ARUP

Department of Education

Melrose Park High School

Section J DTS Compliance Report

Reference: ESD-MPH-REP-001

REF | 20 January 2025

Job number 303392-00

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Document Verification

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Document title	Section J DTS Compliance Report
Job number	303392-00
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Revision	Date				
Schematic Design	14 November 2024	**Description**	NCC 2022 DTS Section J DTS Report		
			Prepared by	**Checked by**	**Approved by**
		Name	Enda Seyama-Heneghan	Alex Rosenthal	Alex Rosenthal
		Signature			
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			Prepared by	**Checked by**	**Approved by**
		Name	Enda Seyama-Heneghan	Alex Rosenthal	Alex Rosenthal
		Signature			
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		Description	For planning approval/REF submission. Update only to Sections 2.2 and 5.1.		
			Prepared by	**Checked by**	**Approved by**
		Name			
		Signature			

Issue Document Verification with Document ✓

Contents

Appendices

1. Introduction

Arup has undertaken an assessment of Melrose Park High School against the National Construction Code (NCC) 2022 Section J.

The assessment proposes a set of minimum insulation and glazing performance requirements for the building to comply with the J1P1 requirements of Section J via Deemed-to-Satisfy (DTS) provisions.

2. Inputs and Assumptions

2.1 Scope

This report assesses the building envelope of the project against the requirements of NCC 2022 Section J Part J4 for Building Fabric and J5 for Building Sealing where relevant to the building envelope.

It is assumed in this report that building services comply with the requirements of Sections J5 – J8. This is to be certified by the services consultants.

2.2 Geometry

This assessment is based on the frozen architectural drawings set by NBRS, received on November 1st 2024 and NBRS tender drawings dated November 1st 2024. Minor updates to the architectural layouts, as shown in the REF drawings, do not impact the minimum compliance requirements reported in this document.

2.3 Building Classification

The building is being assessed as Building Code of Australia (BCA) Class 9b School/Hall and Class 5 Office. The main school and hall buildings have been treated as a single united building. This is according to the initial BCA Return Brief – Concept Stage by DC Partnership dated September 22nd 2024.

2.4 Climate Zone

The site is located in Melrose Park, NSW in NCC Climate Zone 5.

3. Part J4 Building Fabric

Minimum compliance requirements are presented in this section, with mark up of applicable areas in Appendix A.1. The minimum compliance DTS Calculator results are found in Appendix A.2.

3.1 Opaque Constructions

Minimum compliance requirements for the opaque elements of the current building design have been assessed in accordance with NCC 2022 Section J Part J4 DtS provisions.

Table 1 Opaque Construction Compliance Performance Values

Building element	DtS Compliance
External Opaque (cladded wall, fixed louvre with insulated backing, mechanical fixed louvre)	Min. R-value 1.4
Internal Walls	Min. R-value 1.4
Floor (with in-screed heating)	Floor: Min. R-value 3.25 (downward heat flow direction) Perimeter vertical edge: Not required

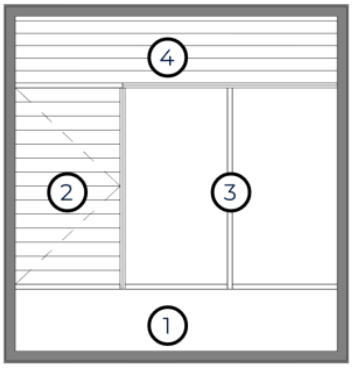
Building element	DtS Compliance
Floor (no in-screed heating)	Floor: Min. R-value 2.0 (downward heat flow direction) Perimeter vertical edge: Not required
Roof/Ceiling	Min. R-value 3.7 (downward heat flow direction) Max. Solar Absorptance 0.45

Note that the above specified R-values in Table 1 should account for the total system including any cases of thermal bridging that may occur. For example, a steel stud wall system would need to take account of the thermal bridging impacts of the studs, so to achieve R 1.4 it may require more than R 1.4 insulation to offset thermal bridging, or may need thermal breaks.

3.1.1 Façade Louvres

The mechanical fixed louvres (shown as number 4 in Figure 1) is to be backed fully by an insulated surface, to achieve the minimum total system R-value required for external opaque areas. Penetrations as required by mechanical design is to be insulated in accordance with NCC2022 J6D6 and have non-return dampers per NCC J5.

Natural ventilation fixed louvres with insulated doors (shown as number 2 in Figure 1) is to be backed fully by an insulated surface to achieve the minimum total system R-value required for external opaque areas.



1. Cladding
2. Natural ventilation fixed louvre
3. Fixed glazing
4. Mechanical fixed louvre

Figure 1 Example Facade Module from SINSW Patternbook

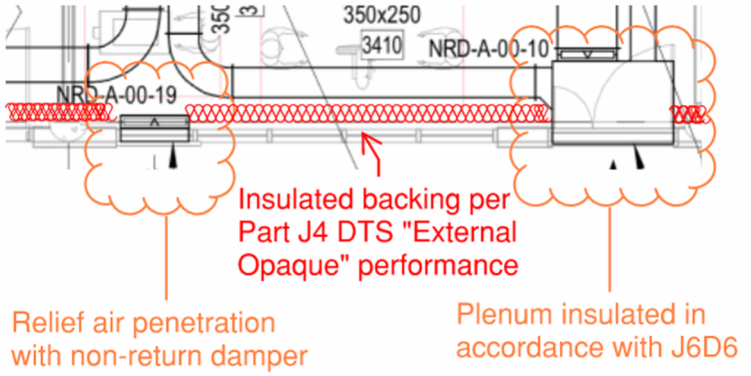


Figure 2 Insulation markup through Mechanical Fixed Louvre

3.1.2 Floor Construction

The floor of the Adult Change area is proposed to have an in-screed heating system. The minimum DtS compliant R-value of the floor total system is 3.25 m^2K/W for a downward direction of heat flow. As the in-screed heating system is used solely in a bathroom/amenity area, no vertical floor edge insulation is required for DtS compliance.

The remaining floor areas forming the envelope do not include in-slab/in-screed heating or cooling system. The minimum DtS compliant R-value of the floor total system is 2.0 m^2K/W for a downward direction of heat flow.

3.2 Glazing Constructions

Minimum compliance requirements for the glazing elements of the current building design have been assessed in accordance with NCC 2022 Section J Part J4 DtS provisions.

For a Class 5 and 9b Building in Climate Zone 5, Section J DtS requires that all façade aspects have an overall wall-glazing solar admittance of no more than 0.13, and a U-value of less than 2.0 W/m^2K. This is the total system performance including elements such as glass, frame, and opaque walls. The DtS compliant minimum required to meet the overall wall-glazing performance within the project geometry, and in conjunction with wall performance noted in 3.1, are shown below. Specification 37 Method 2 was used to calculate compliance.

A minimum VLT has also been specified in line with the daylight requirements of the project.

Table 2 Glazing Construction Performances

	DtS Compliant max. Values
External Glazing	Max. U-value 4.6; Max. SHGC 0.50; Min. 60%

4. Part J5 Building Sealing requirements

The building is required to comply with Section J Part J5. A summary of key requirements for the envelop is listed below. Refer to NCC 2022 Section J Part J5 for a complete list of requirements. The Contractor shall ensure that the requirements of Part J5 are met through design finalisation.

- Doors and windows to conditioned spaces must be sealed to restrict air infiltration, as per J5D4 and J5D5.
- All entrance doors to conditioned spaces must have an airlock, self-closing door or the like unless the conditioned space has a floor area of less than 50 m^2.
- Ceilings, walls, floors and any opening such as a window frame, door frame, roof light frame or the like must be constructed to minimise air leakage in accordance with J5D7.
- Exhaust fans must be fitted with a sealing device such as a self-closing damper or the like when serving a conditioned space.

All façade mechanical fixed louvres and natural ventilation fixed louvres (Figure 1) must have sufficient sealing to minimise air leakage, in accordance with J5D7.

Within the canteen, the project proposes to comply with Section J Part J5D5 (4) by having a 3m deep un-conditioned zone between the shop-front openings and the space heated by radiators. The other door to the canteen must be a self-closing door.

5. Summary

This report presents the minimum building fabric performance to comply with the requirements of NCC 2022 Section J via deemed-to-satisfy provisions. The Main Contractor shall ensure that these requirements are met through detailed design of the façade and design finalisation. Should any individual fabric and glazing performances be adjusted through design development stage, or building sealing provisions not be met, the Main Contractor is responsible for developing their own calculations following either NCC Section J DTS Provisions or Verification Methods J1V2 or J1V3, to provide an updated report and validated performance requirements for design finalisation.

5.1 Mitigation Measures

Table 3 Mitigation Measures

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
Part J4 Compliance	Prior to commencement of any construction work	Assessment of For Construction building envelope performance for compliance against NCC 2022 Section J Part J4.	Ensure final wall build-ups and glazing selection are code compliant.
Part J5 Compliance	Prior to commencement of any construction work	Assessment of For Construction building sealing for compliance against NCC 2022 Section J Part J5.	Ensure final door and window selections are code compliant.
Design Changes	During design finalisation	Should any individual fabric and glazing performances be adjusted through design development stage, or any spaces have changes in conditioning strategy, the Main Contractor is responsible for demonstrating that all buildings of the activity are capable of achieving compliance through developing their own calculations following either NCC Section J DTS Provisions or Verification Methods J1V2 or J1V3, and provide an updated report and validated performance requirements for design finalisation.	Ensure final building design is code compliant.

