

Property Alliance Group/
Starwood Capital Group
One Cathedral Square
Facade Schedule & Quality Plan
Condition 03



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Design Rationale

The façade has been inspired by the Manchester Cathedral's profiled window reveals and are angled towards the cathedral deliberately.

The precast concrete double storey panels allow a modern high quality finish. The choice of colour was carefully selected to compliment the traditional red bricks of the adjacent buildings.

Facade Quality Plan

This document is to set out the quality of material and management of the project façade elements to allow the pre commencement planning condition to be discharged.

The main façade elements are precast concrete double storey panels with an anodised Curtain Wall System (CWS) in between.

A façade engineer has been appointed to ensure that the quality of materials is achieved in refined detailing and captured in the façade specification.

At this stage no main contractor has been appointed. Once appointed the relevant contractor and their sub-contractors will be required to produce a Visual Mock Up for inspection by the Design Team and MCC Planning to approve all materials and interfaces.

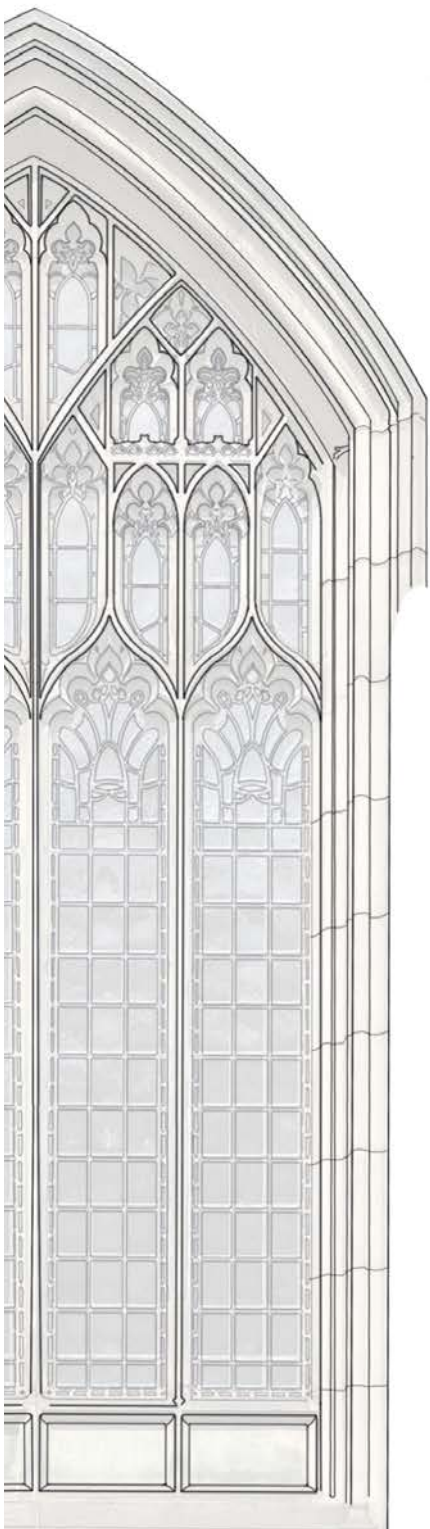
Throughout the project JMA will be reviewing all sub contractors drawings and information to check specification compliance and that the design intent of detailing is maintained. The contractor to ensure that the sub-contractor's quality plan is implemented and that it meets architectural and facade specification requirements.

During the construction phase, the contractor is to ensure that all façade panels to be stored on pallets off the ground, protected from inclement weather to keep dry and prevent soiling, chipping and contamination by salts and other deleterious substances.

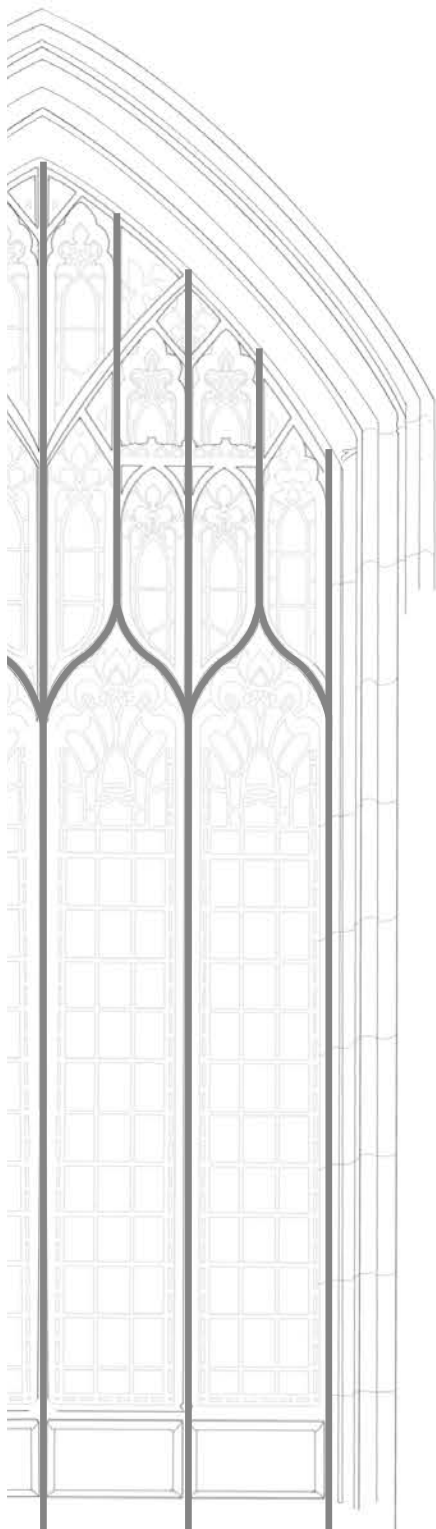
After final completion by the façade contractor, all elements to be cleaned and any dirt or blemishes removed from exposed surfaces in accordance with the manufacturer's recommendations. The contractor should allow for all adjacent surfaces to be protected from damage during the cleaning operations.



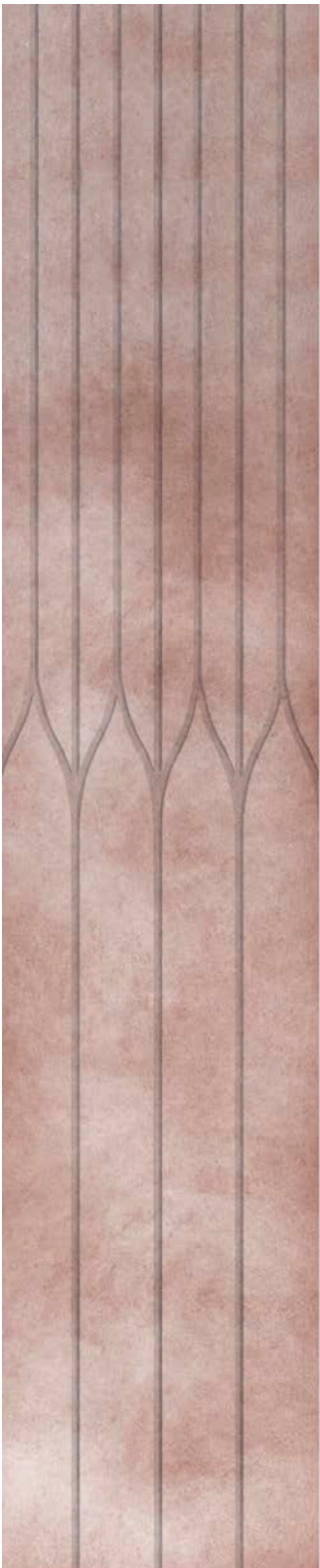
Manchester Cathedral - Ogee Arch Window



Tracery of Medieval Church Window

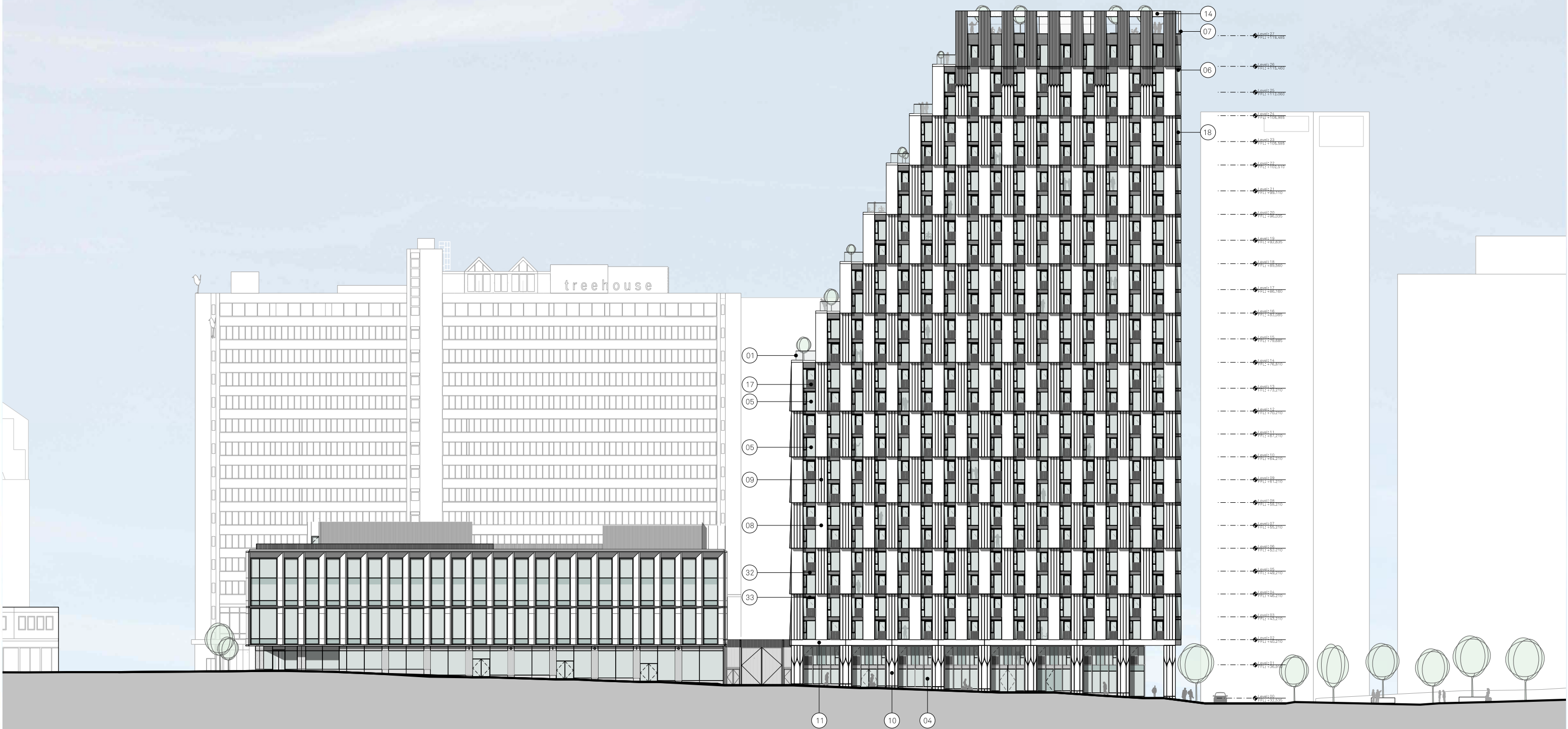
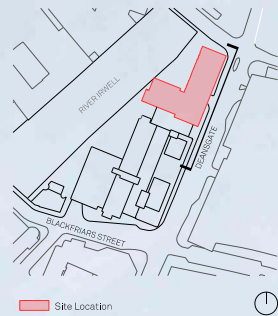


Ogee tracery extended to create elegant modern interpretation



Proposed modern use of Ogee pattern

1.0 Planning Elevations



MATERIALITY KEY:											
01 Glazed Balustrade	05 Metallic Silver Unitised Capped Curtain Wall System	09 Polished & Patterned Precast Concrete Shingle Panels with Acid Etched Reveals	12 Acid Etch Patterned Concrete Precast Lintel	16 Metallic PPC Aluminium clip-on balcony with balustrade	20 Metallic Stick Curtain Walling/ Glazed corner	23 Acid Etched Precast Concrete Panel	27 Painted Blockwork Wall	31 Landscape deck with riverside parking			
02 Metallic PPC Metal Balustrade	06 SG Curtain Wall System		13 Acid Etch Patterned Precast Panel	17 Metallic PPC Metal Juliet Balustrade Integrated with 05	21 Unitised Curtain Walling with Integrated Sliding Doors, Back Painted Glass and Prefabricated Balcony, with Soffit provision for Slot Vent, Metallic PPC	24 Deep Acid Etched Precast Concrete Panel	28 Feature wall with Integrated Lighting	32 Patterned Ceramic Frit Glass Spandrel			
03 Anodised Aluminium Soffit Panel	07 Metallic Silver Unitised Capped Curtain Wall Parapet	10 Polished & Patterned Precast Column with Acid Etched Reveals	14 Precast Concrete Lintel (Polished)	18 Glazed Corner Unit		25 Anodised PPC Metal Rainscreen Cladding	29 Metallic PPC Metal Fins with Green Wall	33 Glazed in Slot Vent			
04 Anodised Capped Curtain Wall System with Profiled Bladed Cap	08 Polished Precast Concrete Shingle Panels with Acid Etched Reveals	11 Polished Precast Concrete Lintel	15 Polished Precast Coping	19 Anodised Aluminium Rainscreen Cassette Feature Column Cladding	22 Anodised aluminium soffit with integrated slot vents	26 Ventilation Louvres	30 Metallic PPC Rainscreen	34 Anodised Capped Curtain Wall System with integrated louvered doorset			

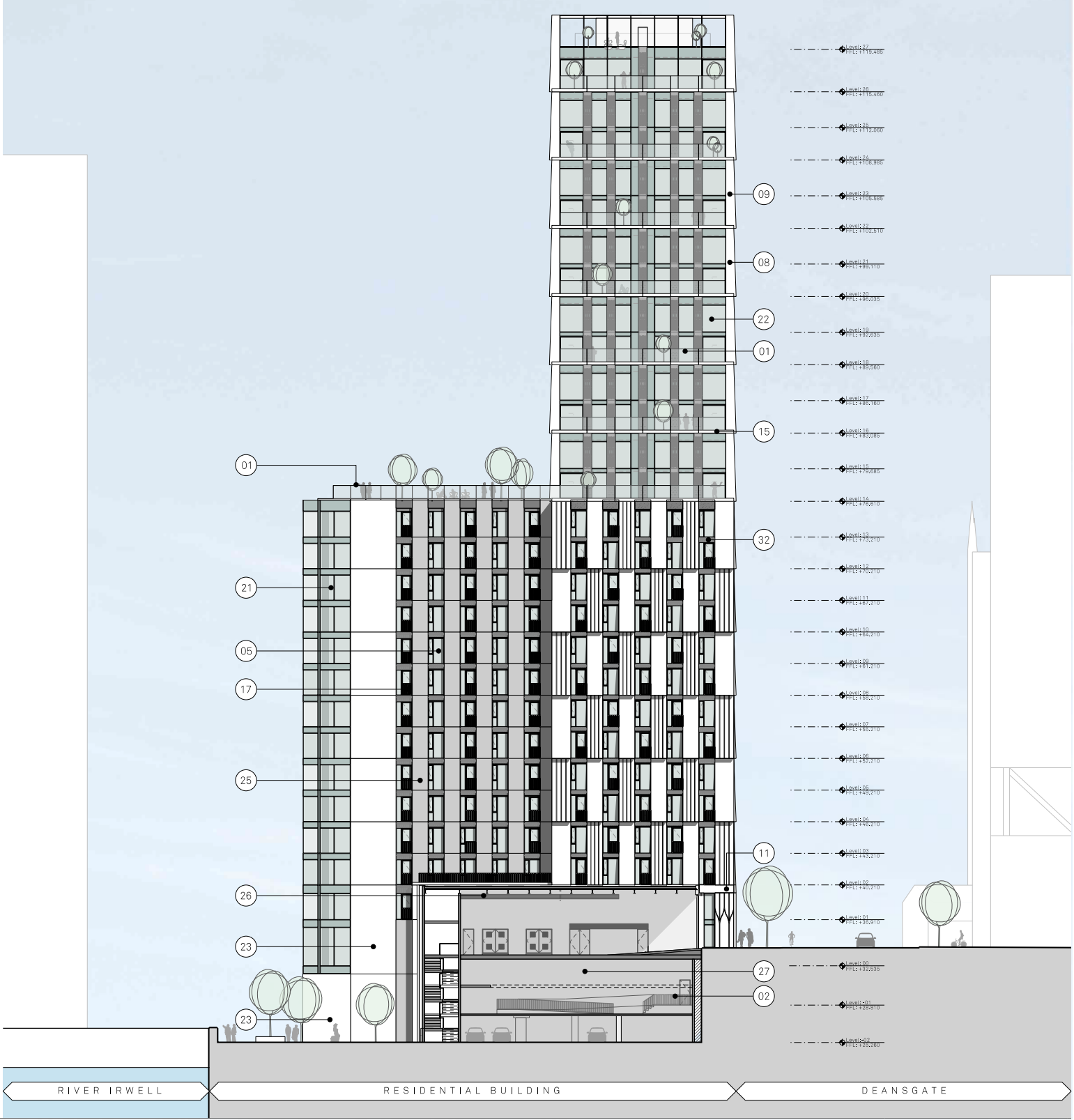
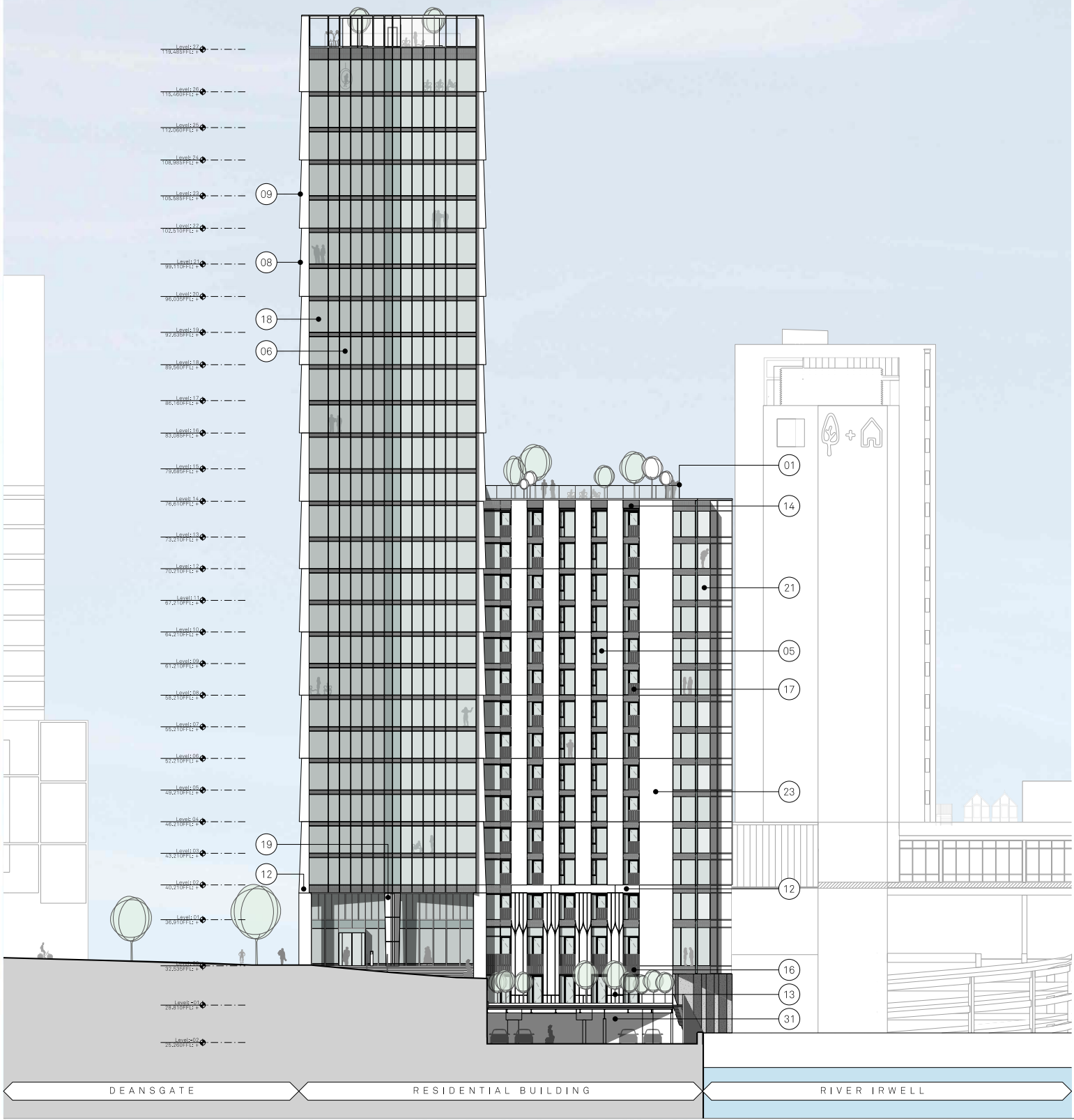
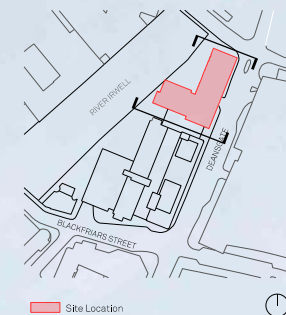
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Drawn: RW	Checked: FM	Status: Planning
Detail: -	Date: 22,10,21	Project: 150
		Drawing No: B2_04_2200
		Rev: -

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MATERIALITY KEY:

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03 Anodised Aluminium Soffit Panel	07 Metallic Silver Unitised Capped Curtain Wall Parapet	11 Polished Precast Concrete Lintel	14 Precast Concrete Lintel (Acid Etched)	18 Glazed Corner Unit	22 Metallic Curtain Walling with Feature Anodised Metal Panel	25 Anodised PPC Metal Rainscreen Cladding	29 Metallic PPC Metal Fins with Green Wall	33 Glazed in Slot Vent
04 Anodised Capped Curtain Wall System with Profiled Bladed Cap	08 Polished Precast Concrete Shingle Panels with Acid Etched Reveals		15 Polished Precast Coping	19 Anodised Aluminium Rainscreen Cassette Feature Column Cladding		26 Ventilation Louvers	30 Anodised PPC Rainscreen	34 Anodised Capped Curtain Wall System with integrated lowered doorset

