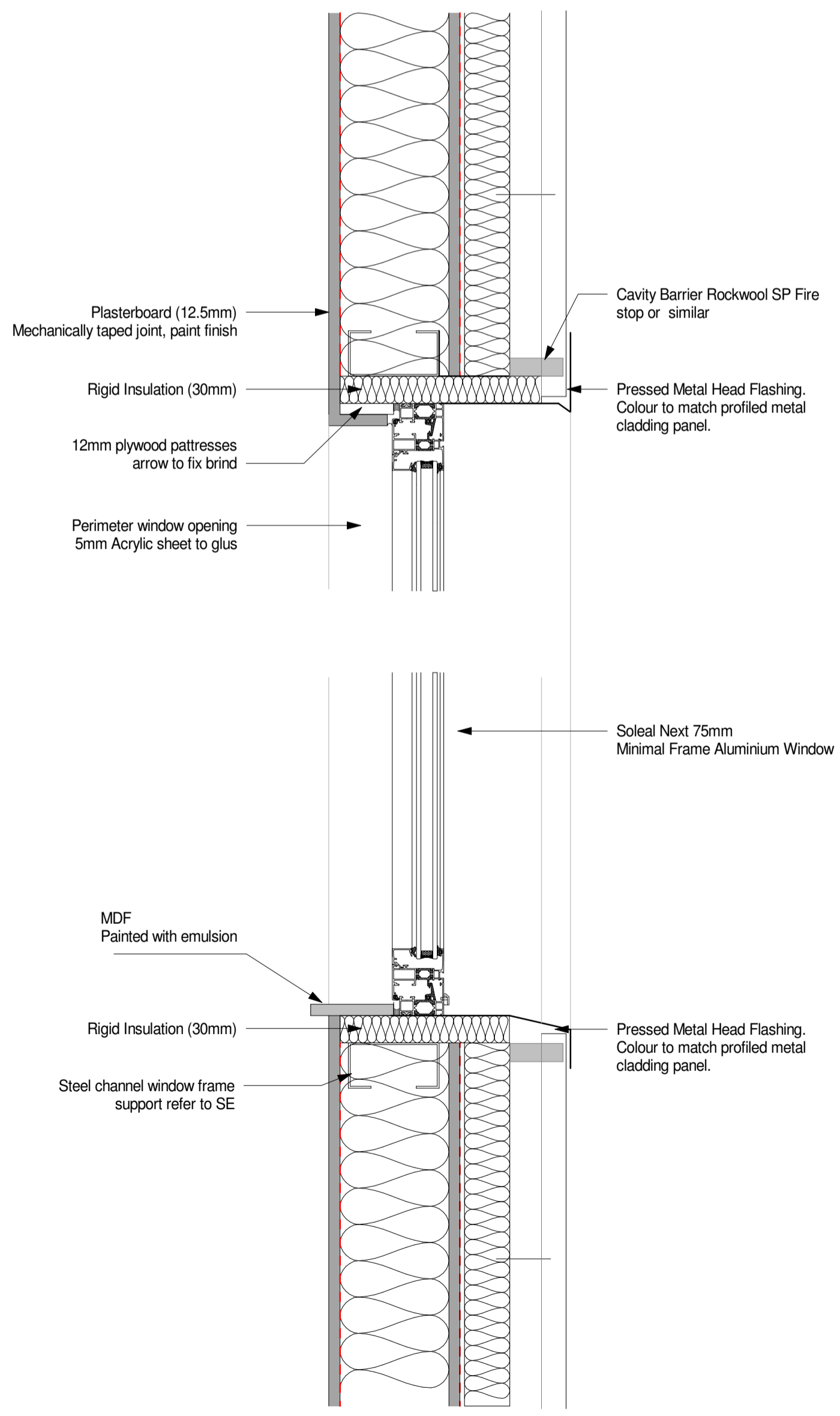
Project No	P7765-19101	Status	Rev	P01
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7765-FDG-DR-A-19101



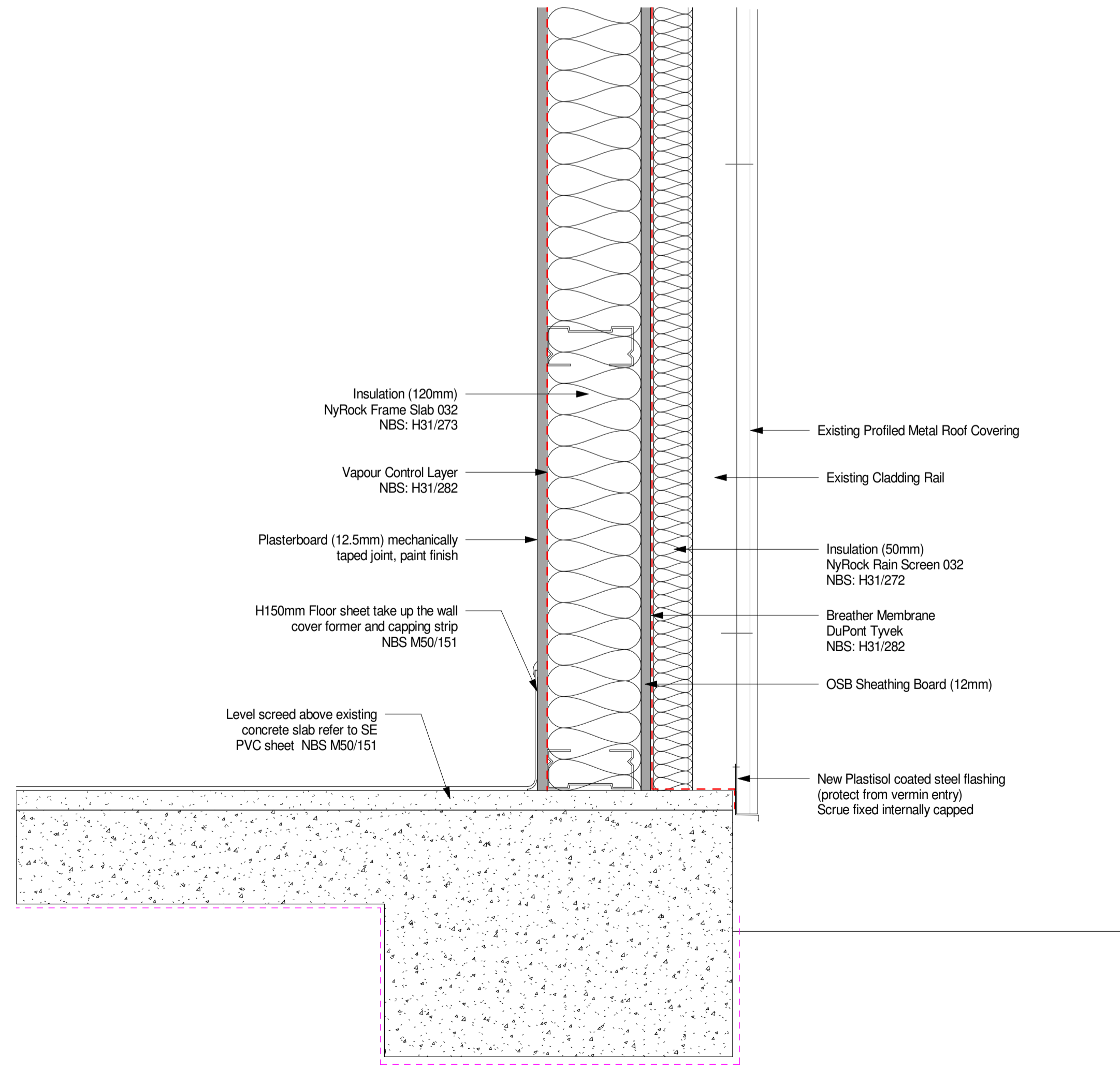


**Window Detail Plan**  
1 : 5

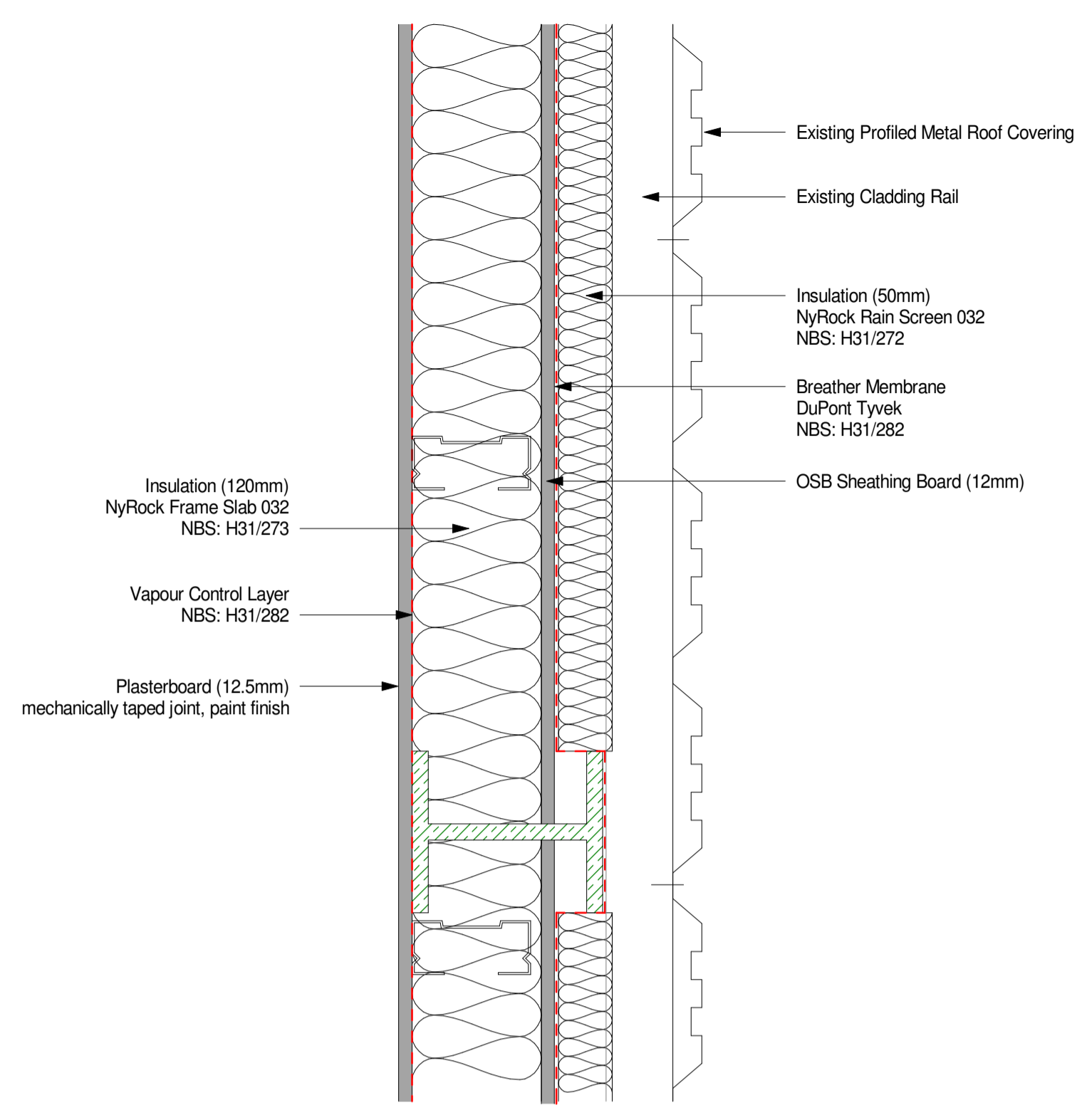


**Window Detail Section**  
1 : 5

**Wall Plan Detail**  
1 : 5



**Wall Section Detail**  
1 : 5



**External Wall Section Detail**

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1:200	mm	0	500	1000	1500	2000	2500
1:500	M	0	5	10	15	20	25
1:1250	M	0	10	20	30	40	50

KEYPLAN

P02	Stage 4 Issue	MT	26/02/24
P01	Stage 3 Issue	MT	01/12/23

Rev	Description	By	Date
Stage 4	Tender		

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Drawing  
**Plan Section Detail 1**

Date	13/11/23	Scale	1 : 5	@ A1
Drawn By	MD	Checked	MT	

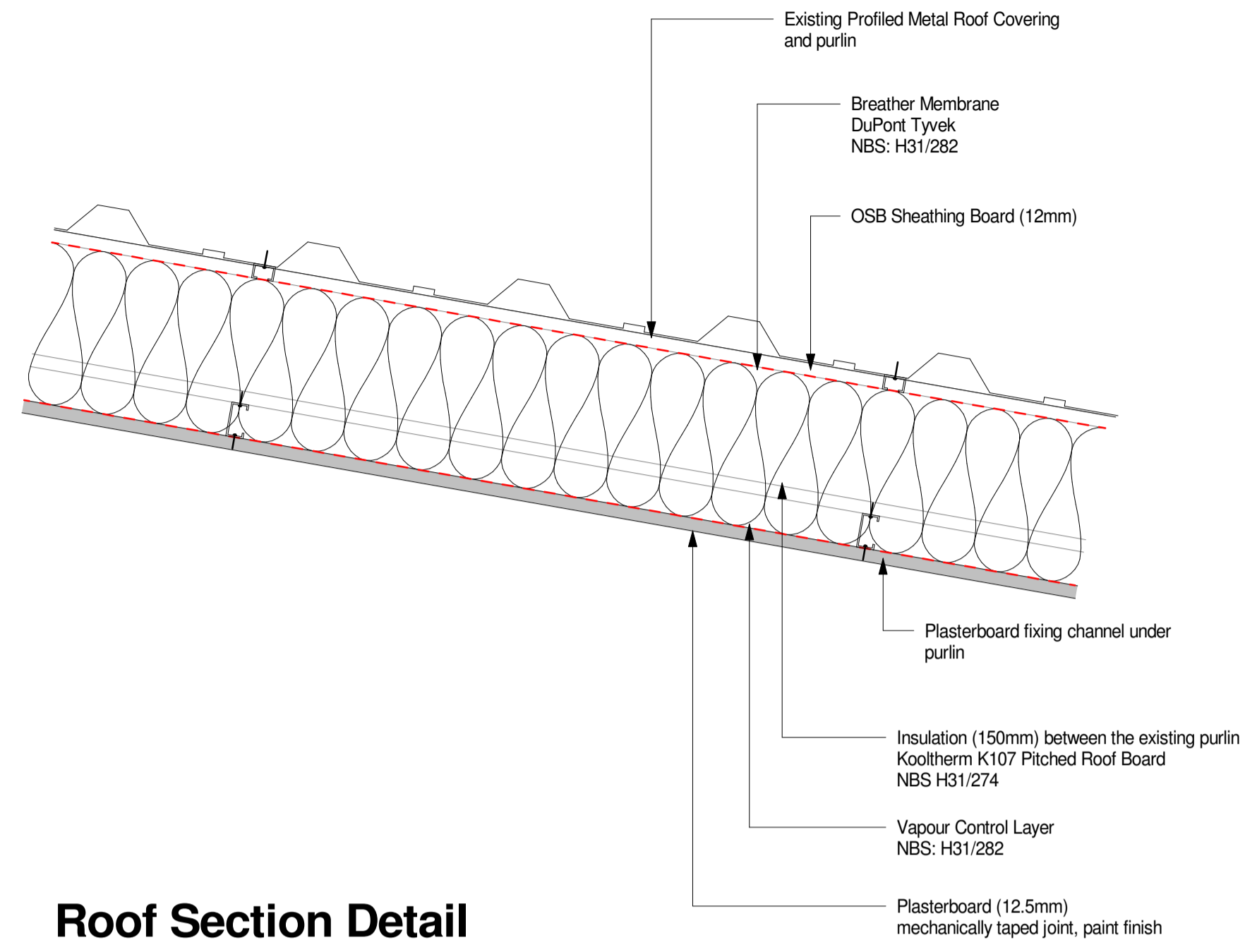
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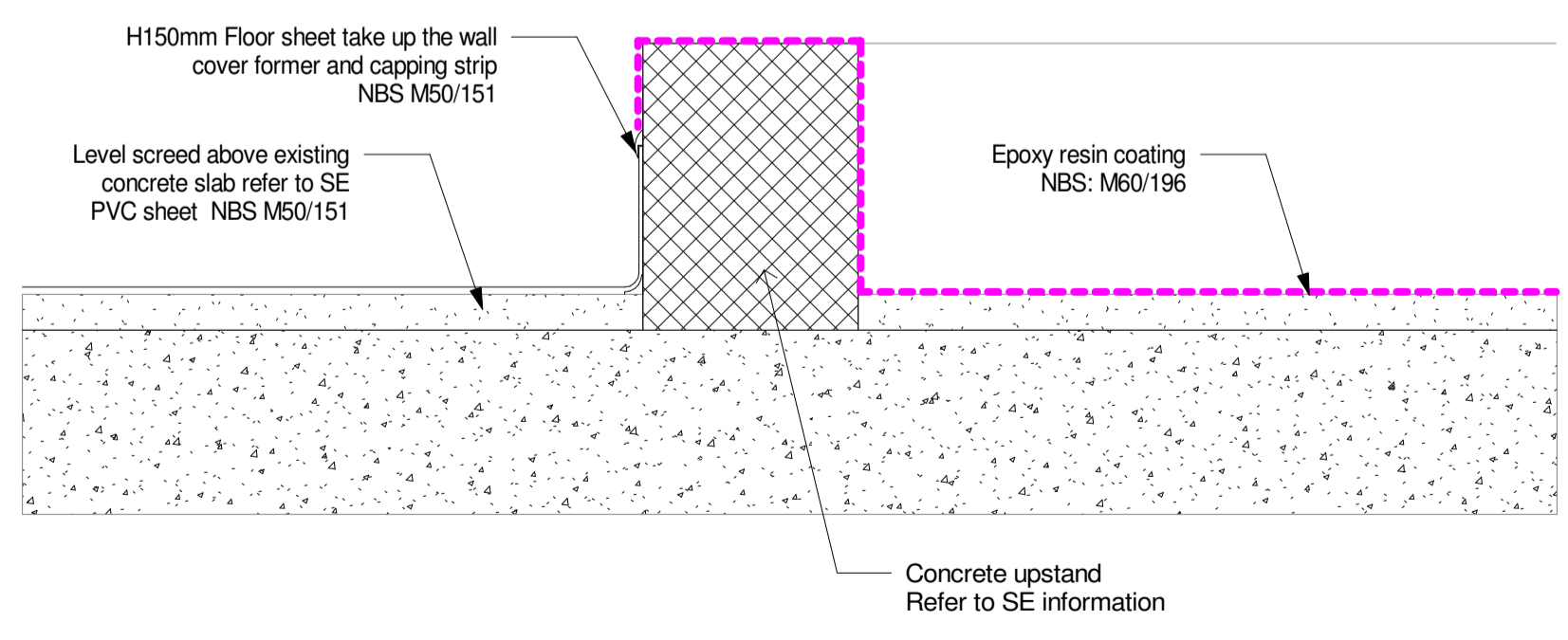
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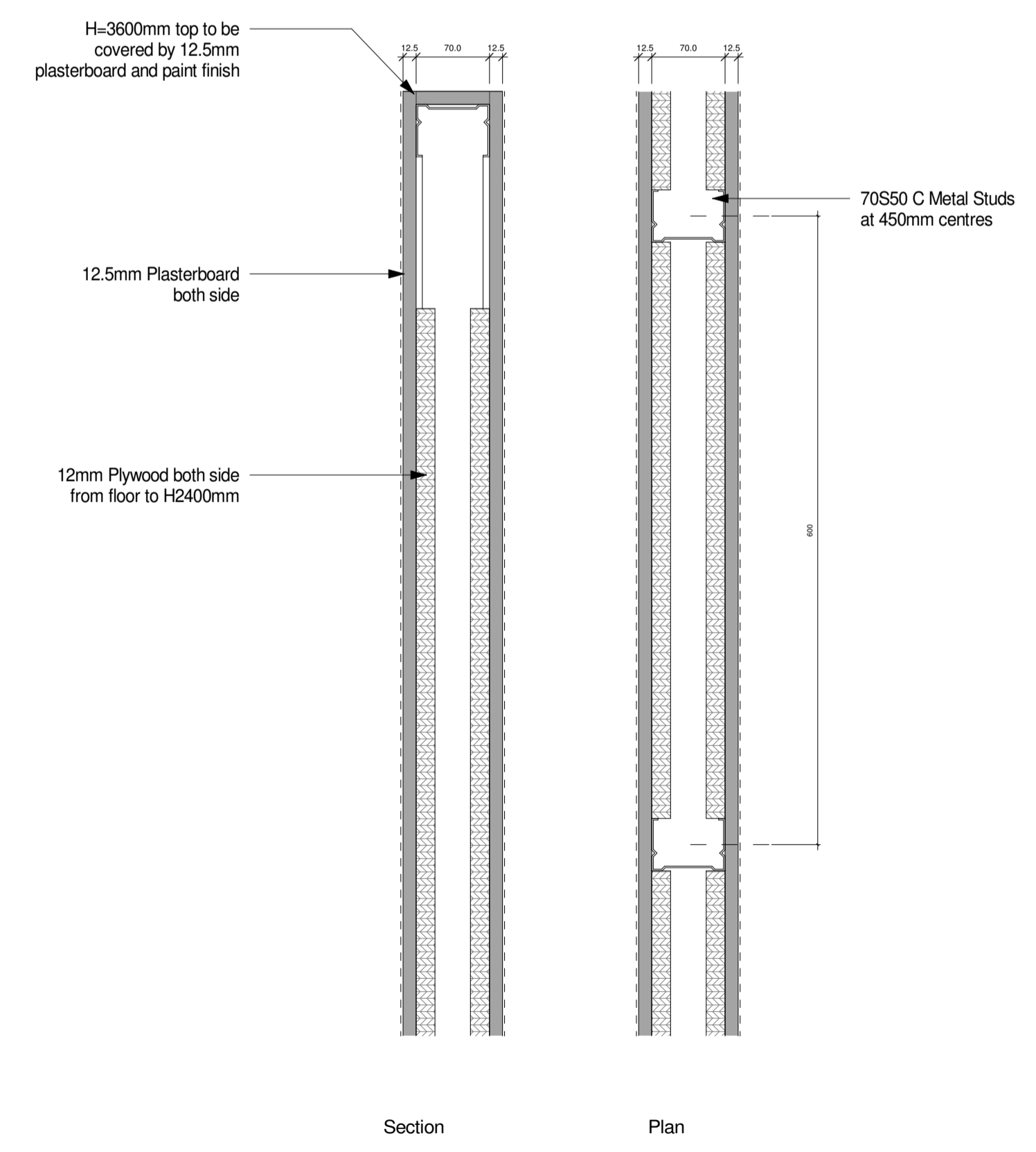
Project No	P7765-21100	Status	Rev	P02
Rev	7765-FDG-DR-A-21100			