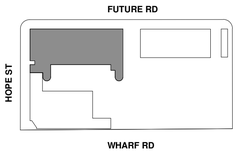
A.1 DTS Markup

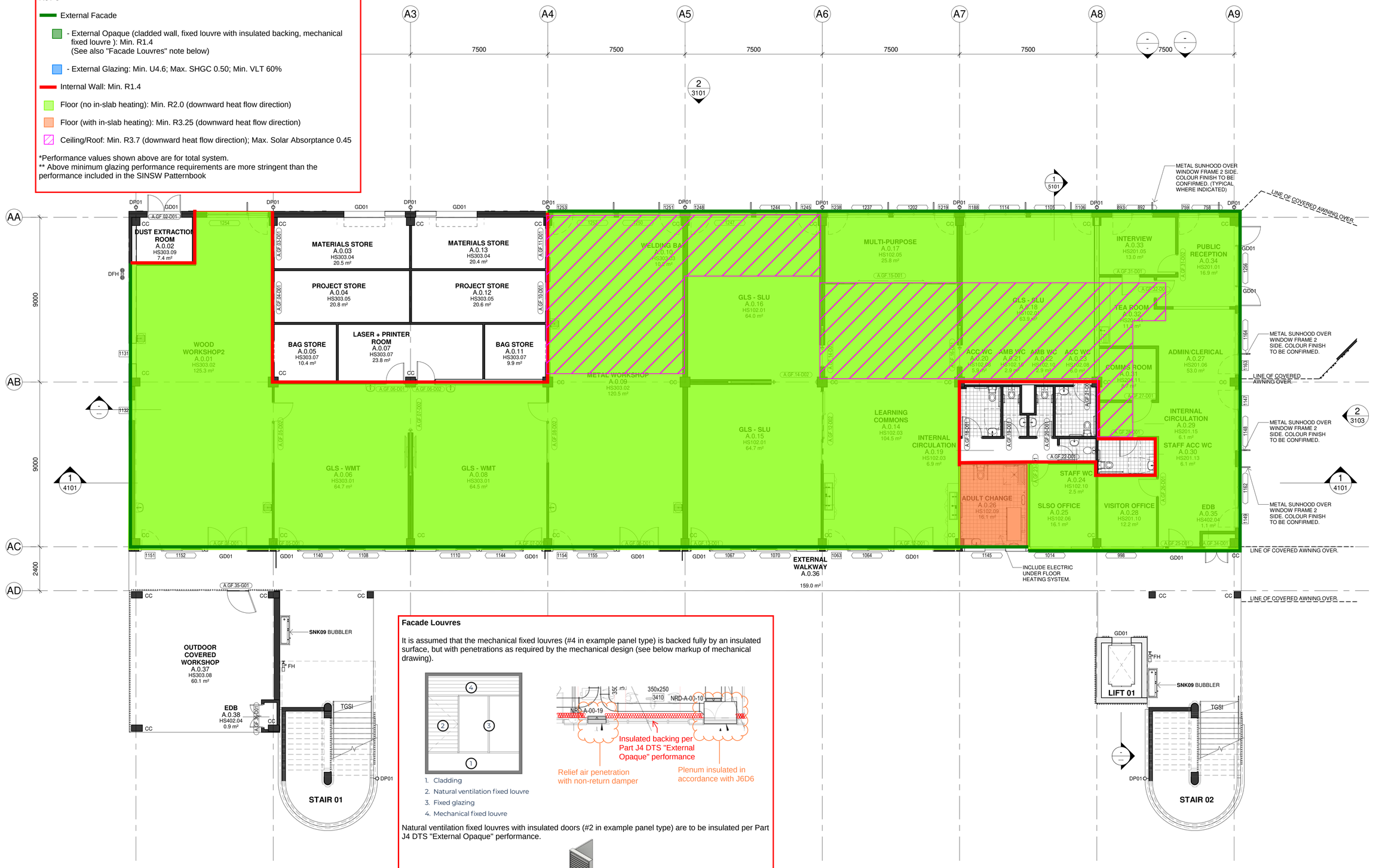
20241129 Melrose Park HS (Block A+B single united building assessment)
NCC2022 Section J Part J4 DTS Minimum Performance Requirements
Rev 3

- External Facade
- - External Opaque (cladded wall, fixed louvre with insulated backing, mechanical fixed louvre): Min. R1.4
  (See also "Facade Louvres" note below)
- - External Glazing: Min. U4.6; Max. SHGC 0.50; Min. VLT 60%
- Internal Wall: Min. R1.4
- Floor (no in-slab heating): Min. R2.0 (downward heat flow direction)
- Floor (with in-slab heating): Min. R3.25 (downward heat flow direction)
- Ceiling/Roof: Min. R3.7 (downward heat flow direction); Max. Solar Absorptance 0.45

*Performance values shown above are for total system.
** Above minimum glazing performance requirements are more stringent than the performance included in the SINSW Patternbook

KEY PLAN



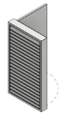


Facade Louvres

It is assumed that the mechanical fixed louvres (#4 in example panel type) is backed fully by an insulated surface, but with penetrations as required by the mechanical design (see below markup of mechanical drawing).

1. Cladding
2. Natural ventilation fixed louvre
3. Fixed glazing
4. Mechanical fixed louvre

Natural ventilation fixed louvres with insulated doors (#2 in example panel type) are to be insulated per Part J4 DTS "External Opaque" performance.



Fixed louvre with insulated door behind

In addition, all mechanical fixed louvres (#4) and natural ventilation fixed louvre with insulated door (#2) must have sufficient sealing to minimise air leakage, in compliance with J5D7.

The above is to be confirmed by the Architect.

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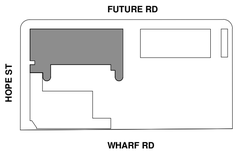

1 BUILDING A - L1 FLOOR PLAN

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SCHEMATIC WIP

Issue			
No.	Date	Description	Chkd
1	2024.10.21	For Coordination	TP
2	2024.11.01	For Coordination	TP

Changes to this Revision

Drawing Title
BUILDING A - L1 PLAN

Project
24133 - MELROSE PARK HS

at
84 Wharf Road, Melrose Park, NSW 2114

NSW GOVERNMENT Education

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Nominated Architects:
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Jonathan West NSW 9899
NBRS & Partners Pty Ltd VIC 51197
ABN 16 002 247 565

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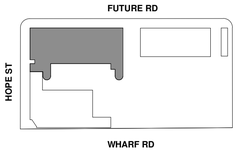

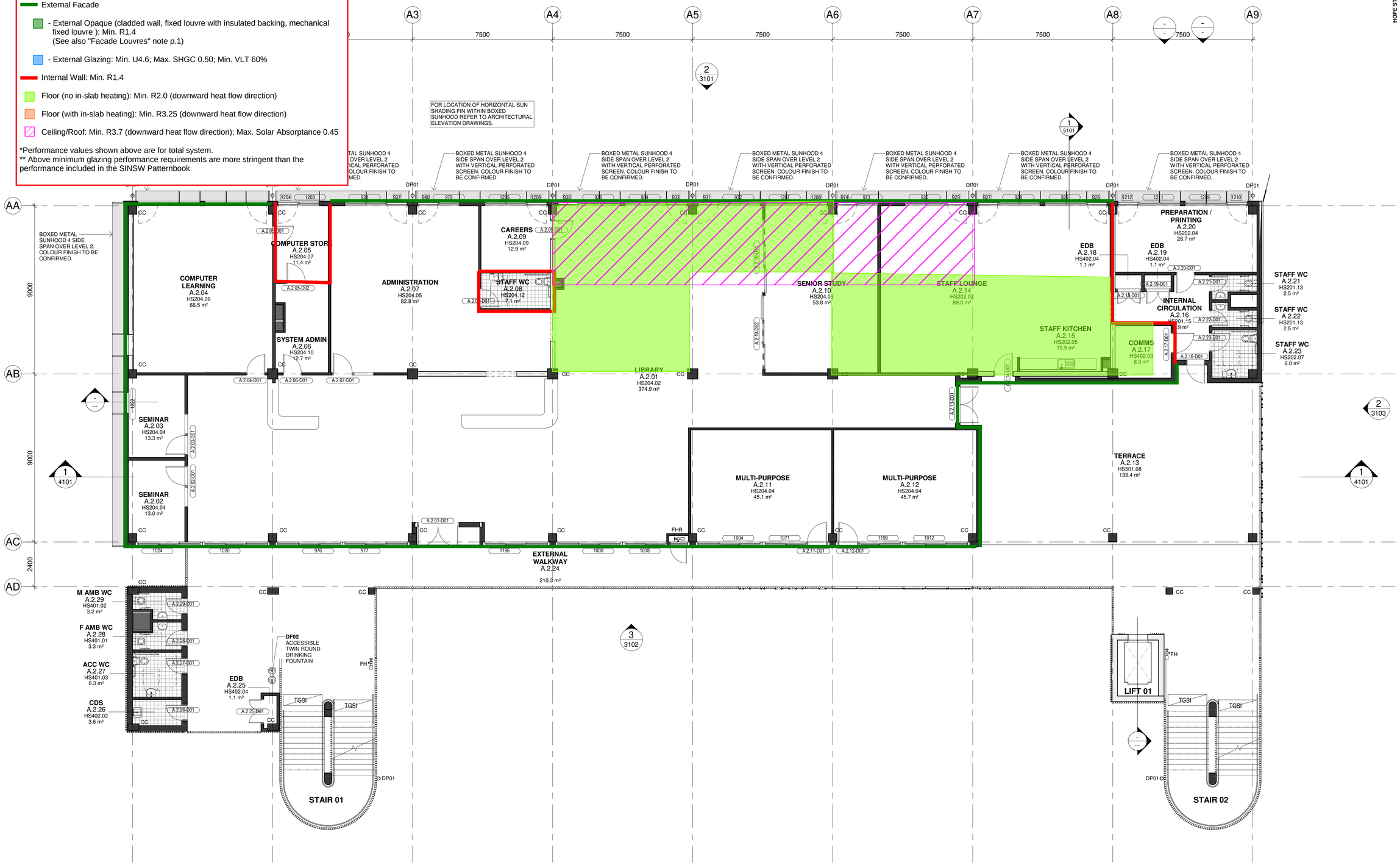

1 BUILDING A - L2 FLOOR PLAN STAGE 1

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2	2024.11.01	For Coordination	TP

Changes to this Revision

Drawing Title
BUILDING A - L2 PLAN STAGE 1

Project
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- Internal Wall: Min. R1.4
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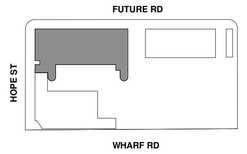

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2	2024.11.01	For Coordination	TP

Changes to this Revision

Drawing Title
BUILDING A - L3 PLAN STAGE 1

Project
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at
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NCC2022 Section J Part J4 DTS Minimum Performance Requirements
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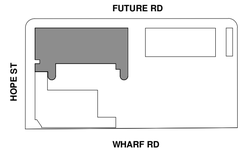