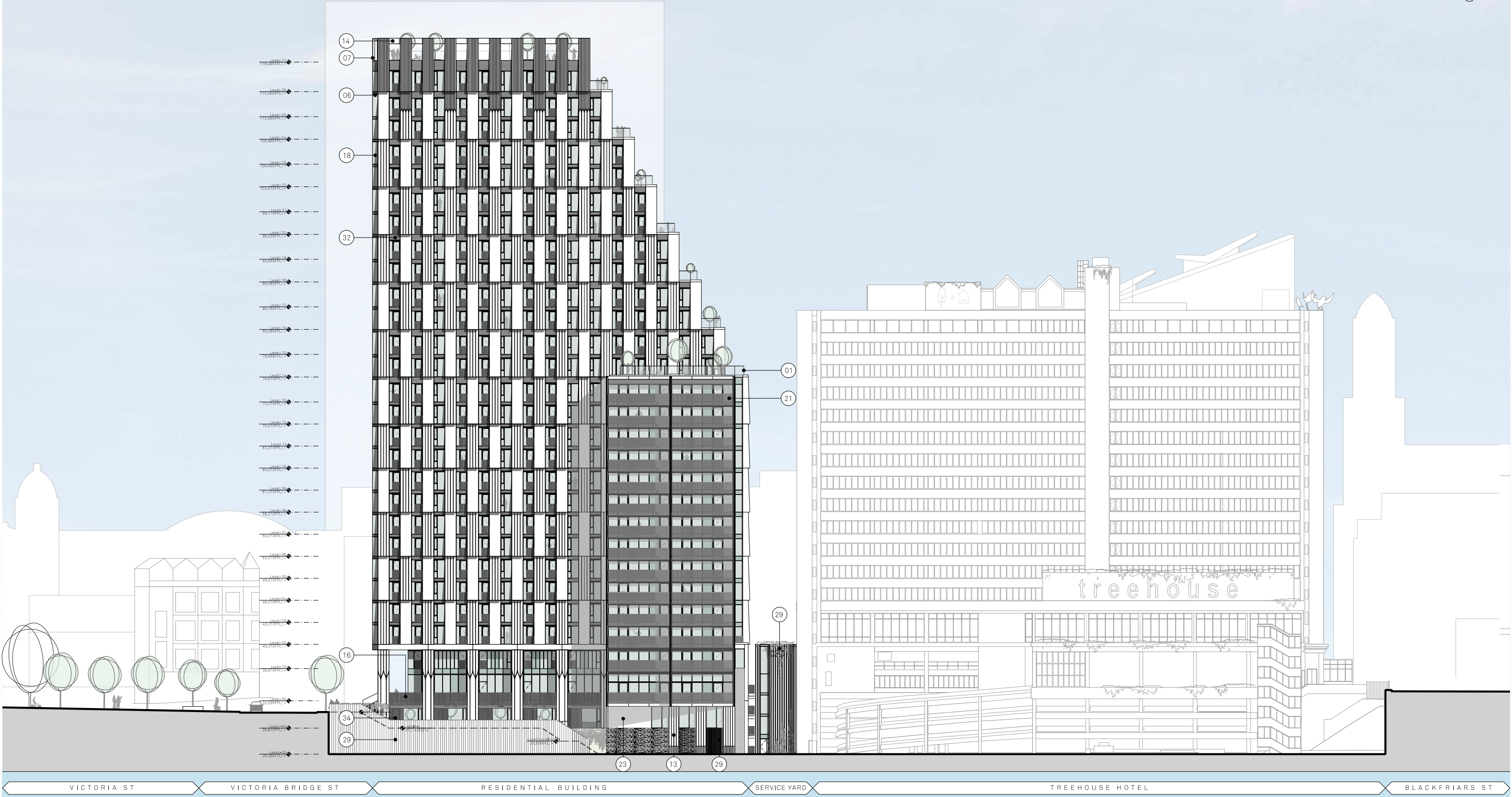
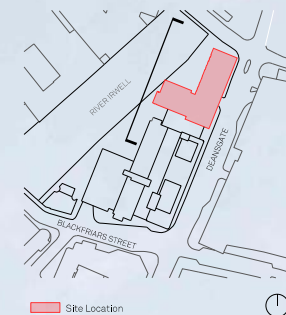
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Drawn:	RW	Checked:	FM	Status:	Planning
Project:	150	Drawing No:	B2_04_2201	Rev:	-
Detail:	-	22,10,21	Planning Issue		

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- MATERIALITY KEY:
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| 02 Anodised PPC Metal Balustrade | 06 SG Curtain Wall System | 10 Polished & Patterned Precast Column with Acid Etched Reveals | 13 Acid Etch Patterned Precast Panel | 17 Metallic PPC Metal Juliet Balustrade Integrated with 05 | 21 Unitised Curtain Walling with Integrated Sliding Doors, Back Painted Glass and Prefabricated Balcony, with Soffit provision for Slot Vent, Metallic PPC | 24 Deep Acid Etched Precast Concrete Panel |
| 03 Anodised Aluminium Soffit Panel | 07 Metallic Silver Unitised Capped Curtain Wall Parapet | 11 Polished Precast Concrete Lintel | 14 Precast Concrete Lintel (Polished) | 18 Glazed Corner Unit | 22 Anodised aluminium soffit with integrated slot vents | 25 Anodised PPC Metal Rainscreen Cladding |
| 04 Anodised Capped Curtain Wall System with Profiled Bladed Cap | 08 Polished Precast Concrete Shingle Panels with Acid Etched Reveals | | 15 Polished Precast Coping | 19 Anodised Aluminium Rainscreen Cassette Feature Column Cladding | | 26 Ventilation Louvers |

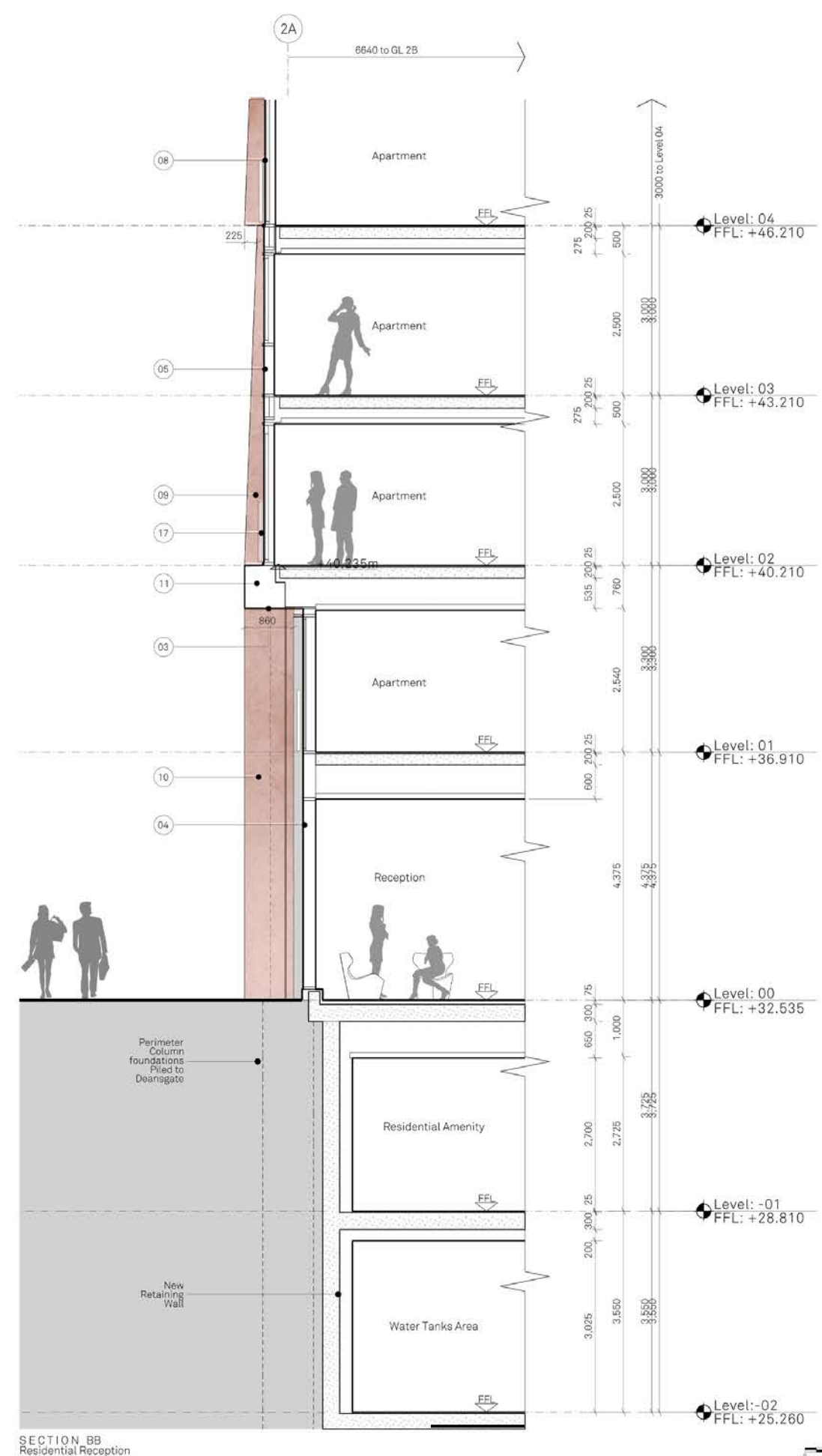
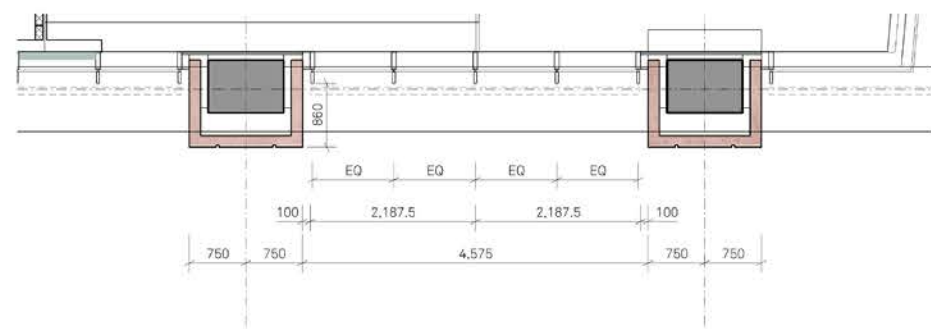
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Drawn: RW		Checked: FM		Status: Planning	
Detail: A		Project: 150		Drawing No: B2_04_2202	
				Rev: A	

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2.0 Planning Bay Studies



MATERIALITY KEY:

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|---|--|--|--|--|--|--|---|--|
| 01 Glazed Balustrade | 05 Metallic Silver Unitised Capped Curtain Wall System | 09 Polished & Patterned Precast Concrete Shingle Panels with Acid Etched Reveals | 12 Acid Etch Patterned Concrete Precast Lintel | 16 Anodised Aluminium clip-on balcony with balustrade | 20 Metallic Stick Curtain Walling/ Glazed corner | 23 Acid Etched Precast Concrete Panel | 27 Painted Blockwork Wall | 31 Landscape deck with riverside parking |
| 02 Anodised PPC Metal Balustrade | 06 SG Curtain Wall System | 10 Polished & Patterned Precast Column with Acid Etched Reveals | 13 Acid Etch Patterned Precast Panel | 17 Metallic PPC Metal Juliet Balustrade Integrated with 05 | 21 Unitised Curtain Walling with Integrated Sliding Doors, Back Painted Glass and Prefabricated Balcony, with Soffit provision for Slot Vent, Metallic PPC | 24 Deep Acid Etched Precast Concrete Panel | 28 Feature wall with Integrated Lighting | 32 Patterned Ceramic Frit Glass Spandrel |
| 03 Anodised Aluminium Soffit Panel | 07 Metallic Silver Unitised Capped Curtain Wall Parapet | 11 Polished Precast Concrete Lintel | 14 Precast Concrete Lintel | 18 Glazed Corner Unit | 19 Anodised Aluminium Rainscreen Cassette Feature Column Cladding | 25 Anodised PPC Metal Rainscreen Cladding | 29 Metallic PPC Metal Fins with Green Wall | 33 Glazed in Slot Vent |
| 04 Anodised Capped Curtain Wall System with Profiled Bladed Cap | 08 Polished Precast Concrete Shingle Panels with Acid Etched Reveals | | 15 Polished Precast Coping | 22 Anodised aluminium soffit with integrated slot vents | 26 Ventilation Louvers | 30 Anodised PPC Rainscreen | 34 Anodised Capped Curtain Wall System with integrated louvered doorset | |

Project Name: Renaissance
Title: Residential Building - Block 2 1:50@ A1
Scale: Bay Study 01
Status: Planning
Project: 150
Drawing No: B2_10_4200
Rev: -
Details: -
Date: 22.10.21
Planning Issue

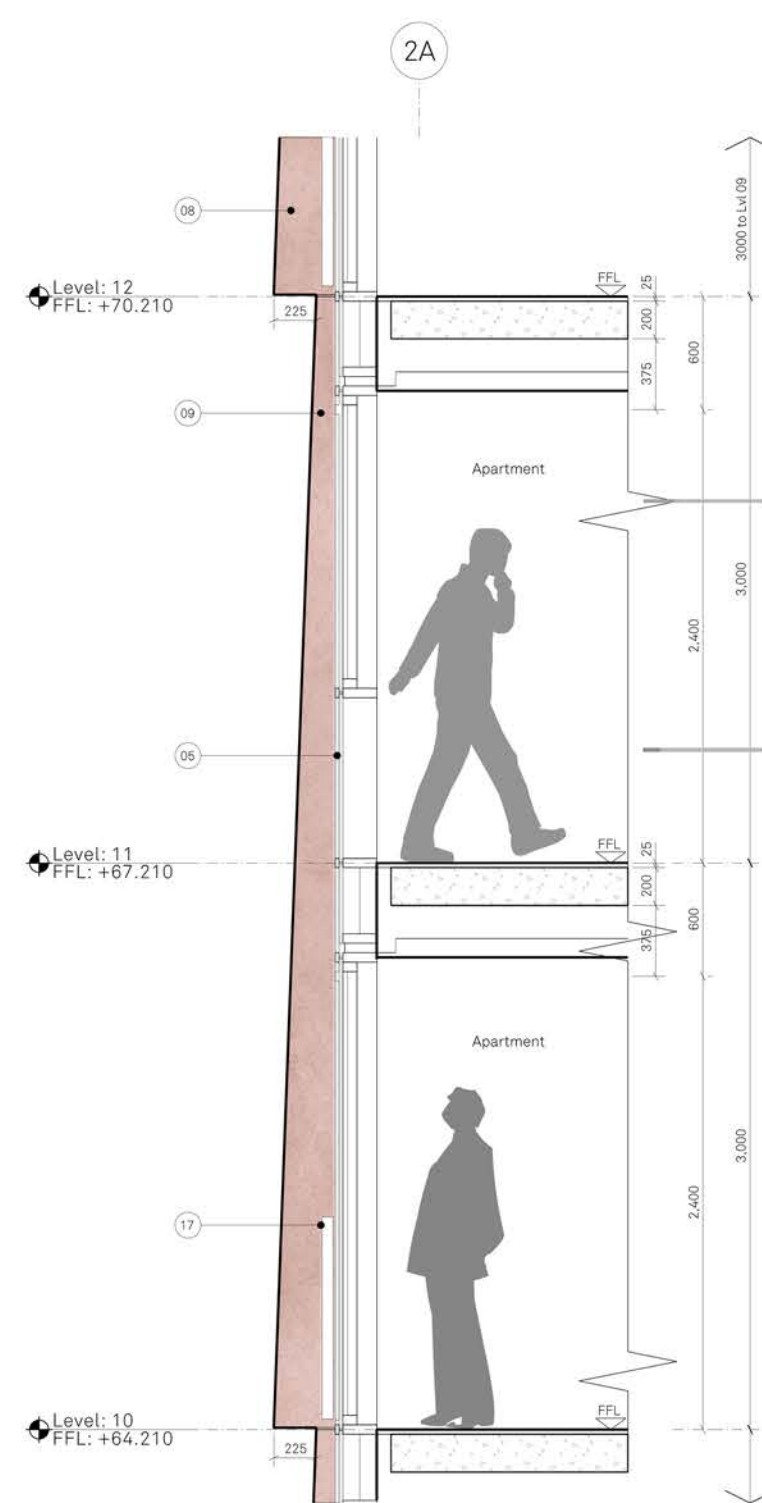
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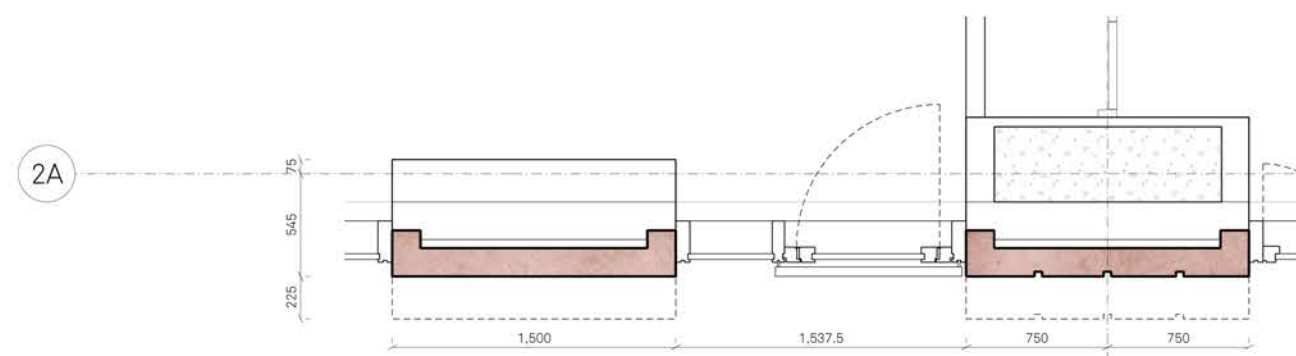
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ELEVATION A
Typical Bay



SECTION A
Typical Bay Curtain Wall



PLAN
Typical Floor

MATERIALITY KEY:

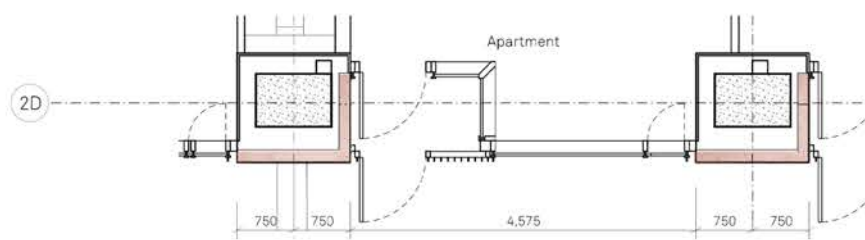
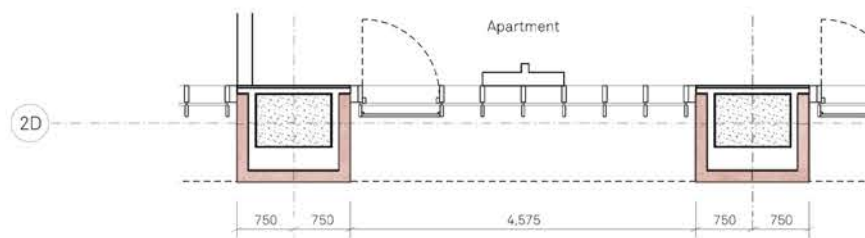
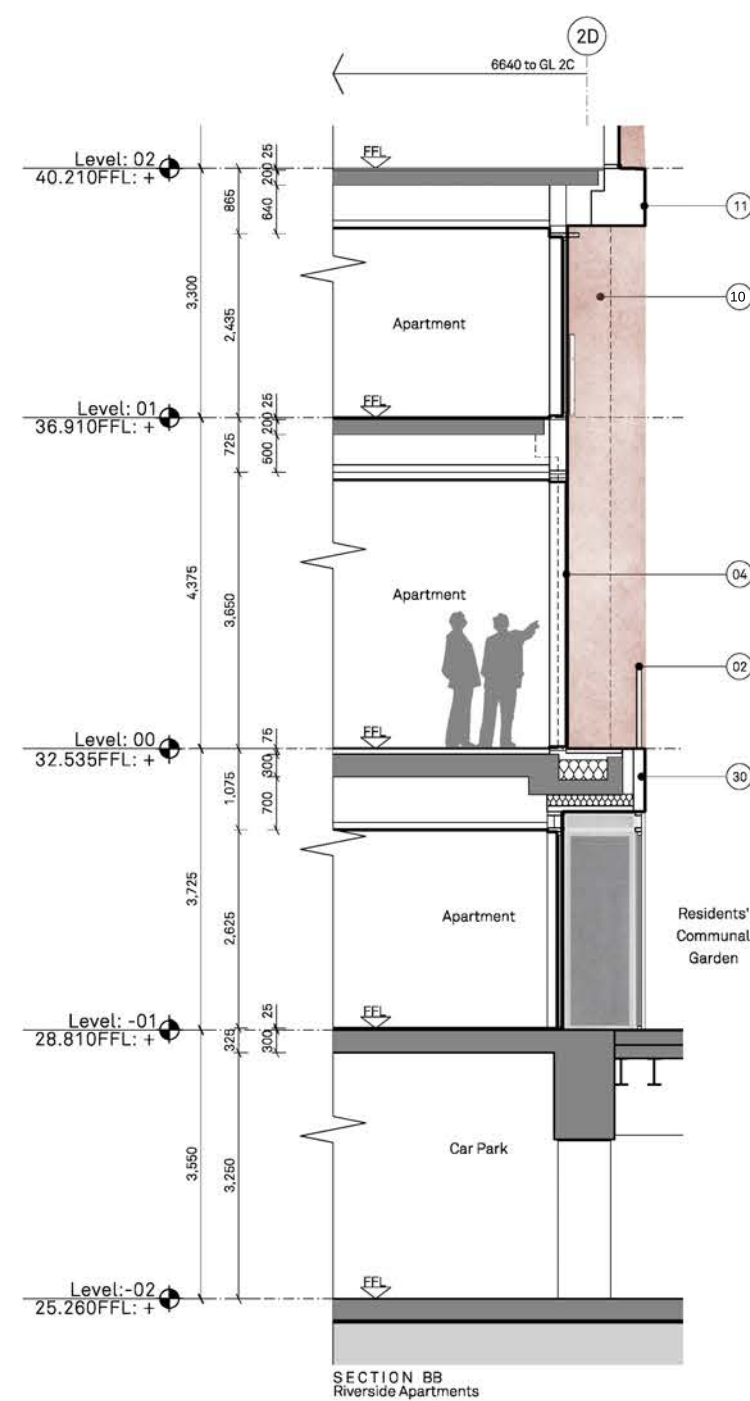
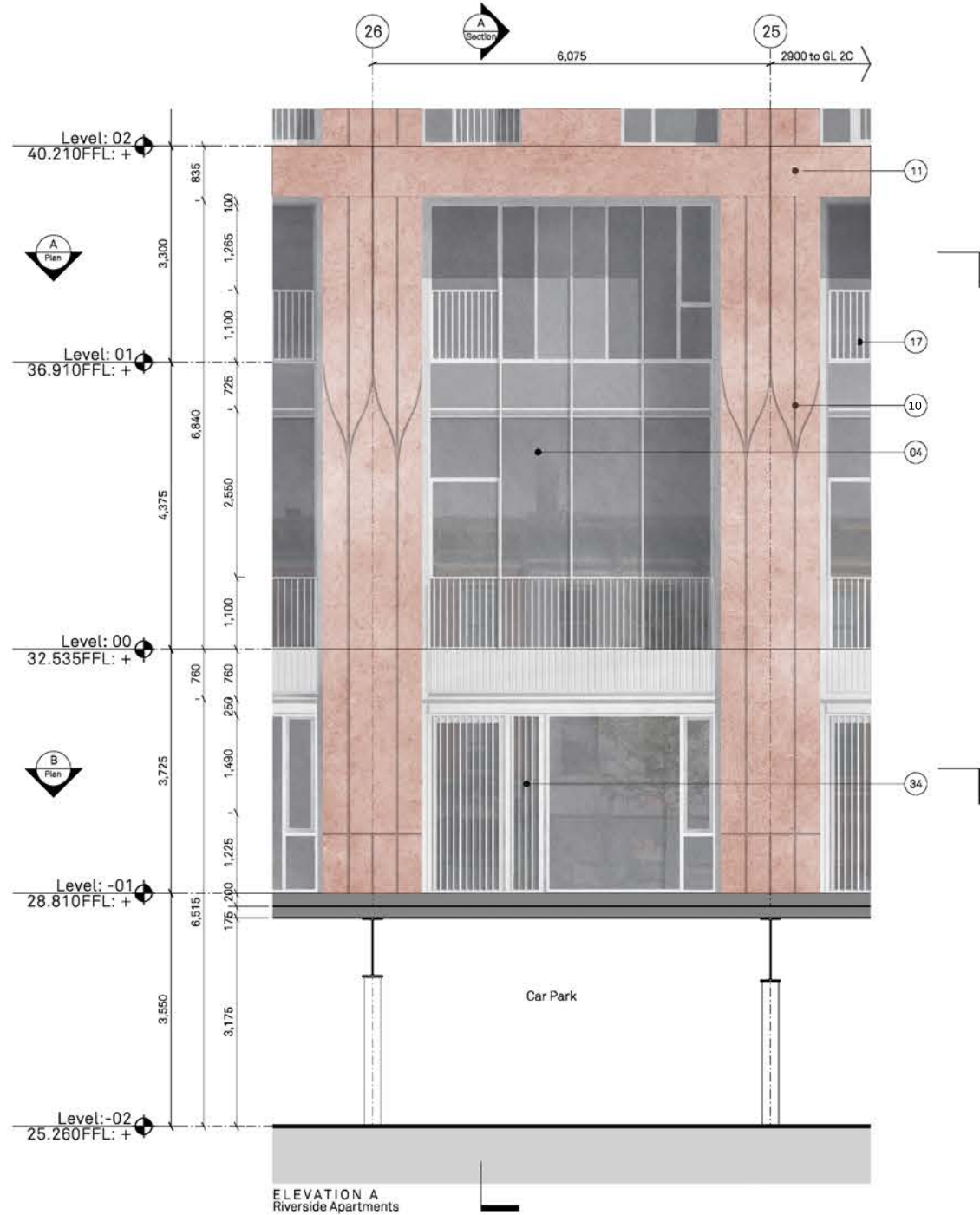
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| 04 Anodised Capped Curtain Wall System with Profiled Bladed Cap | 08 Polished Precast Concrete Shingle Panels with Acid Etched Reveals | | 15 Polished Precast Coping | 19 Anodised Aluminium Rainscreen Cassette Feature Column Cladding | | 26 Ventilation Louvres |
| | | | | | | 27 Painted Blockwork Wall |
| | | | | | | 28 Feature wall with Integrated Lighting |
| | | | | | | 29 Metallic PPC Metal Fins with Green Wall |
| | | | | | | 30 Anodised PPC Rainscreen |
| | | | | | | 31 Landscape deck with riverside parking |
| | | | | | | 32 Patterned Ceramic Frit Glass Soandrel |
| | | | | | | 33 Glazed in Slot Vent |
| | | | | | | 34 Anodised Capped Curtain Wall System with integrated lowered doorset |

