Dundas Public School Upgrade

Schematic Design Report

For School Infrastructure NSW

Document Quality Control

Project:	Dundas Public School Upgrade
Client:	School Infrastructure NSW
Project No:	7068DU01

This document has been prepared by:

Fulton Trotter Architects Pty Ltd trading as

Fulton Trotter Architects

ABN: 57 677 264 550

NOTES:

Quality Assurance

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Revision History

Issue	Date	Revision Details/Status	Prepared by:	Approved by:
A	19..24	Schematic Design Issue	NK	JW

CURRENT ISSUE: A
Document Quality Control

Fulton Trotter Architects acknowledge the **Wallumedagal** people as the traditional custodians of the land upon which the **Dundas Public School** stands. We recognise their continuing connection to land, waters and culture and pay our respects to their Elders past, present and emerging.

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Appendices

1 – CONTACT LIST

2 - SCHEDULE OF ACCOMMODATION

3 – ARCHITECTURAL SCHEMATIC DESIGN

4 – LANDSCAPE SCHEMATIC DESIGN

5 – EFSG DEPARTURE SCHEDULE

6 – RFI TRACKER

7 – SAFETY IN DESIGN REGISTER – NOT INCLUDED

8 – DESIGN COMMENTS TRACKER

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1 Executive Summary

Fulton Trotter Architects have been engaged by School Infrastructure NSW (SINSW) to design the redevelopment of Dundas Public School.
Following the completion of the Master Plan Validation phase, Fulton Trotter have been engaged to deliver concept and schematic design phases.

This document outlines the design that has been developed for this project as well as the process that has been undertaken to develop the project details during this phase. The new facilities will be constructed using a combination of conventional and modern construction methods, ensuring the designs follow SINSW's standard 'Hub Layouts' and pattern book.

Image: Fulton Trotter Architects

Proposed Project	
School:	Dundas Public School (K-6 co-educational)
Projected students:	345
Proposed Number of Teaching Spaces	15 permanent teaching spaces total
EFSG Core	2 stream, Medium Primary School
Proposed Works:	• Creation of 6 new teaching spaces and 2 learning commons in a single-story building • Consideration of future development for 2 more teaching spaces. • Installation of covered walkways connecting the new building to the existing school network • Landscaping and external works around the new building and eastern entry • Upgrades to site infrastructure and services to support the new building
Open play space per student:	26.7sqm / student
Amenities	Total toilet count 34

Project Status	
Current Phase	Schematic Design
Phase completion	18th December 2024

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Design	
Site Due Diligence	Arborist feedback required on revised planning. Additional borehole testing has been completed – updated reporting to be issued soon. DDA access non-compliance flagged – performance solution required.
Brief	Scope of Work for upgrade has been agreed. Refer design brief outline in **Section 3**.
Schedule of Accommodation	Shortfalls have been identified beyond the agreed project scope of work. These are detailed in **Appendix 2** of this report
Concept Design	SINSW Hub layouts have been incorporated in the new GLS building. Amenities layout is non-standard
Town Planning Pathway	Review of Environmental Effects (REF) pathway.

Image: Fulton Trotter Architects

Consultation	
Stakeholders	This project has been a collaborative effort with multiple key stakeholders A contact list is included in **Appendix 1** of this report
Buildability	Existing demountables to be retained during construction. Construction access to be created via the Calder Road frontage – this may impact traffic and parking in this area.
Safety in Design	A safety in design schedule has been developed for the project. A safety in design workshop is scheduled has been completed and a Safety in Design Schedule is included in **Appendix 7** of this report.
Connecting with Country	A formal Connecting with Country process is not being undertaken for this project. A local consultation process will be undertaken to incorporate artwork into the new works.
Sustainability	Greenstar is not required based on the value and size of the proposed works.
EFSG	The project has been designed to comply with the requirements of SINSW Pattern Book and the EFSG as well as all relevant legislation. Refer departures schedule in **Appendix 5.**