**Roof Section Detail**  
1 : 5



**Bund Detail**  
1 : 5



**Internal Partition Detail**  
1 : 5

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1:100	mm	0	1000	2000	3000	4000	5000
1:200	mm	0	500	1000	1500	2000	2500
1:500	M	0	5	10	15	20	25
1:1250	M	0	10	20	30	40	50

KEYPLAN

P01	Stage 3 Issue	MT	01/12/23
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Rev	Description	By	Date
Stage 4	Tender		

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Drawing  
**Plan Section Detail 2**

Date	20/11/23	Scale	1 : 5	@ A1
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Drawn By	MD	Checked	MT
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Manchester:  
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Manchester M1 1EY  
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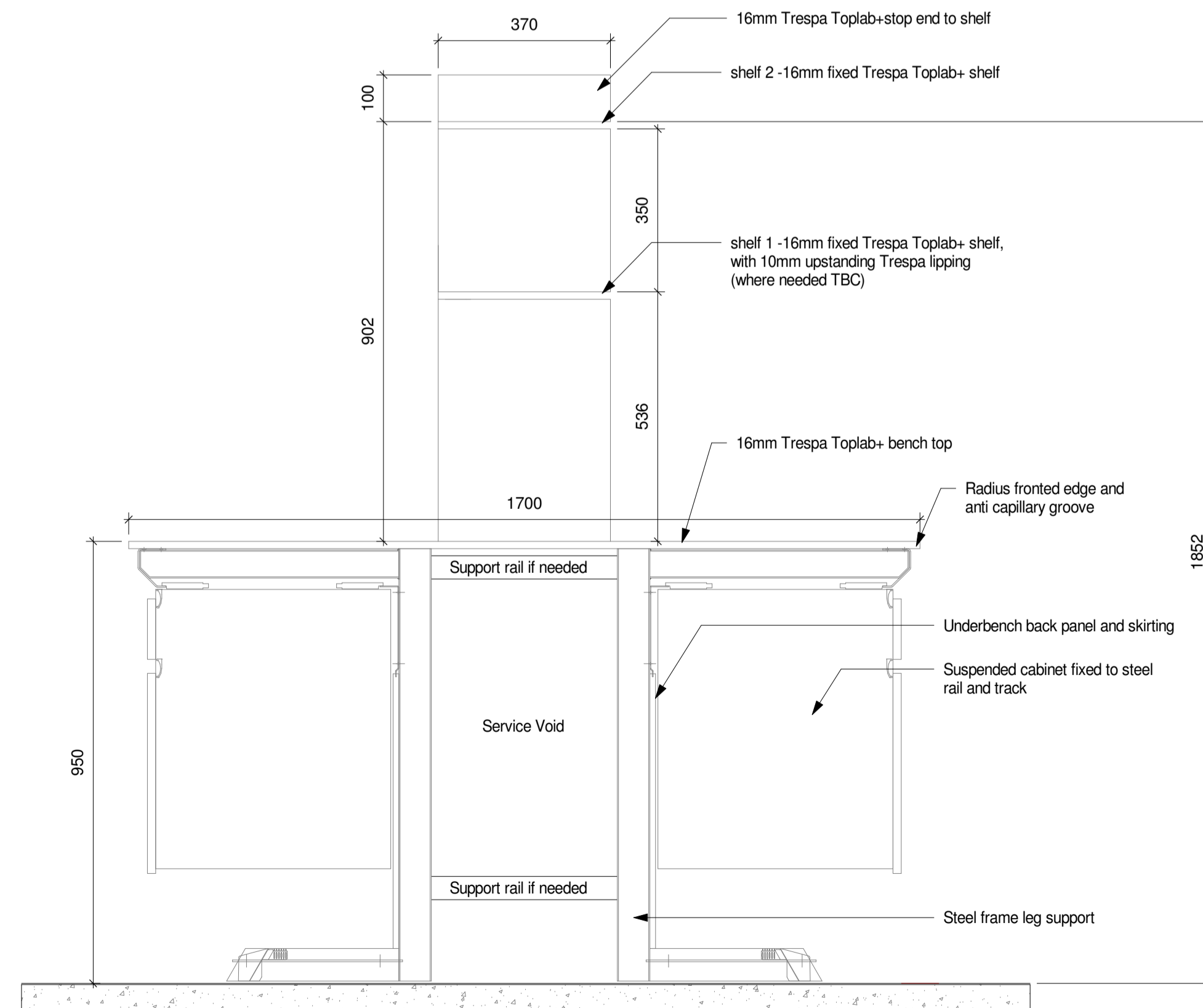
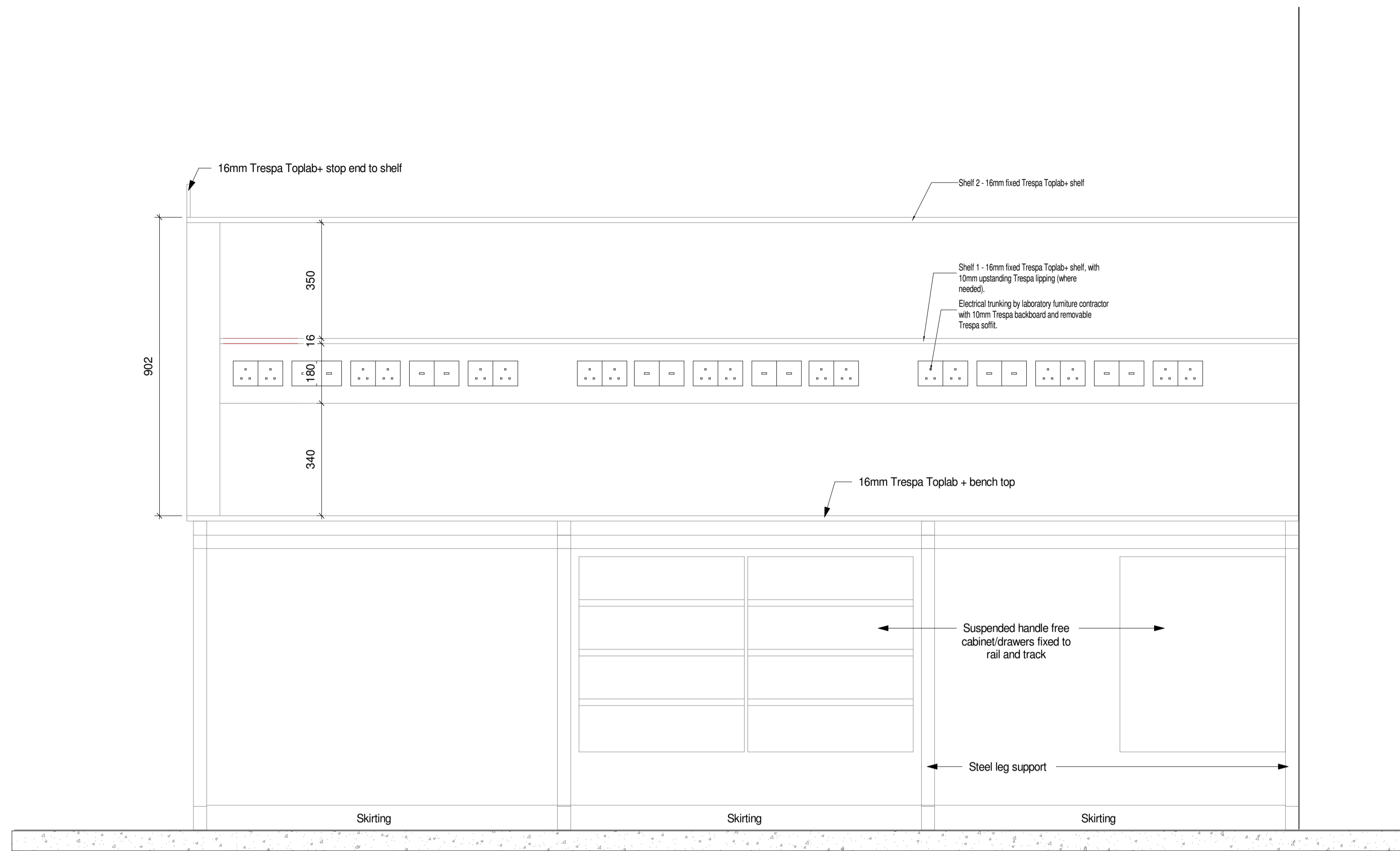
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Project No	P7765-21101	Status	Rev	P01
Rev	7765-FDG-DR-A-21101			



Colours:  
 Door Front - TBC  
 Carcass - TBC  
 Metal Frame - TBC

**Typical benching detail**  
 1 : 10

**Notes**

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1:200	mm	0	1000	2000	3000	4000	5000
1:500	M	0	5	10	15	20	25
1:1250	M	0	10	20	30	40	50

**KEYPLAN**

P01	Stage 4 Issue	MT	26/02/24
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Rev	Description	By	Date
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Project Status: **Stage 4** Drawing Status: **Tender**

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Drawing: **Furniture Details**

Date	29/02/124	Scale	1 : 10	@ A1
------	-----------	-------	--------	------

Drawn By	MT	Checked	Checker
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Manchester: 5th Floor, 31 Dale St, Manchester M1 1EY, +44 (0)161 831 7200

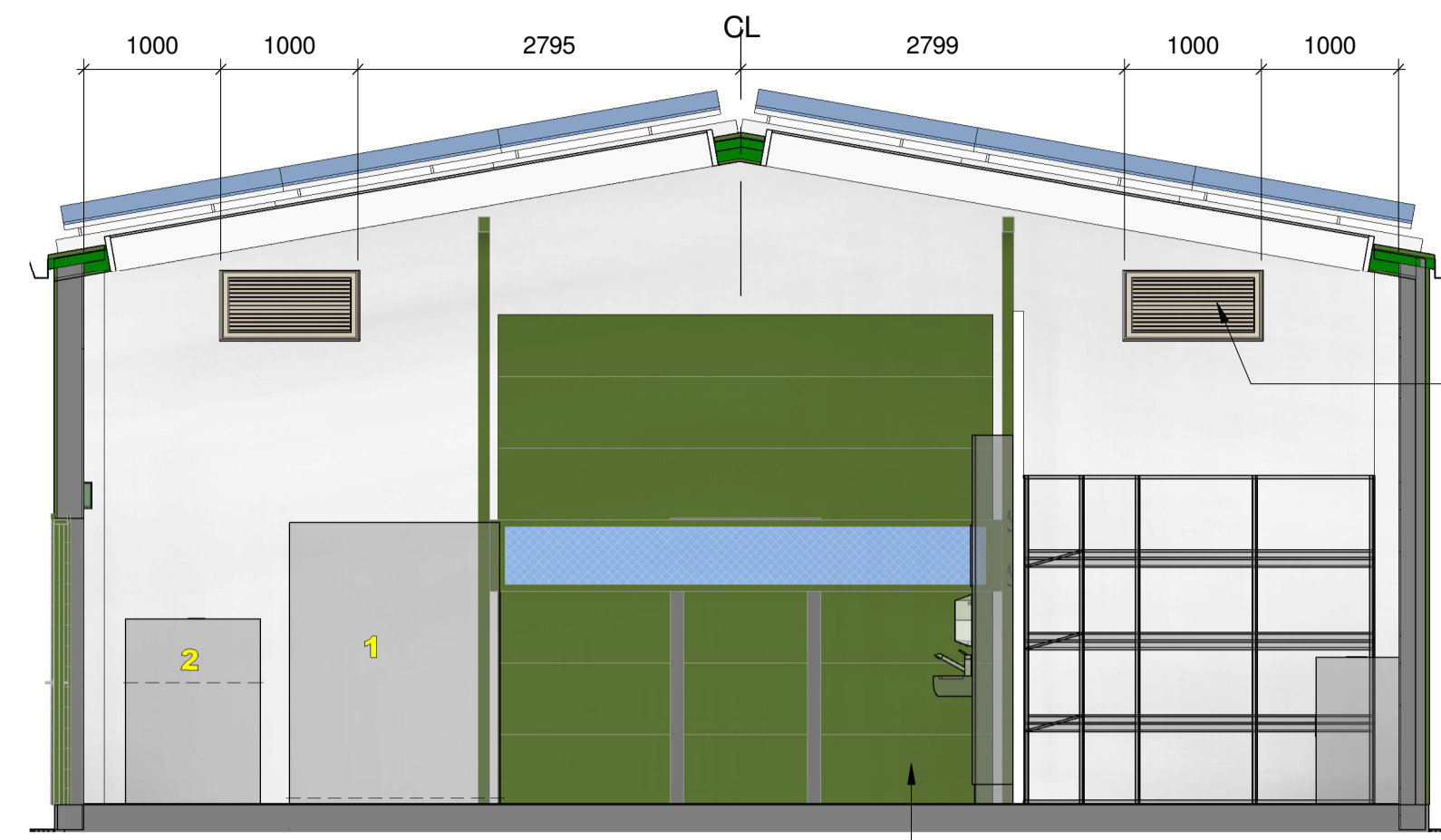
Southampton: Manor Park, Minstead, Southampton SO43 7FY, +44 (0)23 8281 7900

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Project No	P7765-23400	Status	Rev	P01
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7765-FDG-DR-A-23400



**Elevation 1**  
1 : 50

New insulated sectional overhead door with wicket door  
NBS: L20/615

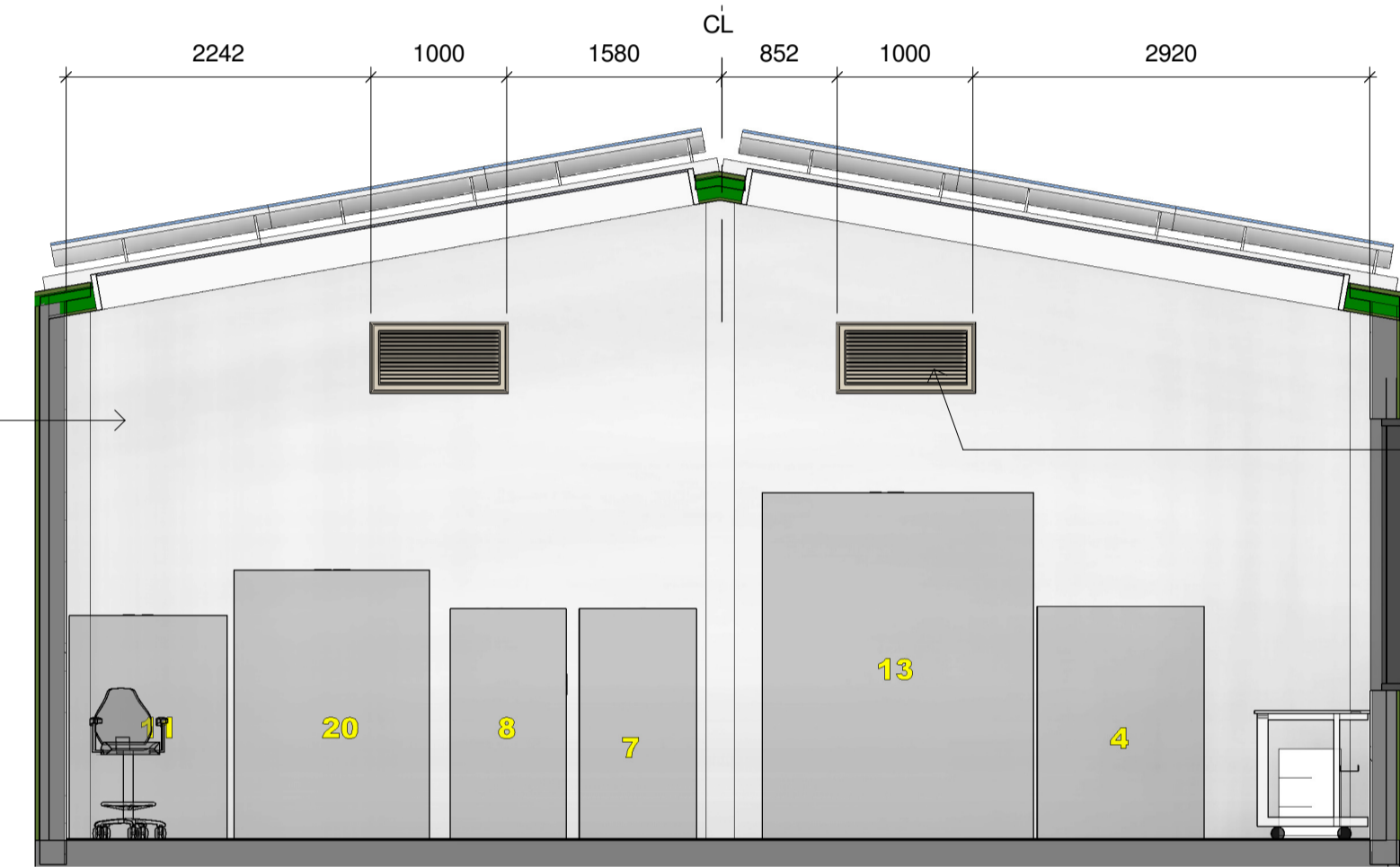
New 1000x500mm ppc aluminium louvres, external colour to match existing (juniper Green) internal colour White



**Elevation 2**  
1 : 50

New plasterboard rooflight upstand mechanically taped paint white  
NBS: M60/111

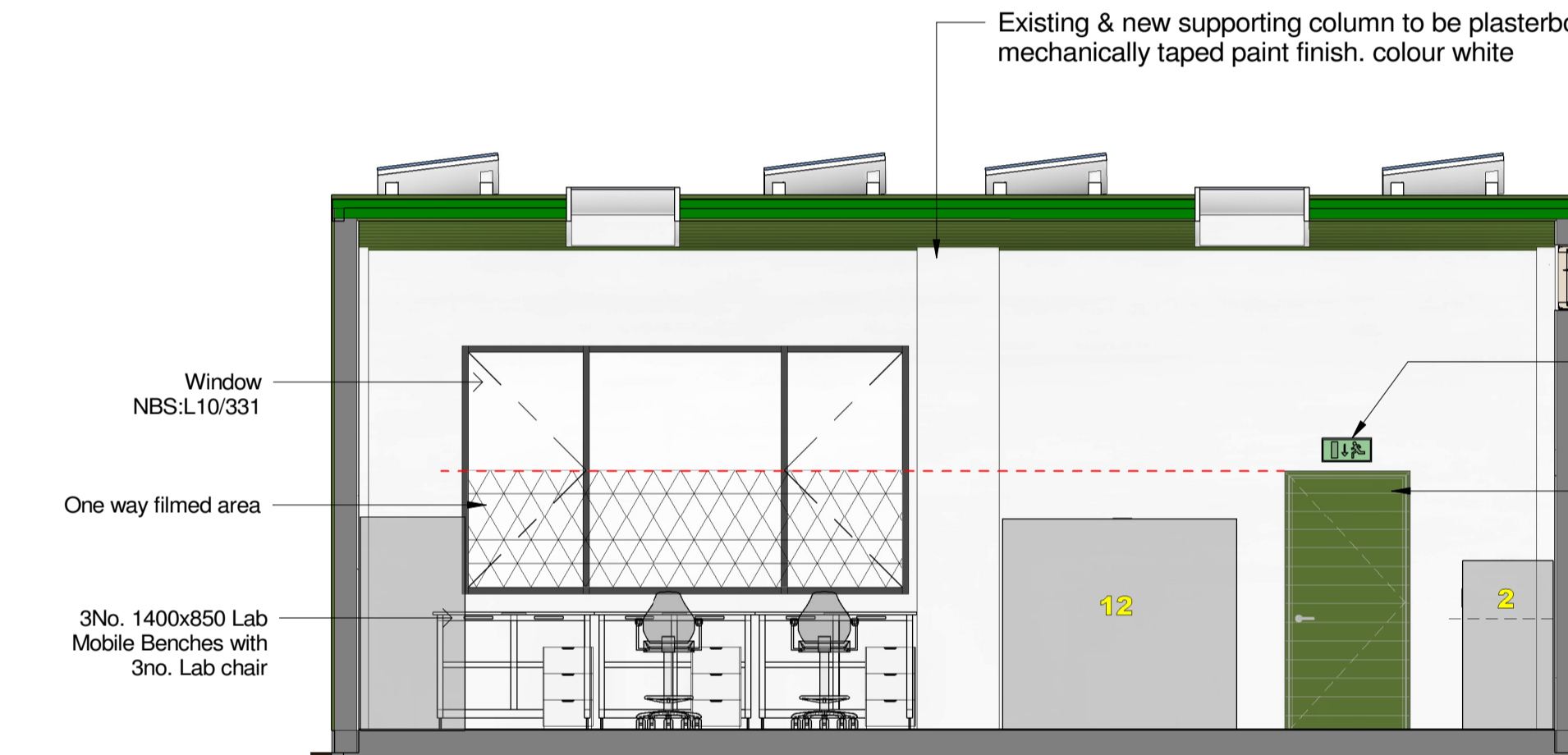
5no. hat & coat hooks  
Safety station refer to Lab furniture detail drawing



**Elevation 3**  
1 : 50

New plasterboard wall finish mechanically taped paint white  
NBS: M60/111

New 1000x500mm ppc aluminium louvres, external colour to match existing (juniper Green) internal colour White