Project Name:	Renaissance	Title:	Residential Building - Block 2	Scale:	1:50@ A1
Drawn:	Checked:	Status:	Planning	Project:	150
Detail:	-	22.10.21	Planning Issue	Drawing No:	B2_10_4203

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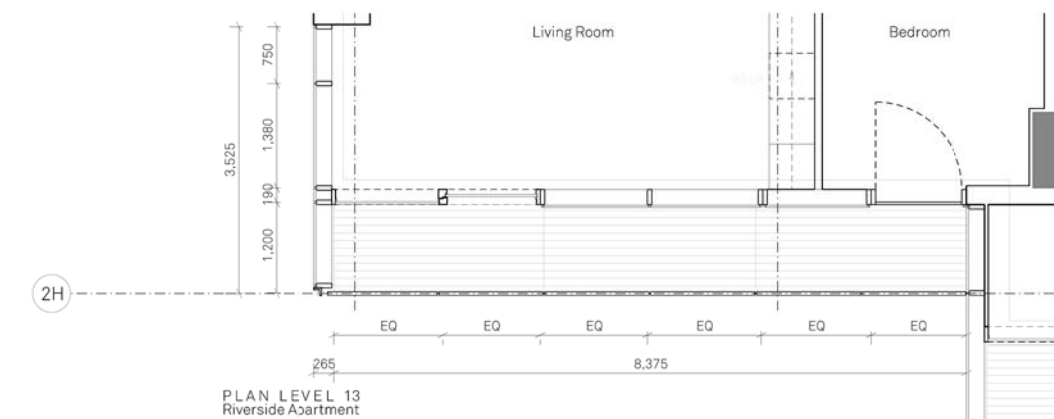
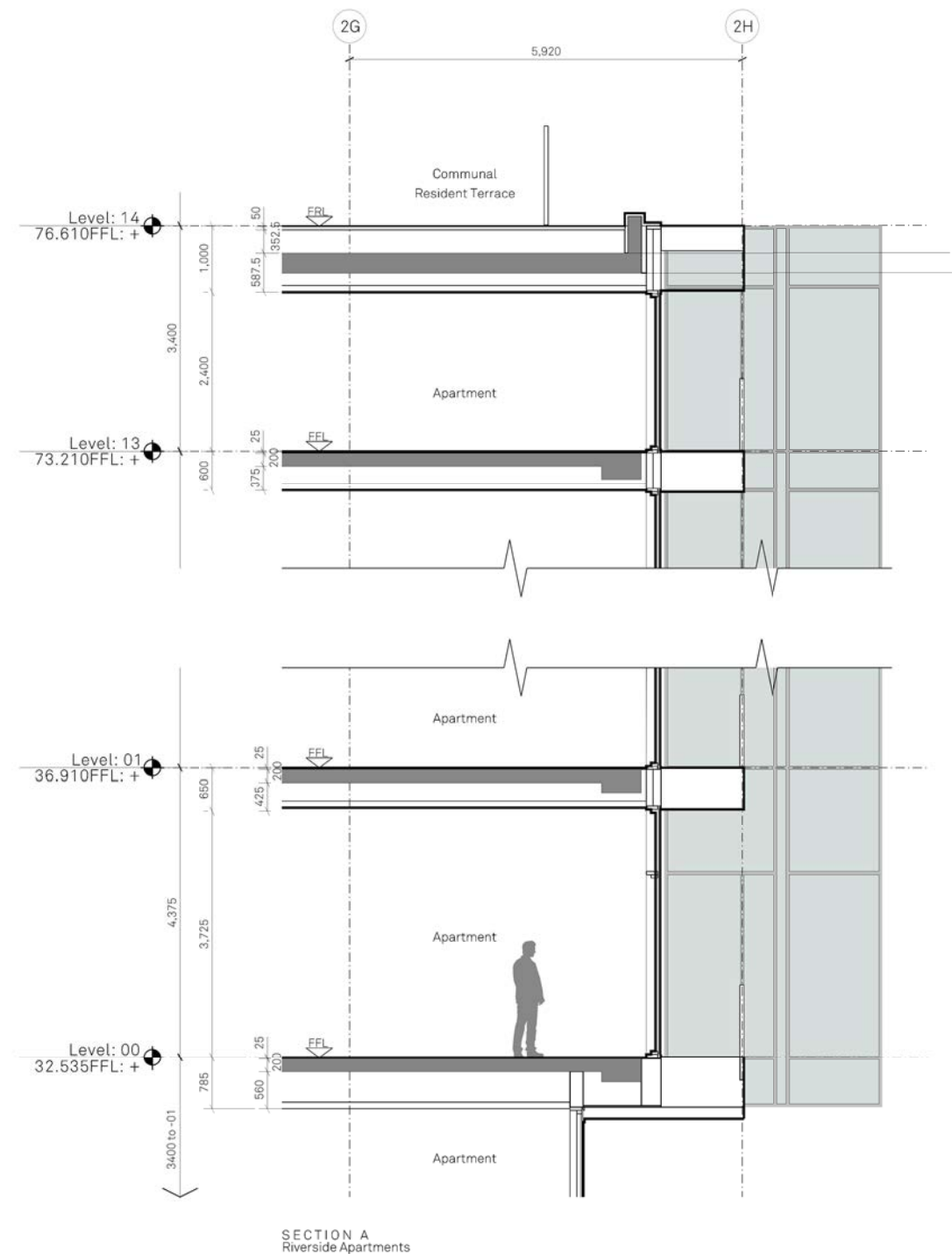
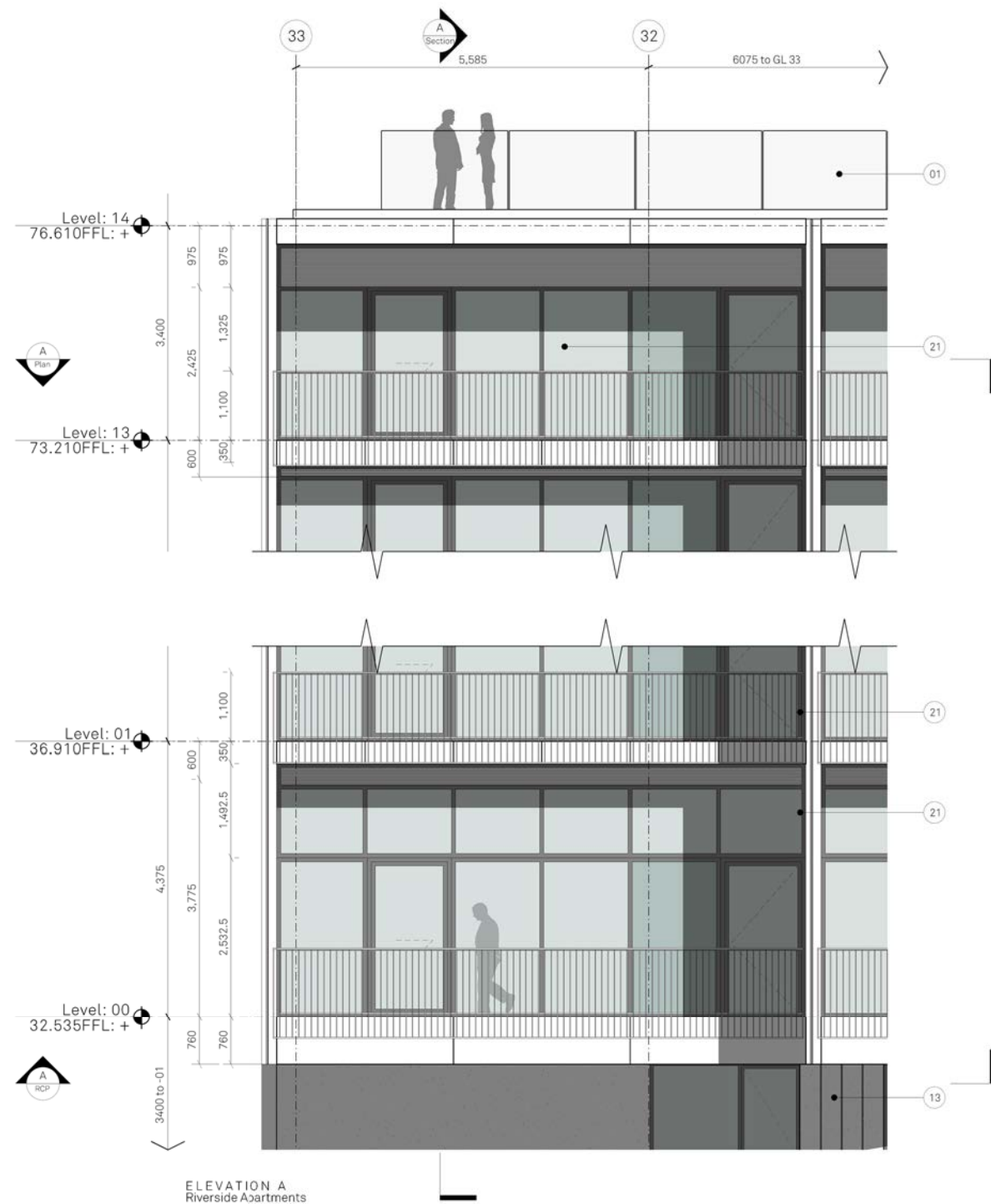
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| 04 Anodised Capped Curtain Wall System with Profiled Bladed Cap | 08 Polished Precast Concrete Shingle Panels with Acid Etched Reveals | | 15 Polished Precast Coping | 19 Anodised Aluminium Rainscreen Cassette Feature Column Cladding | | 26 Ventilation Louvres | 30 Anodised PPC Rainscreen | 34 Anodised Capped Curtain Wall System with integrated lowered doorset |

Project Name	Renaissance	Title	Residential Building - Block 2	Scale	1:50@ A1
Drawn	RW	Checked	FM	Status	Planning
Details	-	22.10.21	Planning Issue	Project	150
				Drawing No.	B2_10_4203

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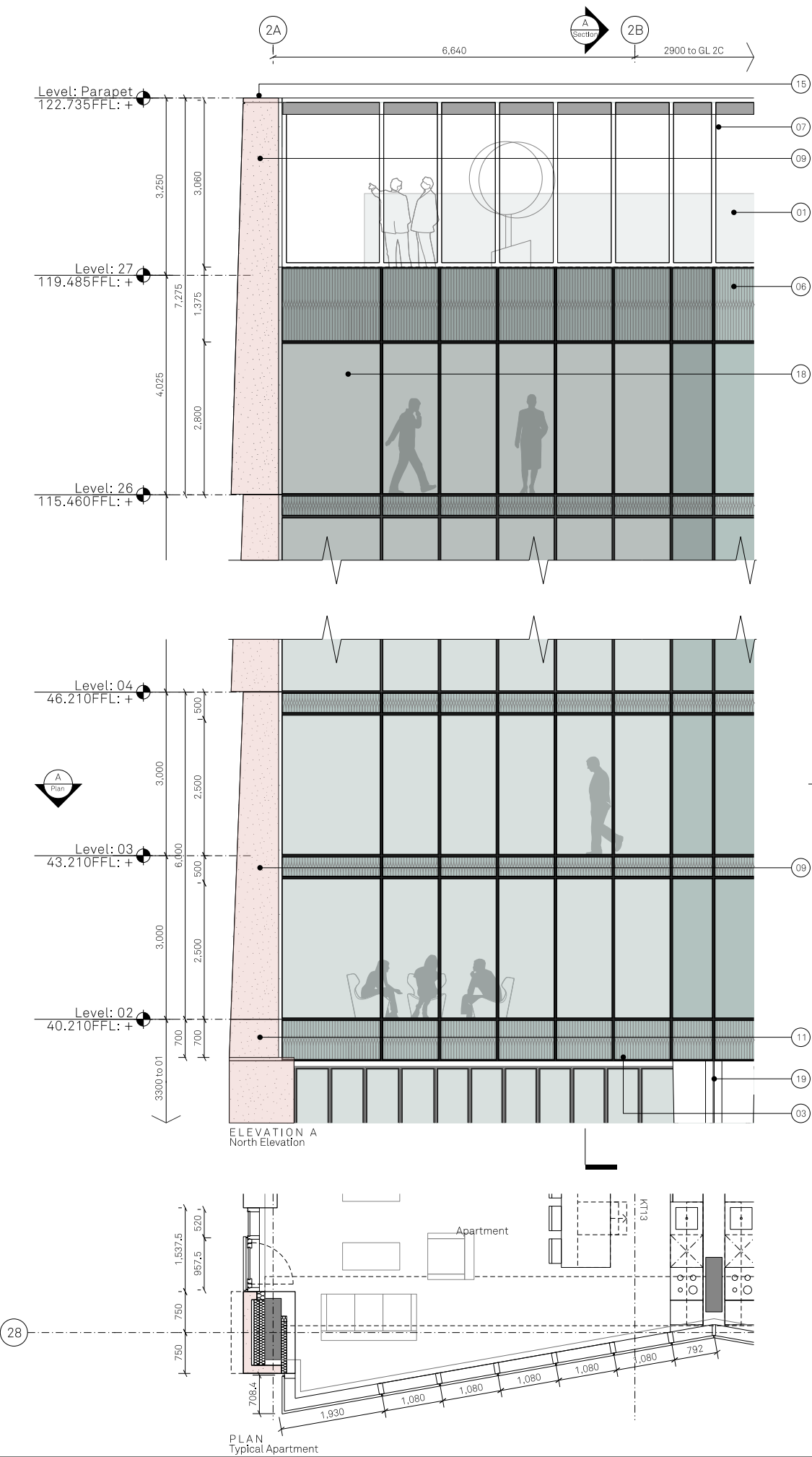
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| 04 Anodised Capped Curtain Wall System with Profiled Bladed Cap | 08 Polished Precast Concrete Shingle Panels with Acid Etched Reveals | 15 Polished Precast Coping | 19 Anodised Aluminium Rainscreen Cassette Feature Column Cladding | 26 Ventilation Louvres | | 30 Anodised PPC Rainscreen | 34 Anodised Capped Curtain Wall System with integrated louvered doorset | |

Project Name: Renaissance
Title: Residential Building - Block 2 1:50@ A1
Scale: Bay Study 05
Drawn: RW
Checked: FM
Status: Planning
Project: 150
Drawing No: B2_10_4204
Rev: -
Details: - 22.10.21
Planning Issue

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MATERIALITY KEY:

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|---|--|--|---|---|--|--|--|
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Project Name:		Title:		Scale:	
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Drawn: RW		Checked: FM		Status: Planning	
Detail:		Date: 22.10.21		Drawing No: B2_10_4202	
				Rev: -	

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3.0 Sample Panels

Quality of finishes

- All finishes and surfaces shall match the accepted sample.
- Finished samples to be submitted to the design team for acceptance prior to manufacturing.
- Discard and replace or correct any units that do not appear identical to the accepted samples.
- Panels may be rejected for the following reasons:
 - Exceeding specified installation tolerances;
 - Any damage during construction

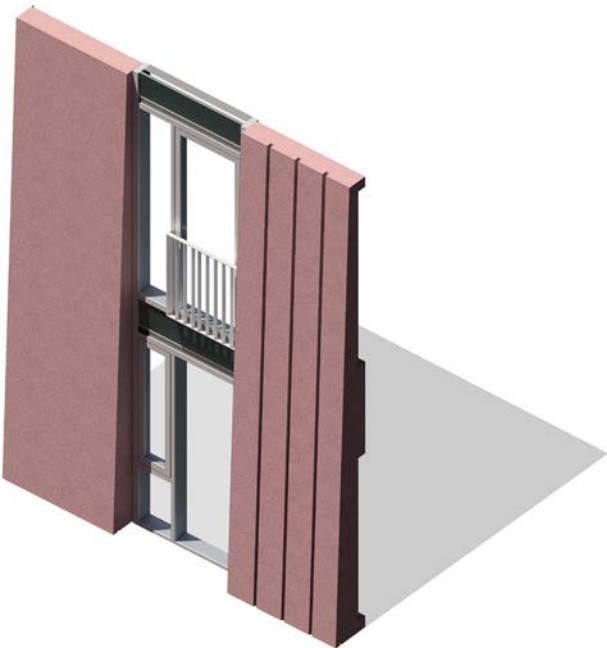
Inspection

All completed units to be carefully inspected and checked for match with accepted sample(s) or control unit(s) and for compliance with the Architectural Specification before dispatch to Site.

Programme

As per Planning Condition 3 ‘a programme for the production of the full sized sample panels’ the project team will endeavour to have the Visual Mock Up Panel as shown in adjacent drawings available for viewing by Q4 2024, subject to manufacturer’s lead-in times.