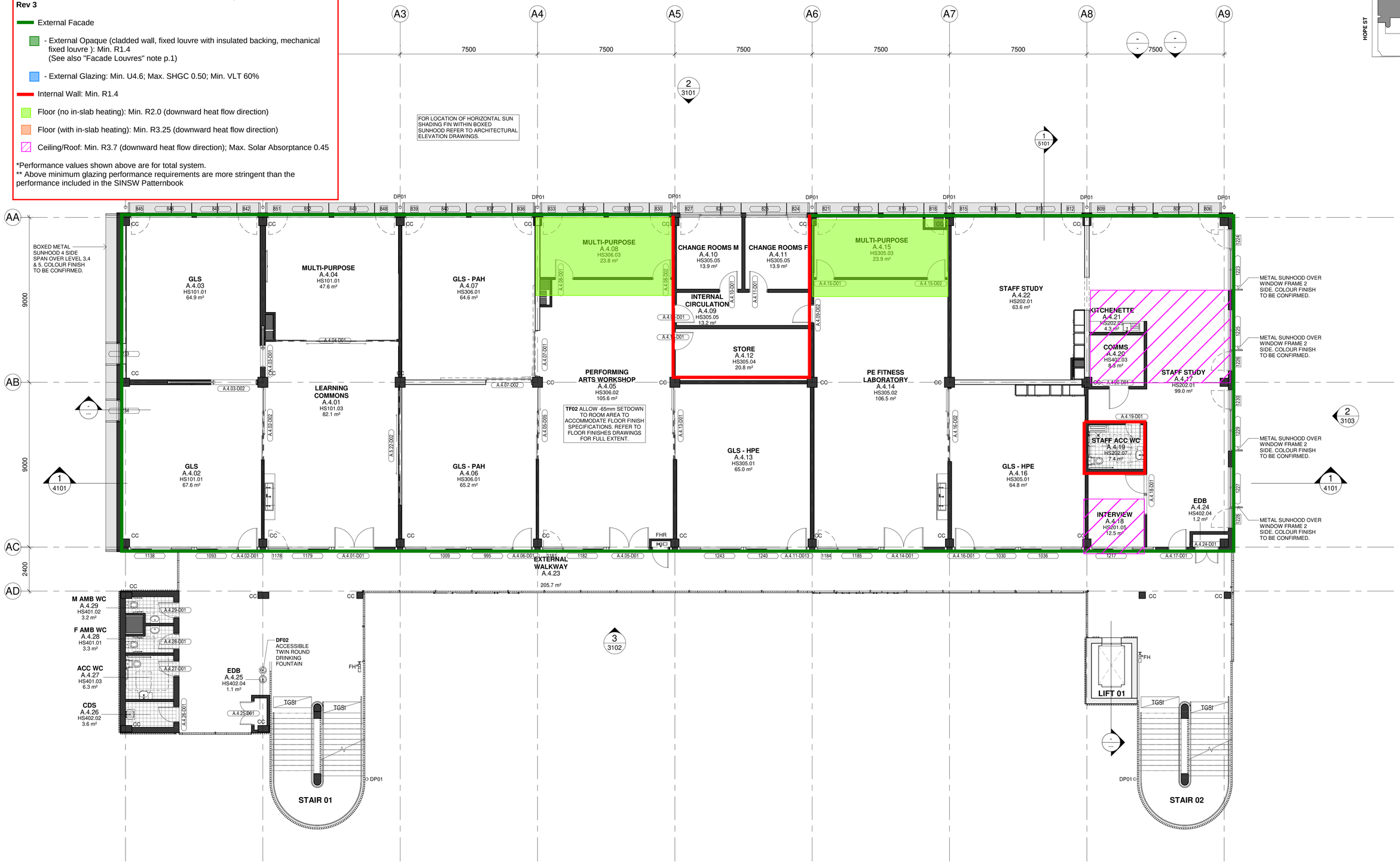

1 BUILDING A - L4 FLOOR PLAN

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SCHEMATIC WIP

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No.	Date	Description	Chkd
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Changes to this Revision

Drawing Title
BUILDING A - L4 PLAN

Project
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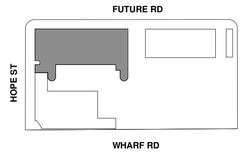

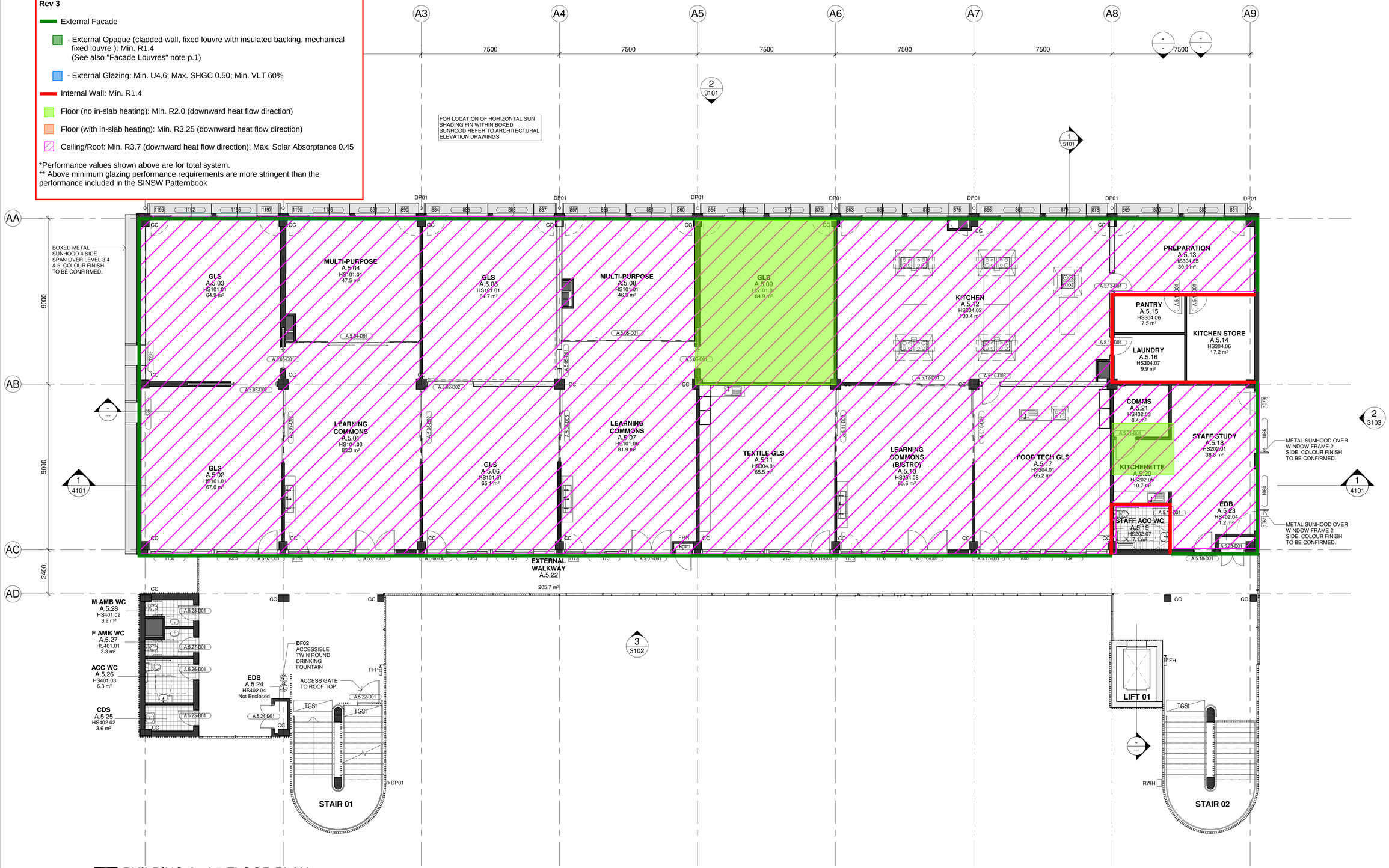

1 BUILDING A - L5 FLOOR PLAN

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SCHEMATIC WIP

Issue No.	Date	Description	Chkd
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Changes to this Revision

Drawing Title
BUILDING A - L5 PLAN

Project
24133 - MELROSE PARK HS

at
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Revision 2

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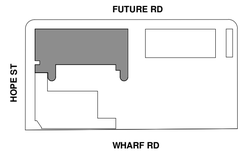

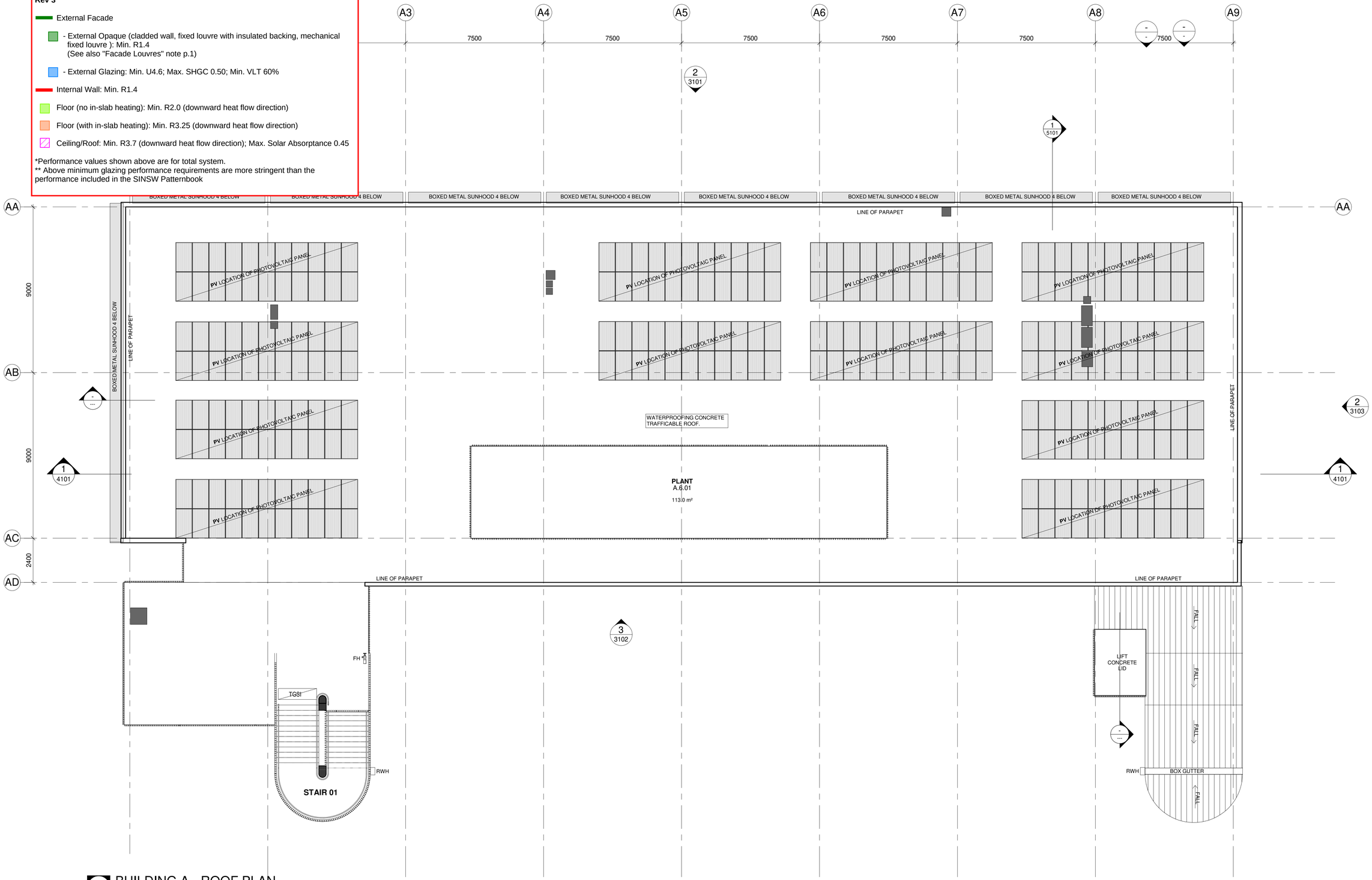

1 BUILDING A - ROOF PLAN

1 : 100

SCHEMATIC WIP

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1	2024.10.21	For Coordination	TP
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Jonathan West NSW 9899
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NBRS Project # MPHS