Engineering & Services	
Fire & Hydraulic	New fire hydrant system to be created. Upgrades to be confirmed for water and sanitary.
Electrical & ICT	Electrical power supply upgrades are required – a new electrical substation will be provided. No upgrade required to the existing MSB.
Civil	The stormwater strategy for the site will utilise an onsite detention tank with connections to nearest public domain kerb.
Traffic	Construction access will be provided from Calder Road – either through the existing carpark or through a temporary construction access to the South-West corner of the site.
Structural	The building will sit on a suspended 200mm thick reinforced concrete slab with a lightweight steel structure over.
DDA	Performance solution to be sought for DDA compliant access from the site boundary.

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2 Site

Site Details

Dundas Public School is located within the northwestern Sydney suburbs. The school has frontages to Kissing Point Road, Kenworthy Street, Calder Road and St Andrew Street. Vehicular access is provided from Kissing Point Road in the north and Calder Road in the south. Pedestrian access is provided from Kenworthy Street, Calder Road and St Andrew Street

The selected site for the new works is in the south-west corner of the campus adjacent to the grass field and tennis court.

Aerial Image: Nearmaps

Site Details	
Address:	85 Kissing Point Rd, Dundas NSW
Lots	Lot 3 DP 610
LGA	City of Parramatta
Site Area	1.95 hectares
Adjacent Land Uses	The residential lands surrounding Dundas Public School are steadily undergoing a transformation from single dwelling properties to multi-unit developments including low to medium rise apartment blocks.
Site Established	1952.
Existing Site Features	The existing buildings consist of a series of one or two storey buildings. The buildings are finished with predominantly brick, FC and metal wall cladding feature metal roofs.

Town planning Constraints	
Land Zoning	R2 Low Density Residential in accordance with Parramatta Local Environmental Plan 2023.
Easements / Site Servicing	The proposed works do not impact existing easements.
Floor Space Ratio	0.5:1
Height	9 m
Environmental Constraints	Aboriginal heritage consultant advice based on the current proposed building location partly located within an area assessed as moderately disturbed and partly within an area assessed as highly disturbed. An ACHAR report has been completed and submitted to authorities – no further action required.

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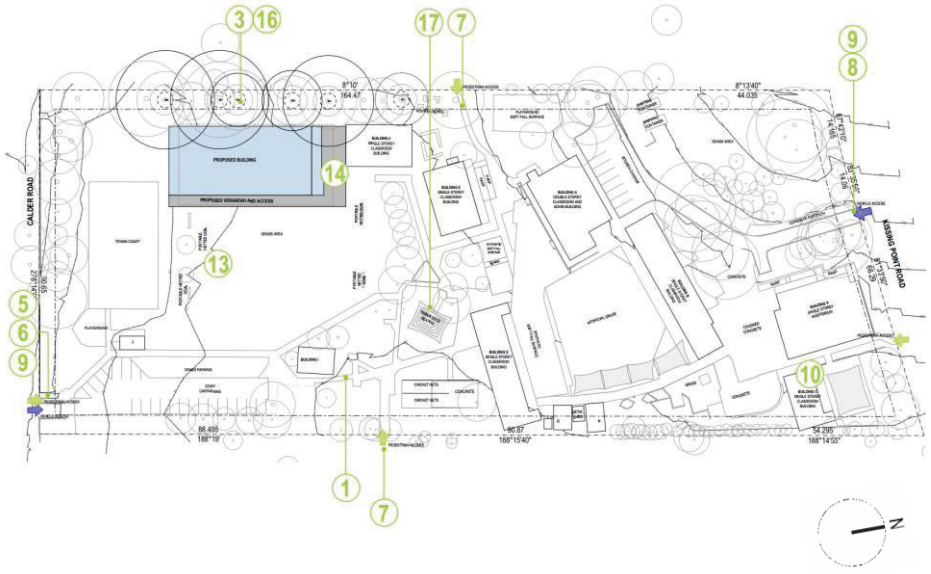
Site Analysis

Key site issues identified during a site visit undertaken by Fulton Trotter Architects are tabled below.