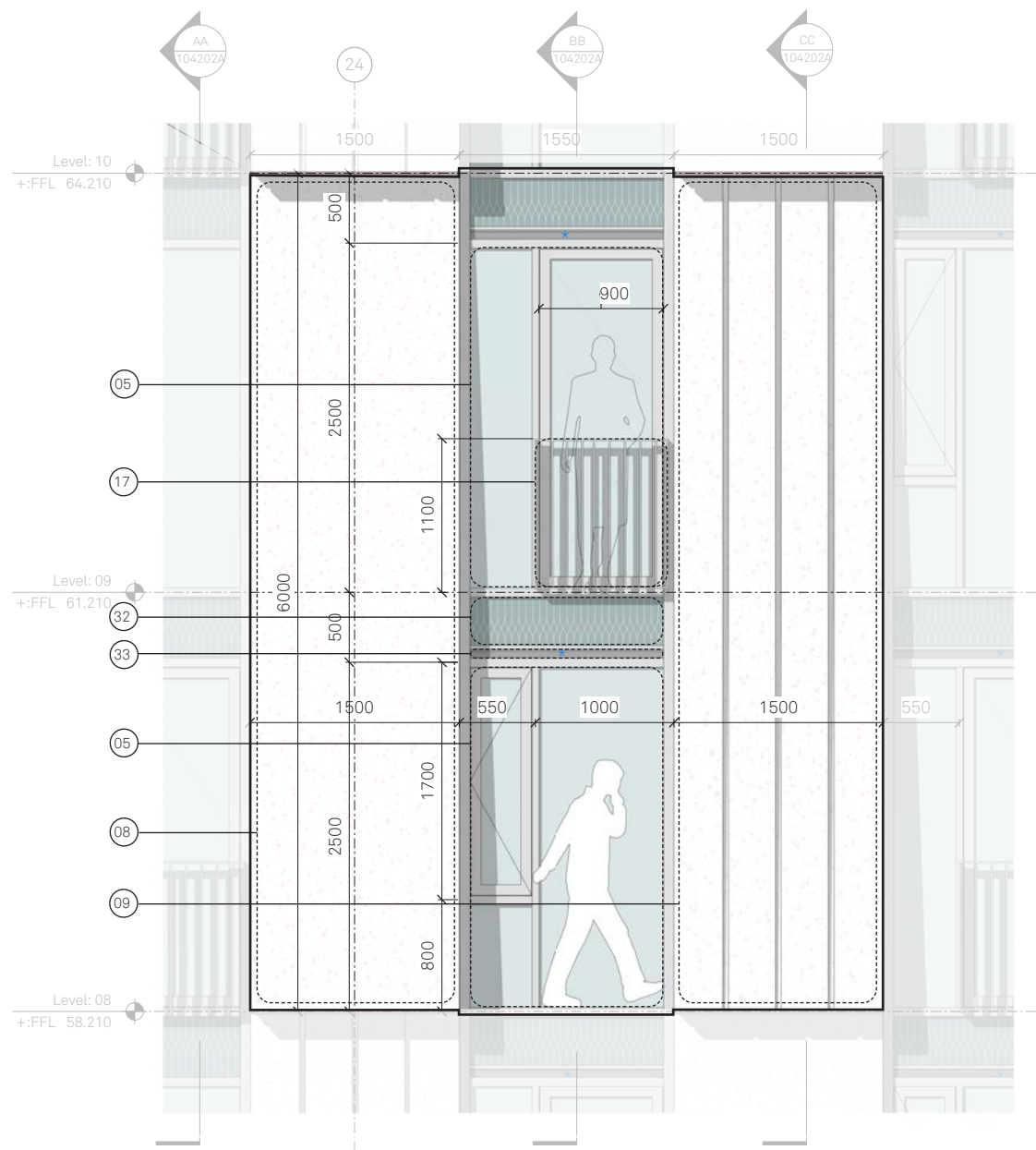
We acknowledge that Condition 3 requires the submission of a Quality Control Management Strategy. In the absence of contractor and sub-contractor engagement at the time of submitting this document, this information will be provided in Q4 2024



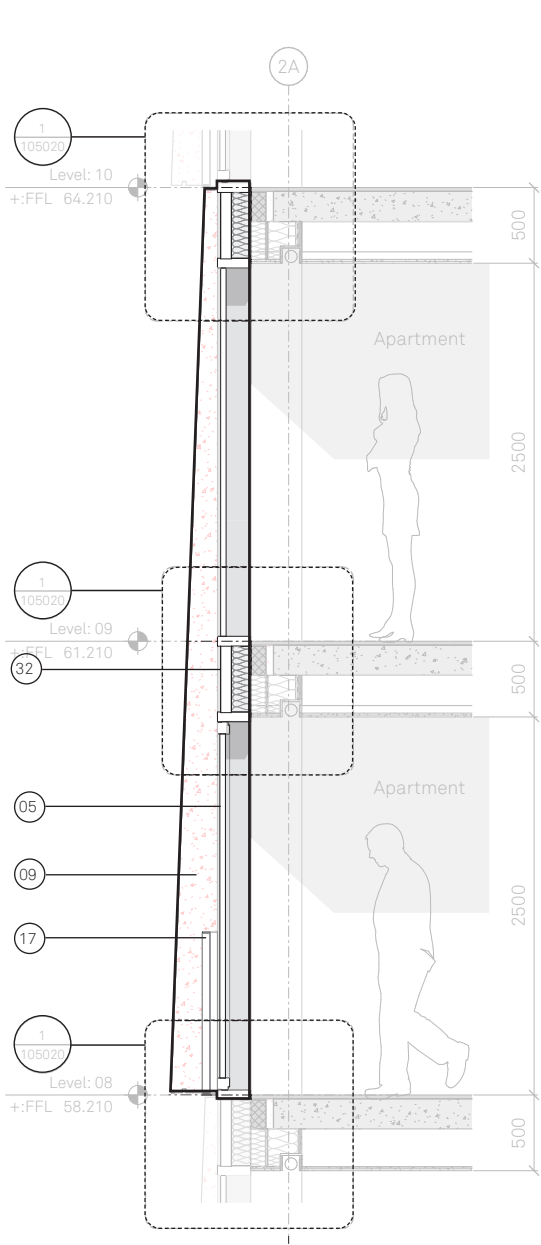
Precast Panel & Curtain Wall System

The inlay pattern to the precast & fritting to the curtain wall glazing to be confirmed and subject to MCC approval.

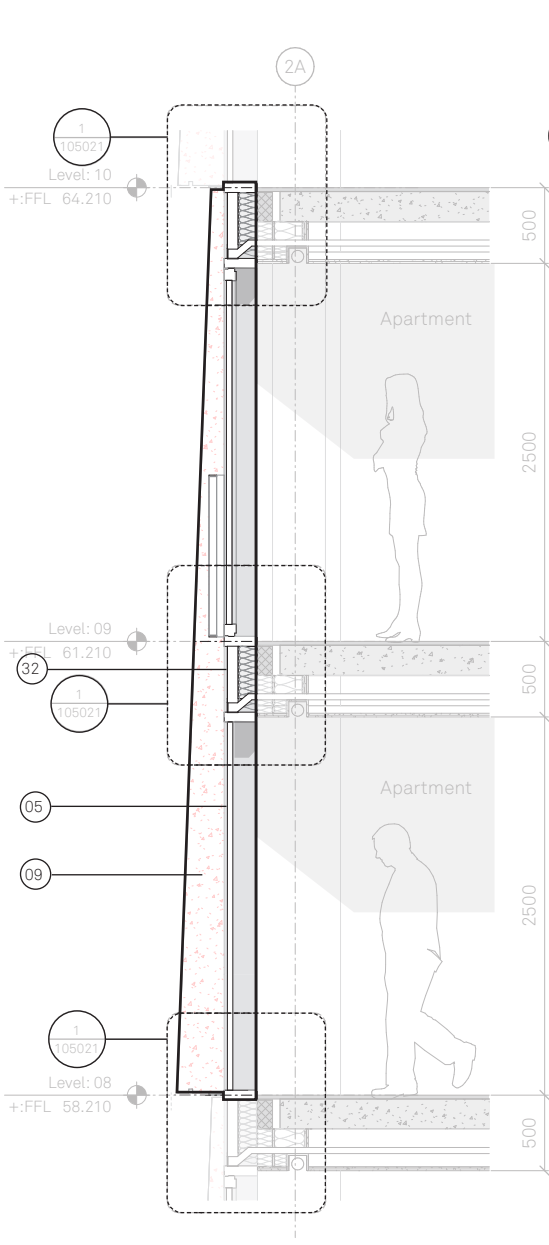




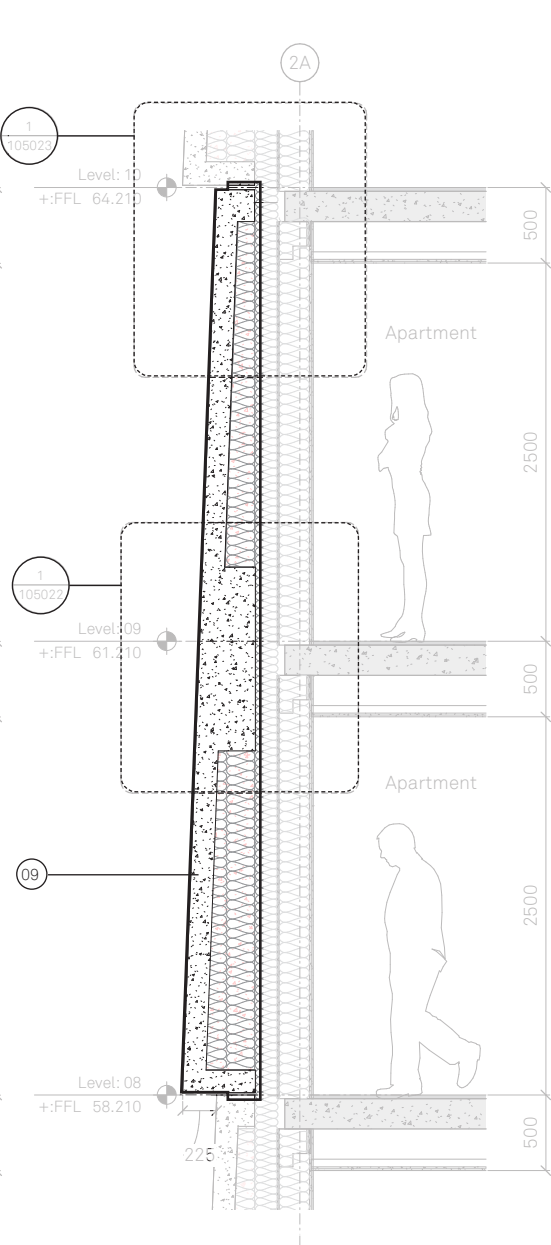
Typical Shingled Elevation
1:25



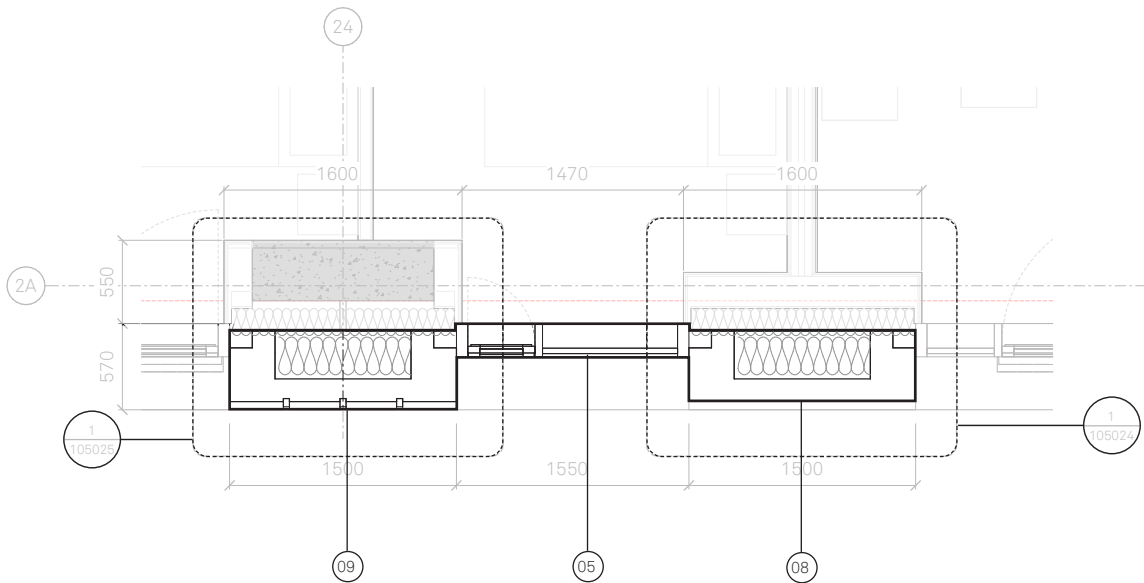
AA Section AA - Section Through Solid Spandrel
1:25



BB Section BB - Section Through Slot Vent Spandrel
1:25



CC Section CC - Section Through Precast
1:25



Typical Plan
1:25

Key:

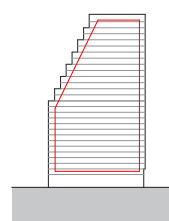
- 05 Metallic Silver Unitised Capped Curtain Wall System as part of EWS-202A
- 08 Polished Precast Concrete Shingle Panels with Acid Etched Reveals as part of EWS-203B
- 09 Polished & Patterned Precast Concrete Shingle Panels with Acid Etched Reveals as part of EWS-203B
- 17 Metallic PPC Metal Juliet Balustrade Integrated with 05 as part of EWS-202A
- 32 Patterned Ceramic Frit Glass Spandrel as part of EWS-203B
- 33 Glazed in Slot Vent as part of EWS-202A



3D View

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All Contractors must visit the site and are responsible for testing and checking all dimensions relative to their work. Jon Matthews Architects are to be advised of any variation between drawing and site conditions.
Dimensions and/or drawings are issued 'As Shown' and are not intended to be used for construction. All dimensions and notes should be read only from those values stated in text, on the drawings.
DISCLAIMER: It is recommended that the proposed works are within the scope of a competent Quantity Surveyor or a similar professional to be appointed, who is responsible for the design and construction of the works.

Key Plan:



P01	25.01.24	
Rev:	Date:	Details:

Jon Matthews Architects
Unit: 2-10 Albert Square, Manchester, M2 6LW

Project:
Renaissance Site, Deansgate, Manchester

Title:
Residential Building - Block 2
Bay Study - Sample Panel

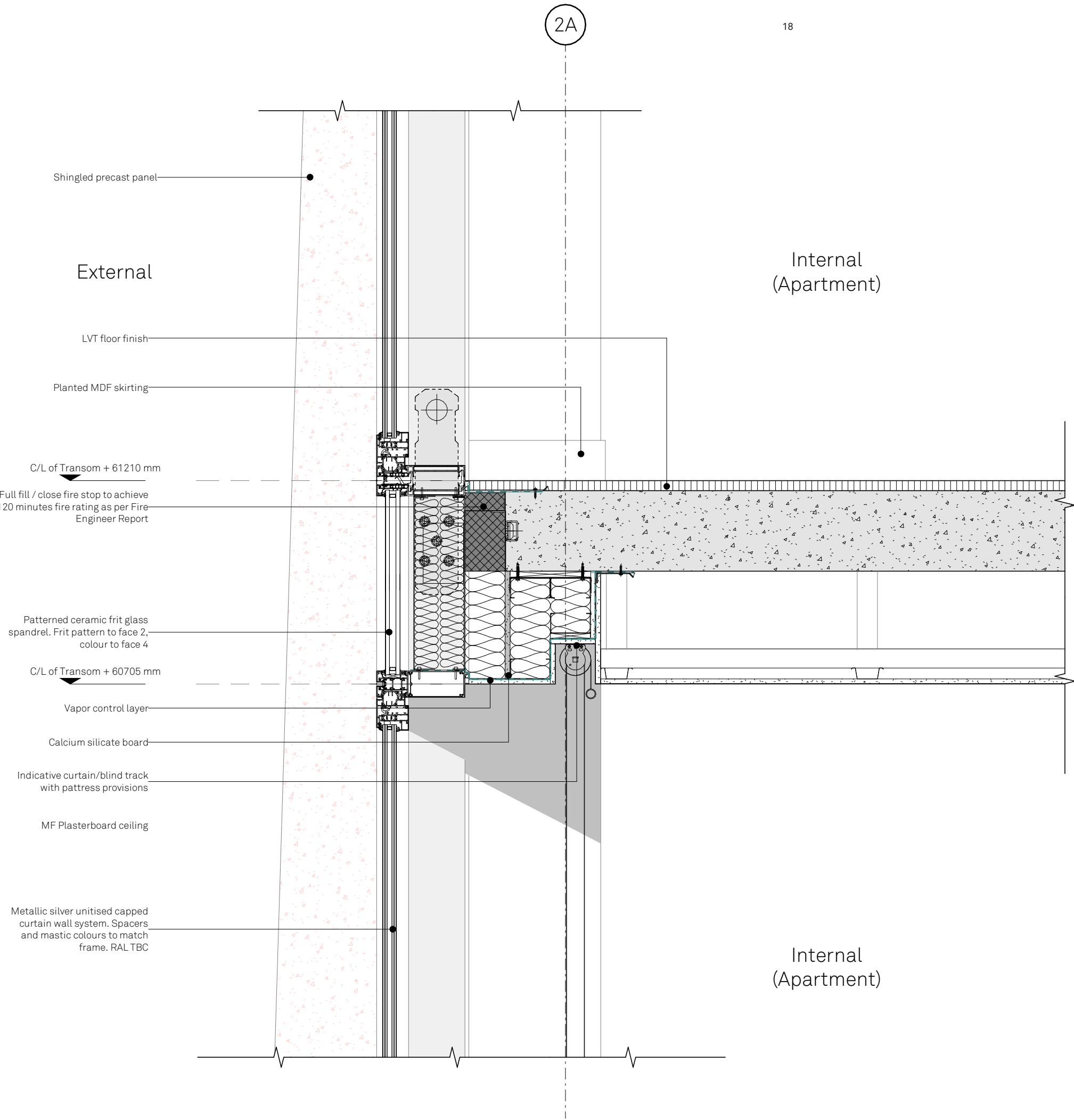
Scale:
1:25 at A1

Origin Date:	Drawn:	Checked:
01/24/24	PS	CS

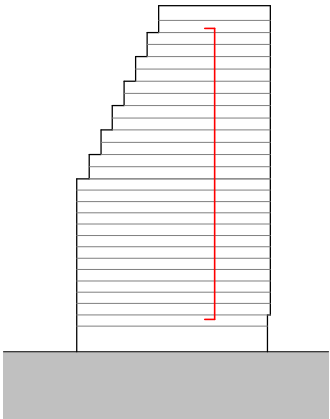
Status:
Planning

Drawing No:
150-JMA-B2-XX-DR-A-104202A

Rev:
P01



Key Plan:



- KEY**
- VCL
 - EPDM
 - Pile Cap Treatment (as per J40 spec)
 - Ground Level Waterproofing (as per J40 spec)
 - Hot Melt (By Others)
 - Protection Mat (By Others)
 - Permeable Membrane (By Others)
 - To be Coordinated/In Abeyance
 - Slab Edge

P01	25.01.24	-
Rev:	Date:	Details:

Jon Matthews Architects

Union, 2-10 Albert Square, Manchester, M2 6LW

Project:

Renaissance Site, Deansgate, Manchester

Title:

Block 2 - Residential Building

Section Detail - EWS202A Typical Spandrel

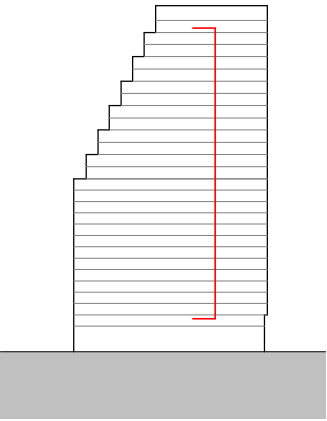
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1:10 @ A3	01/25/24	PS	CS

Status:

Planning

Drawing No:	Rev:
150-JMA-B2-XX-DR-A-105020A	P01

Key Plan:



- KEY
- VCL
- EPDM
- Pile Cap Treatment (as per J40 spec)
- Ground Level Waterproofing (as per J40 spec)
- Hot Melt (By Others)
- Protection Mat (By Others)
- Permeable Membrane (By Others)
- To be Coordinated/In Abeyance
- Slab Edge

P01	25.01.24	-
Rev:	Date:	Details:

Jon Matthews Architects

Union, 2-10 Albert Square, Manchester, M2 6LW

Project:

Renaissance Site, Deansgate, Manchester

Title:

Block 2 - Residential Building

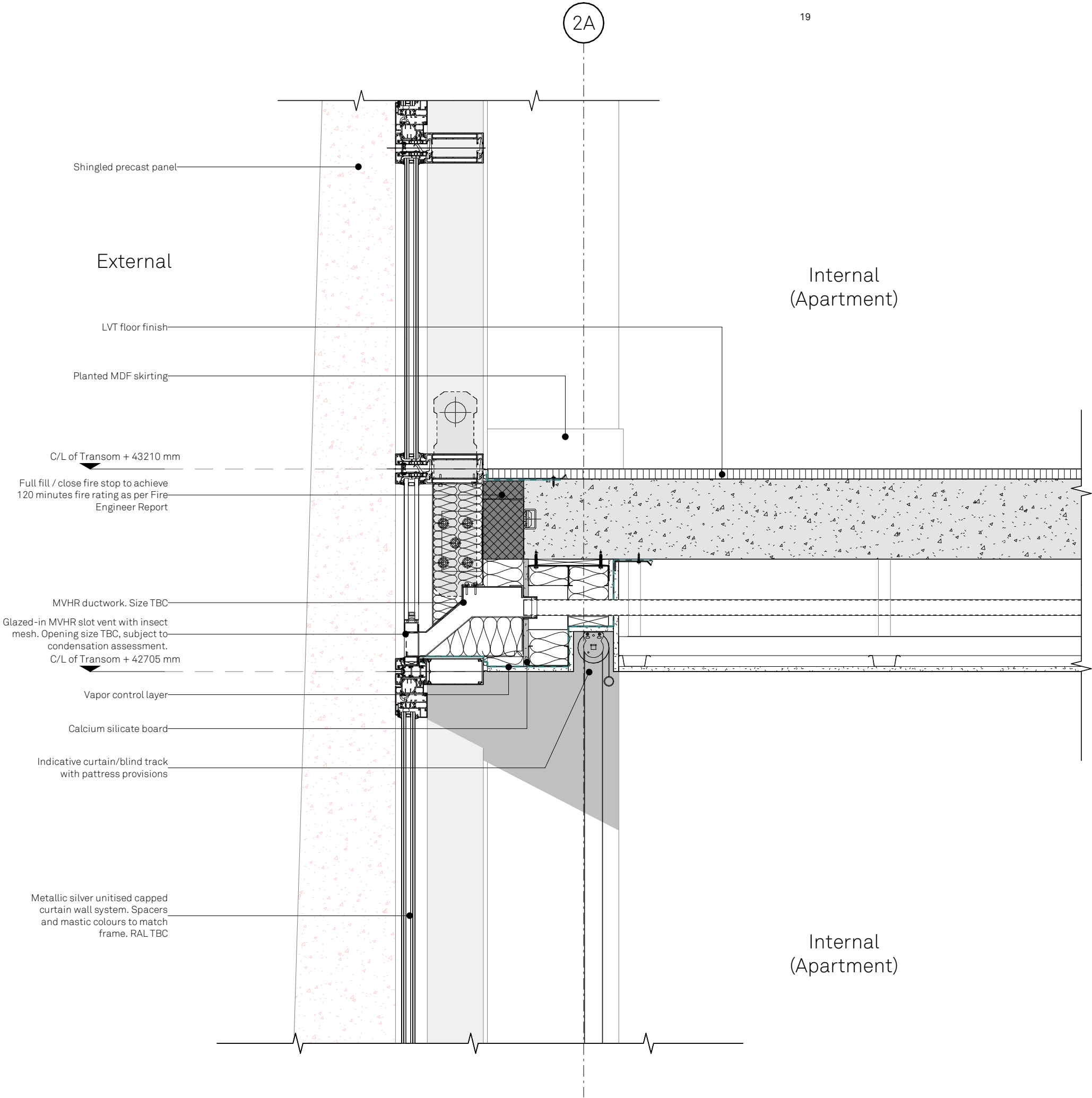
Section Detail - EWS202A Typical Spandrel with Slot Vent