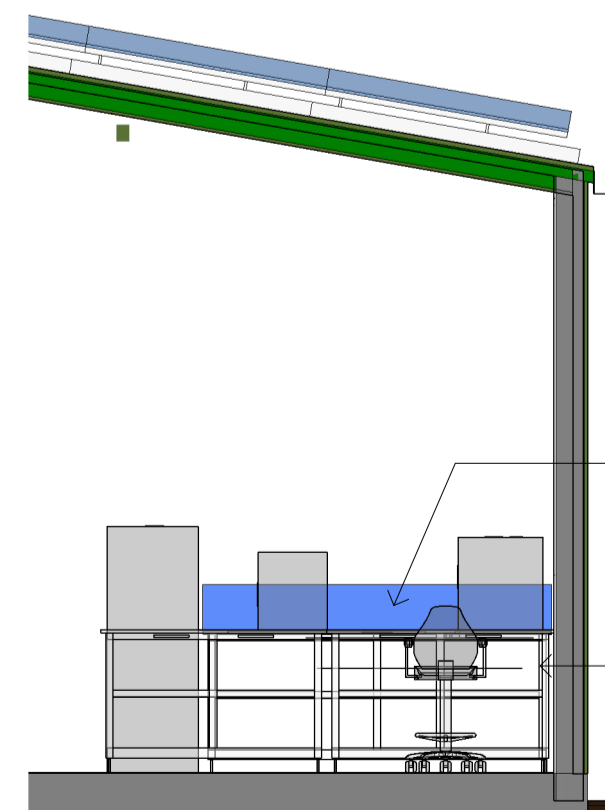


**Elevation 4**  
1 : 50

Existing & new supporting column to be plasterboard casing mechanically taped paint finish. colour white

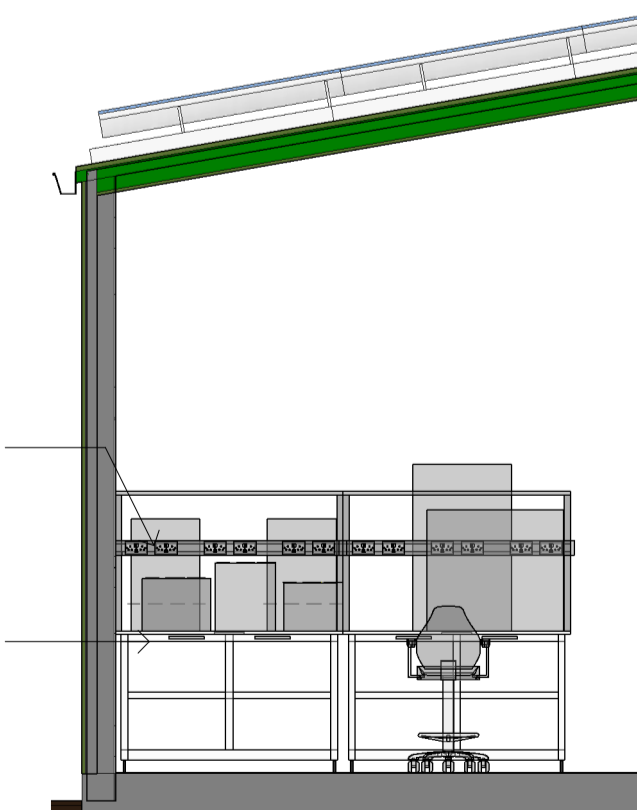
New aluminium louvres  
New final exit sign refer to MEP  
Existing door kept making good if necessary

Window NBS:L10/331  
One way filmed area  
3No. 1400x850 Lab Mobile Benches with 3no. Lab chair



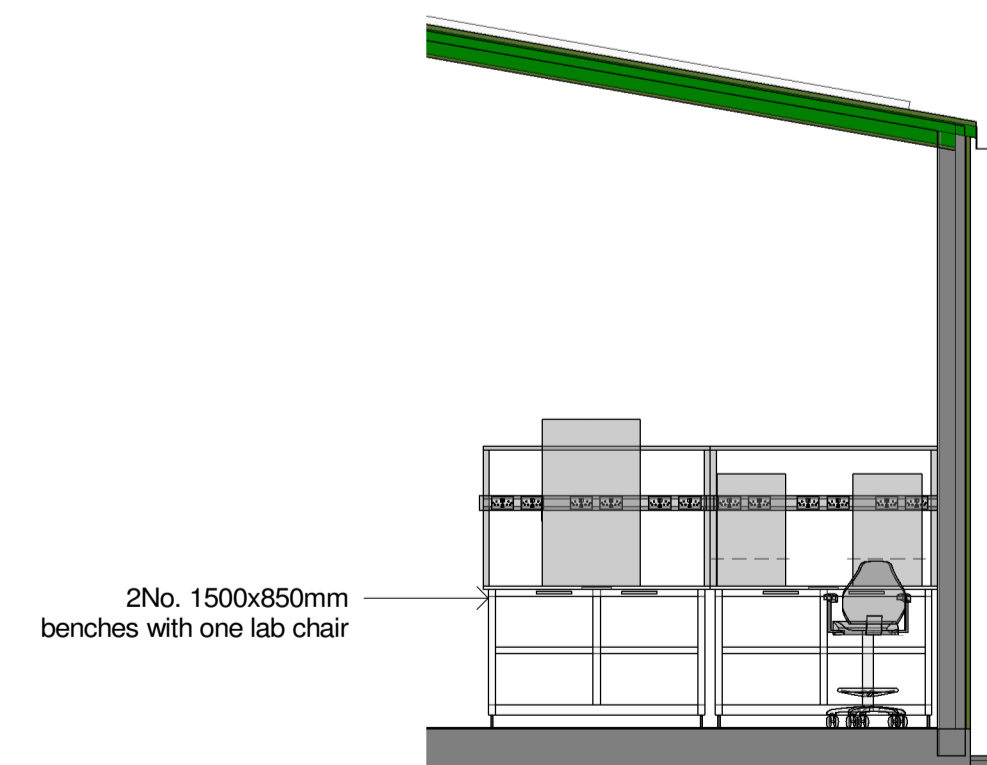
**Elevation 6**  
1 : 50

H300 splash back 9mm clear glass  
2No. 1500x850mm benches with one lab chair



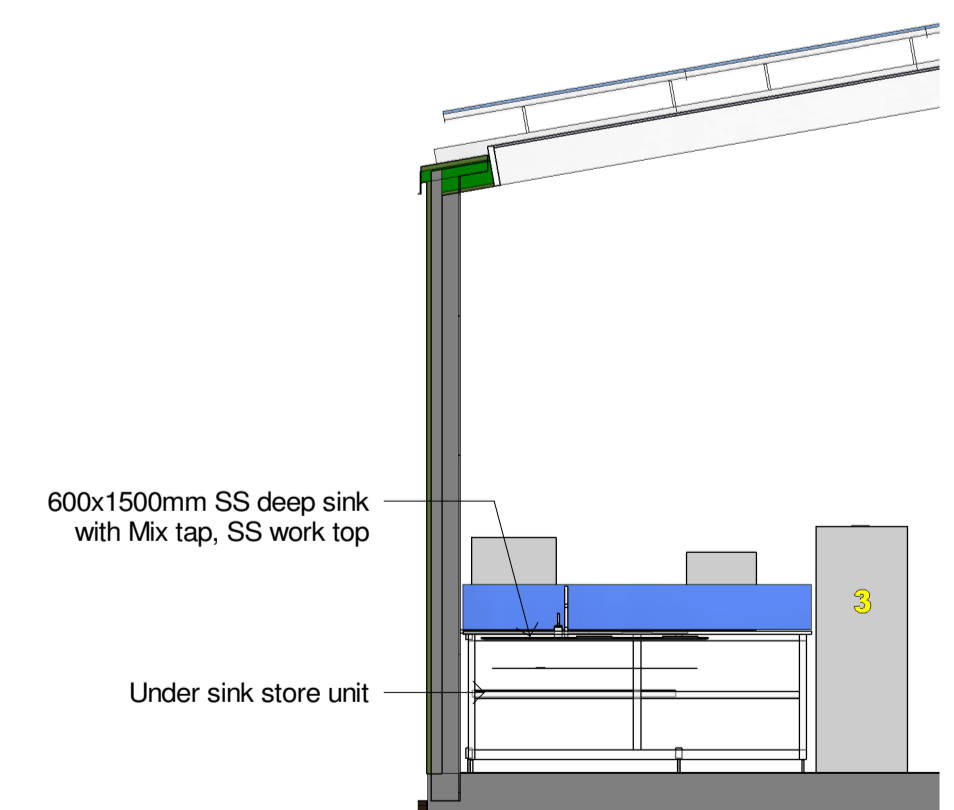
**Elevation 7**  
1 : 50

2No. 1500x850mm benches with one lab chair  
2No. 1500x850mm benches with one lab chair



**Elevation 8**  
1 : 50

2No. 1500x850mm benches with one lab chair



**Elevation 9**  
1 : 50

600x1500mm SS deep sink with Mix tap, SS work top  
Under sink store unit

\* Lab furniture refer to drawing no. 23400 Furniture Details

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Scale Bars		TO BE USED ONLY AS GUIDANCE	
1:100	mm	0	1000
1:200	mm	0	2000
1:500	M	0	15
1:1250	M	0	30

Rev	Description	By	Date
P01	Stage 4 Issue	MT	26/02/24

**Project Status**  
Stage 4

**Drawing Status**  
Tender

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**Drawing**  
Internal Elevations

Date	02/26/24	Scale	1 : 50	@ A1
Drawn By	MT	Checked	Checker	

**Manchester:**  
5th Floor, 31 Dale St  
Manchester M1 1EY  
+44 (0)161 831 7200

**Southampton:**  
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Minstead  
Southampton SO43 7FY  
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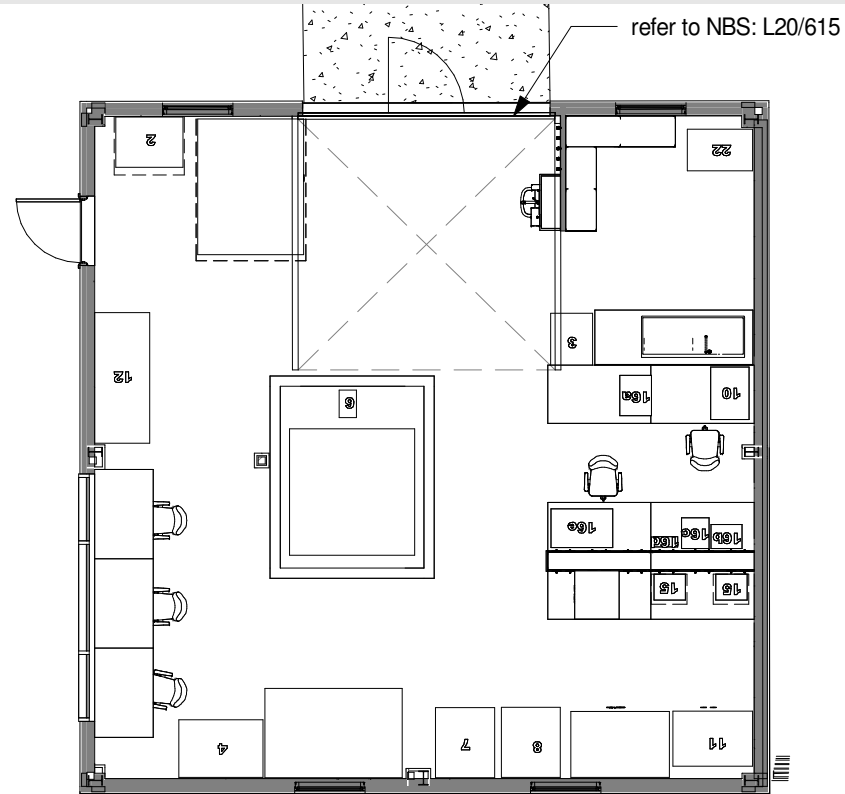
**Cambridge:**  
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Cambridge CB1 2JD  
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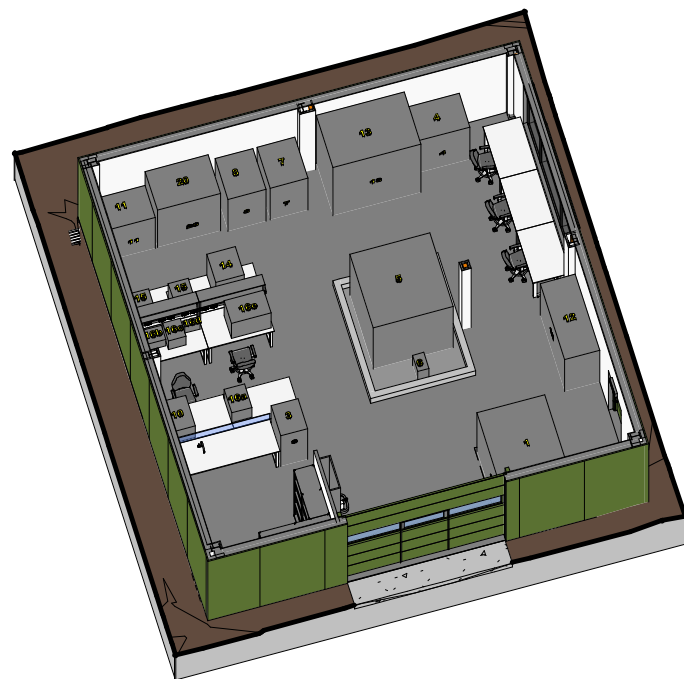
Rev	Description	Status	Rev
P7765-34100			P01
7765-FDG-A-34100			

13/03/2024 10:17:04

## Room Layout



## Room Isometric



## Planning & Environment

### Room Identification

Room Name	Laboratory
Room Number	1
Floor Level	Level 0
Function	Biology Laboratory

### Critical Dimensions

Briefed Area	92 m <sup>2</sup>
Current Area	92 m <sup>2</sup>
Ceiling Height	3860 - 4705 m slope

### Time & Population Usage

Occupancy (Typical)	1 or 2
Occupancy (Max)	5
Hours of Operation	various

## Room Fabric

External Glazing	Yes
Window Blinds	Yes
Internal Glazing	No
Acoustic Requirements	No
Feature Lighting	No

## Finishes

Wall Finish	Dulux Trade Airsure Vinyl Matt
Wall Protection	No
Column Finish	Plaster board encase
Floor Finish	PVC
Skirting Finish	PVC roll up skirting
Ceiling Finish	Dulux Trade Airsure Vinyl Matt

## Doors & Ironmongery

Door Finish	Existing maintained
Door Frame Finish	N/A
Door Vision Panel	N/A
Door Ironmongery	push pad TBC with Building control

## Fixtures & Fittings

### Plumbed Services

Lab Sink	1 no.
Drip Cup	No
Safety Station	Yes
Safety Shower	No
Hygiene Station	No

### Primary Equipment - Group 1 (Supplied And Fitted by Contractor)

Safety station  
 3 No. 1400x850 Mobile Lab Bench with 2 mobile lab bench drawer and 1 desk cabinet  
 C-frame leg support 1700x3000mm 16mm Trespa worktop with suspended cabinet/drawers and Reagent shelving above  
 C-frame leg support 850x3000mm 16mm Trespa worktop with suspended cabinet/drawers  
 1 No. 600x1500mm SS deep sink with SS worktop with under sink unit  
 5 No. Lab chair  
 5 no, hat and coat hook  
 corner store shelves H=2400 D450  
 6mm glass splash back for back of the sink

### Primary Equipment - Group 2 (Supplied by Client And Fitted by Contractor)

### Primary Equipment - Group 3 (Supplied And Fitted by Client)

Lab equipment indicated on the drawing no. 11200 without equipment no.21 safety station

44100 16/02/24

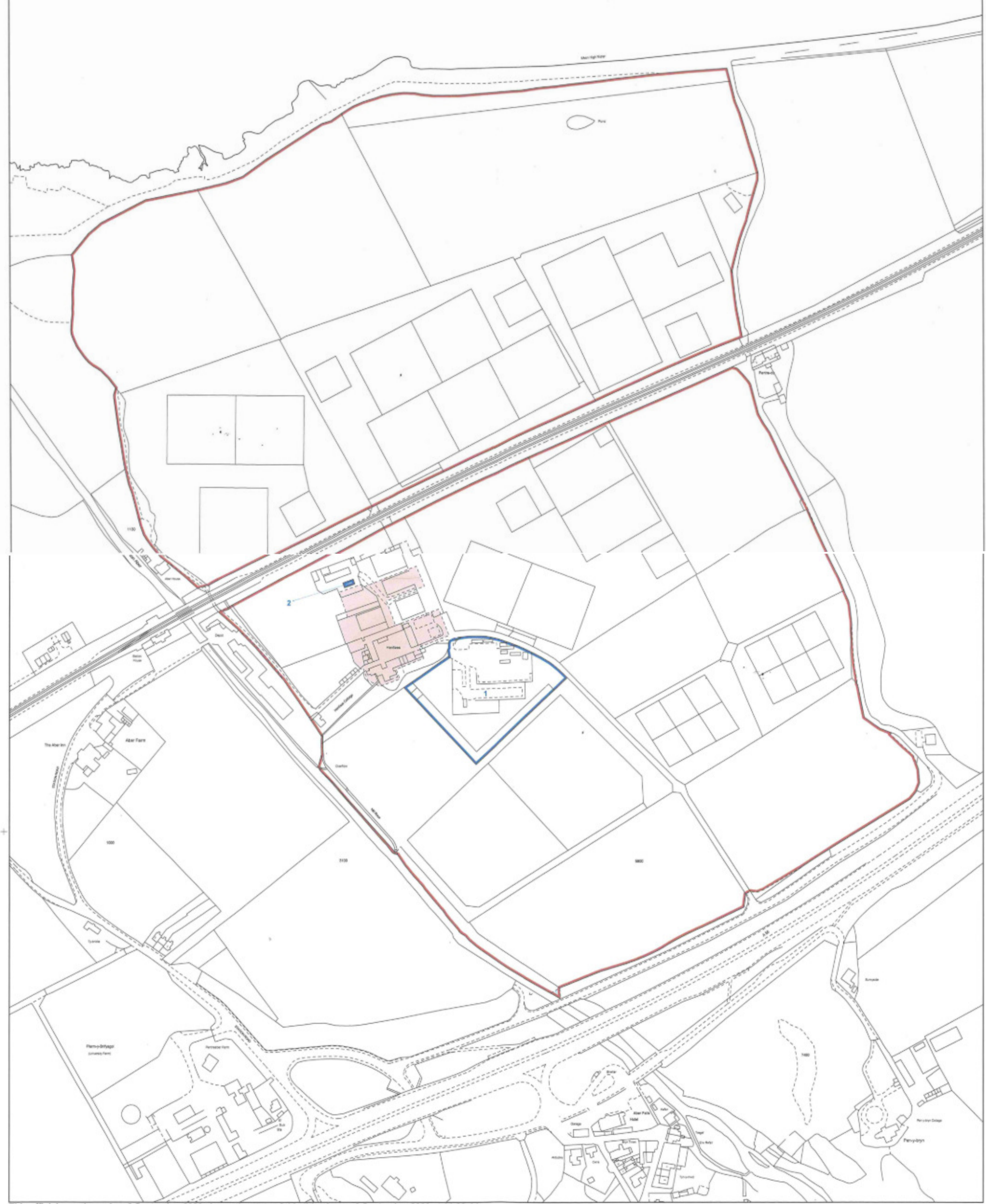
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P7765

7765-FDG-SR-A-44100-



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 It is admissible in evidence to the same extent as the original (s.67 Land Registration Act 2002).  
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 This title is dealt with by HM Land Registry, Durham Office.

**A: Property Register / Cofrestr Eiddo**

This register describes the land and estate comprised in the title.

Mae'r gofrestr hon yn disgrifio'r tir a'r ystad a gynhwysir yn y teitl.

**GWYNEDD**

- (19.07.2004) The Freehold land shown edged with red on the plan of the above title filed at the Registry and being Henfaes Farm, Abergwyngregyn, Llanfairfechan (LL33 0LB).
- (19.07.2004) The mines and minerals together with ancillary powers of working are excepted with provision for compensation in the event of damage caused thereby.