Issues identified in Due Diligence reports have also been noted as relevant.



Site analysis plan

	Site Issue	Comment / Status
1	Temporary Buildings	Currently 6 demountables on site. School has one P+C donated demountable (Block I) to remain on site.
2	Support Unit	There are no support unit classrooms on site
3	Trees	There are a number of significant mature trees
4	Existing Typologies	There is a range of building typologies with majority of buildings single storey with only one 2 storey building
6	Frontage	School has street frontage to both Kissing Point Road and Calder Road.
7	Drop off	Pick up and drop is located on Calder Road.
8	Pedestrian access	School has 5 pedestrian access gates. The entrance gate from Kenworthy Road is via an intercom
8	Vehicle safety issue	Vehicular entry from Kissing Point presents major safety issues due to the traffic conditions.
9	Emergency access	Site has emergency vehicle access from both Kissing Point Road and Calder Road.
10	OOSH amenities	OOSH is operated out Block C however OOSH students have to utilise Hall toilets
11	DDA	There is no access compliance across the site.
12	Play Space	Some outdoor play spaces are shared with Community.
13	Supervision	Southern play equipment cannot be used by the school due to supervision issues.
14	Fire Separation	Must be considered between building F and the proposed classroom building
15	Cut + Fill	Ensure compliance with local council DCP controls
16	TPZ	Tree Protection Zones (TPZs) to be considered
17	Timber deck	A favourite area within the school; consider for retention.

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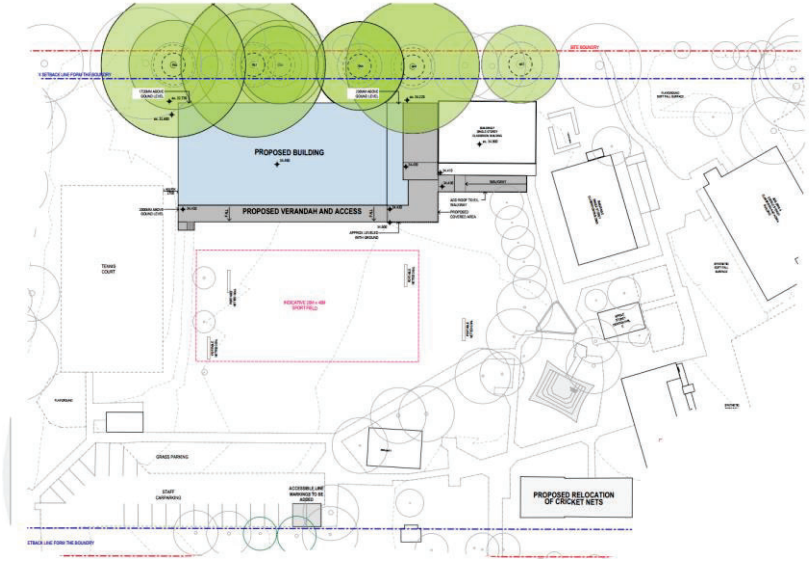
3 Design Brief

Master Plan Validation

The Master Plan Validation (MPV) phase was undertaken to confirm the planning direction. This involved a review of the NBRS masterplan feasibility report, various due diligence reports, site conditions and liaison with advisory groups. The following scheme has been endorsed by the PCG.

Since the MPV was submitted, these following items have been developed further

- Learning hub layouts including expanded multipurpose rooms,
- Configuration and location of the building in relation with the trees TPZs and retention plan,
- Amenities & services core layout (including mechanical plant),
- Facade design including a concept colour scheme,
- Site infrastructure and services details to support the new building,
- Landscape and external works, including relocation of the cricket net and eastern entry to the site.