Scale:	Origin Date:	Drawn:	Checked:
1:10 @ A3	01/25/24	PS	CS

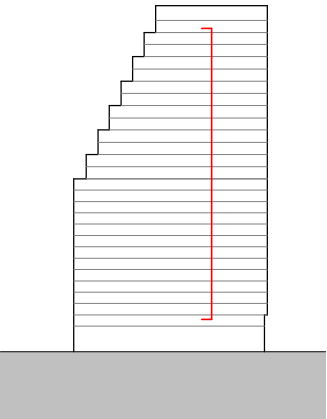
Status:

Planning

Drawing No:	Rev:
150-JMA-B2-XX-DR-A-105021A	P01



Key Plan:



- KEY
- VCL
- EPDM
- Pile Cap Treatment (as per J40 spec)
- Ground Level Waterproofing (as per J40 spec)
- Hot Melt (By Others)
- Protection Mat (By Others)
- Permeable Membrane (By Others)
- To be Coordinated/In Abeyance
- Slab Edge

P01	25.01.24	-
Rev:	Date:	Details:

Jon Matthews Architects

Union, 2-10 Albert Square, Manchester, M2 6LW

Project:

Renaissance Site, Deansgate, Manchester

Title:

Block 2 - Residential Building

Section Detail - EWS203B Typical Precast Shingle

Mid-Level Fixing

Scale:

Origin Date:

Drawn:

Checked:

As indicated @

01/25/24

PS

CS

A3

Status:

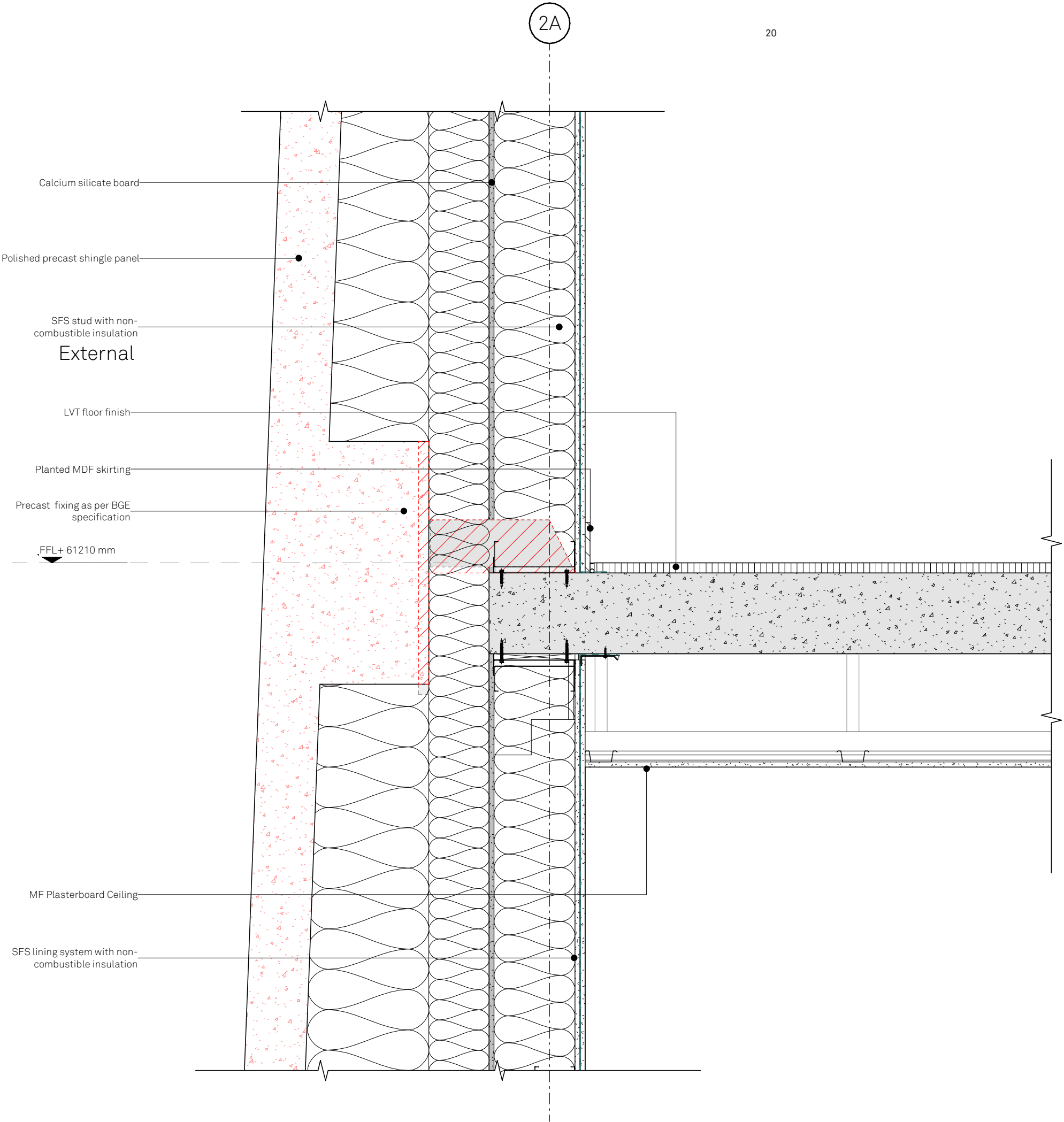
Planning

Drawing No:

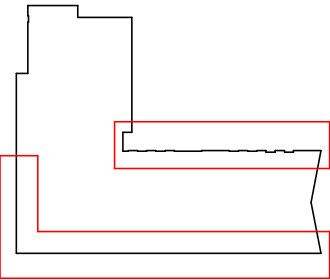
150-JMA-RT-XX-DR-A-105022A

Rev:

P01



Key Plan:



KEY

- VCL
- EPDM
- Pile Cap Treatment (as per J40 spec)
- Ground Level Waterproofing (as per J40 spec)
- Hot Melt (By Others)
- Protection Mat (By Others)
- Permeable Membrane (By Others)
- To be Coordinated/In Abeyance
- Slab Edge

P01	25.01.24	-
Rev:	Date:	Details:

Jon Matthews Architects
Union, 2-10 Albert Square, Manchester, M2 6LW

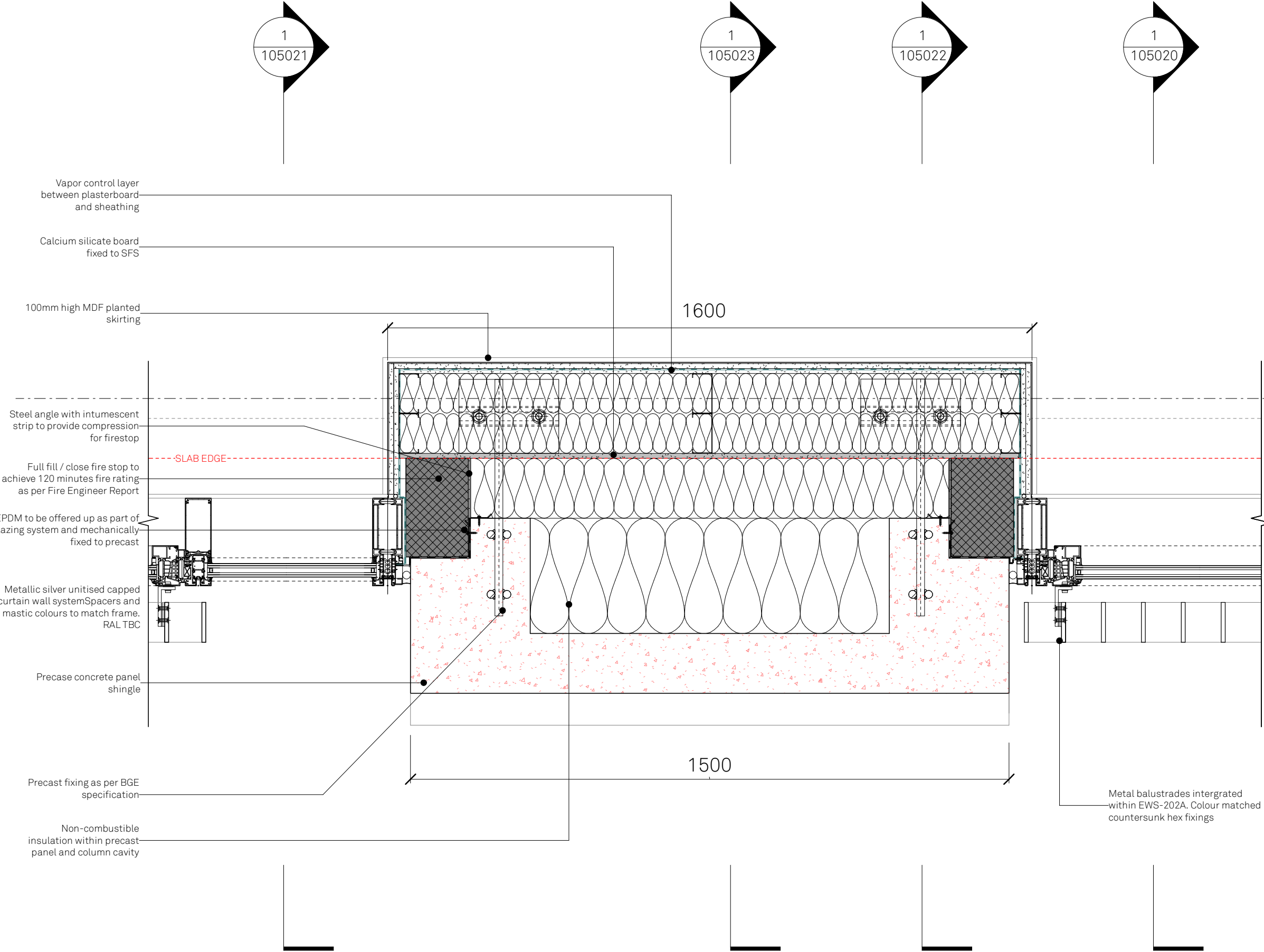
Project:
Renaissance Site, Deansgate, Manchester

Title:
Block 2 - Residential Building
Plan Detail - Typical Precast Shingle and SFS Interface

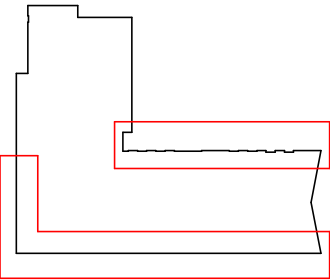
Scale:	Origin Date:	Drawn:	Checked:
1:10 @ A3	01/25/24	PS	CS

Status:
Planning

Drawing No:	Rev:
150-JMA-B2-XX-DR-A-105024A	P01



Key Plan:



KEY

- VCL
- EPDM
- Pile Cap Treatment (as per J40 spec)
- Ground Level Waterproofing (as per J40 spec)
- Hot Melt (By Others)
- Protection Mat (By Others)
- Permeable Membrane (By Others)
- To be Coordinated/In Abeyance
- Slab Edge

P01	25.01.24	-
Rev:	Date:	Details:

Jon Matthews Architects
Union, 2-10 Albert Square, Manchester, M2 6LW

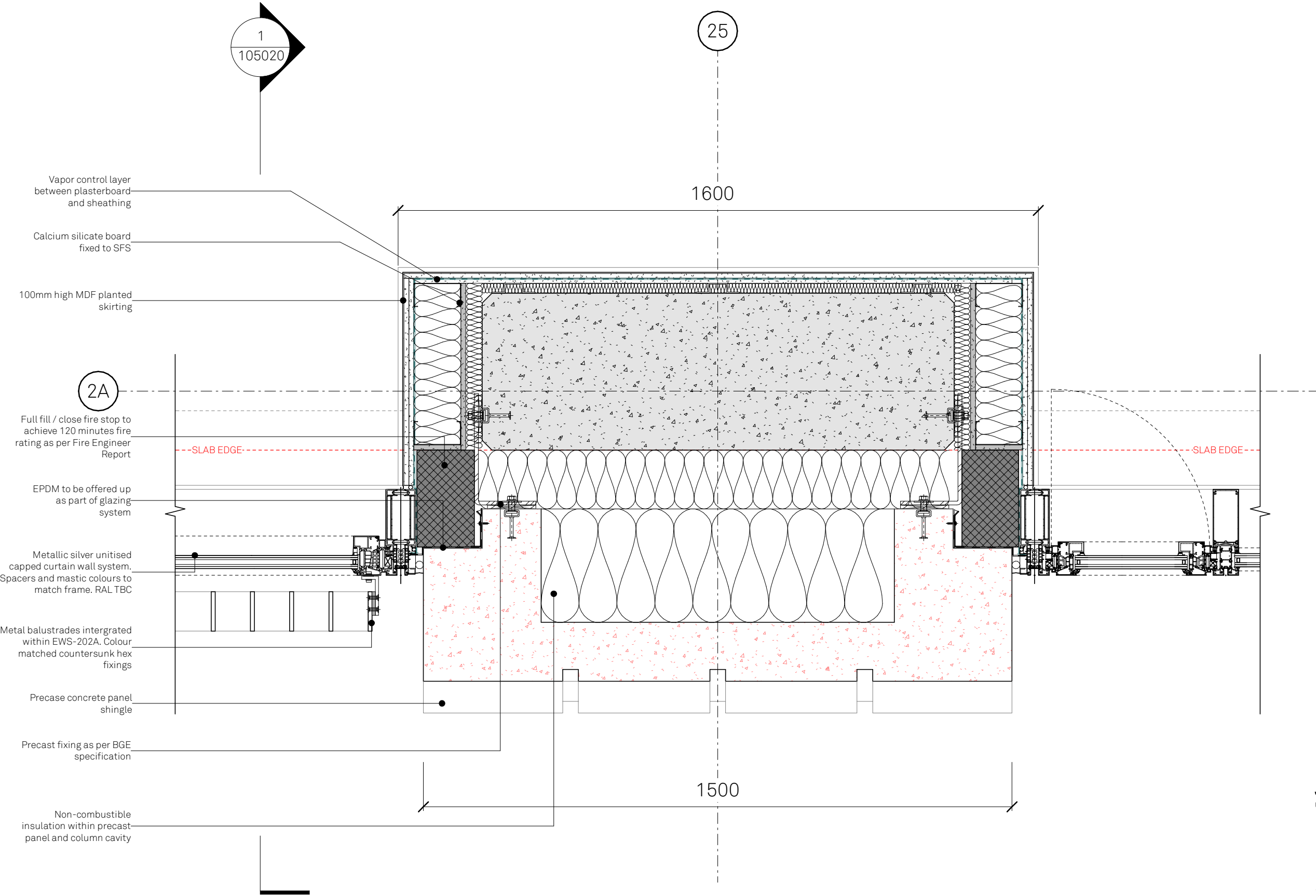
Project:
Renaissance Site, Deansgate, Manchester

Title:
Block 2 - Residential Building
Plan Detail - Typical Precast Shingle and Column Interface

Scale:	Origin Date:	Drawn:	Checked:
1:10 @ A3	01/25/24	PS	CS

Status:
Planning

Drawing No:	Rev:
150-JMA-B2-XX-DR-A-105025B	P01



Quality of finishes

- All finishes and surfaces shall match the accepted sample.
- Finished samples to be submitted to the design team for acceptance prior to manufacturing.
- Discard and replace or correct any units that do not appear identical to the accepted samples.
- Panels may be rejected for the following reasons:
 - Exceeding specified installation tolerances;
 - Any damage during construction

Inspection

All completed units to be carefully inspected and checked for match with accepted sample(s) or control unit(s) and for compliance with the Architectural Specification before dispatch to Site.

Programme

As per Planning Condition 3 ‘a programme for the production of the full sized sample panels’ the project team will endeavour to have the Visual Mock Up Panel as shown in adjacent drawings available for viewing by Q4 2024, subject to manufacturer’s lead-in times.

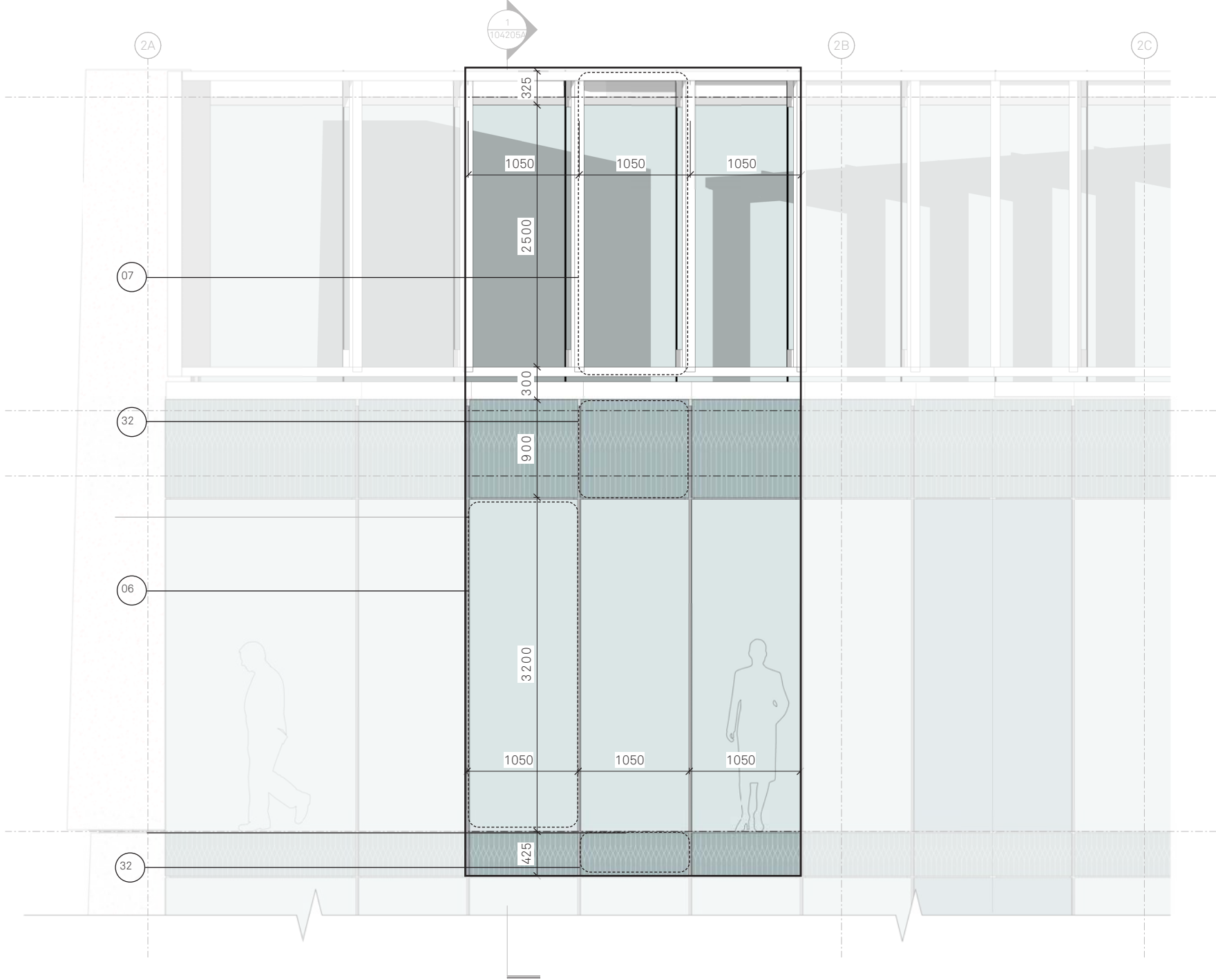
We acknowledge that Condition 3 requires the submission of a Quality Control Management Strategy. In the absence of contractor and sub-contractor engagement at the time of submitting this document, this information will be provided in Q4 2024



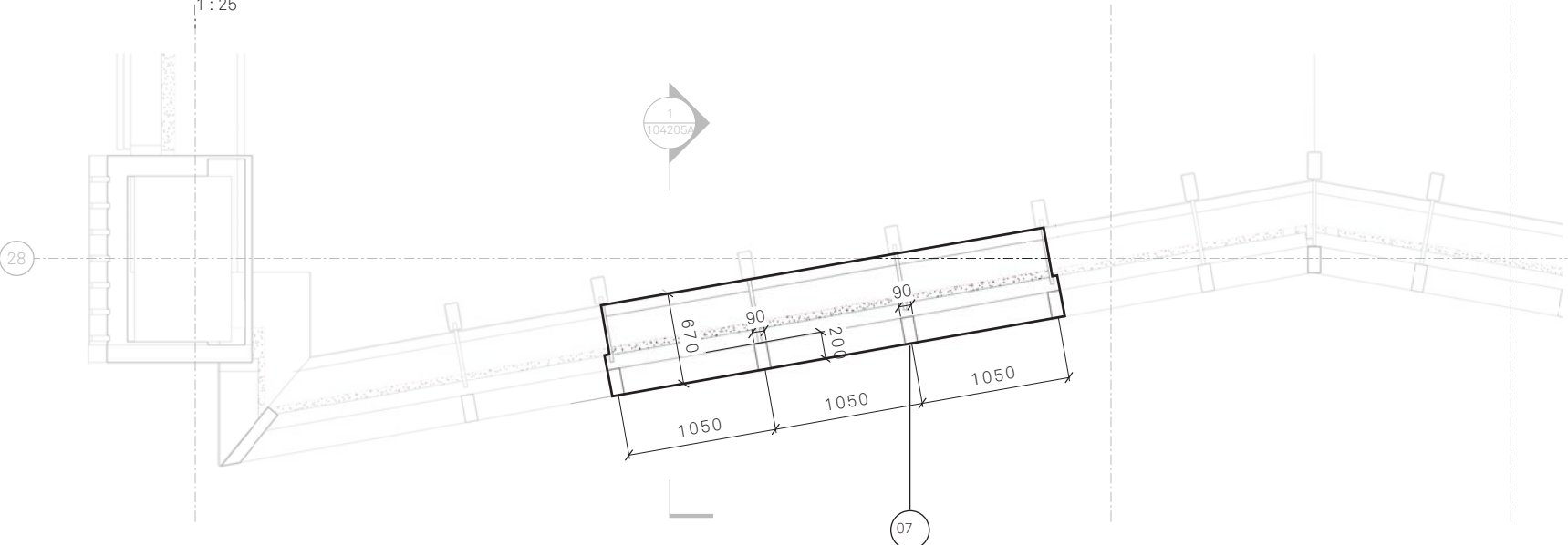
Unitised Curtain Wall System with Parapet

Fritting to the curtain wall glazing to be confirmed and subject to MCC approval.