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1:100	mm	0	1000	2000	3000	4000	5000
1:200	mm	0	1000	2000	3000	4000	5000
1:500	M	0	15	30	45	60	75
1:1250	M	0	10	20	30	40	50

P02	Stage 4 Issue	MT	26/02/24
P01	Stage 3 Issue	MT	01/12/23

Rev	Description	By	Date
Stage 4			

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Drawing  
**Location Plan**

Date	11/06/23	Scale	1 : 2500	@ A1
------	----------	-------	----------	------

Drawn By	Author	Checked	Checker
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7765-11001	Status	Rev	P02
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1:500	M	0	5	10	15	20	25
1:1250	M	0	10	20	30	40	50

P03	Add additional note	MT	05/03/24
P02	Stage 4 Issue	MT	26/02/24
P01	Stage 3 Issue	MT	01/12/23

Project Status	Description	By	Date
Stage 4	Tender		

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**Site Plan**

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 Minstead  
 Southamton SO43 7FY  
 +44 (0)25 8281 7900

Cambridge:  
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 20 Station Road  
 Cambridge CB1 2JD  
 +44 (0)1223 803 868

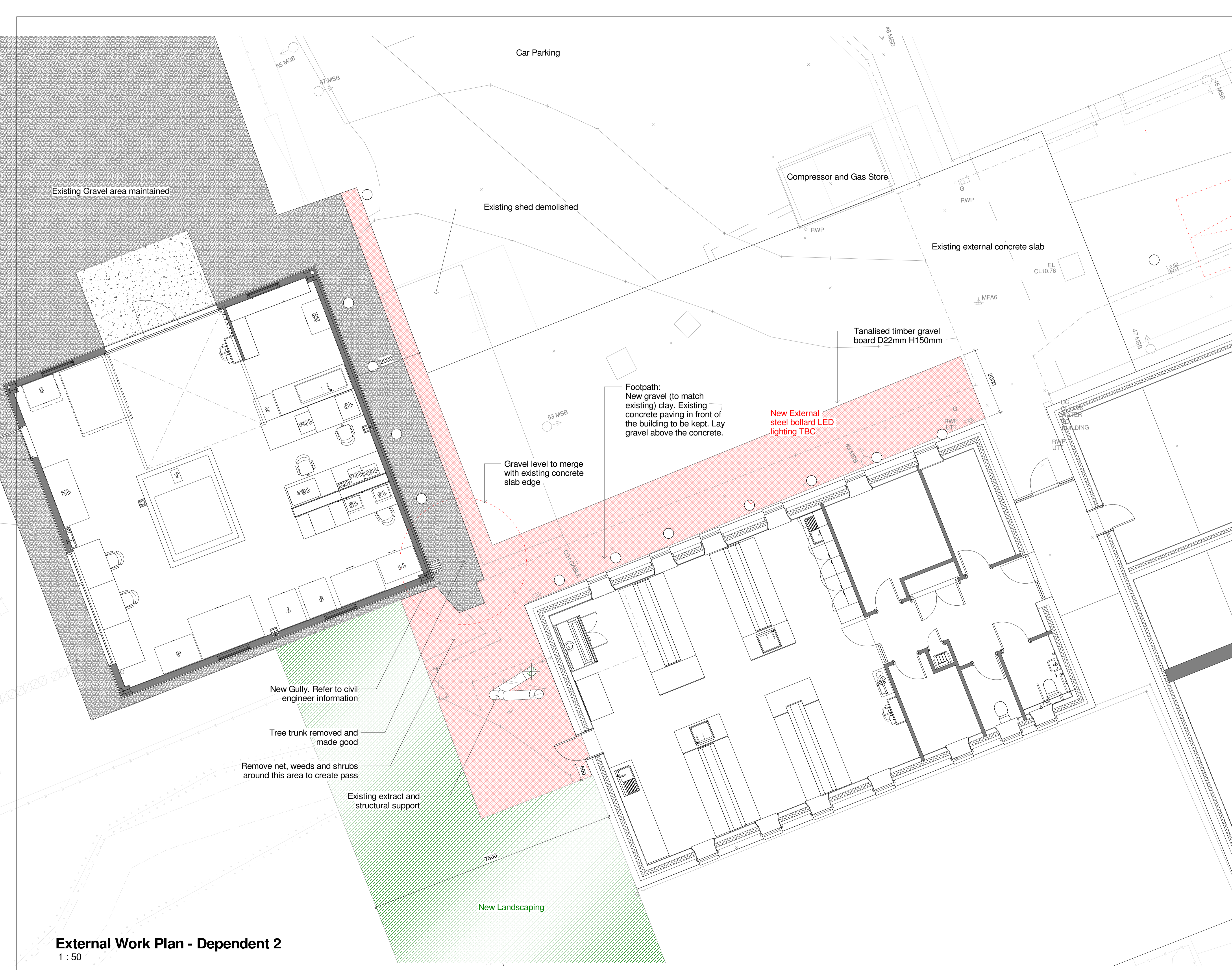
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Project No	P7765-11002	Status	Rev	P03
Sheet No	7765-FDG-A-11002			

**Site Plan**  
 1 : 300





**External Work Plan - Dependent 2**  
1 : 50

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1:200	mm	0	1000	2000	3000	4000	5000
1:500	M	0	5	10	15	20	25
1:1250	M	0	10	20	30	40	50

P01	Stage 4 Issue	MT	26/02/24
Rev	Description	By	Date
<b>Project Status</b>		<b>Drawing Status</b>	
<b>Stage 4</b>		<b>Tender</b>	

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**External Work**

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Drawn By	MT	Checked	LS	

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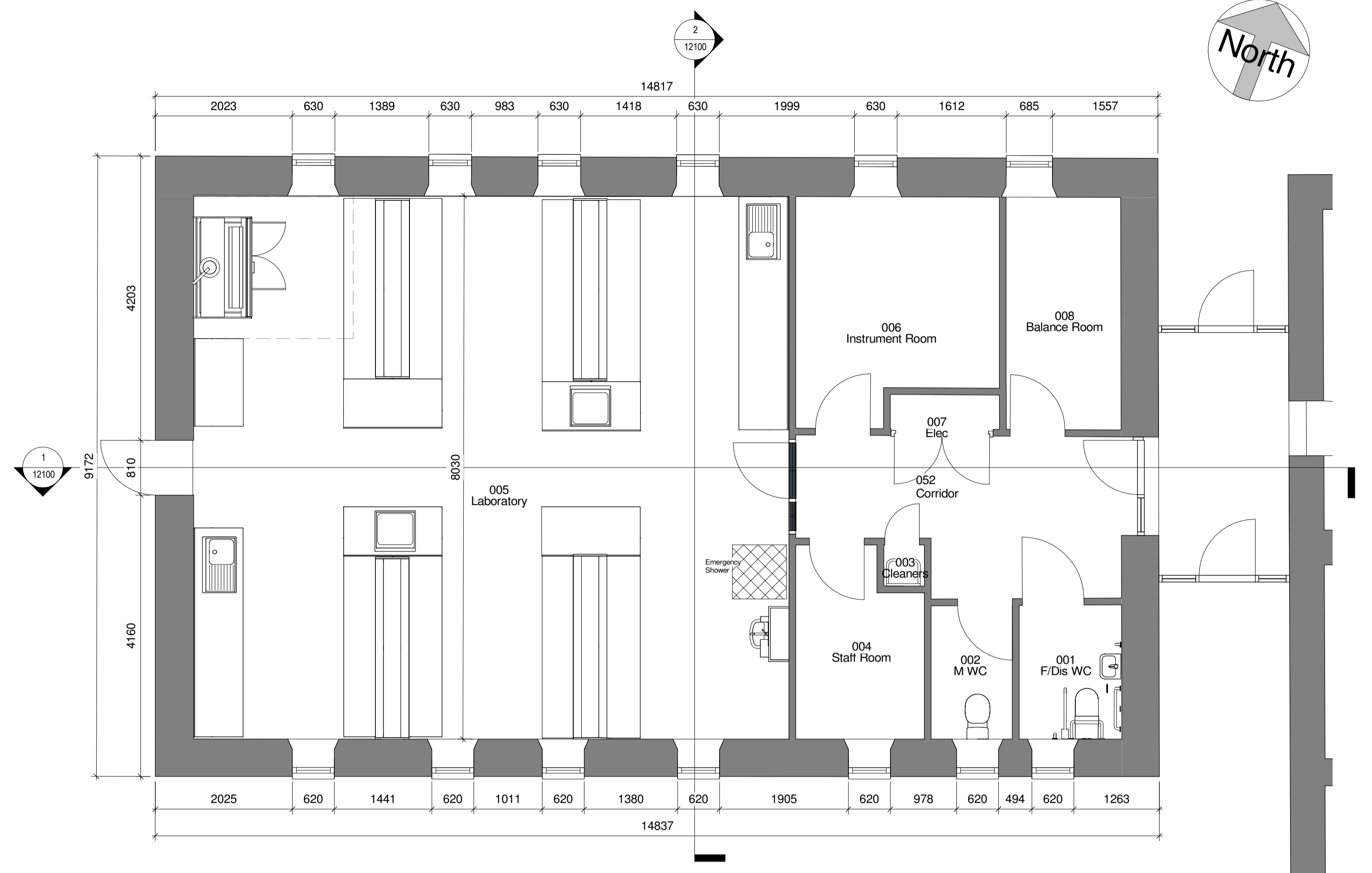
Southampton:  
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Cambridge CB1 2JD  
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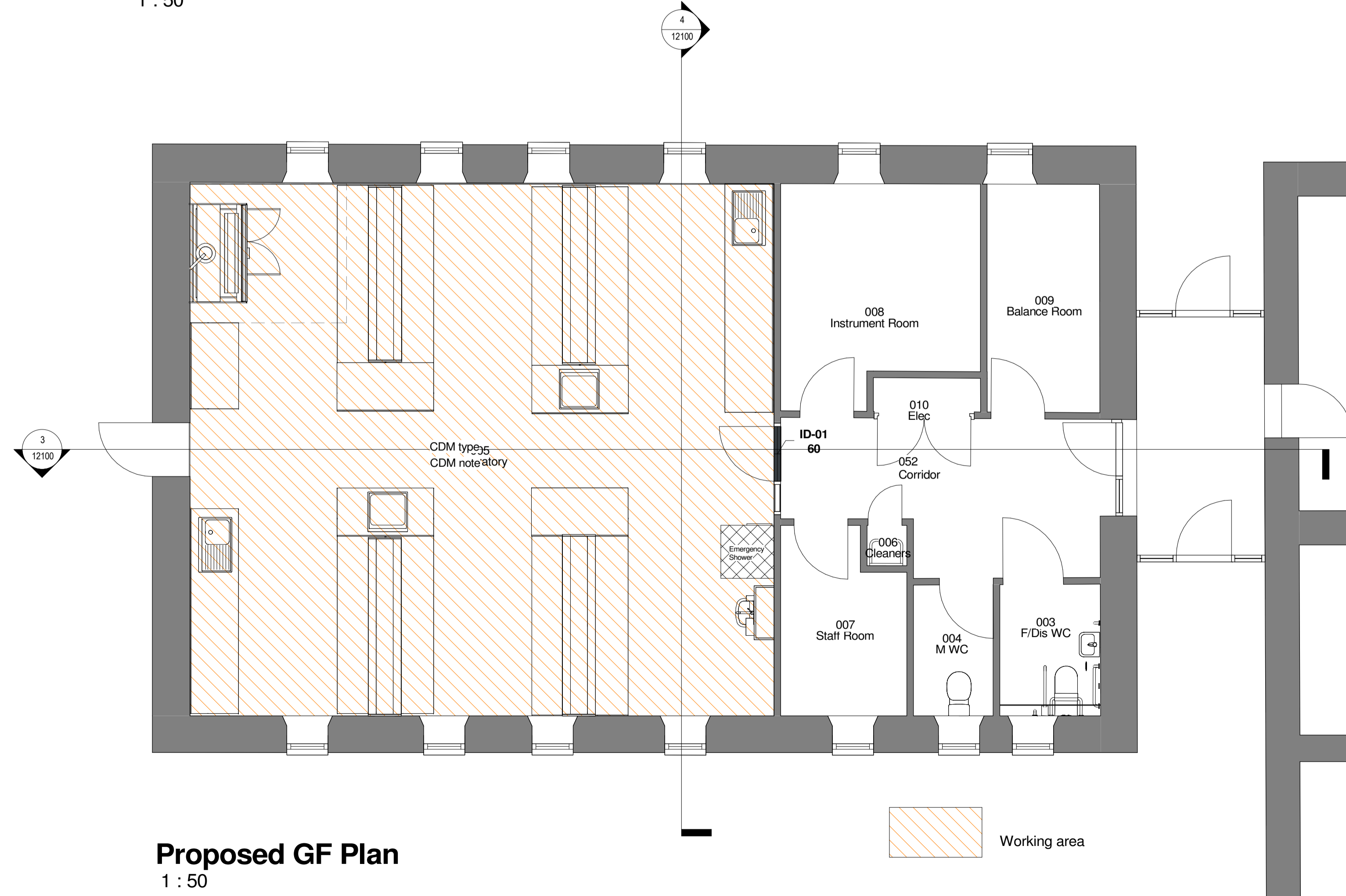
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Project No	P7765-11010	Status	Rev	P01
Sheet No	7765-FDG-ZZ-XX-DR-A-11010			

13/03/2024 10:16:32



**Existing GF Plan**  
1 : 50



**Proposed GF Plan**  
1 : 50

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Scale Bars TO BE USED ONLY AS GUIDANCE

1:100	mm	0	1000	2000	3000	4000	5000
1:200	mm	0	1000	2000	3000	4000	5000
1:500	M	0	15	30	45	60	75
1:1250	M	0	10	20	30	40	50

KEYPLAN

P02	Stage 4 Issue	MT	26/02/24
P01	Stage 3 Issue	MT	01/12/23

Rev	Description	By	Date
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Project Status	Stage 4	Drawing Status	Tender
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**Henfaes**

Drawing  
**GA Existing and Proposed Plan**

Date	26/02/24	Scale	1 : 50	@ A1
Drawn By	-	Checked	MT	LS

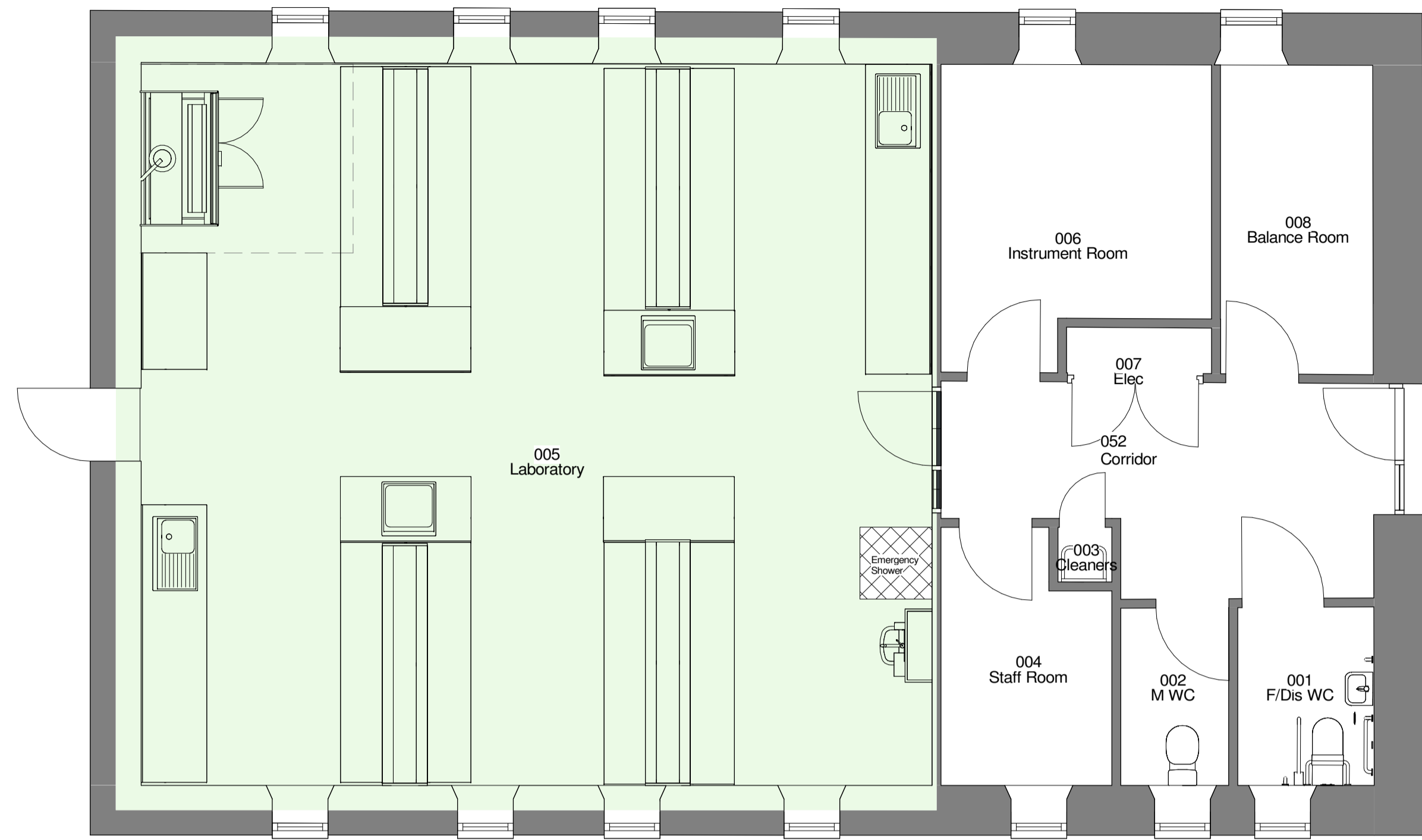
**Manchester:**  
5th Floor, 31 Dale St  
Manchester M1 1EY  
+44 (0)161 831 7200

**Southampton:**  
Manor Park  
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Southampton SO43 7FY  
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**FDG**  
fairhursts design group

Project No	P0000-SBC-11100	Status	SO	Rev	P02
Rev	7765-FDG-Z0-L1-DR-A-11100				

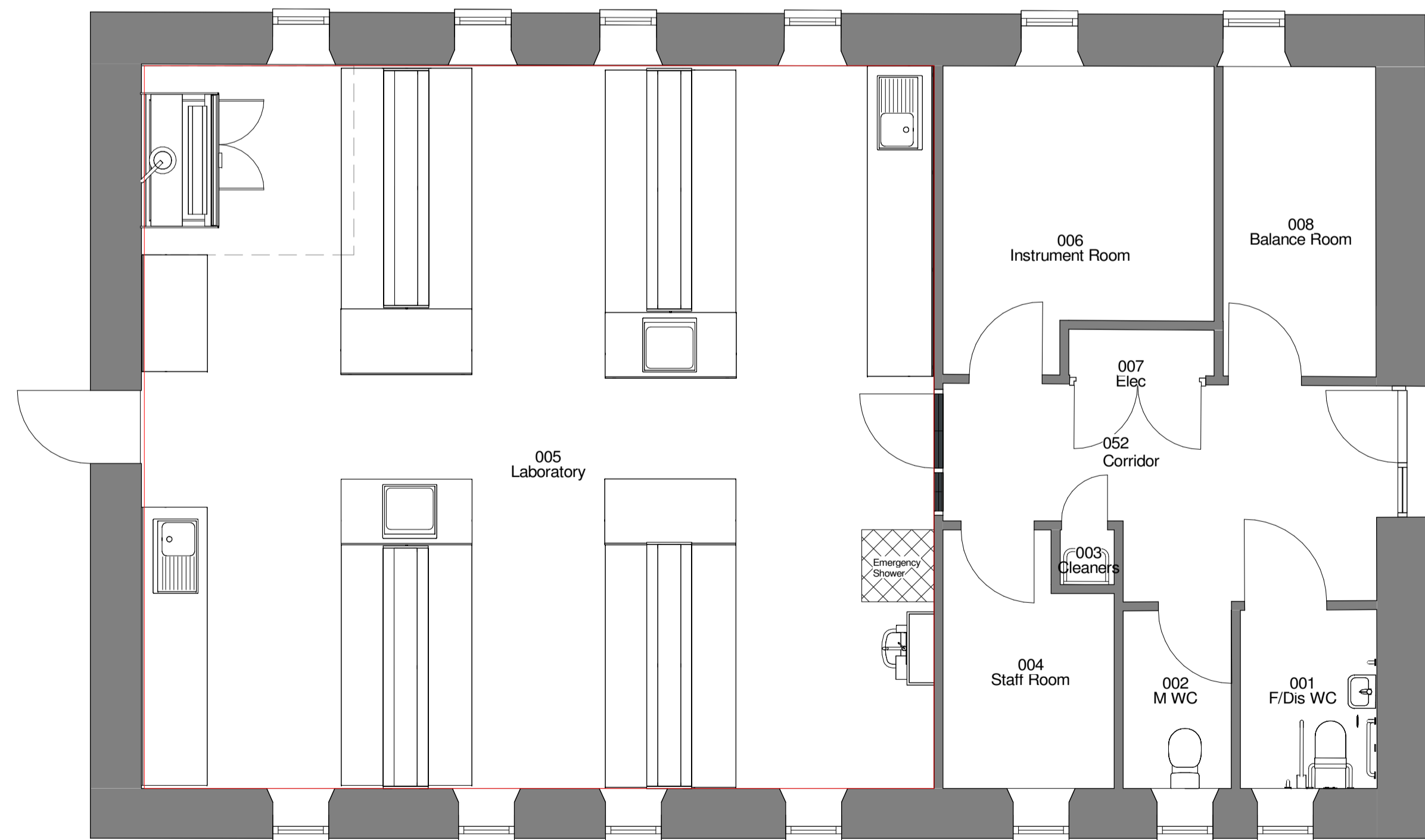


**Floor Finish**

Non slip Vinyl - Polysafe Apex Refer to NBS: M50/150  
Skirting to be curved up floor finish, the height to match existing

**Floor Finish**

1 : 50



**Wall Finish**

2 coats of paint finish  
NBS: M60/111

**Wall Finish**

1 : 50

**Note:**

- New blackout roller blind for all windows, colour light Grey
- Stained window cill to be re-painted black.
- Any cracks to be reapplied before new wall paint apply
- Remove paint existing external door and making good to apply new paint. colour Grey



Existing External Door



Existing Window.

**Notes**  
The Contractor is to check all dimensions and conditions on site before commencing. Do not scale from this drawing.