Drawing Reference MPHS-NBRS-B00A-RF-DR-A-1009
Revision 2

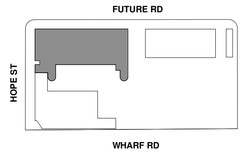
0 1m 2m 3m 4m 5m 6m 7m 8m 1:100

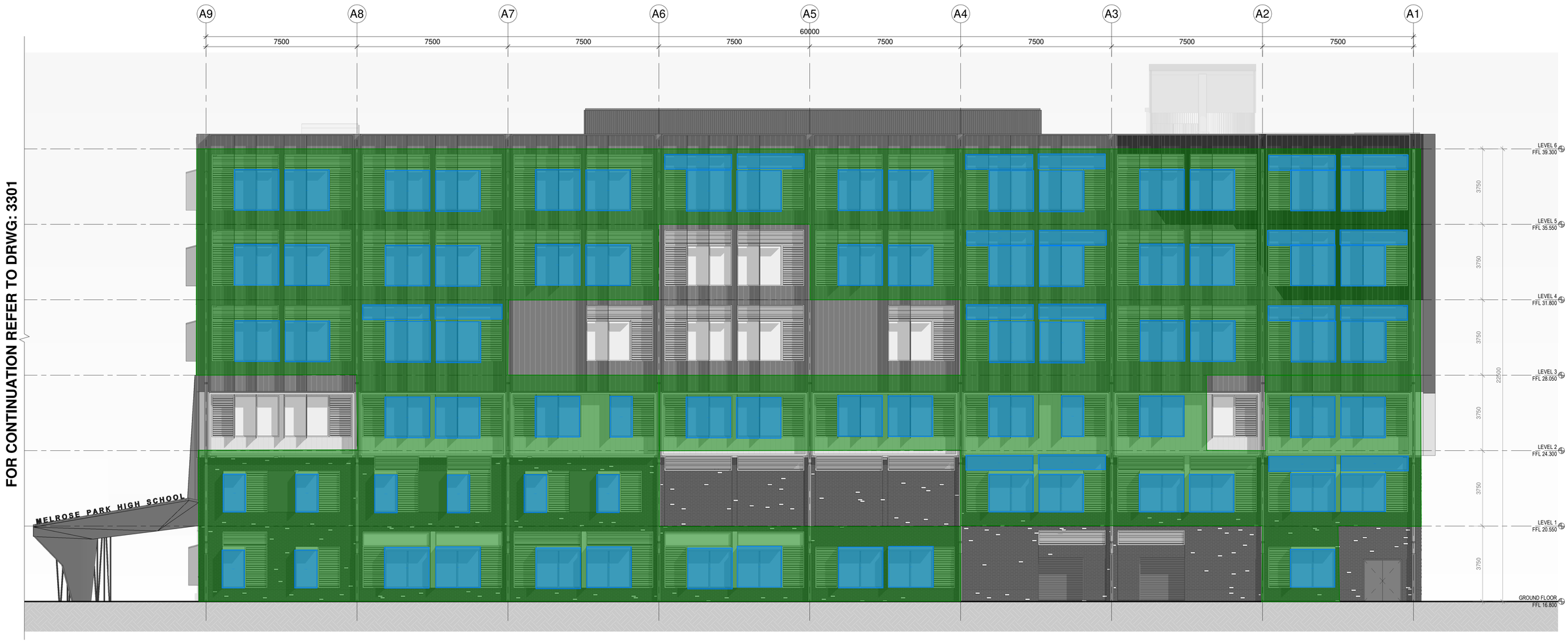
20241129 Melrose Park HS (Block A+B single united building assessment)
NCC2022 Section J Part J4 DTS Minimum Performance Requirements
Rev 3

- External Facade
- - External Opaque (cladded wall, fixed louvre with insulated backing, mechanical fixed louvre): Min. R1.4
  (See also "Facade Louvres" note p.1)
- - External Glazing: Min. U4.6; Max. SHGC 0.50; Min. VLT 60%
- Internal Wall: Min. R1.4
- Floor (no in-slab heating): Min. R2.0 (downward heat flow direction)
- Floor (with in-slab heating): Min. R3.25 (downward heat flow direction)
- Ceiling/Roof: Min. R3.7 (downward heat flow direction); Max. Solar Absorptance 0.45

*Performance values shown above are for total system.
** Above minimum glazing performance requirements are more stringent than the performance included in the SINSW Patternbook

KEY PLAN





2 BUILDING A WEST ELEVATION

1 : 100

SCHEMATIC WIP

Issue

No.	Date	Description	Chkd
1	2024.10.10	For Coordination	TP
2	2024.10.21	For Coordination	TP
3	2024.10.22	For Coordination	TP
4	2024.11.01	For Coordination	TP

Changes to this Revision

Drawing Title
BUILDING A ELEVATIONS 1

Project
24133 - MELROSE PARK HS

at
84 Wharf Road, Melrose Park, NSW 2114

NSW GOVERNMENT Education

NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architects:
Andrew Duffin NSW 5602
Jonathan West NSW 9899
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Date 1/11/2024 5:47:17 PM
Scale 1 : 100 @ A1
NBRS Project # MPHS

Drawing Reference MPHS-NBRS-B00A-ZZ-DR-A-3101
Revision 4

0 10 20 30 40 50 60 70 80 90 100

20241129 Melrose Park HS (Block A+B single united building assessment)
NCC2022 Section J Part J4 DTS Minimum Performance Requirements
Rev 3

External Facade

- External Opaque (cladded wall, fixed louvre with insulated backing, mechanical fixed louvre): Min. R1.4
(See also "Facade Louvres" note p.1)

- External Glazing: Min. U4.6; Max. SHGC 0.50; Min. VLT 60%

Internal Wall: Min. R1.4

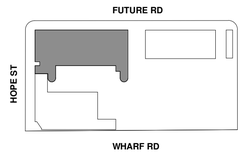
Floor (no in-slab heating): Min. R2.0 (downward heat flow direction)

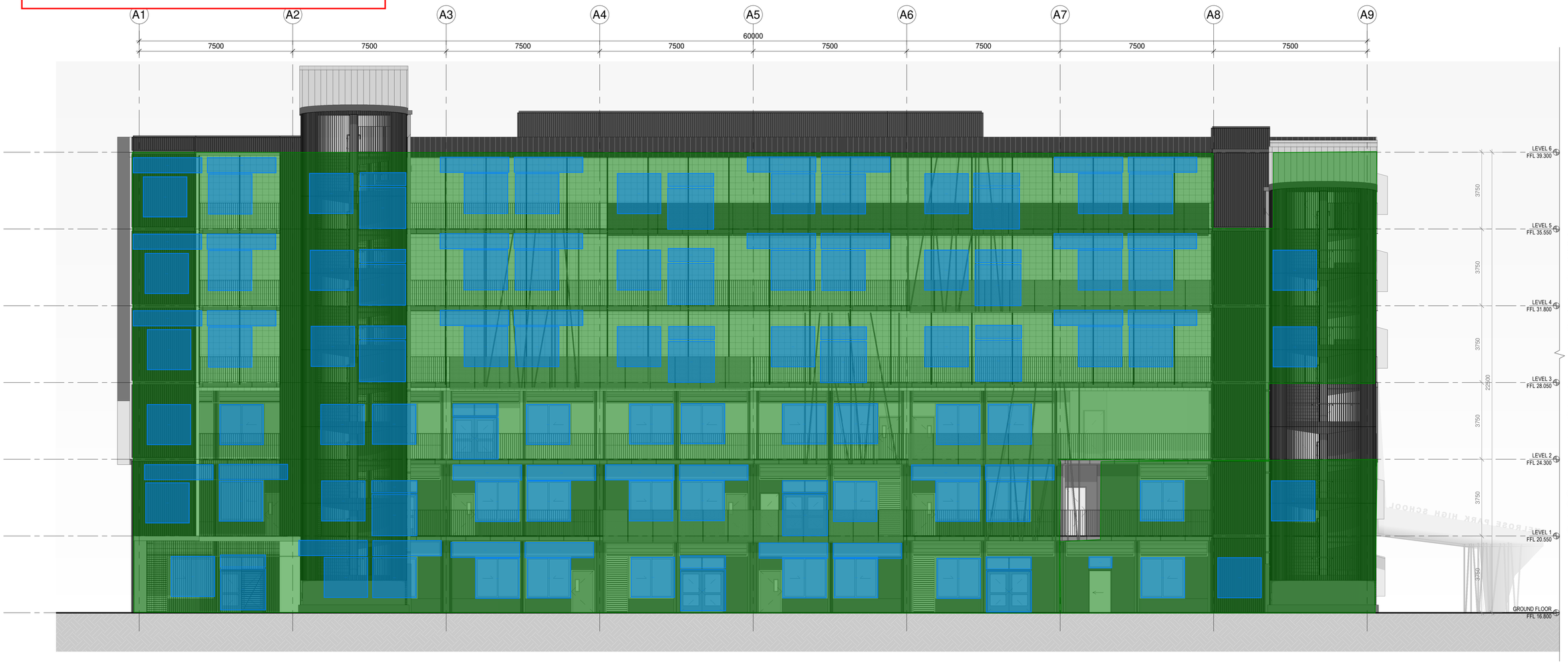
Floor (with in-slab heating): Min. R3.25 (downward heat flow direction)

Ceiling/Roof: Min. R3.7 (downward heat flow direction); Max. Solar Absorptance 0.45

*Performance values shown above are for total system.
** Above minimum glazing performance requirements are more stringent than the performance included in the SINSW Patternbook

KEY PLAN





3 BUILDING A EAST ELEVATION
1 : 100

SCHEMATIC WIP

Issue

No.	Date	Description	Chkd
1	2024.10.10	For Coordination	TP
2	2024.10.21	For Coordination	TP
3	2024.10.22	For Coordination	TP
4	2024.11.01	For Coordination	TP