Site plan from MPV report

The following is the endorsed scope of work:

Design Brief		Teaching Spaces
Building L (Classroom)	Ground Floor: General Learning Hub x1, modified General Learning Hub x1, Student Amenities	6
External Works	Covered walkways connecting the new buildings to the existing school network Landscaping and external works Upgrades to site infrastructure and services to support the new buildings	
	TOTAL Teaching Spaces	**6**

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The Pattern book Approach

The new facilities will be constructed using a combination of conventional and modern construction methods, ensuring the designs follow SINSW's standard 'Hub Layouts' and pattern book. By utilising these established layouts, the project avoids the complexities and uncertainties of developing entirely new designs, ensuring a more efficient and predictable build. This approach not only simplifies construction but also facilitates smoother project management and delivery.

Schedule of Accommodation

A detailed schedule of accommodation for the proposed works and the overall site has been developed. It is included in **Appendix 2** of this report.

EFSG GAP Statement

A desktop gap analysis prepared by NBRS highlights that most key internal and external facilities identified are not included in the upgrade works and, therefore, do not need to align with the EFSG. While the analysis addresses a shortfall in staff and student amenities and storage, it does not account for the further reduction in these facilities post-demolition, exacerbating the overall gap. These deficiencies must be considered in the design of the proposed classroom building.

Amenities - Fulton Trotter Architects has conducted a gap analysis to determine the required number of student amenities for the current student population capacity.

Staff toilets also included to this analysis. However, no demolition of amenities is in the scope of this work, further investigation will be required to determine for any additional amenities in related to the new building based on the significant shortage on number of the toilets.

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4 Design

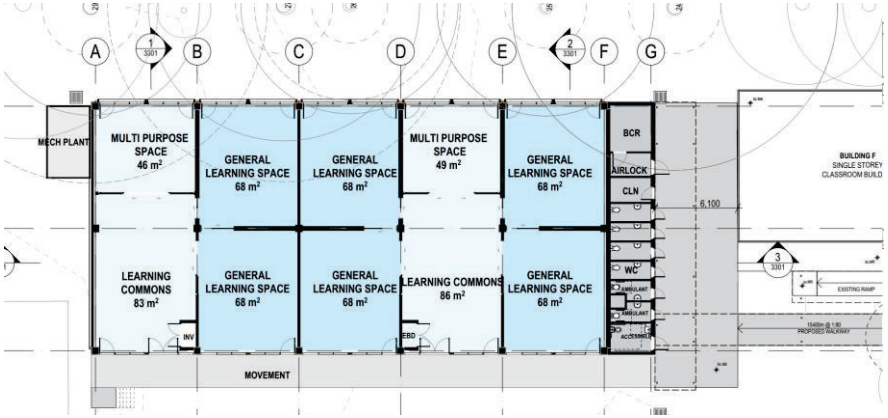
Concept Design Planning

The proposed development involves the creation of a new single-storey building (Block L). This building is sited to minimises encroachment to the school's significant trees to the western boundary and will be connected to existing Buildings via a new accessible covered walkway on ground level. The proposed building and external works will maintain and improve student circulation and site access. Block L is designed to maximise natural light and ventilation opportunities. Non-standard amenities and services core created at side of the building to cover the overall shortage of the amenities of the school

The building maintains a 6-metre separation from adjacent buildings to meet fire separation requirements.

Concept Design Finishes

Materials and finishes follow the Pattern Book Materials & Finishes principles to be contextual, durable, local & economical. The colour combination is inspired by the materiality and colours in and around the existing school context, including building facades elements and artworks.



Design Statement

The architecture of the proposed building is based on the SINSW pattern book. The facade design is based on a standard modular system which presents both internally to the school and to the surrounding context. The modular system contains typical components such as cladding, windows, doors, natural ventilation louvres, mechanical louvres, framing elements and sunshades. The composition of the facade components is designed by the project team based on specific project requirements.