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Scale Bars TO BE USED ONLY AS GUIDANCE

1:100	mm	0	1000	2000	3000	4000	5000
1:200	mm	0	500	1000	1500	2000	2500
1:500	M	0	5	10	15	20	25
1:1250	M	0	2.5	5	7.5	10	12.5

KEYPLAN

P02	Stage 4 Issue	MT	26/02/24
P01	Stage 3 Issue	MT	01/12/23

Project Status	Description	By	Date
Stage 4	Tender		

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Internal Finishes

Date	DD/MM/16	Scale	1 : 50	Sheet	@ A1
Drawn By	-	Checked	AB	MT	

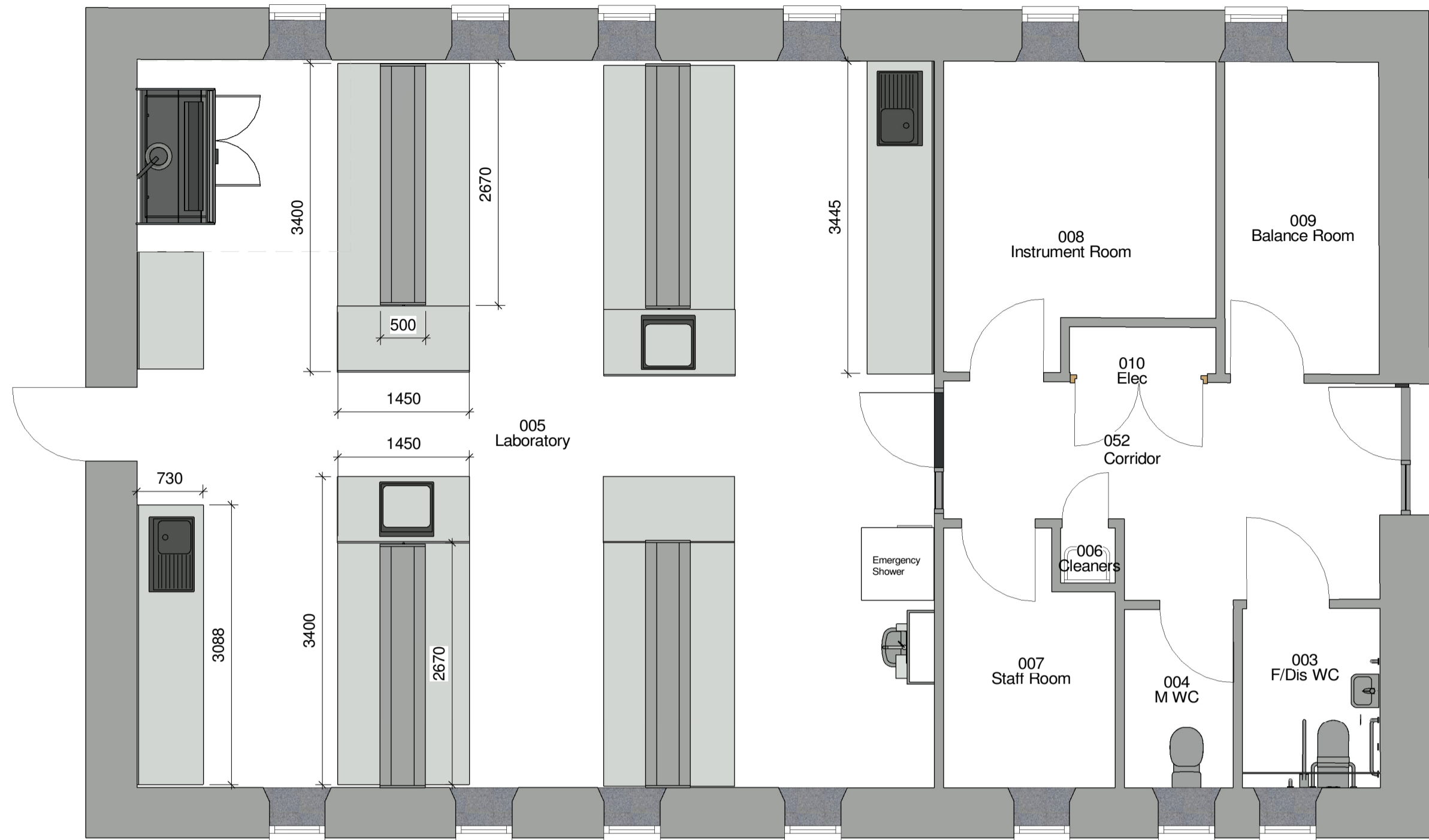
Manchester: 5th Floor, 31 Dale St, Manchester M1 1EY, +44 (0)161 831 7200

Southampton: Manor Park, Minstead, Southampton SO43 7FY, +44 (0)23 8081 7900

Cambridge: CB1 Business Centre, 20 Station Road, Cambridge CB1 2JD, +44 (0)1223 803 868

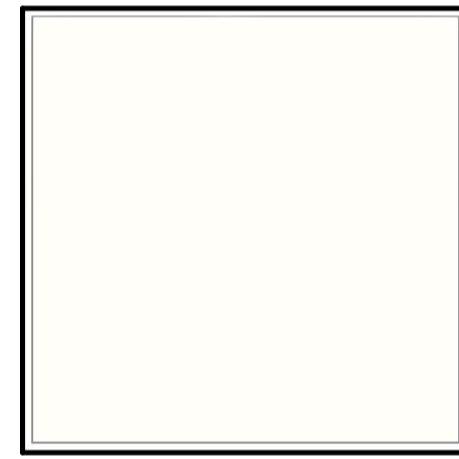


Project Ref	P0000-11400	Status		Rev	P02
Sheet Ref	7765-FDG-DR-A-11400				



Existing bench photos.

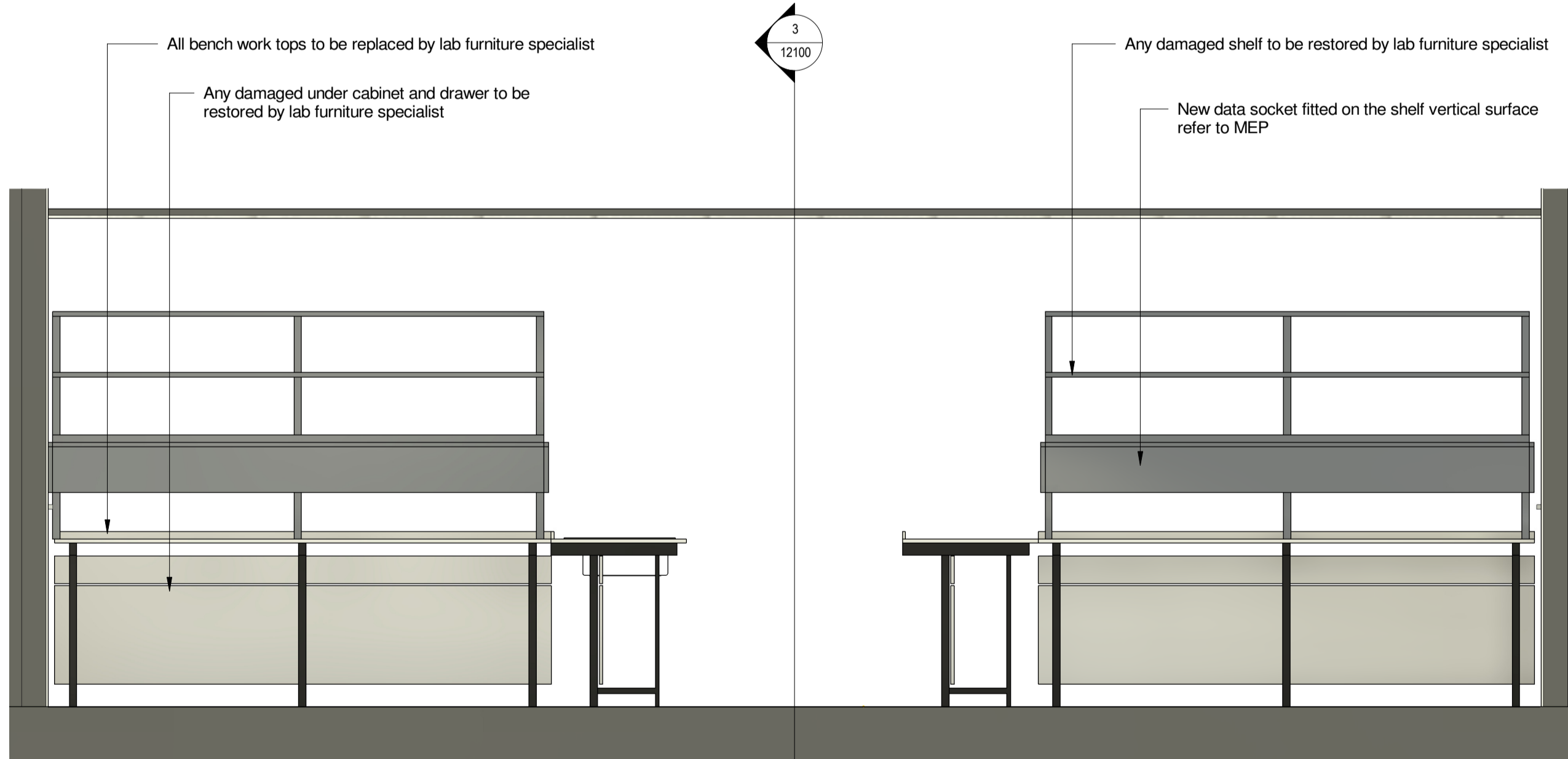
**Countertops Finish**  
1 : 50



**New Bench Worktop**

TRESPA TOPLAB PLUS  
Pure White  
16mm thick, rounded front edge, with capillary groove to lower edge.

**Note:**  
New draw units and worktops.  
Repair frames.  
Furniture dimensions are indicative, site measurement require by contractor / furniture specialist



**Elevation for Countertop Finish**  
1 : 25

**Notes**

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1:100	mm	0	1000	2000	3000	4000	5000
1:200	mm	0	1000	2000	3000	4000	5000
1:500	M	0	5	10	15	20	25
1:1250	M	0	10	20	30	40	50

P02	Stage 4 Issue	MT	26/02/24
P01	Stage 3 Issue	MT	01/12/23

Rev	Description	By	Date

Project Status: **Stage 4** Drawing Status: **Tender**

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Drawing: **Countertop Finishes**

Date	11/09/23	Scale	As indicated	@ A1
Drawn By	AB	Checked	MT	

Manchester: 5th Floor, 31 Dale St, Manchester M1 1EY, +44 (0)161 831 7200  
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P0000-11401	Status	Rev	P02
7765-FDG-A-11401			

**Notes**

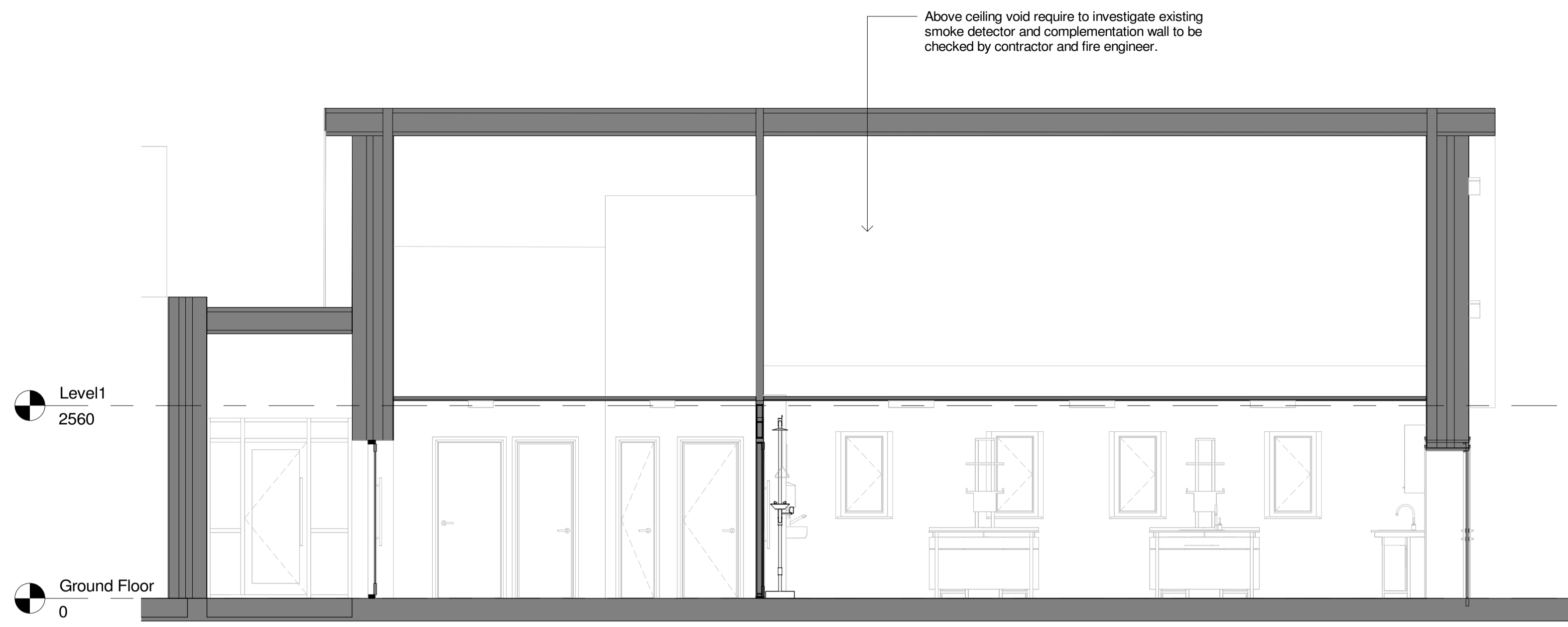
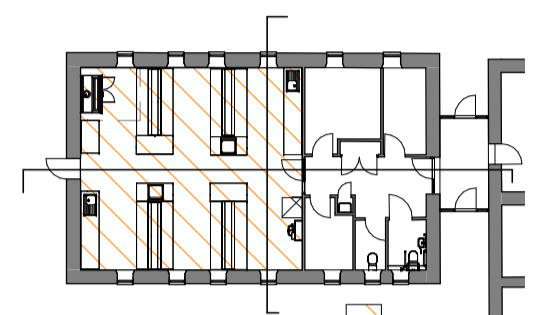
The Contractor is to check all dimensions and conditions on site before commencing. Do not scale from this drawing.

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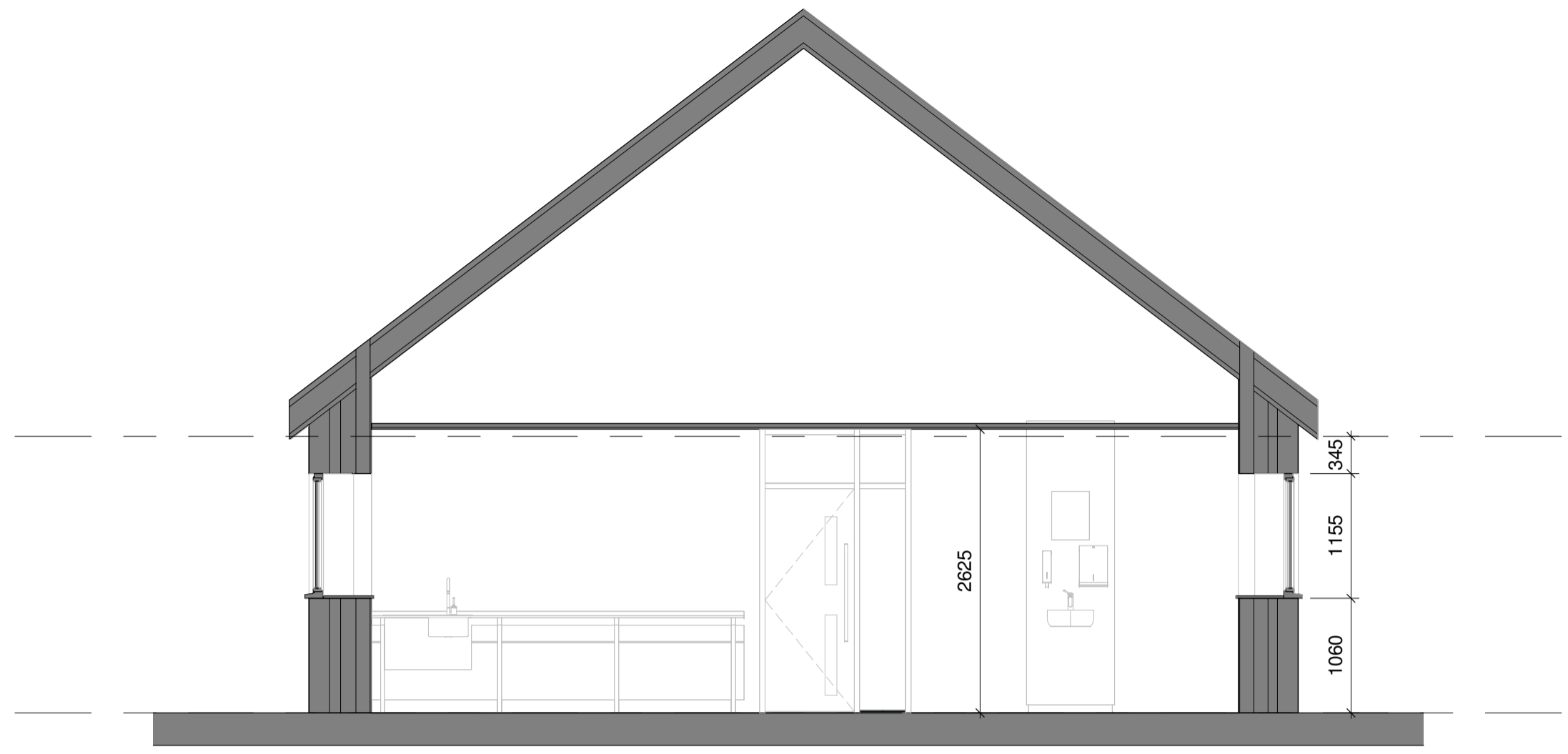
Scale Bars TO BE USED ONLY AS GUIDANCE

1:100	mm	0	1000	2000	3000	4000	5000
1:200	mm	0	1000	2000	3000	4000	5000
1:500	M	0	15	30	45	60	75
1:1250	M	0	10	20	30	40	50

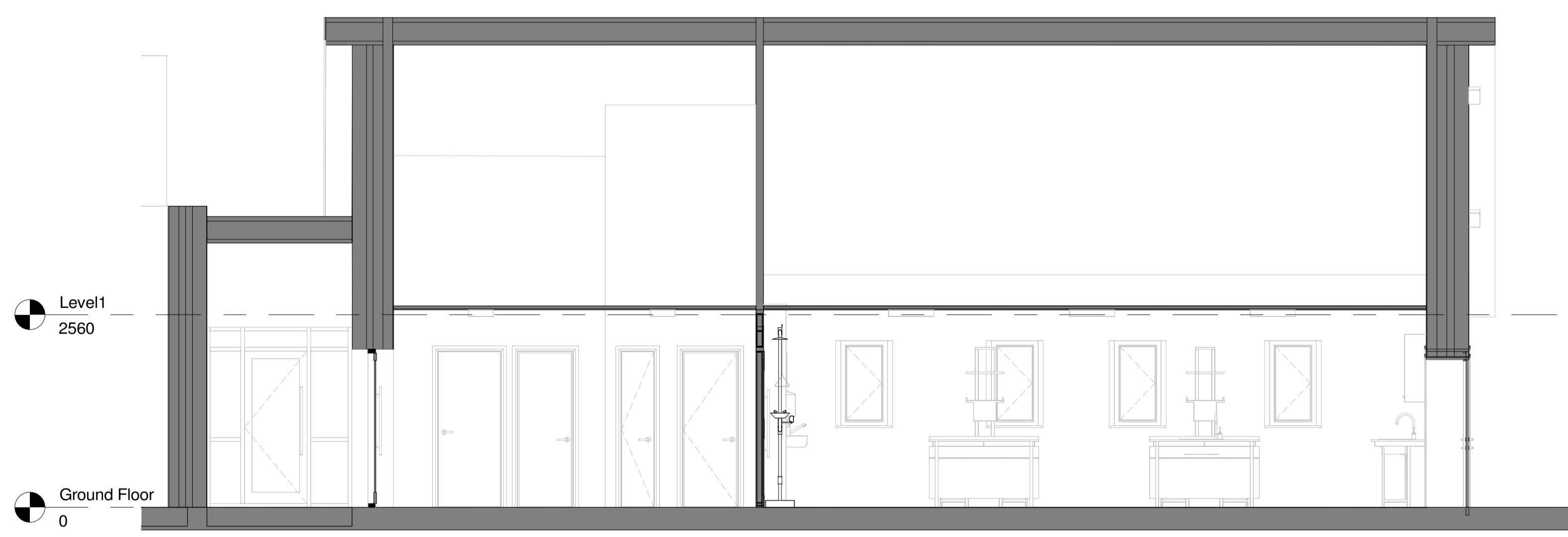
**KEYPLAN**



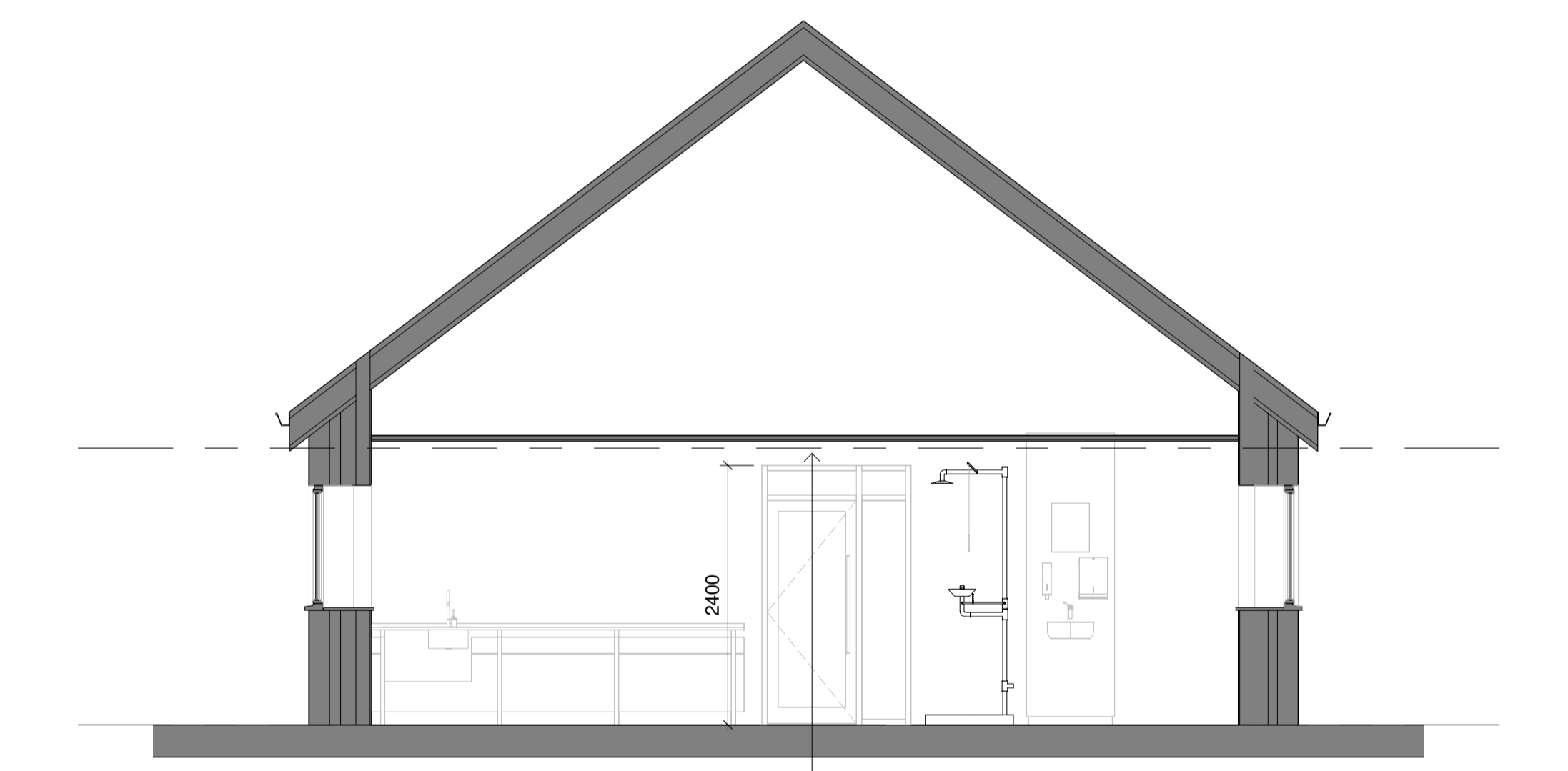
**Existing Section 1**  
1 : 50



**Existing Section 2**  
1 : 50



**Proposed Section 1**  
1 : 50



**Proposed Section 2**  
1 : 50

Glazed opening panel size reduced by under crossing pipes, approx. H=2400. The opening to be site measured by the contractor.