Changes to this Revision

Drawing Title
BUILDING A ELEVATIONS 2

Project
24133 - MELROSE PARK HS

at
84 Wharf Road, Melrose Park, NSW 2114

NSW GOVERNMENT Education

NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architects:
Andrew Duffin NSW 5602
Jonathan West NSW 9899
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Date 1/11/2024 5:50:00 PM
Scale 1 : 100 @ A1
NBRS Project # MPHS

Drawing Reference MPHS-NBRS-B00A-ZZ-DR-A-3102
Revision 4

0 10 20 30 40 50 60 70 80 90 100

Autodesk Docs://24133 - (DC) MELROSE PARK HS/MPHS-NBRS-B00A-ZZ-MS-A-0001.rvt

20241129 Melrose Park HS (Block A+B single united building assessment)
NCC2022 Section J Part J4 DTS Minimum Performance Requirements
Rev 3

External Facade

- External Opaque (cladded wall, fixed louvre with insulated backing, mechanical fixed louvre): Min. R1.4
(See also "Facade Louvres" note p.1)

- External Glazing: Min. U4.6; Max. SHGC 0.50; Min. VLT 60%

Internal Wall: Min. R1.4

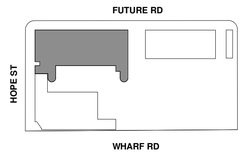
Floor (no in-slab heating): Min. R2.0 (downward heat flow direction)

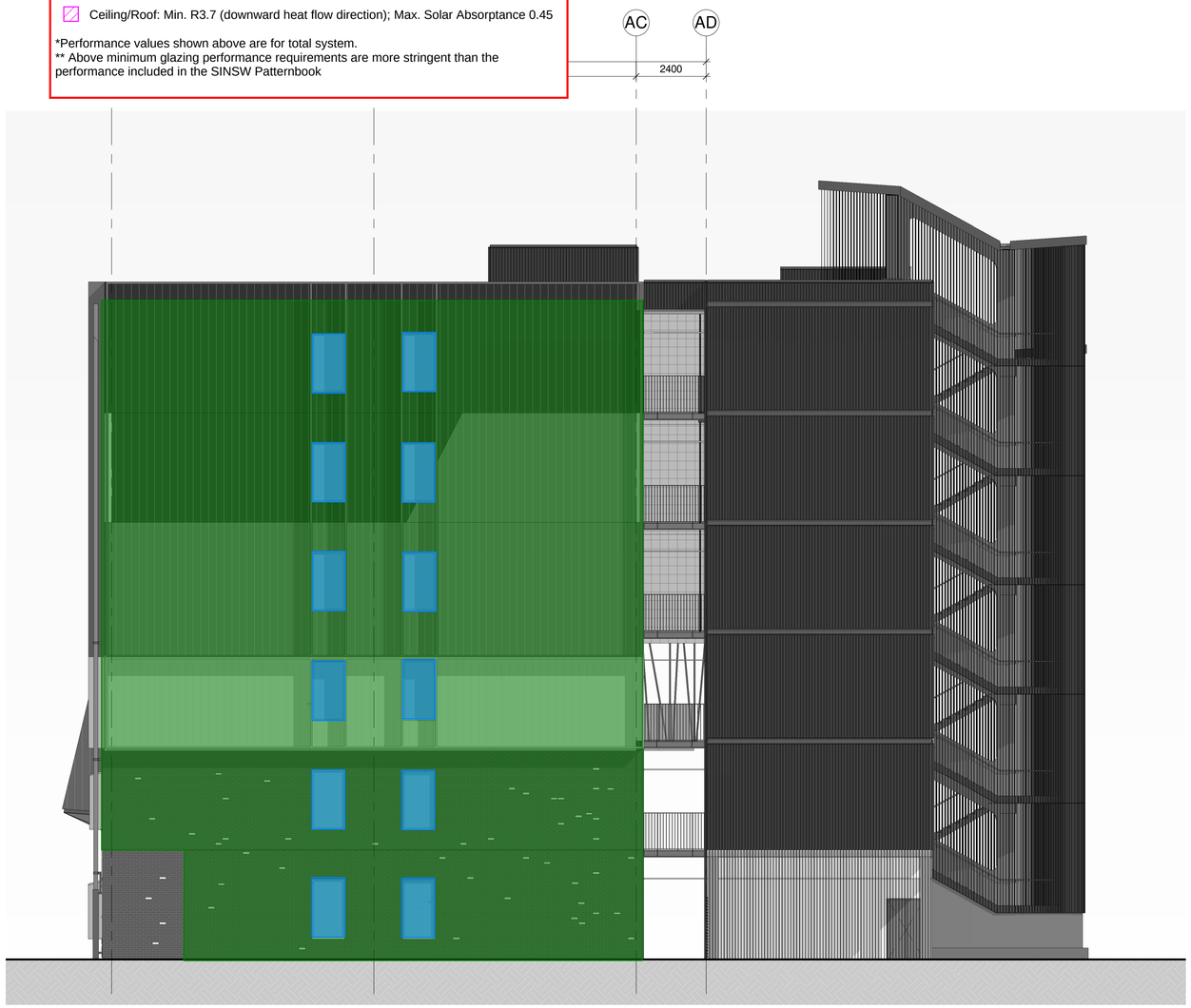
Floor (with in-slab heating): Min. R3.25 (downward heat flow direction)

Ceiling/Roof: Min. R3.7 (downward heat flow direction); Max. Solar Absorptance 0.45

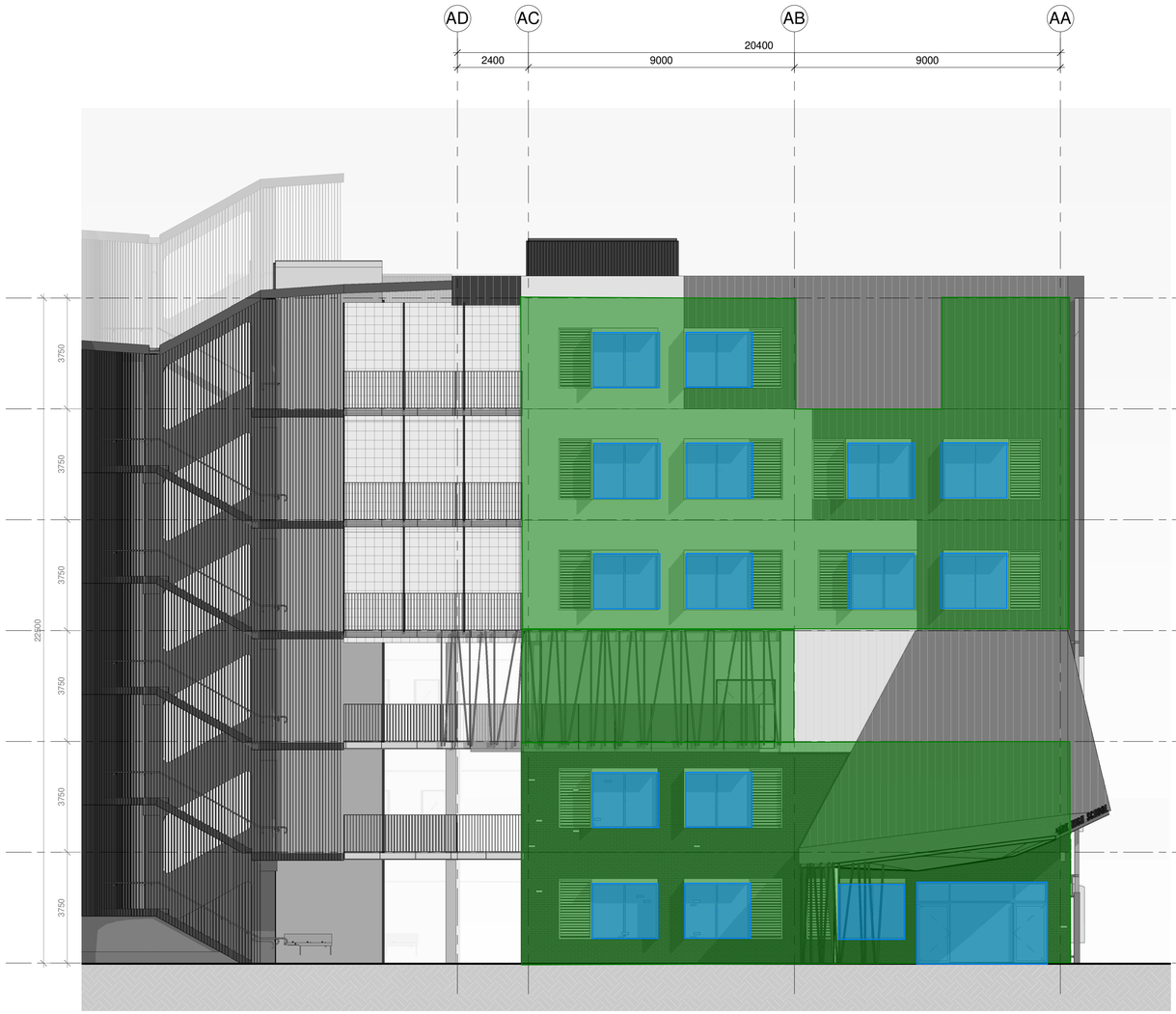
*Performance values shown above are for total system.
** Above minimum glazing performance requirements are more stringent than the performance included in the SINSW Patternbook

KEY PLAN





4 BUILDING A SOUTH ELEVATION
1 : 100



2 BUILDING A NORTH ELEVATION
1 : 100

SCHEMATIC WIP

Issue

No.	Date	Description	Chkd
1	2024.10.10	For Coordination	TP
2	2024.10.21	For Coordination	TP
3	2024.10.22	For Coordination	TP
4	2024.11.01	For Coordination	TP

Changes to this Revision

Drawing Title
BUILDING A ELEVATIONS 3

Project
24133 - MELROSE PARK HS

at
84 Wharf Road, Melrose Park, NSW 2114

NSW GOVERNMENT Education

NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architects:
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Jonathan West NSW 9899
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Date 1/11/2024 5:53:19 PM
Scale 1 : 100 @ A1
NBRS Project # MPHS

Drawing Reference MPHS-NBRS-B00A-ZZ-DR-A-3103
Revision 4

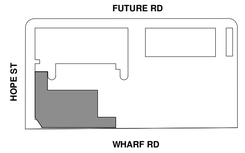
0 10 20 30 40 50 60 70 80 90 100

20241129 Melrose Park HS (Block A+B single united building assessment)
NCC2022 Section J Part J4 DTS Minimum Performance Requirements
Rev 3