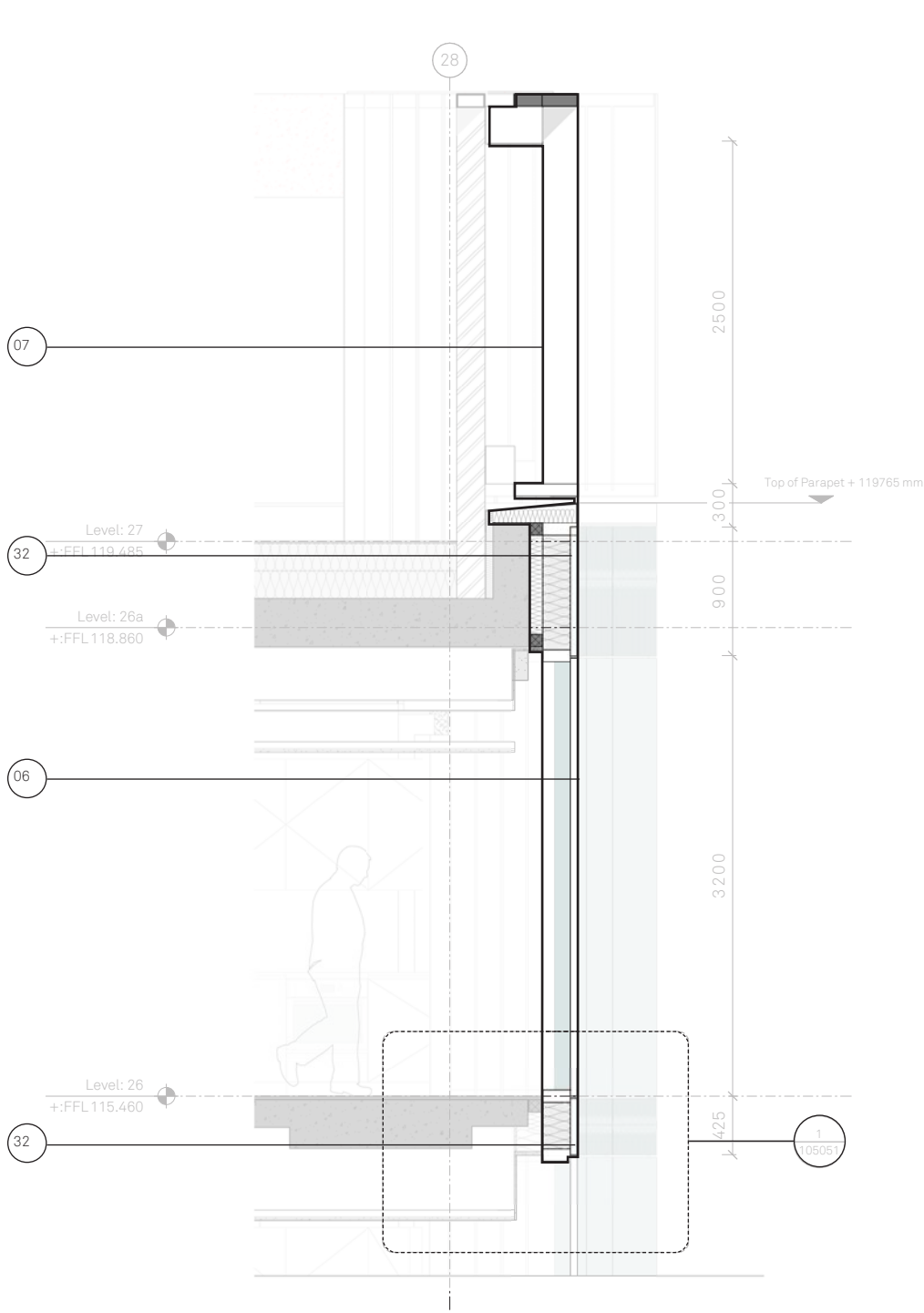




North Elevation - L26-27 Crown
1 : 25



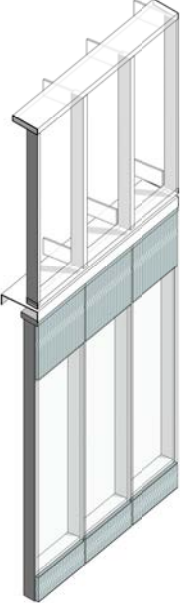
Level 27 Plan
1 : 25



North Elevation Crown Section
1 : 25

- Key:**
- 06 SG Curtain Wall System as part of EWS-202A
 - 07 Metallic Silver Unitised Capped Curtain Wall Parapet as part of EWS-202D
 - 32 Patterned Ceramic Frit Glass Spandrel as part of EWS-202A

3D View
1:50

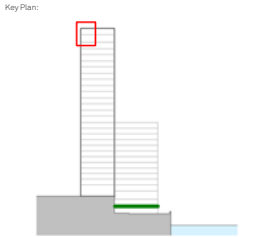


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Dimensions given are average dimensions. Total area and perimeter are for reference only. Dimensions are given in millimeters and meters should be used only from these values stated in text, or in the drawing.

DISCLAIMER: It is understood that the proposed works are within the scope of a complete design and any other conditions have been identified, refer to relevant drawings for details.



Rev.	Date	Details
P01	22.04.24	-

Jon Matthews Architects
Unit, 2-10 Albert Square, Manchester, M2 6LW

Project:
Renaissance Site, Deansgate, Manchester

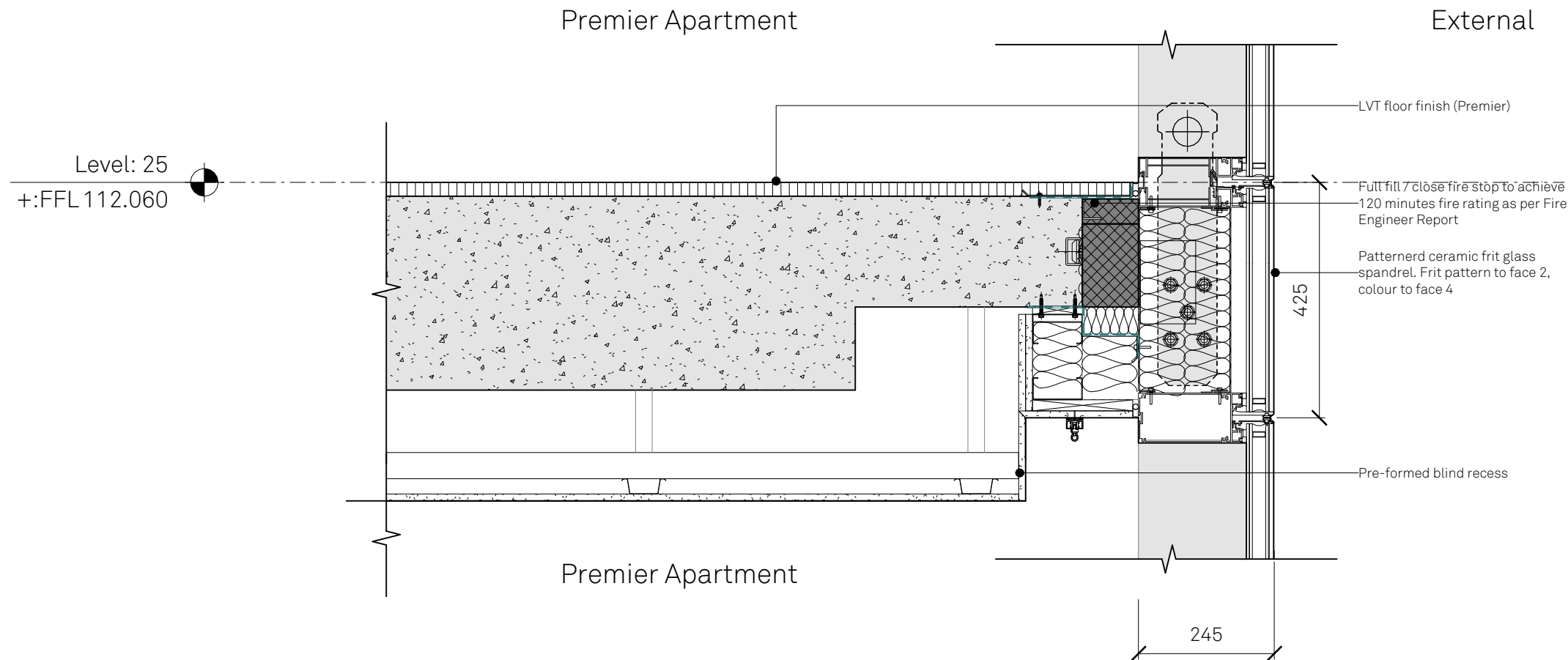
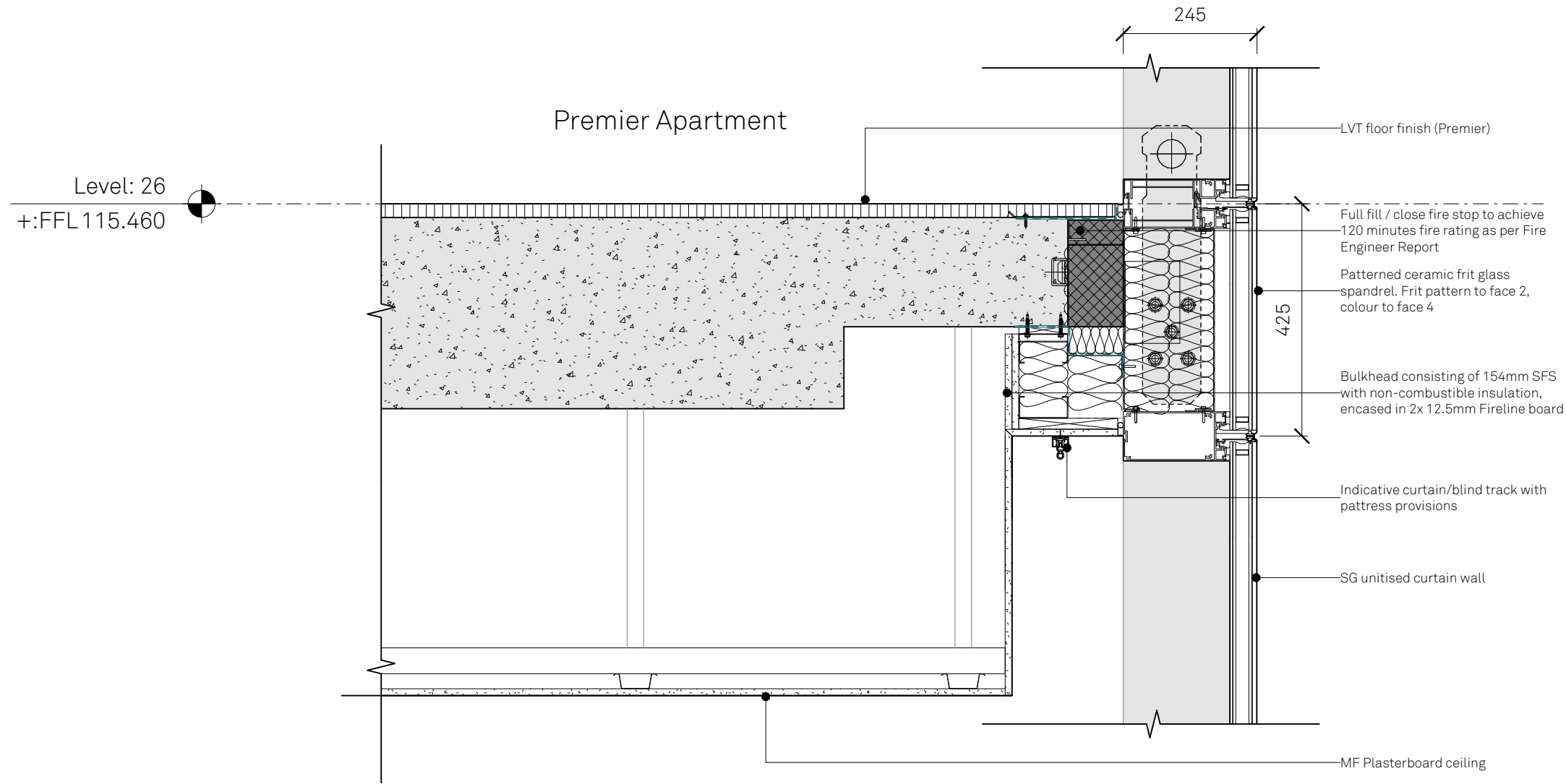
Title:
Residential Building - Block 2
Bay Study 05 - North Elevation (Deansgate Tower) - Sample

Panel:
Scale: 1:25 at A1
Origin Date: 04/22/24
Drawn: PS
Checked: CS

Status:
Planning

Drawing No:
150-JMA-RT-XX-DR-A-104205A

Rev:
P01



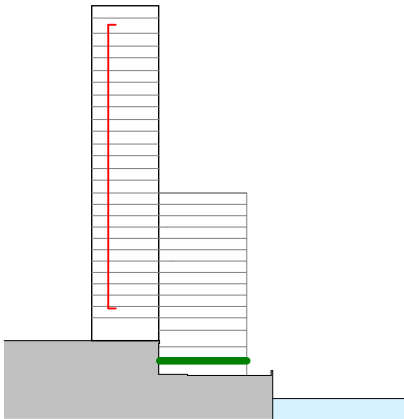
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All Contractors must visit the site and are responsible for taking and checking all dimensions relative to their work. Jon Matthews Architects are to be advised of any variation between drawings and site conditions.

Electronic data/ drawings issued as 'read only' and should not be interrogated for measurement. All dimensions and levels should be 'read only' from those values stated in text, on the drawings

CONSTRUCTION - It is considered that the proposed works are within the scope of a competent Contractor and as such no unusual hazards have been identified, refer to relevant Key/ Scheduler/ Designers Risk Assessment

Key Plan:



- KEY
- VCL
 - EPDM
 - Pile Cap Treatment (as per J40 spec)
 - Ground Level Waterproofing (as per J40 spec)
 - Hot Melt (By Others)
 - Protection Mat (By Others)
 - Permeable Membrane (By Others)
 - To be Coordinated/In Abeyance
 - Slab Edge

P01	22.04.24	-
Rev:	Date:	Details:

Jon Matthews Architects
Union, 2-10 Albert Square, Manchester, M2 6LW

Project:
Renaissance Site, Deansgate, Manchester

Title:
Block 2 - Residential Building
Section Detail - North Elevation EWS208 Typical - Sample Panel

Scale:	Origin Date:	Drawn:	Checked:
1:10 @ A3	04/23/24	PS	CS

Status:
Planning

Drawing No:	Rev:
150- JMA- RT- XX- DR- A-105051A	P01

3.3 Precast Column Casing

Quality of finishes

- All finishes and surfaces shall match the accepted sample.
- Finished samples to be submitted to the design team for acceptance prior to manufacturing.
- Discard and replace or correct any units that do not appear identical to the accepted samples.
- Panels may be rejected for the following reasons:
 - Exceeding specified installation tolerances;
 - Any damage during construction

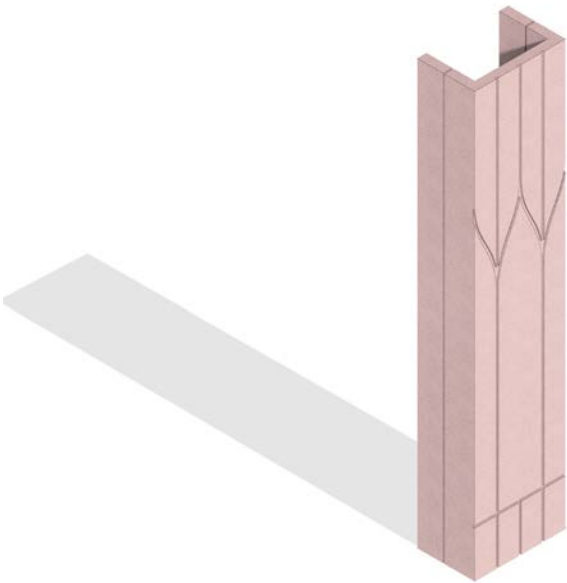
Inspection

All completed units to be carefully inspected and checked for match with accepted sample(s) or control unit(s) and for compliance with the Architectural Specification before dispatch to Site.

Programme

As per Planning Condition 3 ‘a programme for the production of the full sized sample panels’ the project team will endeavour to have the Visual Mock Up Panel as shown in adjacent drawings available for viewing by Q4 2024, subject to manufacturer’s lead-in times.

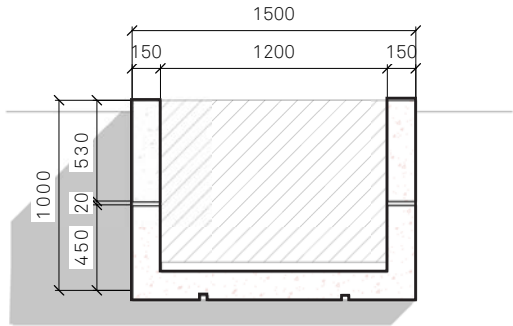
We acknowledge that Condition 3 requires the submission of a Quality Control Management Strategy. In the absence of contractor and sub-contractor engagement at the time of submitting this document, this information will be provided in Q4 2024



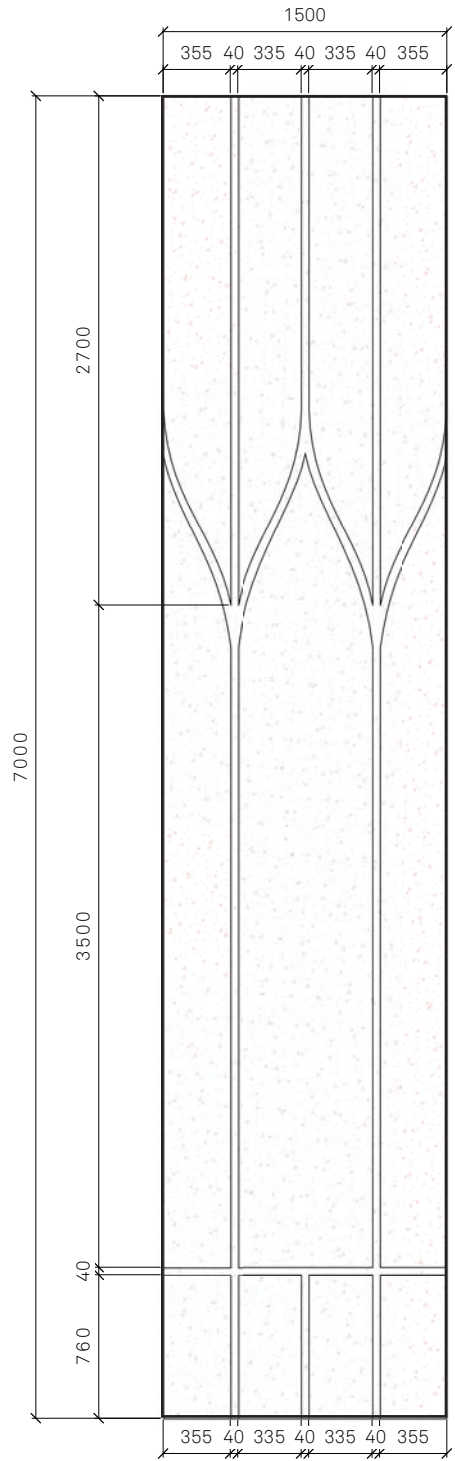
Precast Column Casing

The inlay pattern to the precast to be confirmed and subject to MCC approval.