Above glazed panel to be 2 layers of 12.5mm plasterboard both sides to comply 60 minute fire compartment, mechanically fixed taped joints with 2 coat paint finish.

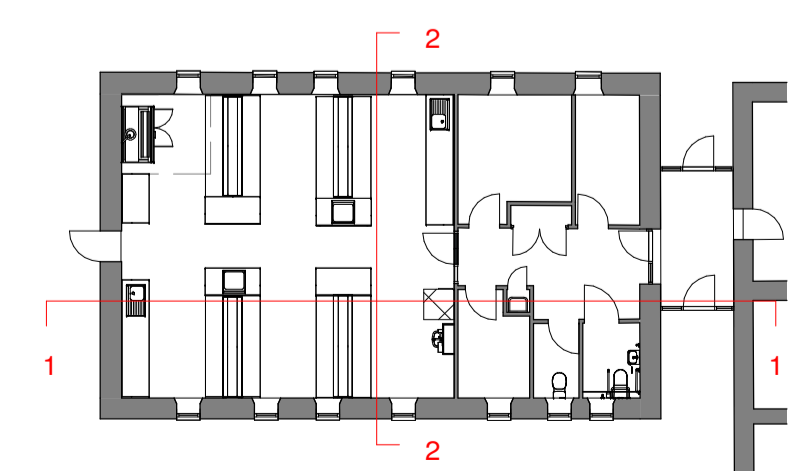
The existing crossing pipes to be painted white to match wall colour.

- Note:**
- Existing fire alarm to be tested by the contractor.
  - Above ceiling void require to investigate existing smoke detector and complementation wall to be checked by contractor and fire engineer.



Crossing pipes

Existing room entrance photo



**GF Plan Key**  
1 : 200

P02	Stage 4 Issue	MT	26/02/24
P01	Stage 3 Issue	MT	01/12/23

Rev	Description	By	Date
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Project Status	Drawing Status
Stage 4	Tender

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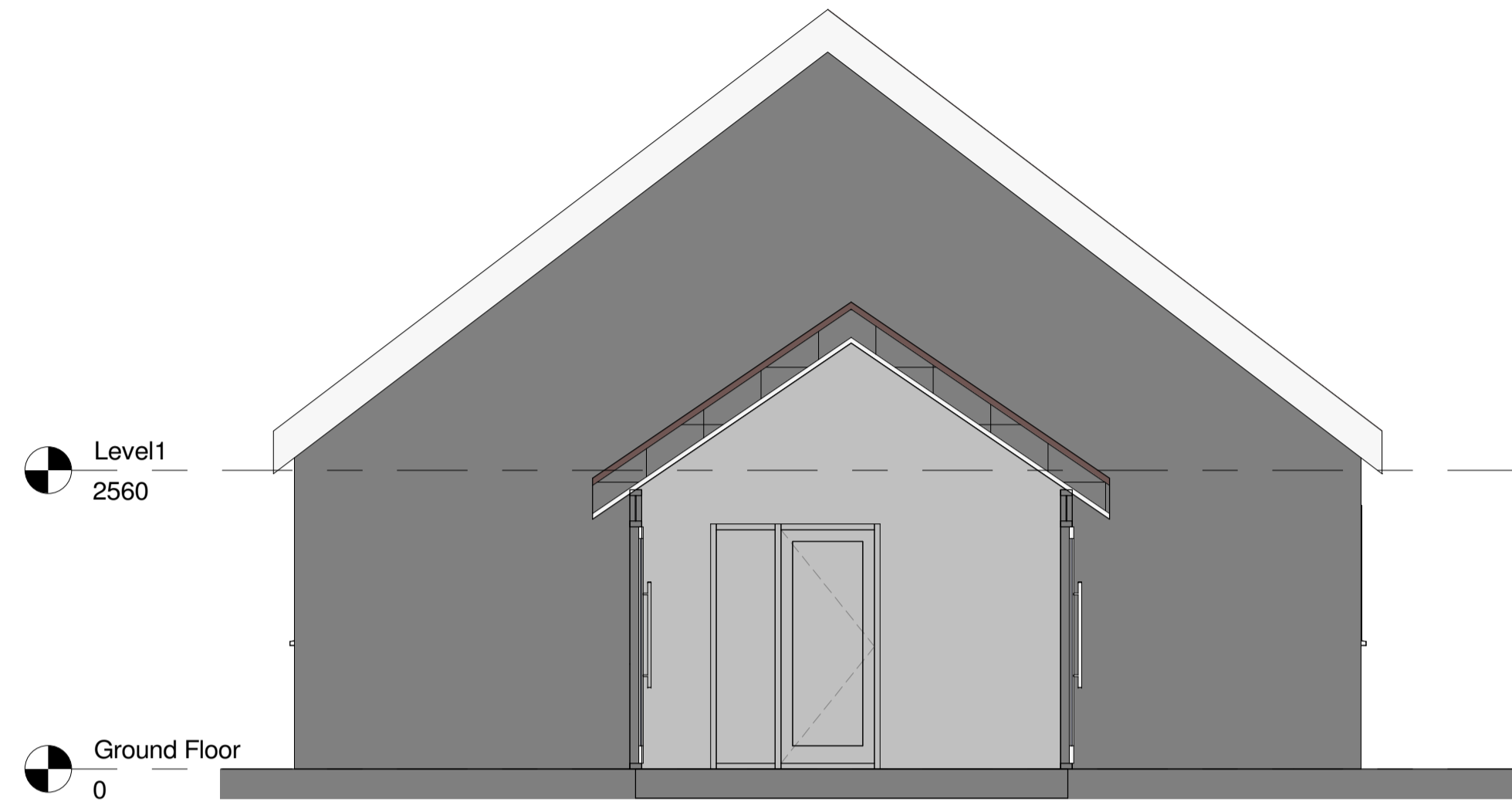
Drawing  
Existing and Proposed Sections

Date	298/02/24	Scale	As indicated	@ A1
Drawn By	MT	Checked	LS	

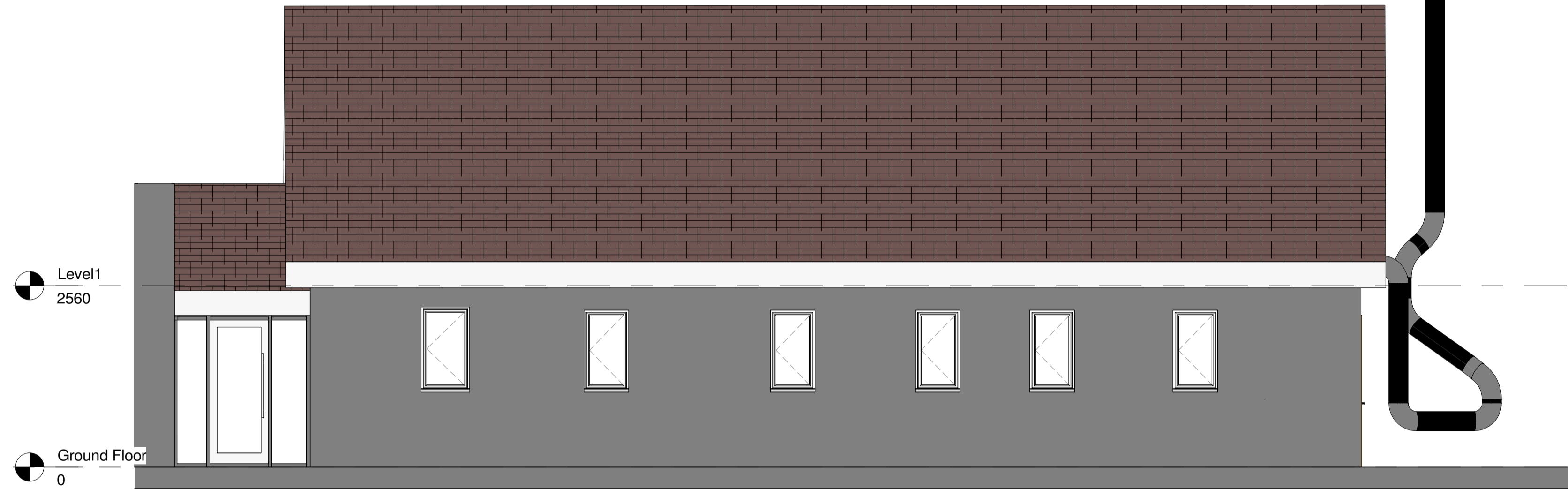
Manchester: 5th Floor, 31 Dale St, Manchester M1 1EY, +44 (0)161 831 7200  
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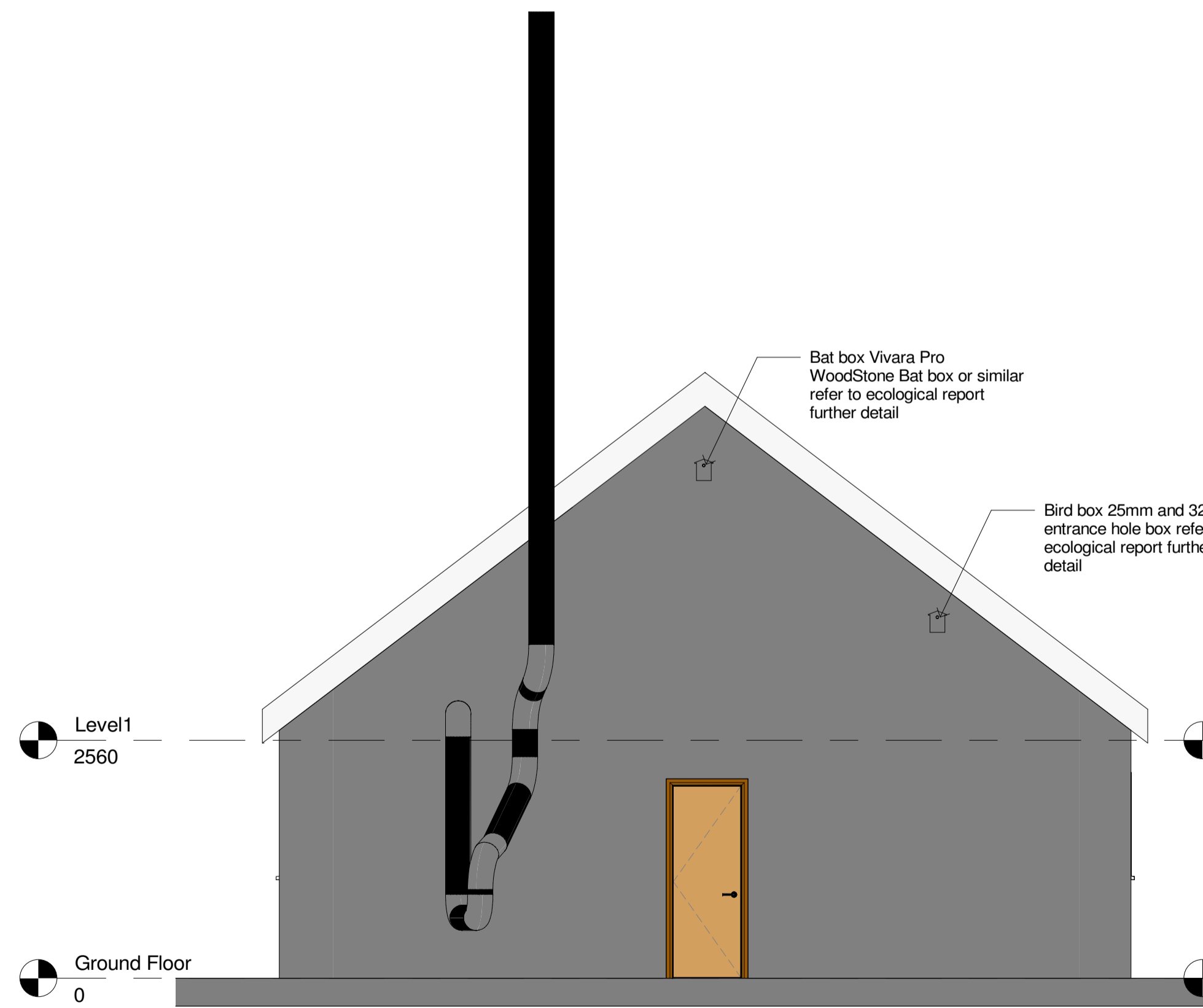
Project No	P0000-12100	Status	Rev	P02
Rev No	7765-FDG-DR-A-12100			



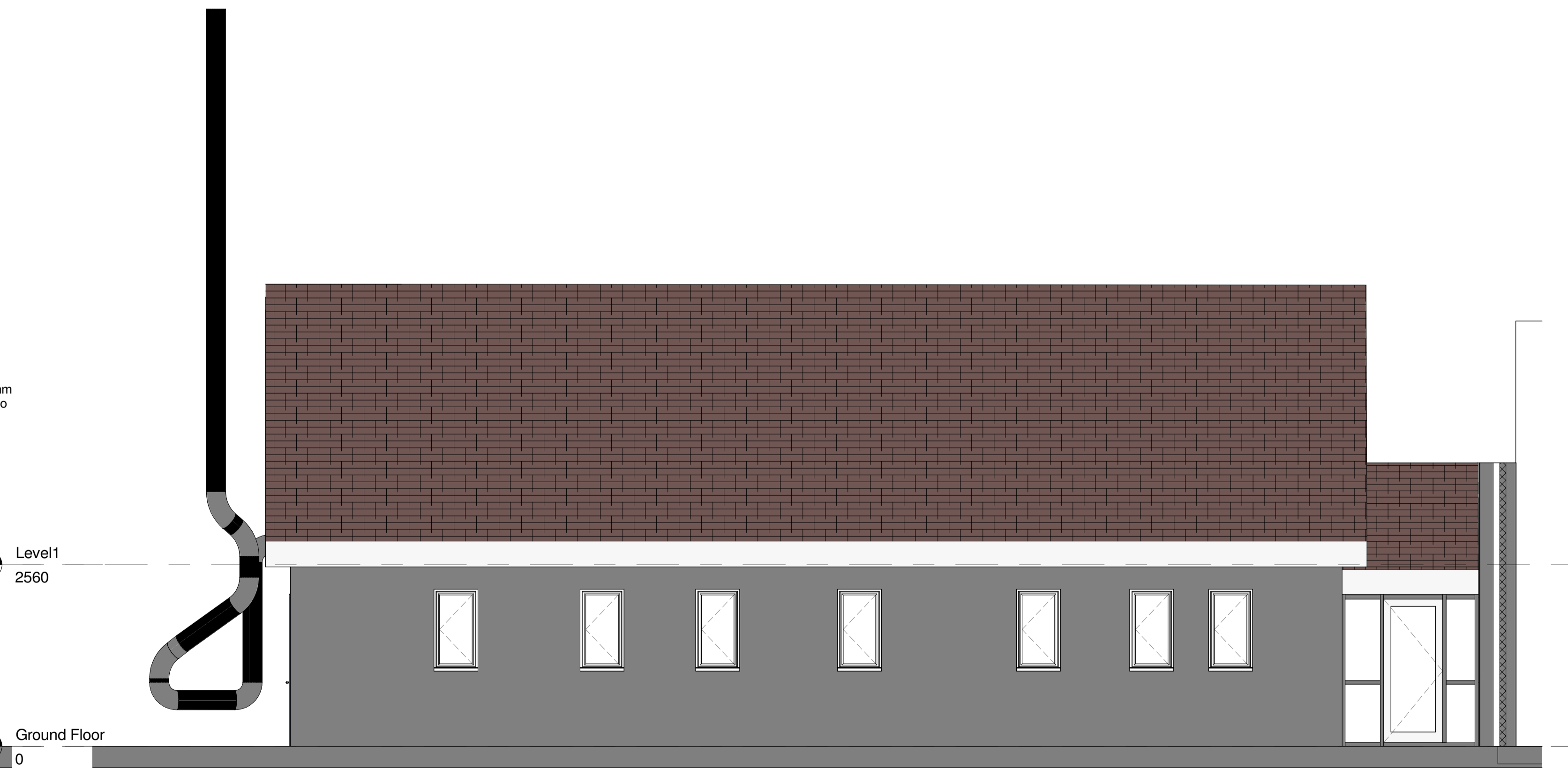
**F220 East Elevation**  
1 : 50



**F220 North Elevation**  
1 : 50



**F220 West Elevation**  
1 : 50



**F220 South Elevation**  
1 : 50

Information Only.  
No works to existing elevations.

**Notes**

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1:100	mm	0	1000	2000	3000	4000	5000
1:200	mm	0	1000	2000	3000	4000	5000
1:500	M	0	5	10	15	20	25
1:1250	M	0	10	20	30	40	50

**KEYPLAN**

P02	Stage 4 Issue	MT	26/02/24
P01	Stage 3 Issue	MT	01/12/23

Rev	Description	By	Date
Stage 4	Tender		

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Drawing  
**GA Elevations**

Date	23/10/23	Scale	1 : 50	@ A1
Drawn By	MT	Checked	LS	

Manchester:  
5th Floor, 31 Dale St  
Manchester M1 1EY  
+44 (0)161 831 7200

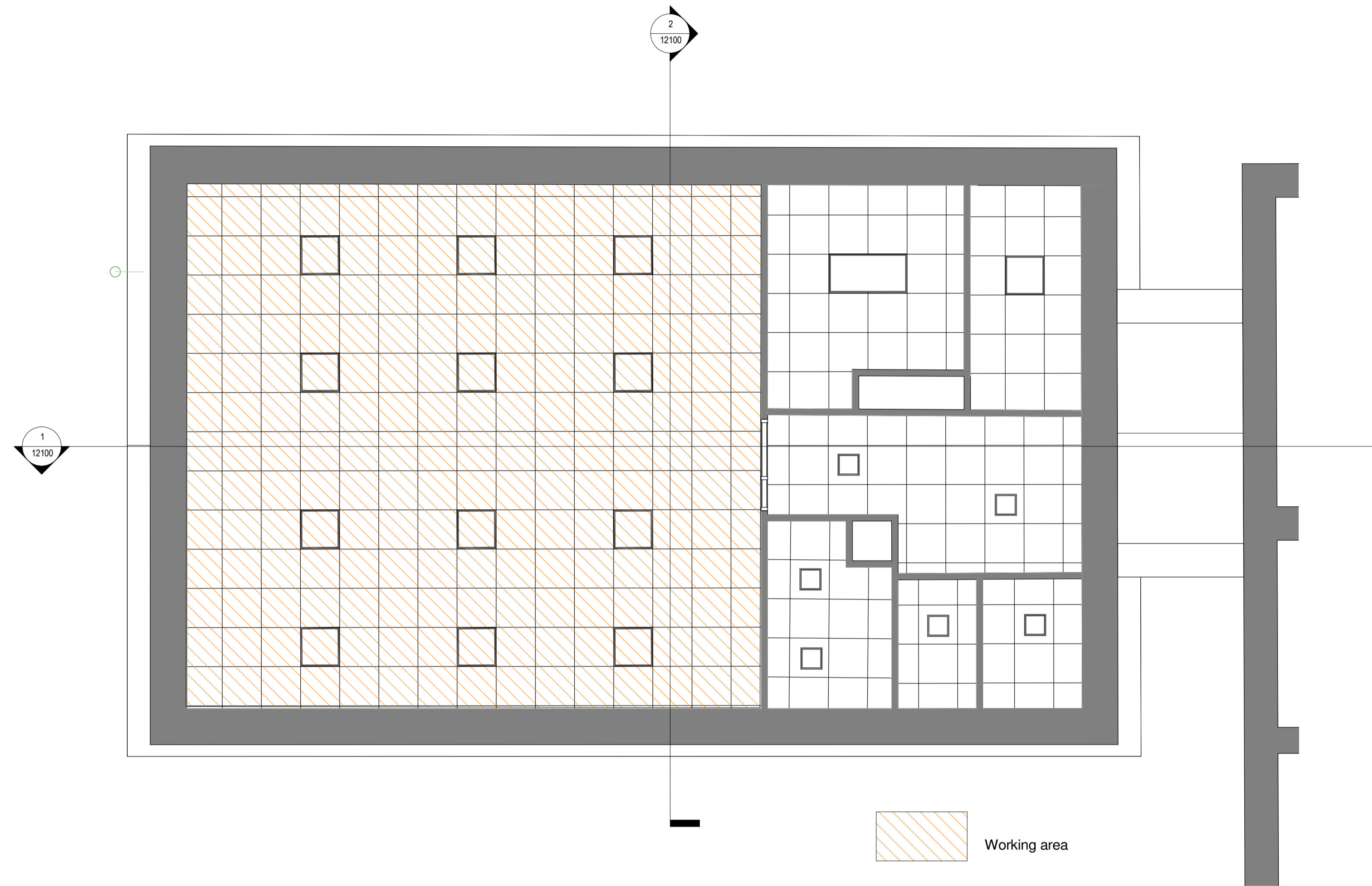
Southampton:  
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Minesit  
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P0000-13100	Status	Rev	P02
7765-FDG-DR-A-13100			



**Existing Ceiling Plan**  
1 : 50

**Note**

- Existing ceiling to remain in situ.
- Missing, damaged or stained ceiling tile to be replaced.
- New lighting fitted refer to MEP drawings.