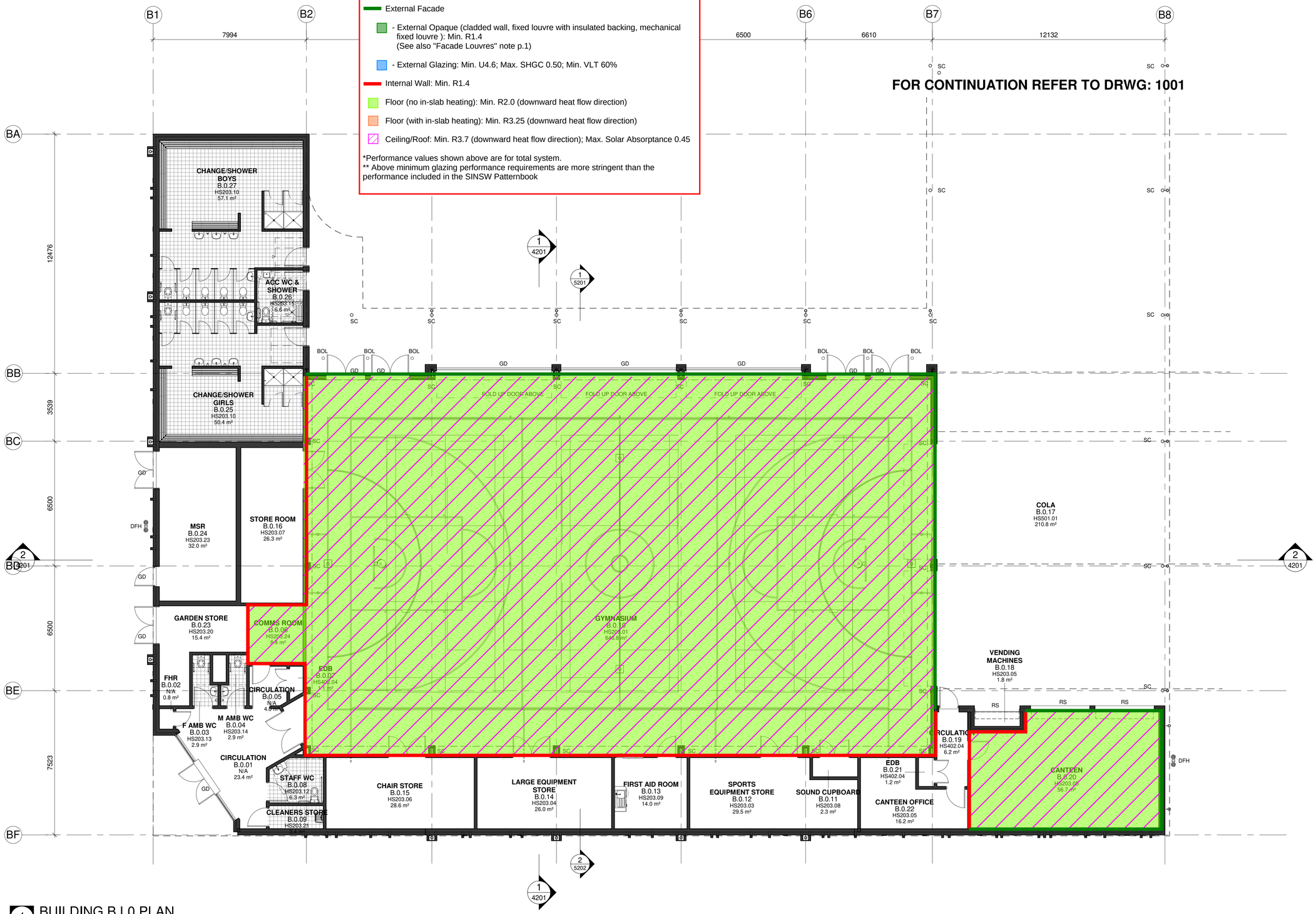
- External Facade
- External Opaque (cladded wall, fixed louvre with insulated backing, mechanical fixed louvre): Min. R1.4 (See also "Facade Louvres" note p.1)
- External Glazing: Min. U4.6; Max. SHGC 0.50; Min. VLT 60%
- Internal Wall: Min. R1.4
- Floor (no in-slab heating): Min. R2.0 (downward heat flow direction)
- Floor (with in-slab heating): Min. R3.25 (downward heat flow direction)
- Ceiling/Roof: Min. R3.7 (downward heat flow direction); Max. Solar Absorptance 0.45

*Performance values shown above are for total system.
** Above minimum glazing performance requirements are more stringent than the performance included in the SINSW Patternbook

KEY PLAN



FOR CONTINUATION REFER TO DRWG: 1001



1 BUILDING B L0 PLAN

1 : 100

SCHEMATIC WIP

Issue

No.	Date	Description	Chkd
1	2024.08.13	For Coordination	NBRS
2	2024.10.18	For Coordination	TP
3	2024.10.21	For Coordination	TP
4	2024.11.01	For Coordination	TP

Changes to this Revision

Drawing Title
BUILDING B - L0 PLAN

Project
24133 - MELROSE PARK HS

at
84 Wharf Road, Melrose Park, NSW 2114

NSW GOVERNMENT Education

NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architects:
Andrew Duffin NSW 5602
Jonathan West NSW 9899
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

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NBRS Project # MPHS

Drawing Reference MPHS-NBRS-B00B-GF-DR-A-1011
Revision 4

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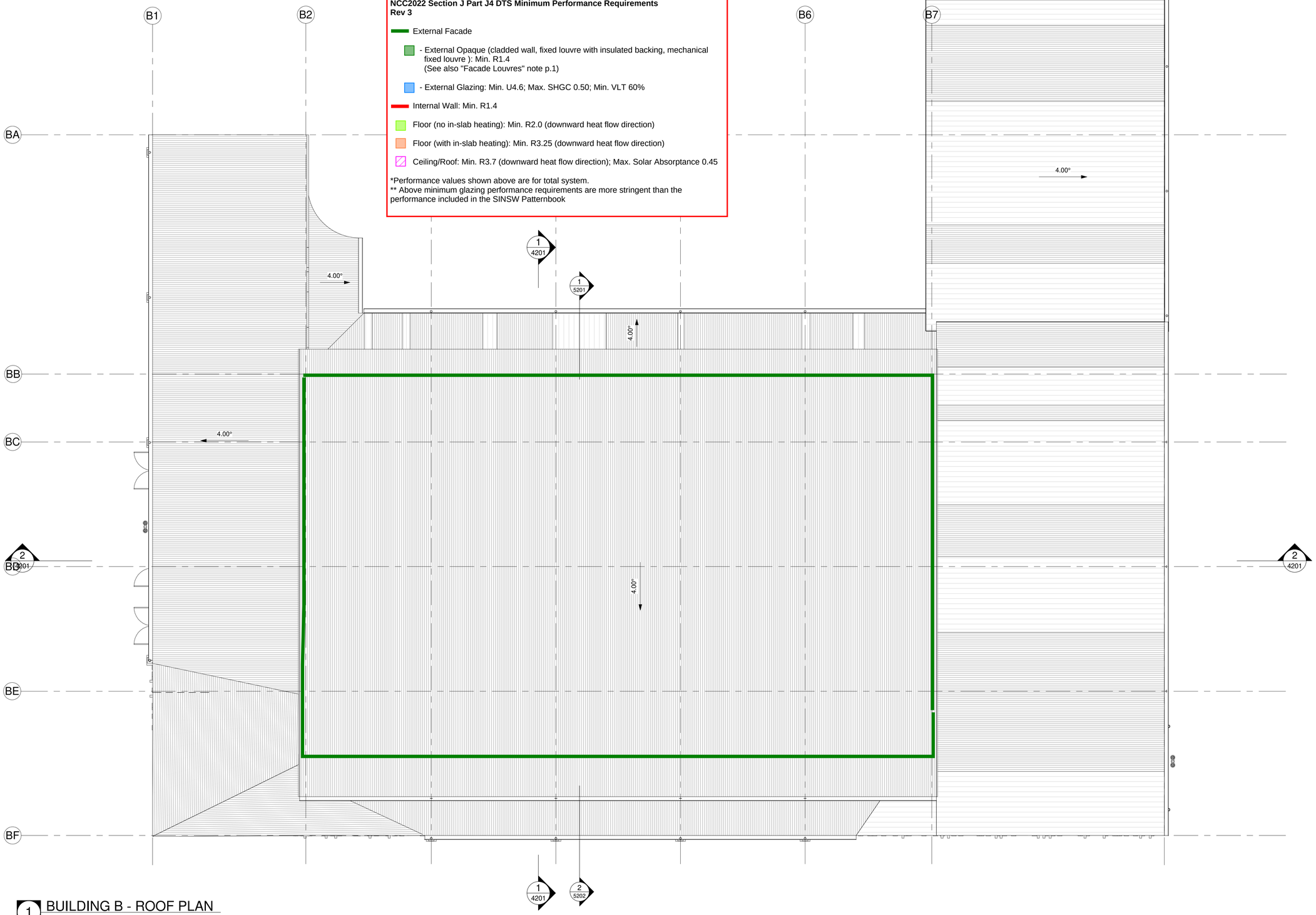
Autodesk Docs://24133 - (DC) MELROSE PARK HS/MPHS-NBRS-B00B-ZZ-M3-A-0001.rvt

20241129 Melrose Park HS (Block A+B single united building assessment)
NCC2022 Section J Part J4 DTS Minimum Performance Requirements
Rev 3

- External Facade
- External Opaque (cladded wall, fixed louvre with insulated backing, mechanical fixed louvre): Min. R1.4
  (See also "Facade Louvres" note p.1)
- External Glazing: Min. U4.6; Max. SHGC 0.50; Min. VLT 60%
- Internal Wall: Min. R1.4
- Floor (no in-slab heating): Min. R2.0 (downward heat flow direction)
- Floor (with in-slab heating): Min. R3.25 (downward heat flow direction)
- Ceiling/Roof: Min. R3.7 (downward heat flow direction); Max. Solar Absorptance 0.45

*Performance values shown above are for total system.
** Above minimum glazing performance requirements are more stringent than the performance included in the SINSW Patternbook



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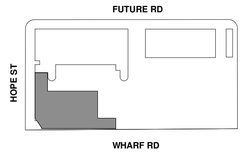

1 BUILDING B - ROOF PLAN

1 : 100

SCHEMATIC WIP

Issue			
No.	Date	Description	Chkd
1	2024.11.01	For Coordination	TP

Changes to this Revision

Drawing Title
BUILDING B - ROOF PLAN

Project
24133 - MELROSE PARK HS

at
84 Wharf Road, Melrose Park, NSW 2114

NSW GOVERNMENT Education

NBRS
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Nominated Architects:
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NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