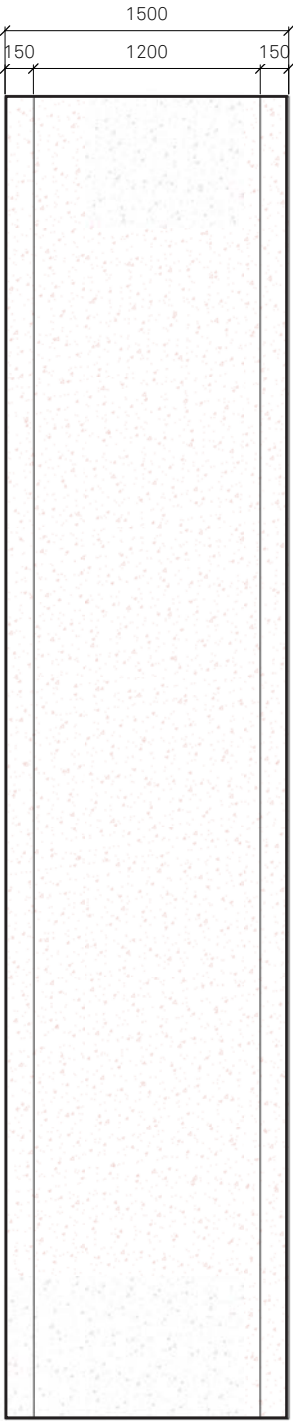




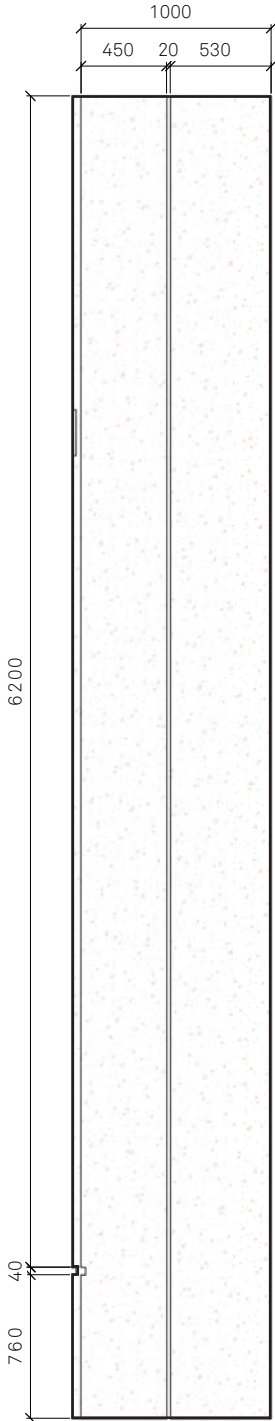
Plan
1 : 20



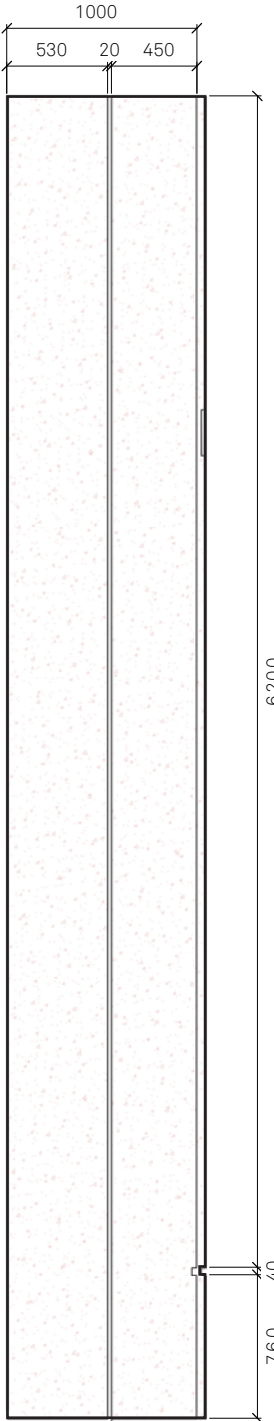
Front View
1 : 20



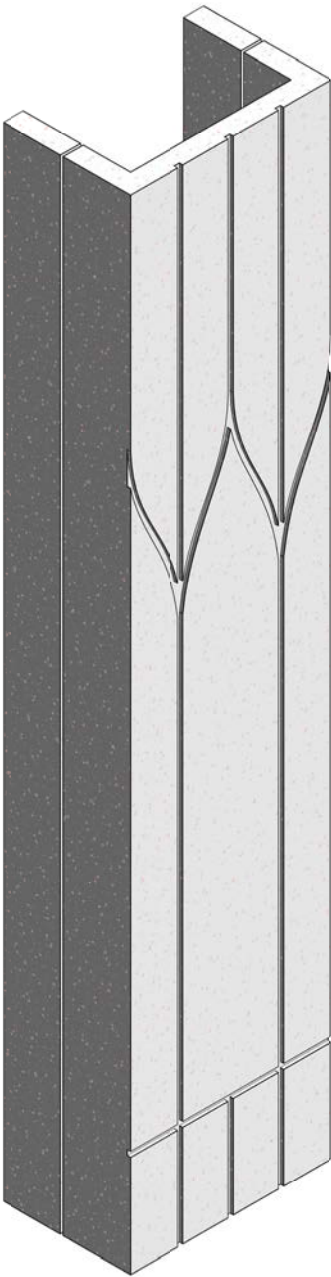
Rear View
1 : 20



Left Reveal
1 : 20



Right Reveal
1 : 20



Front 3D View

3.4 Rainscreen Panel and Curtain Wall System

Quality of finishes

- All finishes and surfaces shall match the accepted sample.
- Finished samples to be submitted to the design team for acceptance prior to manufacturing.
- Discard and replace or correct any units that do not appear identical to the accepted samples.
- Panels may be rejected for the following reasons:
 - Exceeding specified installation tolerances;
 - Any damage during construction

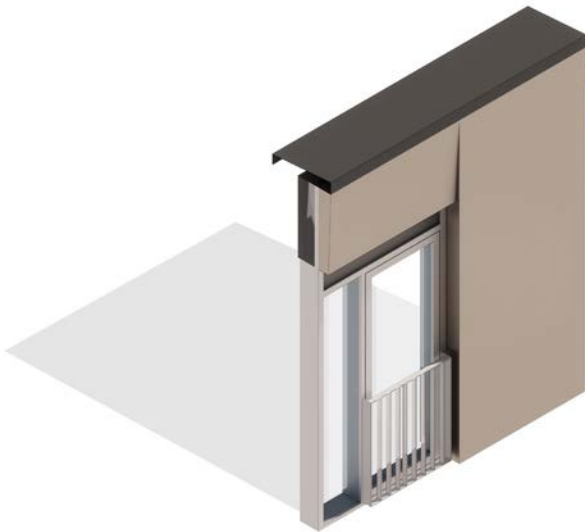
Inspection

All completed units to be carefully inspected and checked for match with accepted sample(s) or control unit(s) and for compliance with the Architectural Specification before dispatch to Site.

Programme

As per Planning Condition 3 ‘a programme for the production of the full sized sample panels’ the project team will endeavour to have the Visual Mock Up Panel as shown in adjacent drawings available for viewing by Q4 2024, subject to manufacturer’s lead-in times.

We acknowledge that Condition 3 requires the submission of a Quality Control Management Strategy. In the absence of contractor and sub-contractor engagement at the time of submitting this document, this information will be provided in Q4 2024



Aluminium Rainscreen Panel and Curtain Wall System



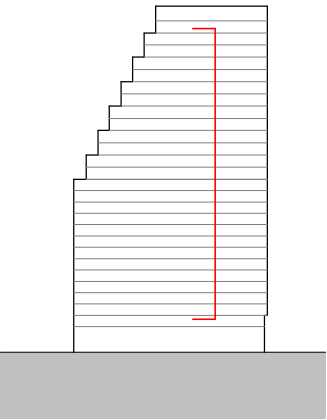


Key:

- 05a Metallic Silver Unitted Capped Curtain Wall System with Ceramic Frit Pattern to Spandrels as part of EWS-202A
- 05b Metal Juliet Balustrade Integrated within EWS-202A
- 25a Aluminium Rainscreen Cassette Panels as part of EWS-209a
- 25b Anodised Aluminium Rainscreen Cassette Panels as part of EWS-209B



Key Plan:



- KEY**
-  VCL
 -  EPDM
 -  Pile Cap Treatment (as per J40 spec)
 -  Ground Level Waterproofing (as per J40 spec)
 -  Hot Melt (By Others)
 -  Protection Mat (By Others)
 -  Permeable Membrane (By Others)
 -  To be Coordinated/In Abeyance
 -  Slab Edge

P01	25.01.24	-
Rev:	Date:	Details:

Jon Matthews Architects
Union, 2-10 Albert Square, Manchester, M2 6LW

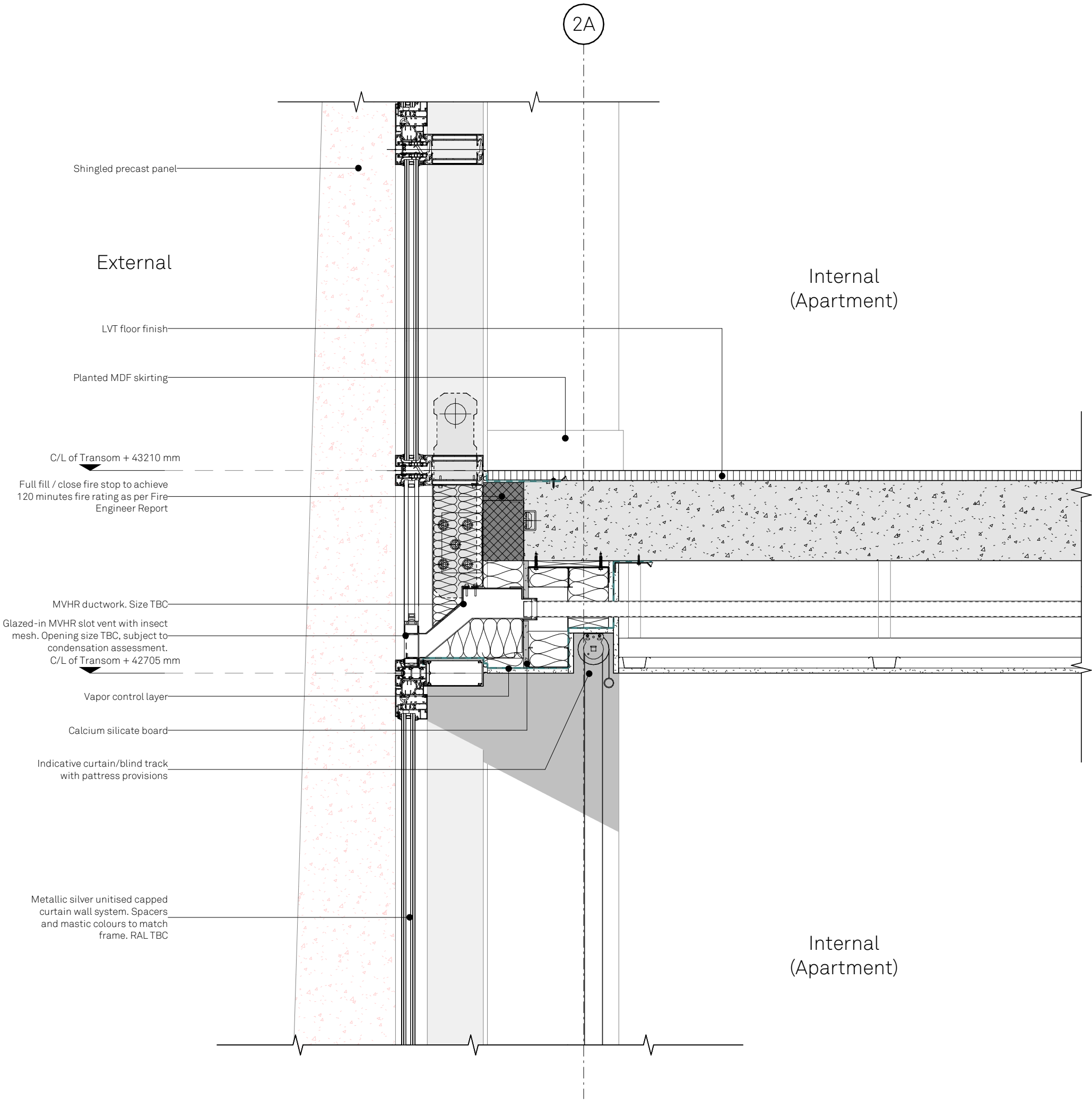
Project:
Renaissance Site, Deansgate, Manchester

Title:
Block 2 - Residential Building
Section Detail - EWS202A Typical Spandrel with Slot Vent

Scale:	Origin Date:	Drawn:	Checked:
1:10 @ A3	01/25/24	PS	CS

Status:
Planning

Drawing No:	Rev:
150-JMA-B2-XX-DR-A-105021A	P01



3.5 Level 26 Precast Panel

Quality of finishes

- All finishes and surfaces shall match the accepted sample.
- Finished samples to be submitted to the design team for acceptance prior to manufacturing.
- Discard and replace or correct any units that do not appear identical to the accepted samples.
- Panels may be rejected for the following reasons:
 - Exceeding specified installation tolerances;
 - Any damage during construction

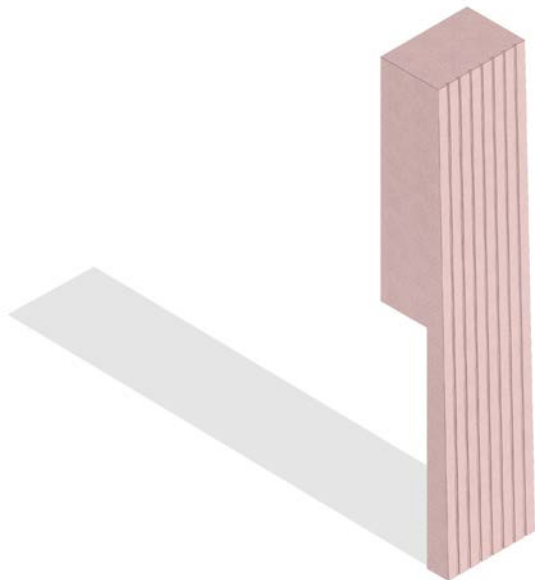
Inspection

All completed units to be carefully inspected and checked for match with accepted sample(s) or control unit(s) and for compliance with the Architectural Specification before dispatch to Site.

Programme

As per Planning Condition 3 ‘a programme for the production of the full sized sample panels’ the project team will endeavour to have the Visual Mock Up Panel as shown in adjacent drawings available for viewing by Q4 2024, subject to manufacturer’s lead-in times.

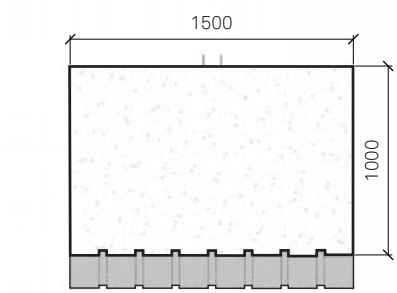
We acknowledge that Condition 3 requires the submission of a Quality Control Management Strategy. In the absence of contractor and sub-contractor engagement at the time of submitting this document, this information will be provided in Q4 2024



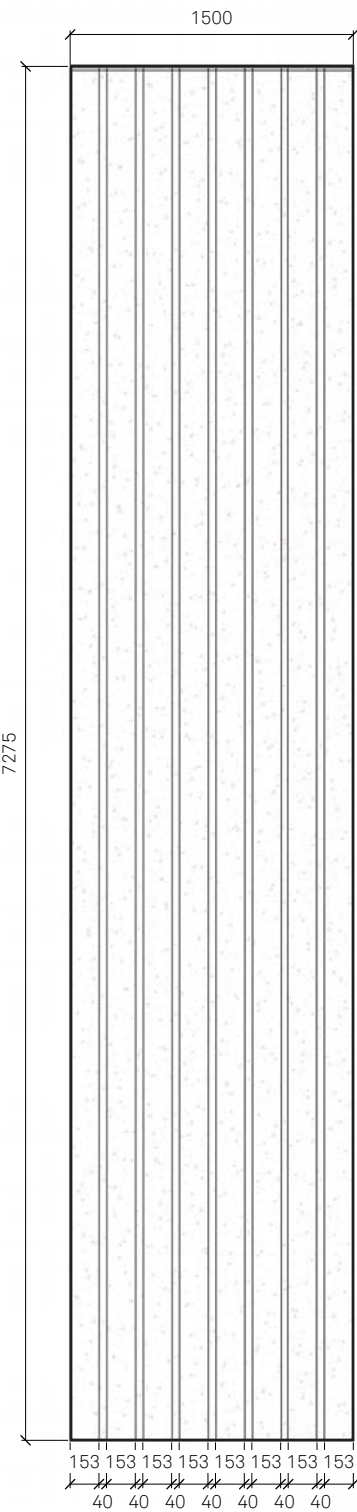
Level 26 Precast Panel

The inlay pattern to the precast to be confirmed and subject to MCC approval.

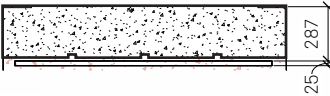




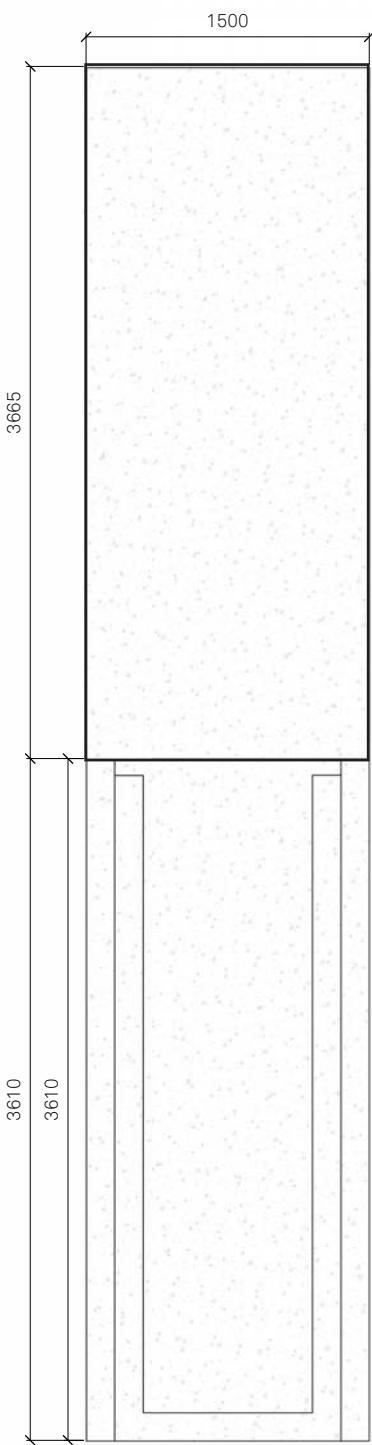
Top
1 : 20



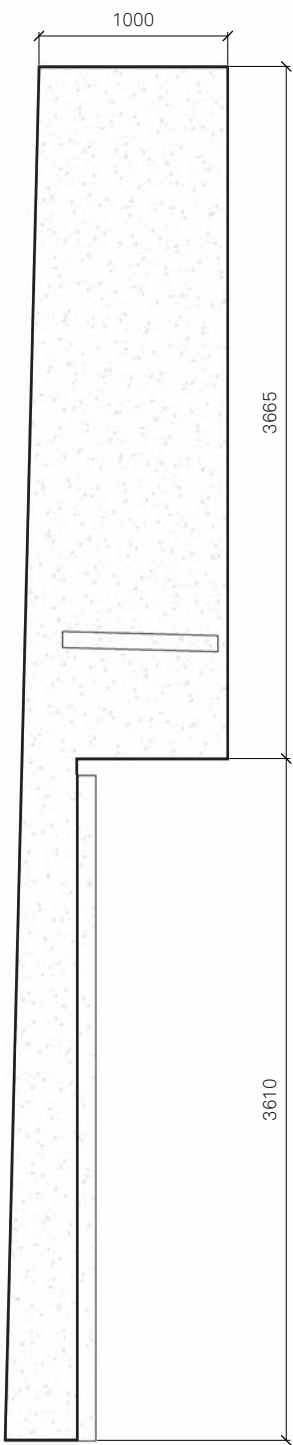
Front
1 : 20



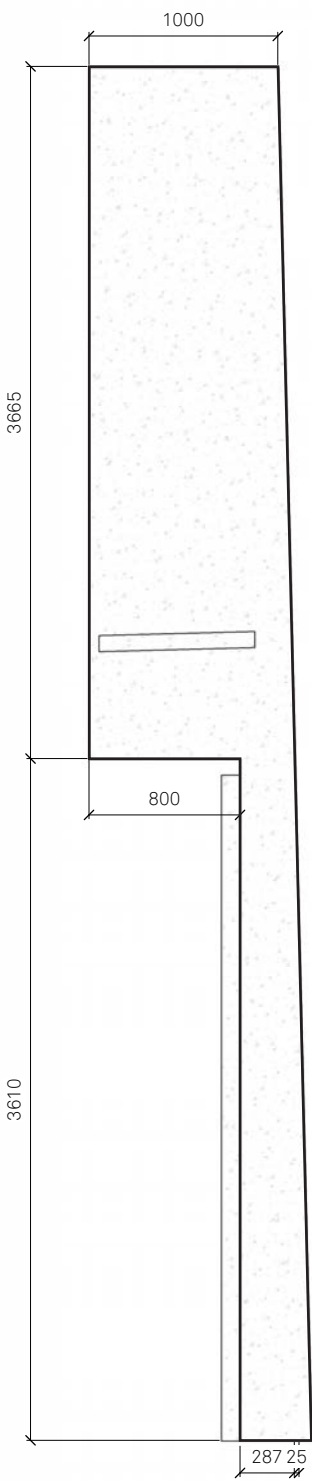
Soffit
1 : 20



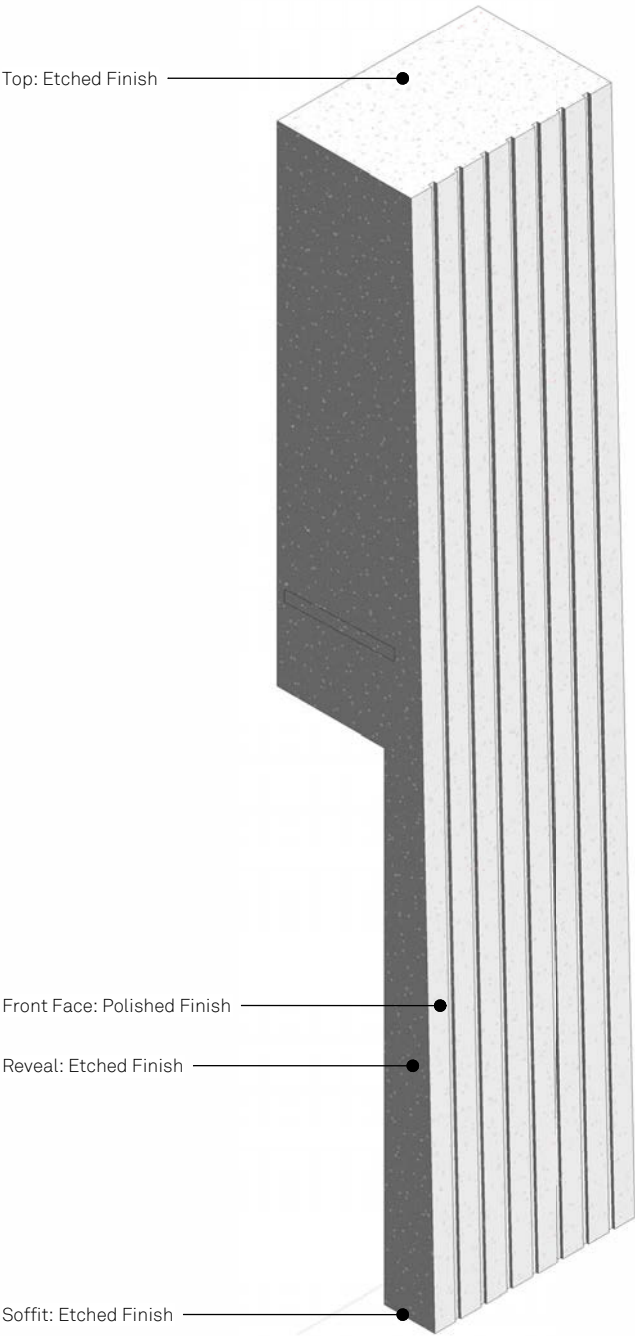
Rear
1 : 20



Left Reveal
1 : 20



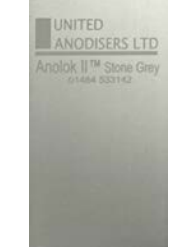
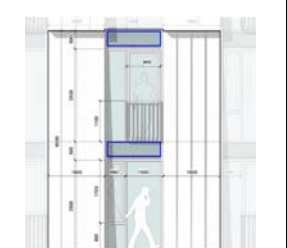
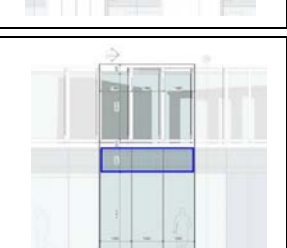
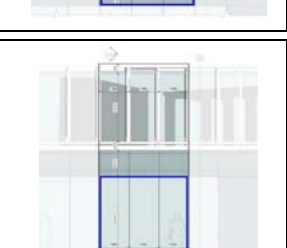
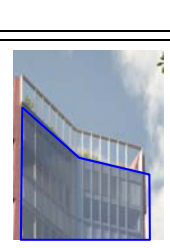
Right Reveal
1 : 20