**Notes**

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Scale Bars TO BE USED ONLY AS GUIDANCE

1:100	mm	0	1000	2000	3000	4000	5000
1:200	mm	0	1000	2000	3000	4000	5000
1:500	M	0	5	10	15	20	25
1:1250	M	0	10	20	30	40	50

**KEYPLAN**

P02	Stage 4 Issue	MT	26/02/24
P01	Stage 3 Issue	MT	01/12/23

Rev	Description	By	Date
<b>Project Status</b>			
<b>Stage 4</b>			
<b>Drawing Status</b>			

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Drawing  
**Ceiling Type Plans**

Date	09/11/23	Scale	1 : 50	@ A1
Drawn By	AB	Checked	MT	

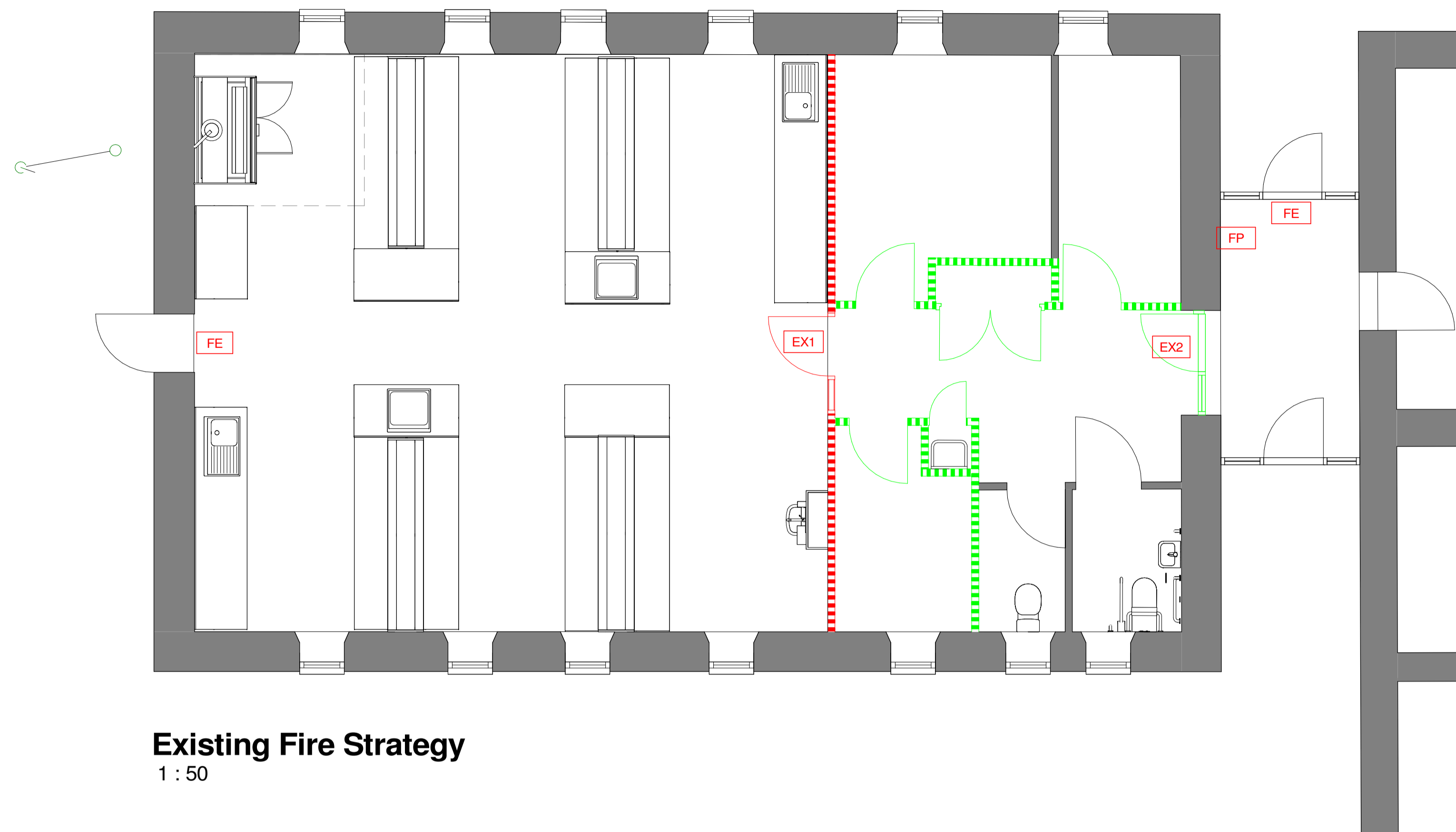
Manchester:  
5th Floor, 31 Dale St  
Manchester M1 1EY  
+44 (0)161 831 7200

Southampton:  
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Mines Road  
Southampton SO43 7FY  
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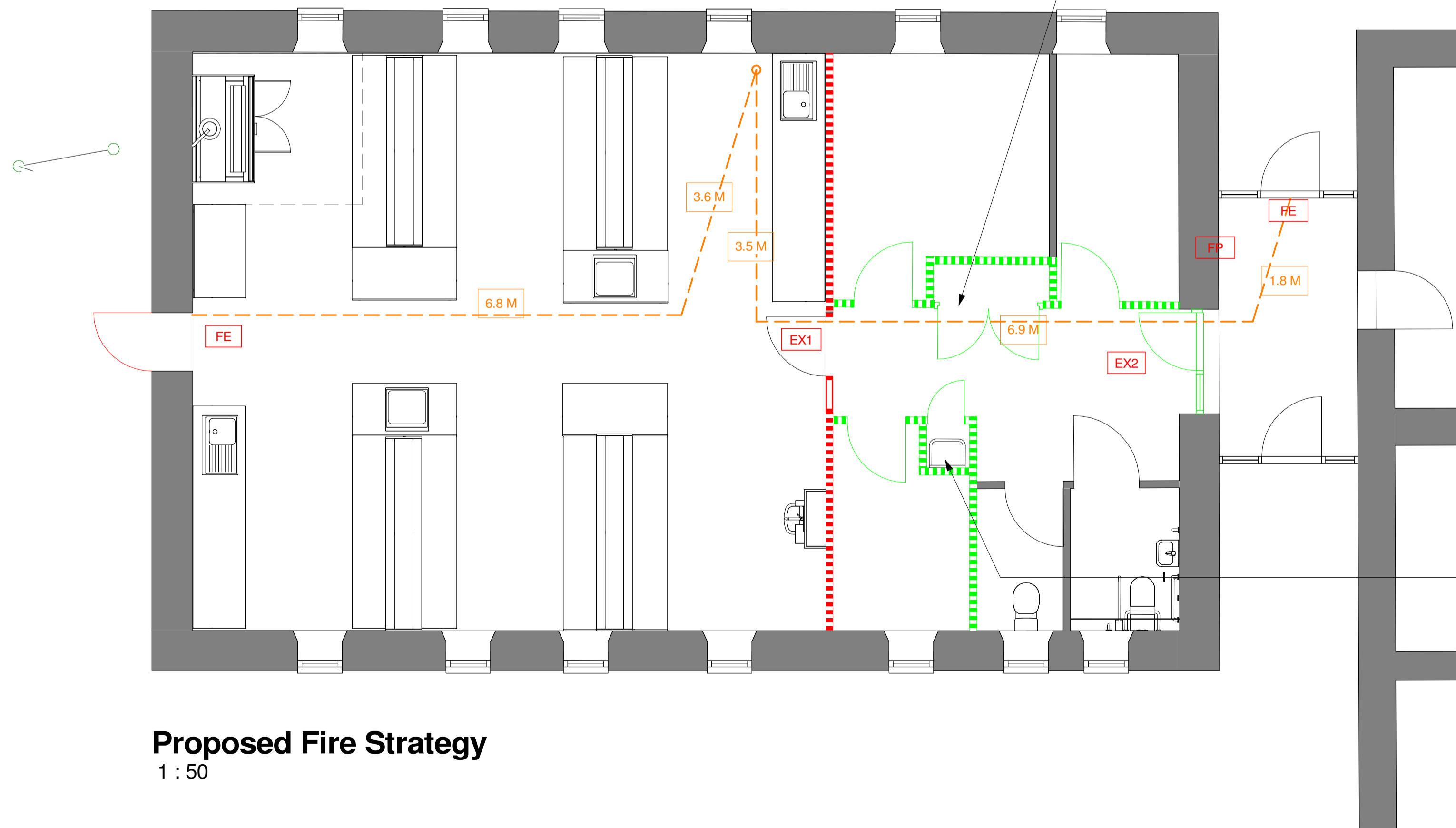
P0000-14100	Status	Rev	P02
7765-FDG-DR-A-14100			



**Existing Fire Strategy**  
1 : 50



Existing Door hole to be repair or replaced to keep the door 60 minute fire resistance



**Proposed Fire Strategy**  
1 : 50



Missing over panel, new 60/60 panel to be replaced by 60 mins integrated and insulated. Ventilation requirement to be confirmed by MEP. Missing ceiling above and above void. Input from fire consultant required.

**Note:**

- Existing fire alarm to be tested by the contractor.
- Above ceiling void require to investigate existing smoke detector and complementation wall to be checked by contractor and fire engineer.

**Notes**

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Scale Bars TO BE USED ONLY AS GUIDANCE

1:100	mm	0	1000	2000	3000	4000	5000
1:200	mm	0	1000	2000	3000	4000	5000
1:500	M	0	5	10	15	20	25
1:1250	M	0	10	20	30	40	50

**Legend**

- Existing 30mins Fire Resisting Construction
- Existing 60mins Fire Resisting Construction

- 30mins Fire Resisting Construction
- 60mins Fire Resisting Construction

- Cavity barrier ceiling void
- Cavity Barrier Floor Void 60mins Fire Resistance

- FE Means of Escape Storey or Final Exit
- DRI Dry Riser Inlet
- DRI Dry Riser Outlet
- SV Smoke Vent
- FP Fire Alarm Panel
- Disabled Refuge
- Fire Escape route two way direction
- Fire Escape route single direction
- 13000 Est Travel distance
- EX1 Fire Exit Sign Straight Ahead
- EX2 Fire Exit Sign either Left or Right
- EX3 Fire Exit Sign down or up stairs
- EX4 Fire Exit Sign Final Exit

- All non glazed areas of this facade (East) to achieve 60mins (integrity) 15 minutes (insulation) fire resistance from inside building to out. Doors excluded.

- Proprietary vertical cavity barrier in raised access floor 30mins fire resistance (30 integrity/15 insulation) from both sides. All services penetrations to be fire stopped.

To be read in conjunction with the Fire Engineering Report

Rev	Description	By	Date
P01	Stage 4 Issue	MT	26/02/24

Project Status	Drawing Status
Stage 4	Tender

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Drawing  
Fire Strategy Plan

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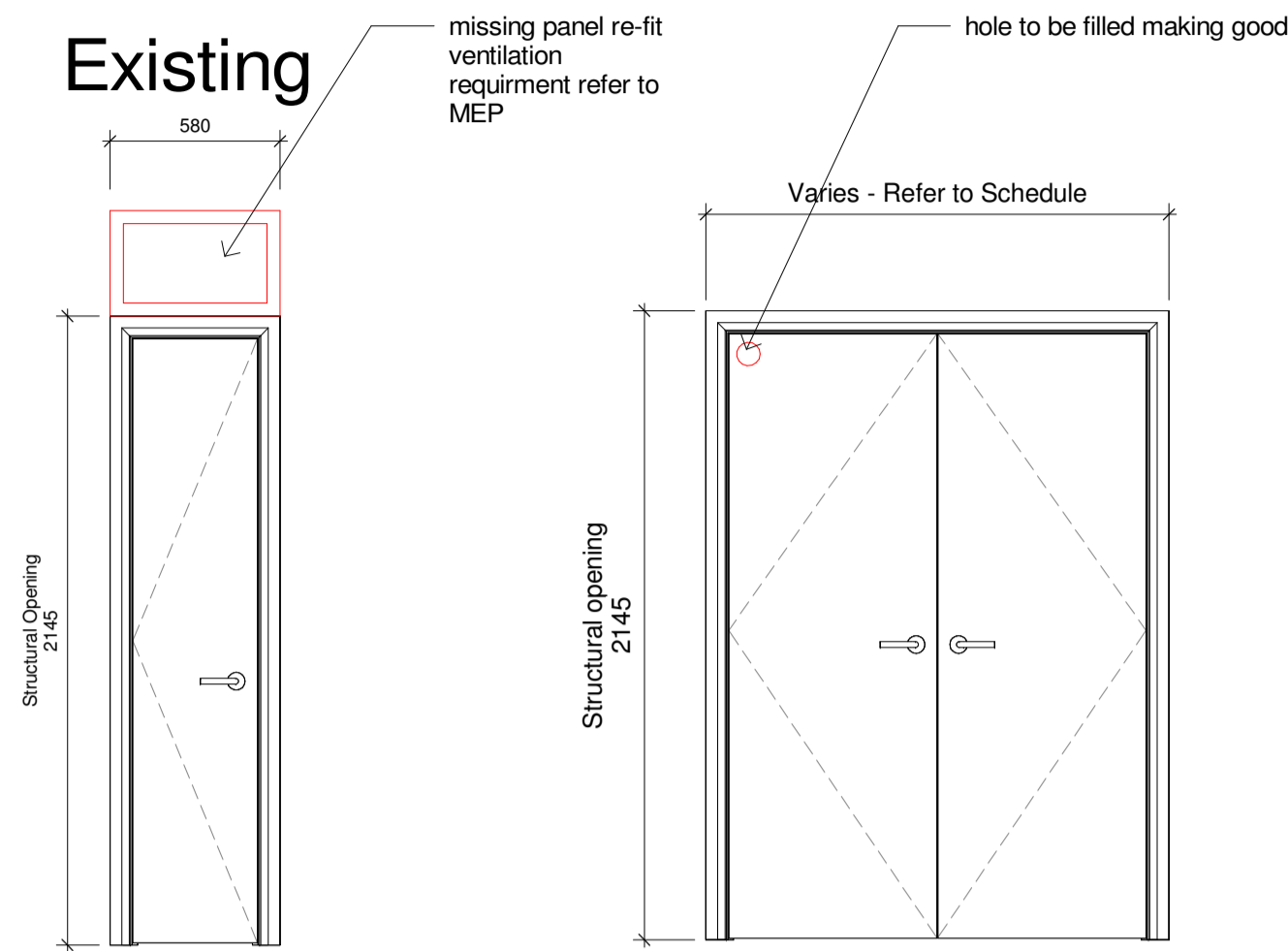
Cambridge: CB1 Business Centre, 20 Station Road, Cambridge CB1 2JD, +44 (0)1223 803 868

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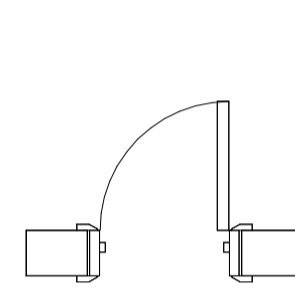
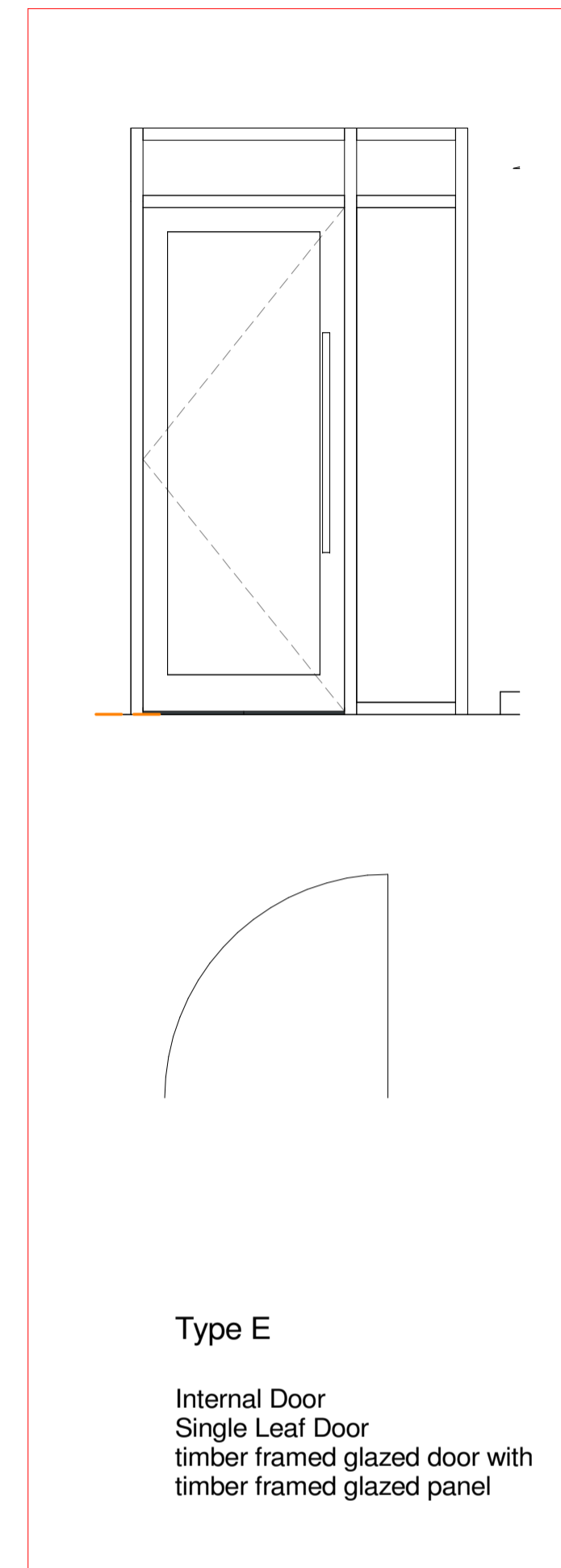
Project No	P0000-19100	Sheet	Rev	P01
Sheet No	7765-FDG-DR-A-19100			



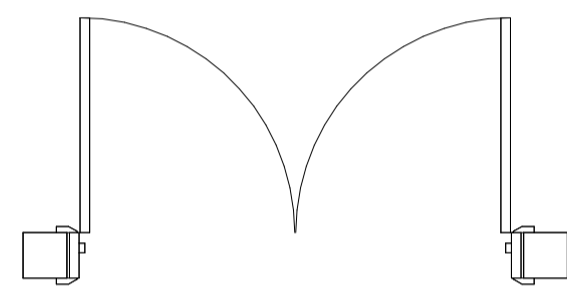
### Existing



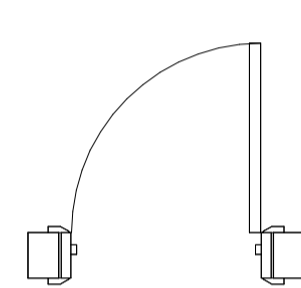
### Proposed



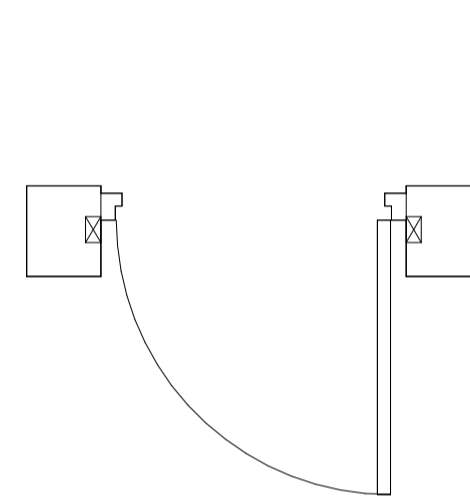
**Type A**  
Internal Door  
Single Leaf Door  
Timber frame



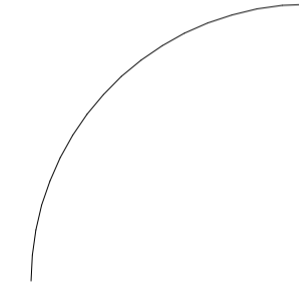
**Type B**  
Internal Door  
Double Leaf Door  
Timber frame



**Type C**  
Internal Door  
Single Leaf Door  
Timber frame



**Type D**  
External Door  
Single Leaf Door  
Timber frame  
Making good and re-paint



**Type E**  
Internal Door  
Single Leaf Door  
timber framed glazed door with  
timber framed glazed panel

## Door Elevations

1 : 25

Door Schedule							
Level	To Room: Name	Type Mark	Width	Height	Fire Designation	Description	Comments
Ground Floor	Instrument Room	B	810	2110	30	Internal Single Door	
Ground Floor	Elec	E	1510	2110	30	Internal Double Door	
Ground Floor	Balance Room	B	810	2110	30	Internal Single Door	
Ground Floor	M WC	B	810	2110		Internal Single Door	
Ground Floor	F/Dis WC	C	910	2110		Internal Single Door	
Ground Floor	Laboratory	B	810	2110	60	Internal Single Door	
Ground Floor	Staff Room	B	810	2110	30	Internal Single Door	
Ground Floor	Corridor	A	510	2110	30	Internal Single Door	
Level 0	Laboratory	D	825	2062		External single door	

**Notes**  
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Scale Bars	TO BE USED ONLY AS GUIDANCE			
1:5	mm	50	100	250
1:10	mm	100	500	500
1:20	mm	500	800	500
1:50	mm	500	1500	2500

#### NOTES:

Drawings to be read in conjunction with Design Brief.

All dimensions are structural opening sizes (SO).

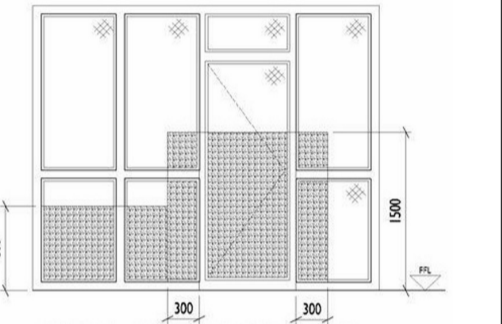
All dimensions to be checked on site prior to manufacture.

All frame sized subject to final design by manufacturer.

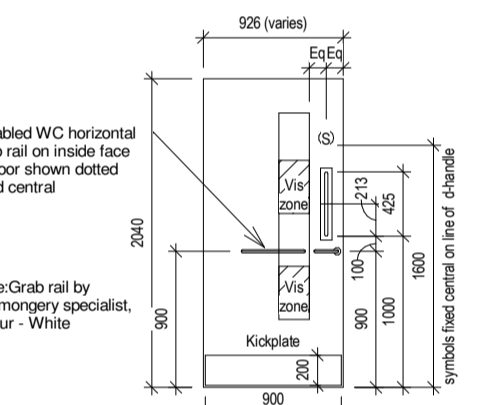
All Doors & Side Screens to incorporate a compliant safety glass below 1500mm from FFL and all glazing to be in accordance with Approved Doc Part N & comply with BS6206. SG = A compliant safety glass

Where necessary all compliant glazing/ vision panels to windows and door screens to be fitted in strict accordance with the manufacturer's recommendations/ specifications - complying with Approved Documents Parts N & B.