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NBRS Project # MPHS

Drawing Reference MPHS-NBRS-B00B-RF-DR-A-1012
Revision 1

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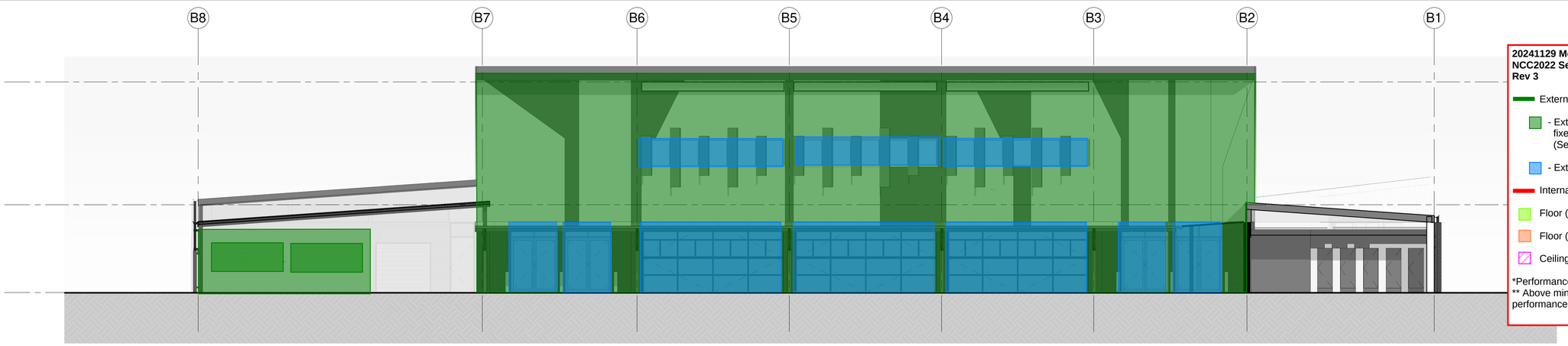
Autodesk Docs://24133 - (DC) MELROSE PARK HS/MPHS-NBRS-B00B-ZZ-M3-A-0001.rvt



KEY PLAN

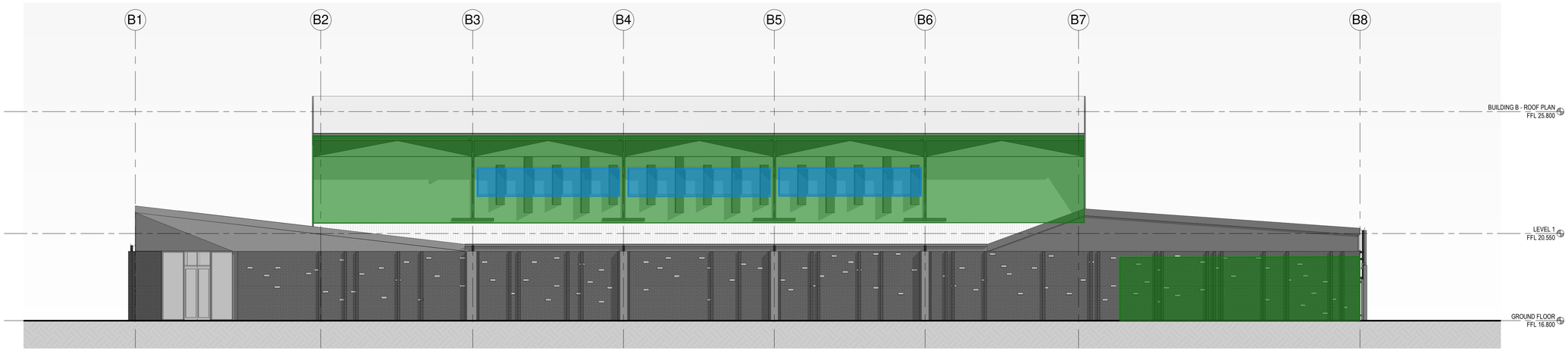
20241129 Melrose Park HS (Block A+B single united building assessment)
NCC2022 Section J Part J4 DTS Minimum Performance Requirements
Rev 3

- External Facade
- - External Opaque (cladded wall, fixed louvre with insulated backing, mechanical fixed louvre): Min. R1.4
  (See also "Facade Louvres" note p.1)
- - External Glazing: Min. U4.6; Max. SHGC 0.50; Min. VLT 60%
- Internal Wall: Min. R1.4
- Floor (no in-slab heating): Min. R2.0 (downward heat flow direction)
- Floor (with in-slab heating): Min. R3.25 (downward heat flow direction)
- Ceiling/Roof: Min. R3.7 (downward heat flow direction); Max. Solar Absorptance 0.45

*Performance values shown above are for total system.
** Above minimum glazing performance requirements are more stringent than the performance included in the SINSW Patternbook

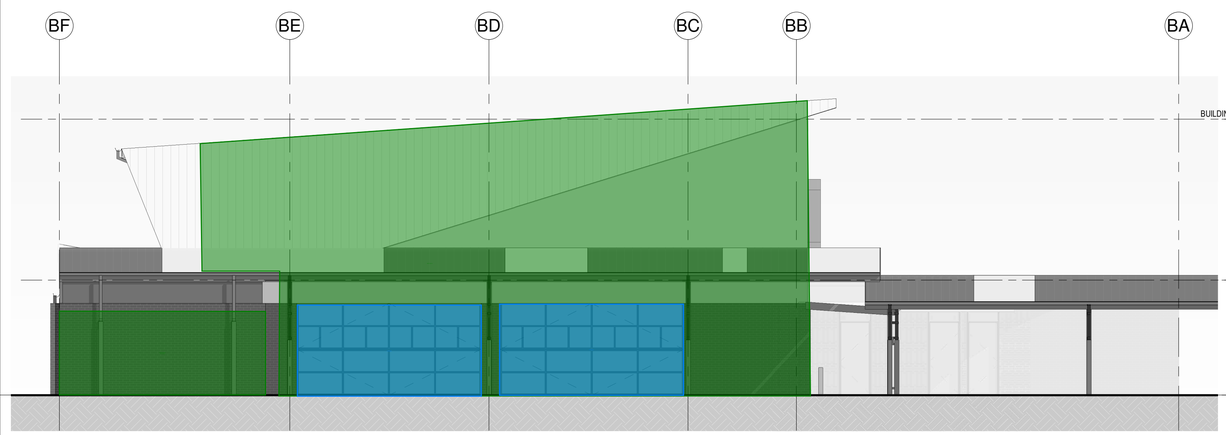
1 BUILDING B WEST ELEVATION

1 : 100



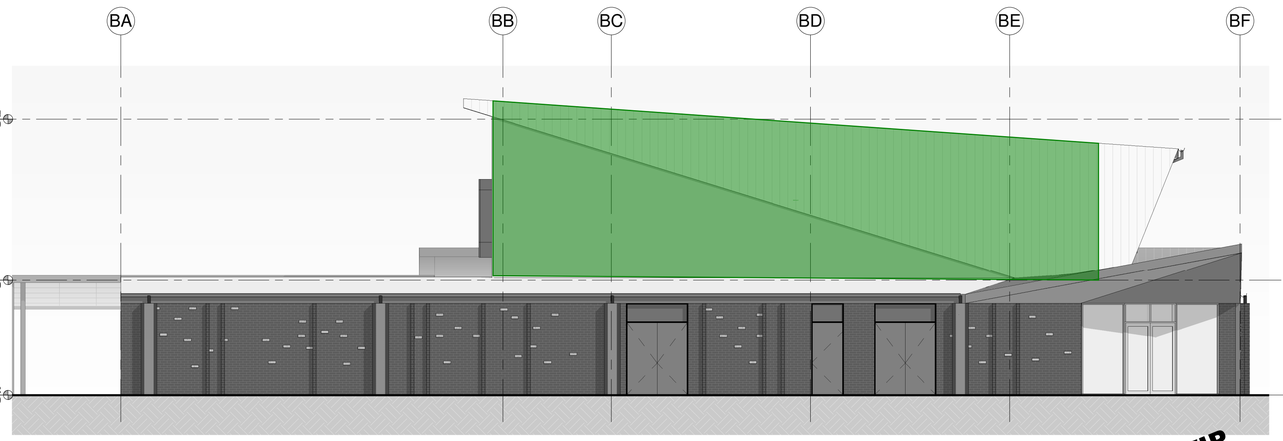
2 BUILDING B EAST ELEVATION

1 : 100



3 BUILDING B NORTH ELEVATION

1 : 100



4 BUILDING B SOUTH ELEVATION

1 : 100

SCHEMATIC WIP

Issue

No.	Date	Description	Chkd
1	2024.10.10	For Coordination	TP
2	2024.10. 22	For Coordination	TP
3	2024.11.01	For Coordination	TP

Changes to this Revision

Autodesk Docs://24133 - (DC) MELROSE PARK HS/MPHS-NBRS-B00B-ZZ-M3-A-0001.rvt

Drawing Title
BUILDING B - ELEVATIONS

Project
24133 - MELROSE PARK HS

at
84 Wharf Road, Melrose Park, NSW 2114

NSW GOVERNMENT Education

NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architects:
Andrew Duffin NSW 5602
Jonathan West NSW 9899
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

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NBRS Project # MPHS

Drawing Reference MPHS-NBRS-B00B-ZZ-DR-A-3201
Revision 3

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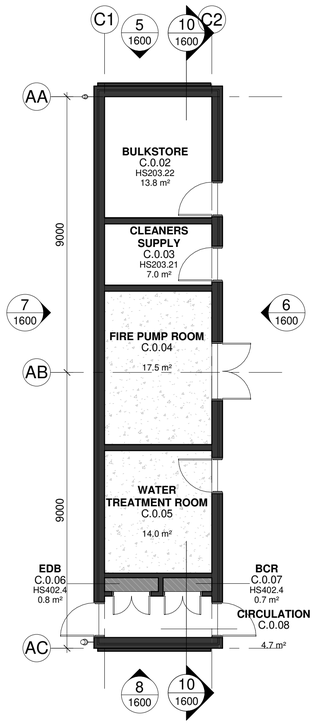
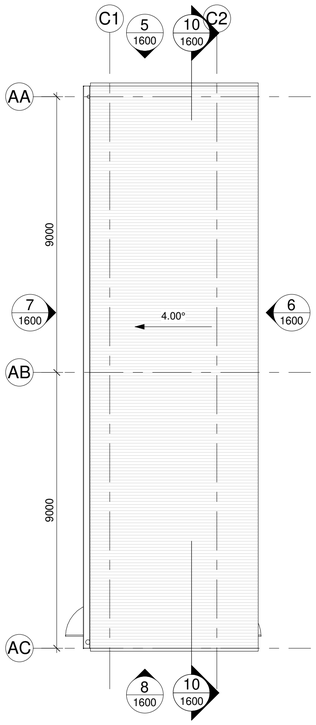
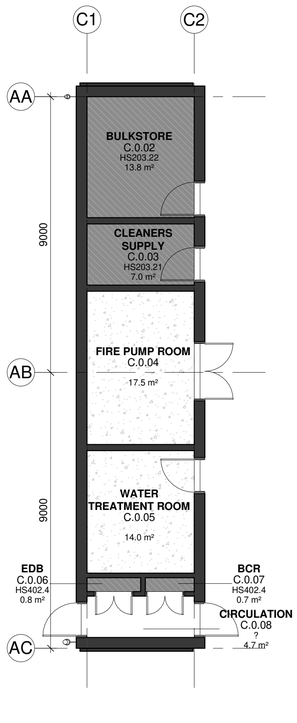