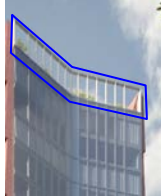
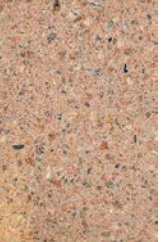
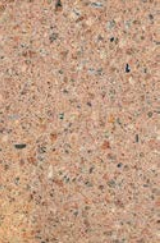
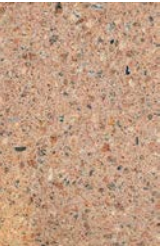
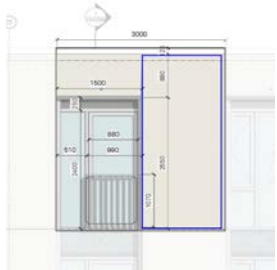


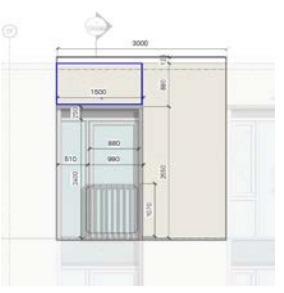
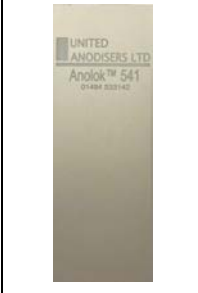
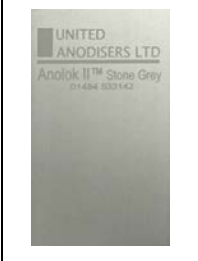
Front 3D View

4.0 External Material Schedule

Project Number:	150 - Renaissance - Residential
Filing Code:	
Issue Date:	26.04.24
Revision:	C

Spec Tag	Description	Level	Elevation Reference	Location	Drawing Reference	Image	Manufacturer	Product Range / Code	Colour / Finish	Sample availability	Notes
EWS-202A	Unitised Curtain Wall Mullions/Transoms with Integrated Juliet balcony.	Level 02 to Level 26		EWS-203BB	150-JMA-B2-XX-DR-A-104202A_Bay Study - Sample Panel		United Anodisers LTD	Anolok™ II	Stone-Grey	Yes	JMA to provide
EWS-202A	Unitised Curtain Wall Glazing with Integrated Juliet balcony.	Lower Ground 02 to Level 26		Across all elevations	150-JMA-B2-XX-DR-A-104202A_Bay Study - Sample Panel		Schüco	AF UDC 80 or acceptable equivalent	Clear glass	No	To form part of Visual Mockup Unit. Date: Q4 2024
EWS-202A	Back painted glass with colour on Face 4 and Frit Pattern on Face 2	Lower Ground 02 to Level 26		Across all elevations	150-JMA-B2-XX-DR-A-104202A_Bay Study - Sample Panel		Schüco	AF UDC 80 or acceptable equivalent	Back Painted Glass with Frit Pattern	No	To form part of Visual Mockup Unit. Date: Q4 2024
EWS-202A	Back painted glass with colour on Face 4 and Frit Pattern on Face 2	Level 02 to Level 26		North Elevation	150-JMA-RT-XX-DR-A-104205A - Bay Study 05 - North Elevation (Deansgate Tower) - Sample Panel		Schüco	AF UDC 80 or acceptable equivalent	Back Painted Glass with Frit Pattern	No	To form part of Visual Mockup Unit. Date: Q4 2024
EWS-202A	SG Curtain Wall Glazing	Level 02 to Level 26		North Elevation	150-JMA-RT-XX-DR-A-104205A - Bay Study 05 - North Elevation (Deansgate Tower) - Sample Panel		Schüco	AF UDC 80 or acceptable equivalent	Clear glass	No	To form part of Visual Mockup Unit. Date: Q4 2024

Spec Tag	Description	Level	Elevation Reference	Location	Drawing Reference	Image	Manufacturer	Product Range / Code	Colour / Finish	Sample availability	Notes
EWS-202D	Metallic Silver Unitised Capped Curtain Wall Parapet	Level 27		Across all Elevations	150-JMA-RT-XX-DR-A-104205A - Bay Study 05 - North Elevation (Deansgate Tower) - Sample Panel		tbc	tbc	Silver	No	To form part of Visual Mockup Unit. Date: Q4 2024
EWS-203B	Polished precast shingle	Lower Ground 02 to Level 26		Across all elevations	150-JMA-B2-XX-DR-A-104202A_Bay Study - Sample Panel		Techrete	DRS1174P	Polished	Yes	JMA to provide
EWS-204A	Polished & Patterned Precast Column	level 00		Across all Elevations	150-JMA-RT-XX-DR-A-10_4240A_Precast EWS-204A & EWS214B (Column Casing) - Sample Panel		Techrete	DRS1174P	Polished	Yes	JMA to provide
EWS-205A	Polished & Patterned Precast Panel with steel support frame	Level 26		East & West Elevations	150-JMA-RT-XX-DR-A-104243A_Precast EWS-205A (East & West Façade L26) - Sample Panel		Techrete	DRS1174P	Polished	Yes	JMA to provide
EWS-209A	Anodised Aluminium Rainscreen Cassette Panels	Level 02 to Level 13		South Elevation (Irwell Block)	150-JMA-RT-XX-DR-A-104209A_Bay Study 09 - Irwell South - Sample Panel		United Anodisers LTD	Anolok™ 541	Bronze	Yes	JMA to provide

Spec Tag	Description	Level	Elevation Reference	Location	Drawing Reference	Image	Manufacturer	Product Range / Code	Colour / Finish	Sample availability	Notes
EWS-209B	Anodised Aluminium Rainscreen Cassette Panels	Level 02 to Level 13		South Elevation (Irwell Block)	150-JMA-RT-XX-DR-A-104209A_Bay Study 09 - Irwell South - Sample Panel		United Anodisers LTD	Anolok™ 541	Bronze	Yes	JMA to provide
EWS-209C	Anodised Aluminium Column Encasement and soffit to North Elevation Entrance	Level 00-01		North Elevation	150_B2_04_2201		United Anodisers LTD	Anolok™ II	Stone-Grey	Yes	JMA to provide
EWS-209C	Granite Upstand / Stall Riser	Level 00		East Elevation	150_B2_04_2200		Hardscape	Granite - Darton	Granite	Yes	JMA to provide
EWS-214A	Acid-Etched Precast Shingle	Level -01 to Level 13		North, South and West Elevation (Irwell Block)	150_B2_04_2201		Techcrete	DRS1174AE	Acid-Etched	Yes	JMA to provide

5.0 Facade Specification

6.8 PRECAST CONCRETE

- Refer to the Structural Engineer’s Specifications in the first instance and comply with the requirements of all formwork, fabrication and installation.
- The following chapters are noted for reference:
 - + REN-BGE-SPEC-S-E05 – Concrete – General,
 - + REN-BGE-SPEC-S-E10 – Concrete – Mixing, Casting, Curing,
 - + REN-BGE-SPEC-S-E20 – Concrete – Formwork,
 - + REN-BGE-SPEC-S-E30 – Concrete – Reinforcement,
 - + REN-BGE-SPEC-S-E40 – Concrete – Joints,
 - + REN-BGE-SPEC-S-E41 – Concrete – Worked Finishes,
 - + REN-BGE-SPEC-S-E42 – Concrete – Accessories Cast into In-situ Concrete.

6.8.1 General

- The complete detailed design of the panels may be covered by specifications provided by various parties such as the Architect, Structural Engineer and Services Engineer. Collaboration between these parties is required to provide a coordinated suite of specific cations that cover the full detailed design without duplication or conflict of information, while maintaining the project design responsibilities.
- Architectural Precast concrete shall be designed and installed in accordance with the requirements of the UK National Structural Concrete Specification, and in accordance with the requirements of BS-8297, BS-8110, BS-8200, and the recommendations of the CWCT ‘*Standard for systemised building envelopes*’ and of the British Precast Concrete Federation.
- Reconstituted stone shall comply with BS-1217.
- The components of the precast concrete panel, excluding elements such as windows and doors, which are installed into openings, shall be covered by a single source warranty. Therefore, approval shall be obtained from the manufacturer/supplier for all materials to be used.
- Interfaces with third-party systems, such as windows and doors that are installed into openings within the panel, shall be in accordance with the third-party system manufacturer’s recommendations and shall maintain the warranty of both the third-party system and the concrete panel system.
- The works shall accommodate all architectural and functional features indicated on the Architectural Drawings, whilst maintaining the specified performance.
- Dimensions indicated on the Architectural Drawings are nominal and indicative of the design intent. The Contractor shall maintain these dimensions and clearly state them on the Working Drawings. Any deviations to the indicated dimensions shall be stated with the Tender return.
- Include conduits and other components to suit services that interface with the panels.
- All metal components shall be corrosion protected in accordance with clause 3.17.
- The works shall be designed and installed as complete integrated systems, including all necessary reinforcement, support structure, bracketry, fixing rails and plates, angles, cleats, grouting, fixings and fastenings, rivets, clips, vapour control barriers, insulation, damp-proof membranes, breather and other membranes, intumescent fire stops and cavity barriers, acoustic breaks, pressed metal components, closures, seals and sealants, gaskets, fillers, tapes, spacers, packers, shims, isolators and all other accessories and components necessary to complete the installation.
- The works shall accommodate interfacing systems in a manner acceptable to the manufacturer’s requirements.
- The Contractor shall liaise with the interfacing trade contractors regarding the design of the system and setting-out requirements and factor all components into any necessary calculations.
- Coordinate, with relevant trade contractors, for internal and external interfacing works, to enable their installations to interface with the loadbearing panel system as required to maintain performance requirements.

6.8.2 Single-Skin Panels (Non-loadbearing)

- Non-loadbearing insulated panel systems consisting of a single leaf of structural concrete (and reinforcement as appropriate).
- Panels may be long-spanning elements or individual piers and beam elements positioned in front of the structural columns and slab edges with loads transferred through the structure to the foundations, configured to dimensions as indicated on the Architectural Drawings.
- The concrete leaf shall be fixed to the primary structure in accordance with the Architectural Drawings. Preferred intent for support of panels shall be demonstrated to the project team for structural coordination.
- The exposed face of the inner leaf should be prepared to receive site-applied finishes indicated on the Architectural Drawings. The concrete shall support insulation fixed to the inner surface of the leaf.
- The thickness of the leaf shall be within the zones indicated on the Architectural Drawings.
- Concrete grade shall be confirmed by the tendering contractor and suit both performance and visual requirements.
- Integral insulation shall be of thickness and density to maintain performance requirements. Insulation type shall be compatible with the fabrication method of the sandwich panel.
- The outer leaf shall be fixed to the inner leaf in accordance with the system manufacturer’s recommendations.

6.8.3 Finishes

- The panels shall be through-coloured in a colour concrete and allows concrete to cure without trapping moisture. The location / arrangement of the various colours shall be indicated on the Architectural Drawings.
- Exposed faces of outer leaves shall have a cast texture formed by mould type. Patterns shall be formed within the external leaf of the panels by use of a formliner or acceptable equivalent. The location / arrangement of the various textures shall be indicated on the Architectural Drawings,
- Panel edge profiles shall be chamfered / square.

6.8.3.1 Joints

- Unless specified otherwise, joint widths and configurations shall be as recommended by the manufacturer/ supplier for acceptance by the Architect and shall maintain the performance requirements of the Architectural Specification.
- Locations shall be as indicated on the Architectural Drawings, or to the acceptance of the Architect.
- Joints shall align with interfacing systems. Gaps within joints shall be uniform, unless specified or indicated otherwise on the Architectural Drawings.
- Movement joints shall accommodate all specified movements whilst maintaining the overall system performance. Movement joints shall appear as similar to the standard joint as possible, to the acceptance of the Architect.
- Changes in direction shall be achieved using panels that are factory formed to suit the configurations. Preformed return ends shall be provided where possible. Corner angle covers and lapped joints with visible exposed insulation shall not be acceptable. Site cutting of panels shall not be permitted.
- Panel edge profiles shall be chamfered / square.
- Panel-to-panel joints; Joint locations and widths shall be as indicated on the Architectural Drawings.
- Joints shall be sealed in accordance with the panel manufacturer’s recommendations to achieve performance requirements and suit service conditions. Sealant colour shall be , selected from the manufacturer’s standard range.
- Joint profiles shall be flat recessed.

6.8.3.2 Structural Support

- Secondary support shall be configured as indicated on the Structural Engineer's drawings, fixed back to the primary structure by methods that maintain performance requirements and, where exposed, are acceptable to the Architect.
- Where the Sub-Contractor deems that secondary support is required in addition to that indicated on the Structural Engineer's drawings, the Contractor shall inform the Architect at Tender return and propose a suitable structural support system for acceptance.

6.8.3.3 Fixings

- Structural fixings connecting the panels to the primary structure shall be capable of accommodating panels, ancillary windows, connections and materials as well as combined loading.
- Fixings shall be concealed unless accepted otherwise by the Architect.
- Fixing directly to structure:
 - Provide and install all fixing devices, including bearing brackets and movement fixings and carry out all necessary preparation work such as drilling, plugging, screwing, bolting, cutting for anchor bolts or sockets to be cast-in, making good, including grouting-in of anchor bolts, and fixing whatsoever necessary.
 - All fixings shall be coordinated with the superstructure design.
 - Submit details of all fixings for review and acceptance by the Structural Engineer.
- Fixings shall provide 3-way adjustment of the panels to accommodate tolerances.
- Provide cast-in accessories, such as:
 - Lifting points, which shall be concealed on completion of the works or made good following installation of the panels.
 - Conduit to provide a concealed connection of electrical services installed on/in the panel.
 - Include for damp-proof courses/membranes at interfaces with the primary structure and other locations as required.
- Components for lightning protection and earth bonding shall be concealed, if required.

6.8.3.4 Cladding

- Unless specified or indicated otherwise on the Architectural Drawings, panels shall be secured to the support system using concealed methods.
- Determine the appropriate constituent materials and concrete mix proportions to achieve the visual and performance requirements of the Architectural Specification.
- The mix shall be suitable to achieve the required visual appearance for all visible faces of the installed works, for the full panel depth.
- Finished visible faces shall be uniform in colour, texture and appearance throughout the works.
- Surfaces shall be free from discolouration caused by contamination from release agent, grout leakage, rust staining or other sources.
- Exposed arrises shall have chamfered / square edges to a profile acceptable to the Architect.
- Cover spacers shall not be permitted on visible surfaces, unless agreed in advance with the Architect and the Structural Engineer.

6.8.3.5 Insulation

- Determine the type, thickness and density of insulation to achieve the performance requirements and to suit the service conditions.
- Insulation shall be bonded and/or mechanically fixed within panels of sandwich construction, as proposed by the Contractor.
- Exposed surfaces of insulation shall be sealed with an appropriate facing material and suitably taped at joints.
- The works shall include all necessary recesses/apertures to accommodate services and fittings.

6.8.4 Performance Requirements

6.8.4.1 Structural Performance

- The works shall be designed to comply with all prevailing relevant British Standards and Euro codes as appropriate.
- When calculating design loads, the worst combination shall be considered, taking account of the fact that the pressure coefficients at various locations may determine more than one design criterion.
- The works shall be capable of accommodating the following dead loads without any reduction in performance or appearance:
 - Component and final assembly dead loads.
 - Dead loads derived from any permanent fixtures or services attached to the works.
- The works shall be capable of accommodating the following live loads without any reduction in performance:
 - Loads arising from moving elements of the works, such as integrated opening panels, doors and vents.
 - All loads resulting from movements of the building structure and cladding support structure.
 - Applied loads acting on the surface of the works arising from maintenance and cleaning operations. The works shall sustain safely, without reduction in performance and without permanent deformation to any component, a static N load applied through a square of 100 mm sides.
 - Loads associated with normal maintenance and access traffic, in addition to any accidental loads imposed by persons falling against or onto the elements.
 - Increased weight due to unintended water absorption, snow and ice. Snow loads shall be in accordance with BS-EN-1991 Parts 1-3.
 - Known impact loads, or transferred impact loads, that occur during the service life, without deterioration in performance and without sustaining non-repairable damage.
 - Loads imposed by interfacing elements/works.

6.8.4.2 Wind Integrity / Air Pressure Loads

- Where available, refer to the supplementary Wind Report. Review the Report and identify if the following clauses are required, ensuring that there is no conflict or duplication of content.
- The works shall withstand, without permanent deformation, the effects of wind loads on the external elements, or internal areas subject to external wind pressure. Take into account the presence of openings.
- Wind pressure/load values shall be determined in accordance with the geographical location of the site, the topographical conditions and the type of building in accordance with BS EN 1991: Part 1-4.
- When assessing the wind pressure/load, account shall be taken of the shape of the building and its location in relation to the layout of any adjacent structures.
- Particular attention shall be paid to areas subject to increased pressures as defined by BS EN 1991: Part 1-4, such as eaves, canopies and external corners. Where it is believed that the geometry of the building will cause increased pressure due to vortex conditions, special care shall be taken to identify and design for any situation not clearly defined in BS EN 1991: Part 1-4.
- Take the necessary provisions to eliminate vibration, noise and fatigue caused by wind action and or vortex shedding of the façade elements.

6.8.4.3 Deflection

- Refer to the Structural Engineers' Movements and Tolerances Report.
- Deflections of non-loadbearing panels shall be in accordance with BS 8297.
- Deflections of loadbearing panels shall be in accordance with the deflection limits confirmed by the Structural Engineer.
- At both positive and negative applications of peak test pressure, the maximum allowable deflection of any element of the panel works, when carrying full design load, shall not exceed 3/1000 of its clear span in a direction normal to the plane of the element.

6.8.4.4 Thermal Movement

- Allow for thermal movements exerted due to climatic conditions.
- The works, including all necessary support structure, shall be designed to accommodate changes in dimension and shape of its components resulting from changes in service temperatures and from differential surface temperatures between inside and outside of the building without any reduction in the specified performance.
- The design shall cater for all temporary and permanent conditions. Due regard shall be made to the effects of the orientation of the building toward the sun.

6.8.4.5 Durability

- Generally, the performance or visual appearance of any element/component of the works shall not degrade during the design life of each element/component.
- Exposure to sunlight during the lifetime of the works shall not reduce the performance or visual appearance of any element/component of the works. Take into consideration expected solar performance under varying conditions of solar radiation and external/internal air velocity.
- The construction shall perform throughout the specified service life without failure resulting from defects in the design, materials or workmanship. Failure shall be defined as breakage, disengagement of components, deflection beyond stated values, reduction in performance or changes in appearance.
- The construction shall comply with Section 5 of Approved Document A of the Building Regulations, with regard to accidental damage/robustness.
- For Impact Resistance refer to clauses 4.5.1 and 10.2.

6.8.4.6 Weathering and Contamination.

- Rain, airborne pollutants and the wind shall not affect the performance of the building.
- Refer to Appearance Matters Series, No. 6. The Weathering of Concrete Buildings published by the British Cement Association.
- The building shall resist abrasion from agreed cleaning methods and maintenance systems without any noticeable change in appearance.

6.8.5 Environmental Performance

- In the first instance, Environmental Criteria shall be in accordance with clause 3.

6.8.5.1 Moisture Movement

- The works shall withstand movement without permanent deformation or any reduction in the specified performance due to:
 - Changes in the moisture content of its components, resulting from variations in the moisture content of the air.
 - Expansion caused by freezing of absorbed or retained moisture.
 - Control the flow of any water that may enter the system and direct the water to the outside such that no water remains internally and that there is no reduction in the specified performance of the works.

6.8.5.2 Acoustic Performance

- In the first instance, Environmental Criteria shall be in accordance with clause 3.5.

6.8.5.3 Fire Performance

- In the first instance, Environmental Criteria shall be in accordance with clause 3.15

6.7 GLAZING

6.7.1 General

- Glazing edges shall not come into direct contact with metal components or hard surfaces unless the systems are specifically designed for this purpose. Non-metallic separators, setting blocks and sealants shall be utilised in accordance with BS-6262-6.
- Glazing in 'critical locations' as per Building Regulations Approved Document K shall be required to be safety glass.
- Glazing more than 3m above ground or floor level that is vertical with unsupported edges or sloping 85° degrees from horizontal or more shall be laminated.
- Where glass is horizontal (less than 85° degrees from horizontal), it shall be 4-side supported laminated heat strengthened. The interlayer shall be a minimum of 1.52mm thick. Point supported glass shall be approved by the Client within the limitations of this Specification.
- Wherever glass performs the role of a barrier protecting a fall greater than 1m, it shall be laminated as indicated in BS-6180. A barrier is defined as any element intended to prevent people from falling or to stop people. For full height vision glazing in an area with a transom or stack joint height lower than 500mm above finished floor level comply with the requirements of BS-6262-3
- Window and panellised facade glazing shall be performed in the factory in accordance with the manufacturer's recommendations, relevant Standards, and the design criteria of this Specification.

6.7.2 Quality Control Program

- Submit a comprehensive ongoing manufacture and performance quality control program that shall include production methods and tests, and inspections of the following parameters:
 - Glass edge defects.
 - Cleaning procedures, rags, solvents, etc.
 - Silicone batch, 'use by' dates.
 - Cure rate of silicone.
 - Installation method of silicone.
 - Correct joint dimensions.
 - Air entrapment in cartridge.
 - Surface finish of aluminium.
 - Edge delamination in glass.
 -

6.7.3 Log Book

- A factory log book shall be kept and available for inspection by the Client recording the following information:
 - Date.
 - Number of panels manufactured and their intended location on the project.
 - Daily temperature and relative humidity inside and outside the factory.
 - Silicone product code and batch number.
 - Individual panel numbers glazed on that day.
 - Skin-over silicone test results.
 - Elastomeric silicone test results.
 - De-glaze results if applicable.
 - 'Hand pull' peel test results.
 - Factory Quality Inspector's report.

6.7.4 Panel Identification

- Each panel shall be individually numbered in such a way that the manufactured history can be traced via the factory log book.
- Mark the location of each individual panel on the elevation drawings and submit to the Client.

6.7.5 Supervision by Sealant Manufacturer

- Suitably trained personnel of the sealant manufacturer shall carry out the following supervisory requirements in the factory:
 - Witness initial glazing operations for compliance with their recommendations, and to ensure correct application of their materials.
 - Periodically inspect the factory in the presence of the Client to ensure that their standards are being maintained.
 - Direct and be present to inspect the de-glazing of all panels to ensure correct installation of sealant.

6.7.6 Cold Bending

- Cold bending of glazing must allow the element or unit maintain their overall performance.

Simple, elegant design.