All door ironmongery to meet BS8300 and Approved Document Part M, handles to be contrasting visually with the door surface and mounted between 900-1100mm high.



All full height glazing to have applied manifestation to meet BS8300 (in the form of a logo or shape to be confirmed by client). Different colour or style to doors are advisable.



**Typical Ironmongery Setting Out**  
Note: Ironmongery shown is indicative only. refer to specialists schedule for internal doors.

P02	Stage 4 Issue	MT	26/02/24
P01	Stage 3 Issue	MT	01/12/23

Rev	Description	By	Date
Stage 4	Tender		

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**Bangor University**

**Henfaes**

Drawing  
**Door and Ironmongery Schedule**

Date	12/03/24	Scale	As indicated	@ A1
Drawn By	MT	Checked	LS	

**Manchester:**  
5th Floor, 31 Dale St  
Manchester M1 1EY  
+44 (0)161 851 7200

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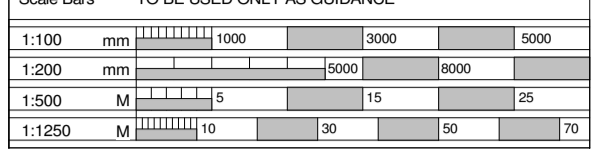
P0000-41100	Rev	01	Rev	P02
7765-FDG-SR-A-41100				

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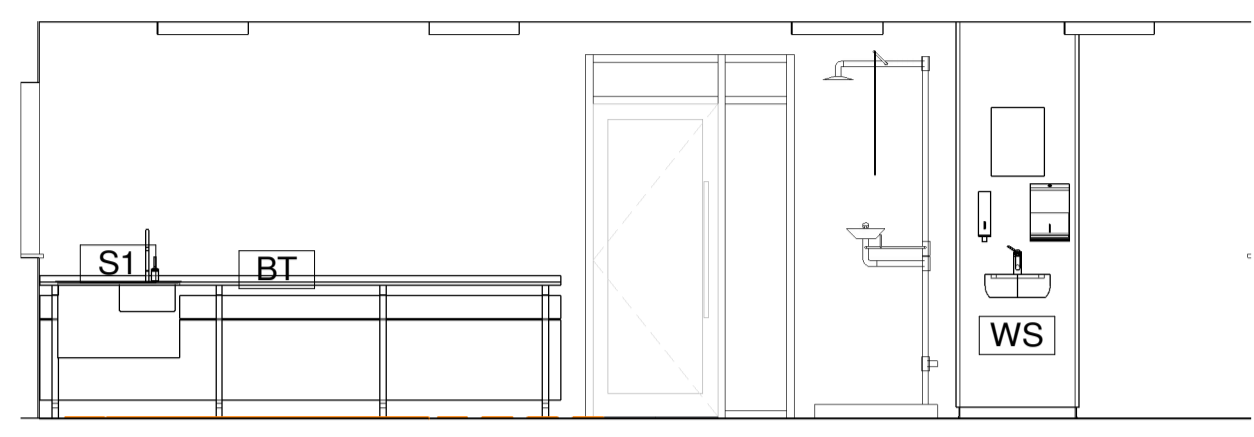


**WIP Furniture Schedule**

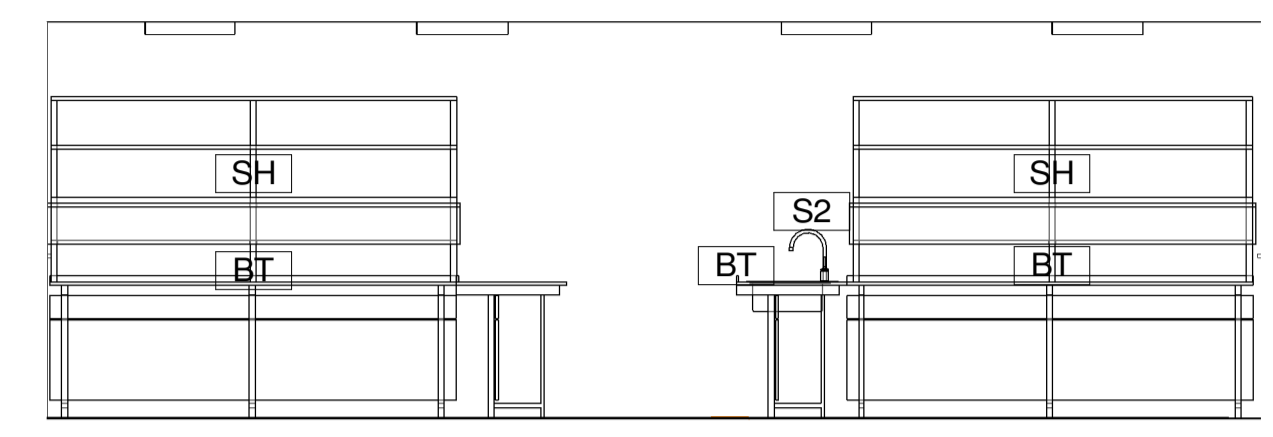
Type Mark	Type Comments	Description	Size	Count	Comments
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Level 0

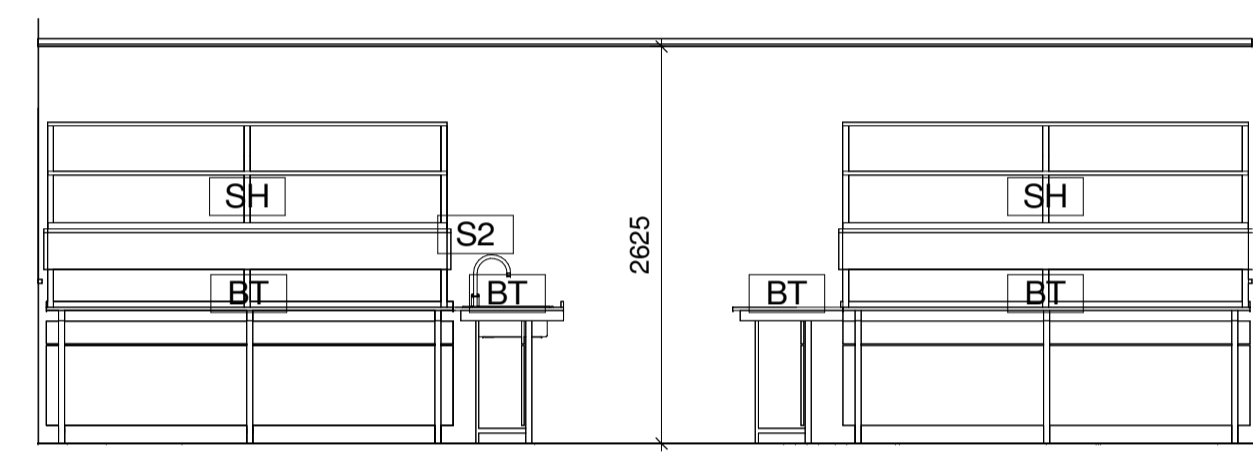
BT	Bench Top	Laboratory Bench - Trespa to	As existing	15	Replace TRESPA TOPLAB PLUS, colour Pure White
CU1	Storage	Wall mounted cabinet	As existing	6	making good/ repair if necessary
FC	Fume Cupboard	Existing Fume Cupboard	As existing	1	Keep as existing
S1	Lab Sink	Hot and Cold Sink	As existing	2	Keep as existing
S2	Lab Sink	Inset with single bowl and drainer assembly	As existing	2	Keep as existing
SH	Shelf	Bench top Shelf	As existing	4	making good/ repair if necessary
WS	Safety Station	Safety Station	814x300x2600	1	making good/ repair if necessary



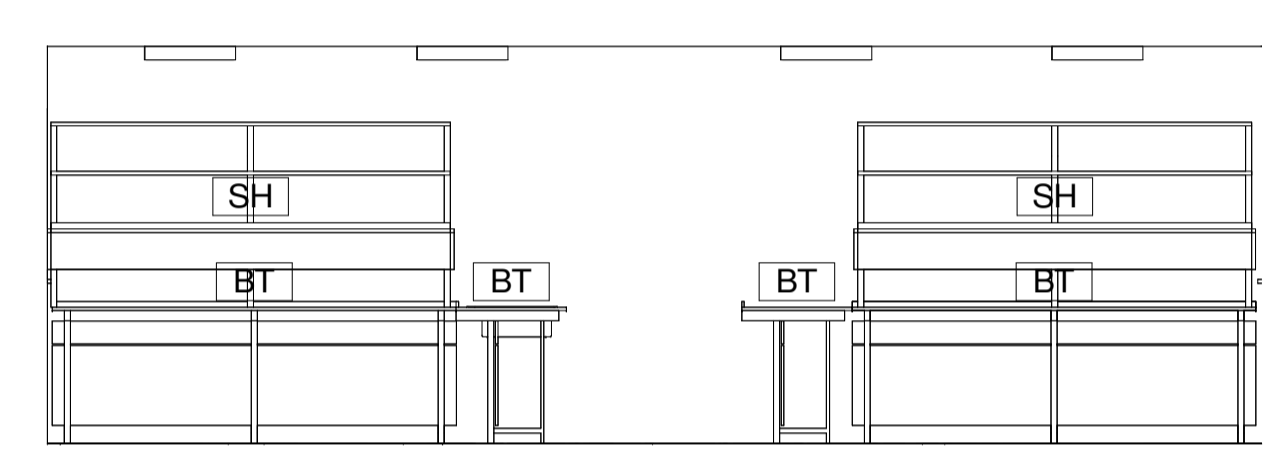
**Elevation 1**  
1 : 50



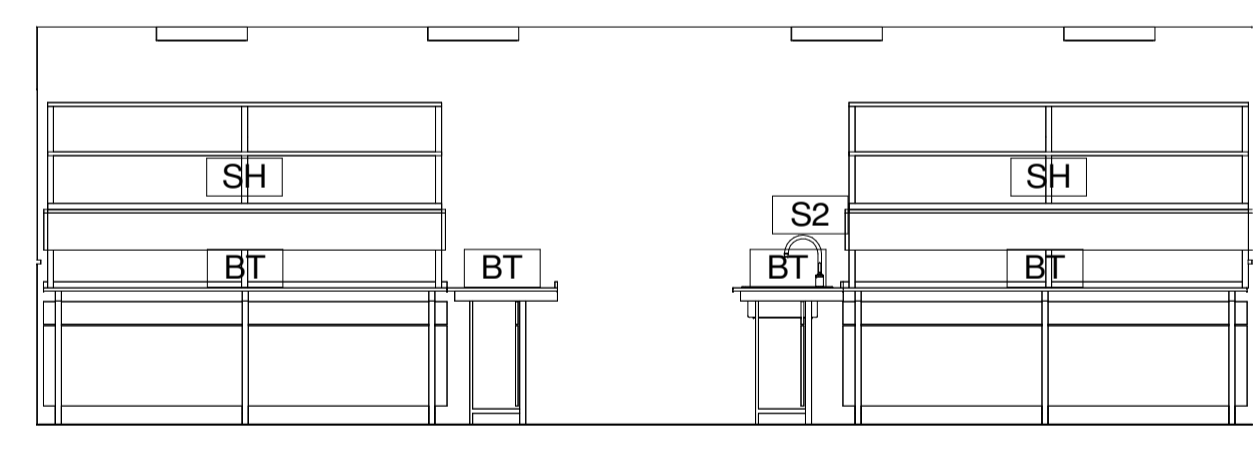
**Elevation 2**  
1 : 50



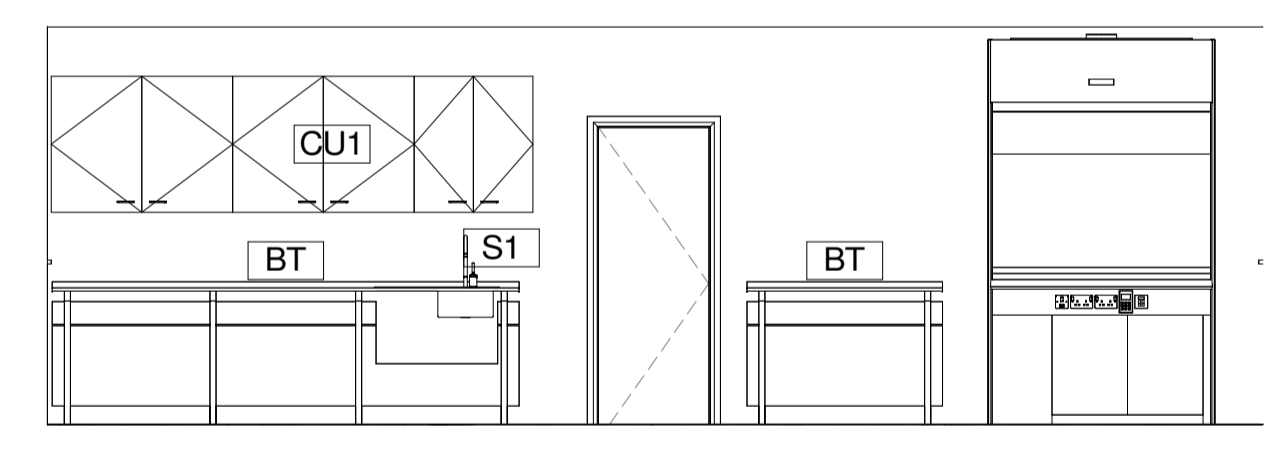
**Elevation 3**  
1 : 50



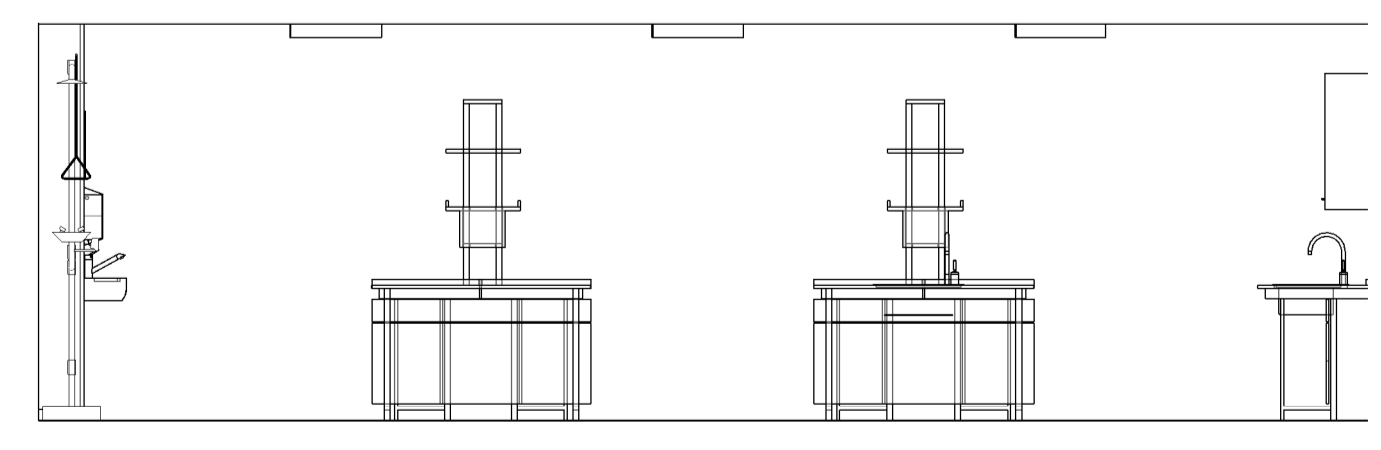
**Elevation 4**  
1 : 50



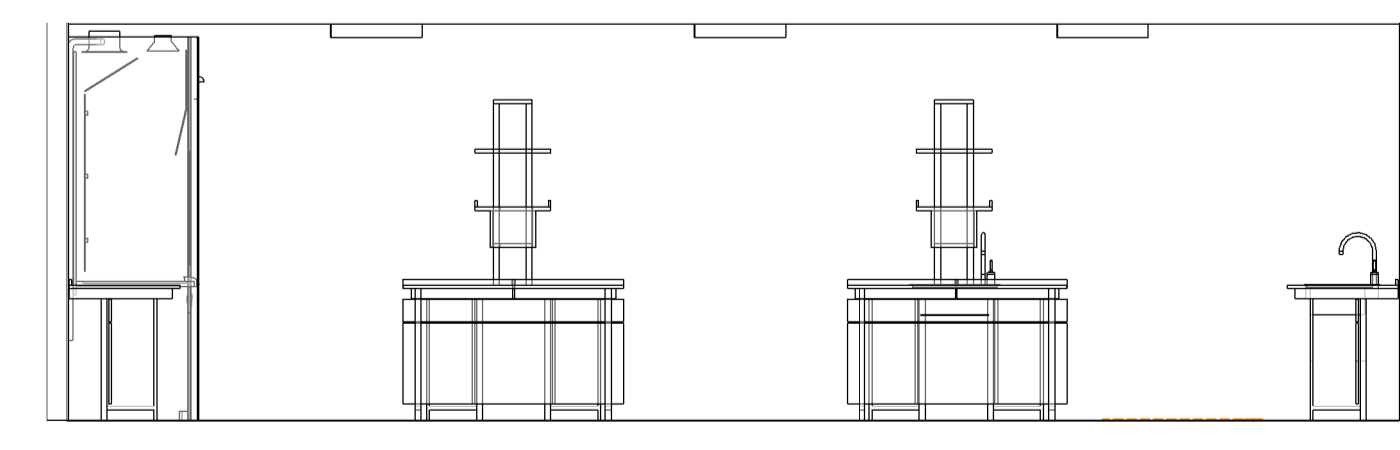
**Elevation 5**  
1 : 50



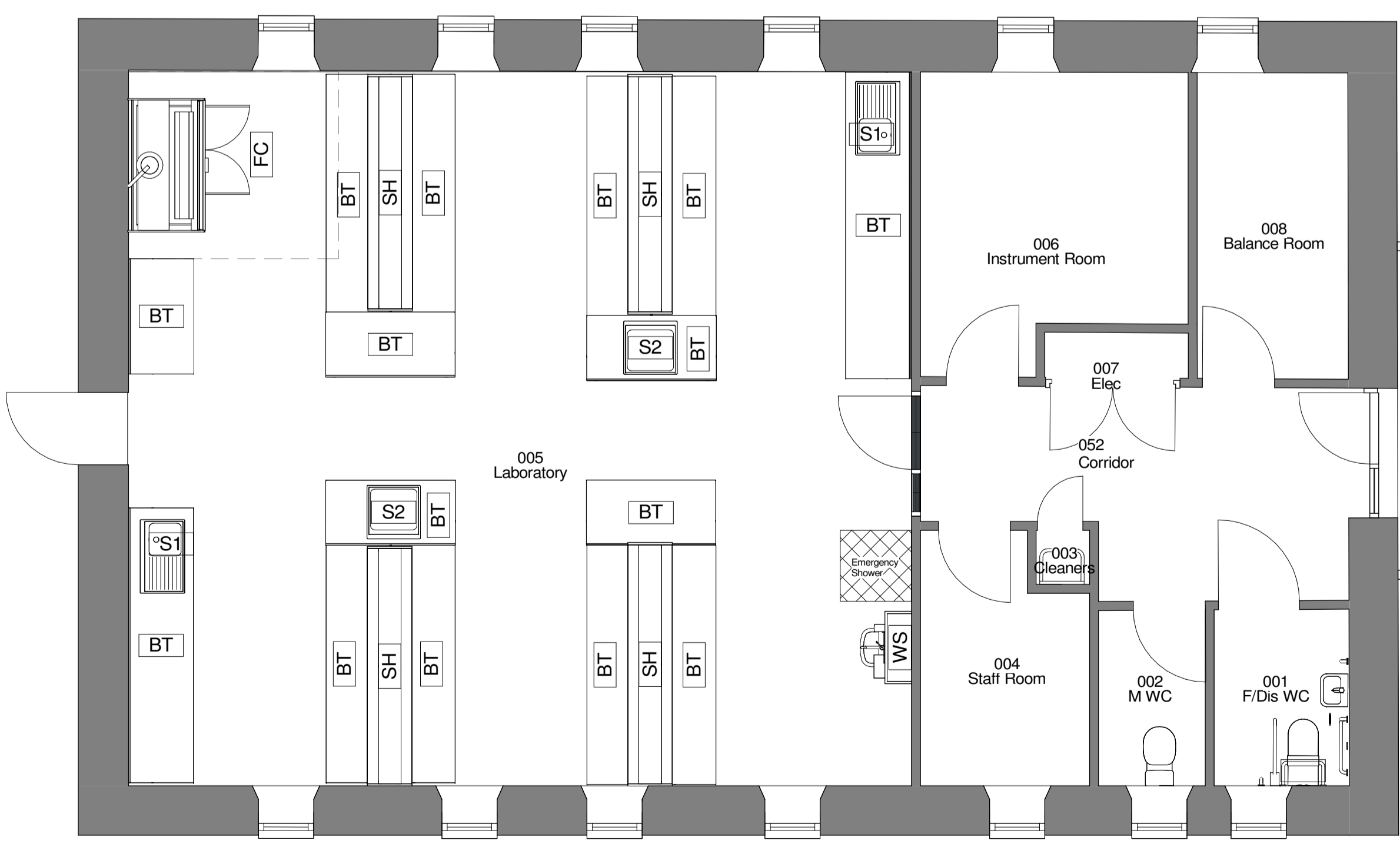
**Elevation 6**  
1 : 50



**Elevation 7**  
1 : 50



**Elevation 8**  
1 : 50



**Furniture Schedule**  
1 : 50

P01	Stage 4 Issue	MT	26/02/24
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Rev	Description	By	Date
Stage 4	Tender		

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Client / Project  
**Bangor University**

**Henfaes**

Drawing  
**Furniture Schedule**

Date	11/08/23	Scale	1 : 50	@ A1
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Drawn By	AB	Checked	Checker
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Manchester: 5th Floor, 31 Dale St, Manchester M1 1EY, +44 (0)161 831 7200  
Southampton: Manor Park, Southampton SO43 7FY, +44 (0)23 8281 7900  
Cambridge: CB1 Business Centre, 20 Station Road, Cambridge CB1 2JD, +44 (0)1223 893 868  
www.fairhursts.com



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Rev No	7765-FDG-A-47100			