1 BUILDING C - L0 FLOOR PLAN
1 : 100



9 BUILDING C - ROOF PLAN
1 : 100



2 BUILDING C - L0 FURNITURE PLAN
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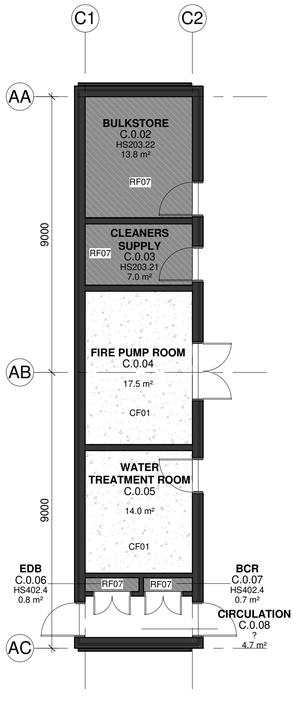

3 BUILDING C - L0 FINISHES PLAN
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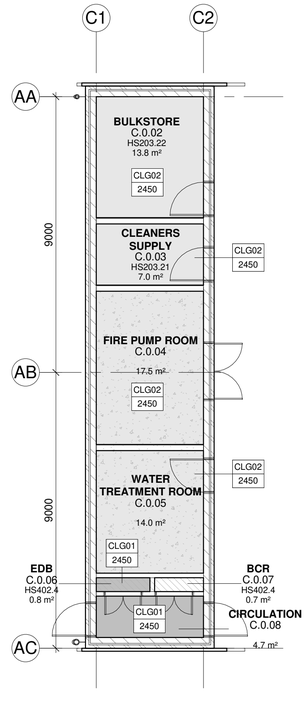

4 BUILDING C - L0 RCP
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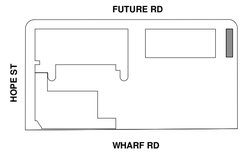
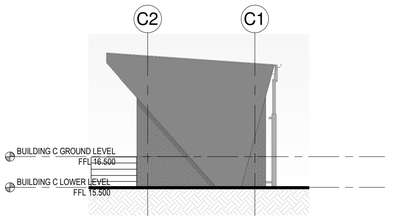
KEY PLAN





5 ELEVATION 1
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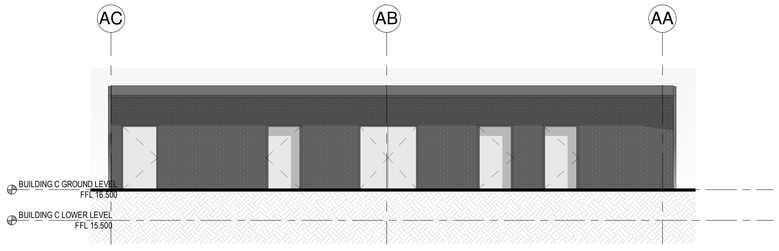

6 ELEVATION 3
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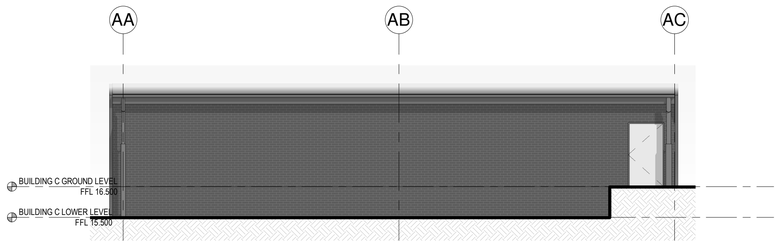

7 ELEVATION 4
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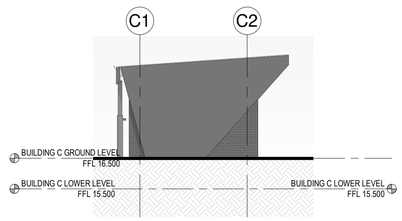

8 ELEVATION 2
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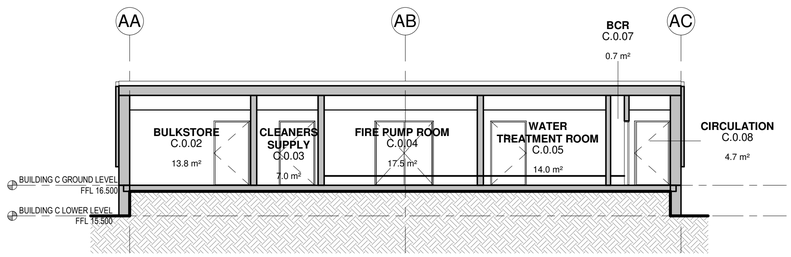

10 BUILDING C - SECTION
1 : 100

20241129 Melrose Park HS (Block C)
NCC2022 Section J Part J4 DTS Minimum Performance Requirements
Rev 3

Block C does not include any conditioned spaces with external facade. As such, the facade calculator is not used for this assessment.

SCHEMATIC WIP

Issue

No.	Date	Description	Chkd
1	2024.10.18	For Coordination	TP
2	2024.10. 22	For Coordination	TP
3	2024.11.01	For Coordination	TP

Changes to this Revision

Drawing Title
BUILDING C

Project
24133 - MELROSE PARK HS

at
84 Wharf Road, Melrose Park, NSW 2114

NSW GOVERNMENT Education

NBRS
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Nominated Architects:
Andrew Duffin NSW 5602
Jonathan West NSW 9899
NBRS & Partners Pty Ltd VIC 51197
ABN 16 002 247 565

Date 1/11/2024 4:59:18 PM
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NBRS Project # MPHS

Drawing Reference MPHS-NBRS-B00A-GF-DR-A-1600
Revision 3

0 1m 2m 3m 4m 5m 6m 7m 8m 1:100

Autodesk Docs://24133 - (DC) MELROSE PARK HS/MPHS-NBRS-B00C-ZZ-M3-A-0001.rvt

A.2 DTS Calculator

Façade

Report

Calculator

Project Summary

Date
27/11/2024

Name
Melrose Park

Company
Arup

Position
Consultant

Building Name / Address
Melrose Park
0

Building State

NSW

Climate Zone
Climate Zone 5 - Warm temperate

Building Classification

Class 9b - schools

Storeys Above Ground
5

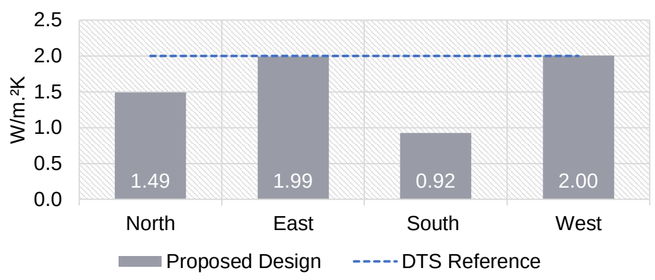
Tool Version
1.2 (June 2020)

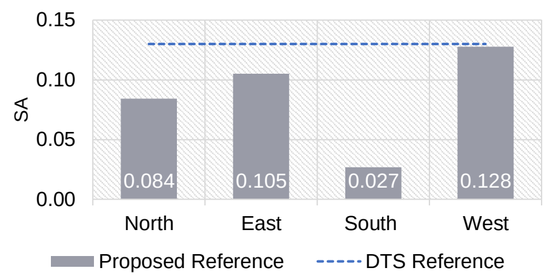
The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Apects).

Compliant Solution =
Non-Compliant Solution =

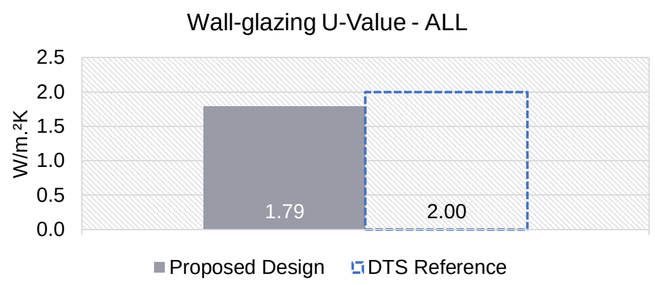
	Method 1				Method 2
	North	East	South	West	All
Wall-glazing U-Value (W/m².K)	1.49	1.99	0.92	2.00	1.79
Solar Admittance	0.08	0.11	0.03	0.13	
AC Energy Value					585

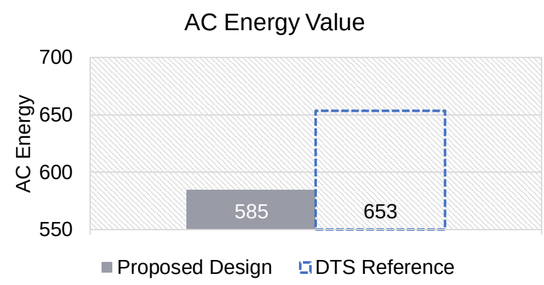
Method 1





Method 2





Project Details

	North	East	South	West
Glazing Area (m²)	110.8	487.3	27.6	469.4
Glazing to Façade Ratio	20%	33%	5%	33%
Glazing References	DTS U4.6 SHGC0.5_1 DTS U4.6 SHGC0.5_2	DTS U4.6 SHGC0.5_1 DTS U4.6 SHGC0.5_2 DTS U4.6 SHGC0.5_3 DTS U4.6 SHGC0.5_4	DTS U4.6 SHGC0.5_1	DTS U4.6 SHGC0.5_1 DTS U4.6 SHGC0.5_2 DTS U4.6 SHGC0.5_3 DTS U4.6 SHGC0.5_4 DTS U4.6 SHGC0.5_5
Glazing System Types	0	0	0	0
Glass Types	0	0	0	0
Frame Types	0	0	0	0
Average Glazing U-Value (W/m².K)	4.60	4.60	4.60	4.60
Average Glazing SHGC	0.50	0.50	0.50	0.50
Shading Systems	Horizontal	Horizontal	Horizontal	Horizontal
Wall Area (m²)	444.8	996.2	483	944.9
Wall Types	Wall	Wall	Wall	Wall
Methodology	Wall			
Wall Construction	DTS Wall	DTS Wall	DTS Wall	DTS Wall
Wall Thickness	0	0	0	0
Average Wall R-value (m².K/W)	1.40	1.40	1.40	1.40
Solar Absorptance				