The proposed building is created so that, the walkway facade is oriented towards the grass field to the East, while the facade with colourful sun hoods and framing elements is oriented towards the western boundary. Colours and textures are to be applied to the metal balustrades, metal screening, wall facade panels, framing elements and sunshades to present the unique identity of the school. The colour selection is inspired by colours found in school's existing built environment and natural landscape.

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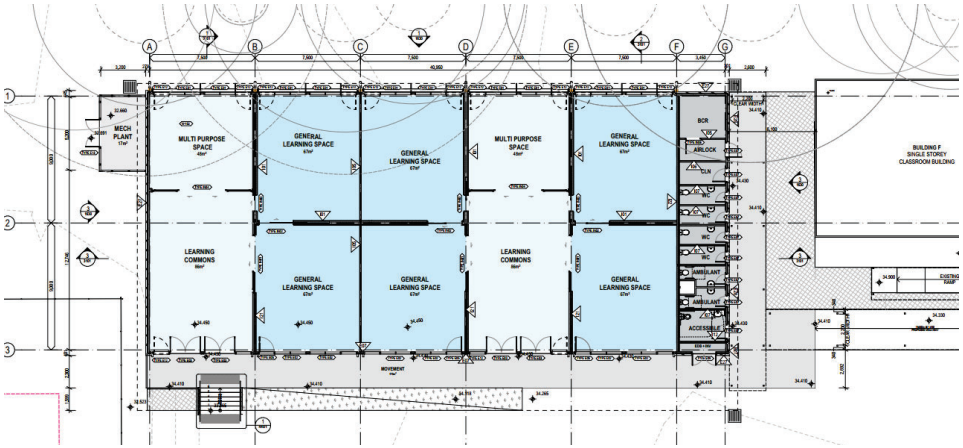
Schematic Design Planning

Following endorsement of the Concept Design for the project the documentation was developed further through greater consultation with the school and coordination with the consultant team.

Throughout this phase the design concepts were developed largely in line with the concept design package

Since the Concept Design was submitted, the following items have been developed further:

- The materiality and layout of the elevations has been detailed to refine the building facades.
- The extent of mechanical ductwork to the facades has been updated following consultation with the mechanical engineer
- The roof form has been modified to reduce the overhangs following a value engineering review of the project.
- The design of the external areas have been reviewed to reduce the extent of paving – particularly between the new building and existing Building F.
- The planning and configuration of the core area has been reviewed and adjusted to allow simple access to the service areas.
- The provision of new cricket nets has been removed following confirmation from the school that the cricket nets are not required.
- The bike parking has been relocated from the Eastern Entry to the site to sit adjacent to Building A to allow for better supervision from the Administration area.



Proposed Ground Floor Plan

Artist's Impression – View from South-East

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Consultant Coordination

During the Schematic Design phase coordination was undertaken with the consultant team to develop the details of the project.

The key elements of consultant coordination undertaken during the Schematic Design Phase are outlined below:

- The conduit and trenching paths across the site have been reviewed to minimise the impact of this trenching on the existing paths and trees.
- The location and size of the OSD tank has been reviewed with the Civil Engineer. The location of the tank was adjusted to avoid clashing with rock that has been highlighted in the geotechnical investigations.
- The stormwater design for spoon drain to the western edge of the building has been reviewed in order to collect the roof water from the downpipes without requiring in-ground pipes that would impact on the existing trees in the area.
- The provision of exhaust grilles and bulkheads in the ceiling has been coordinated with the mechanical engineer
- The location of electrical distribution boards have been reviewed and updated in consultation with the electrical engineer.

Value Engineering

Fulton Trotter Architects participated in Value Engineering workshops with RP Infrastructure and SINSW to review the cost plan for the project. A number of value engineering items in relation to the architectural design were explored as part of this process but have not been adopted.

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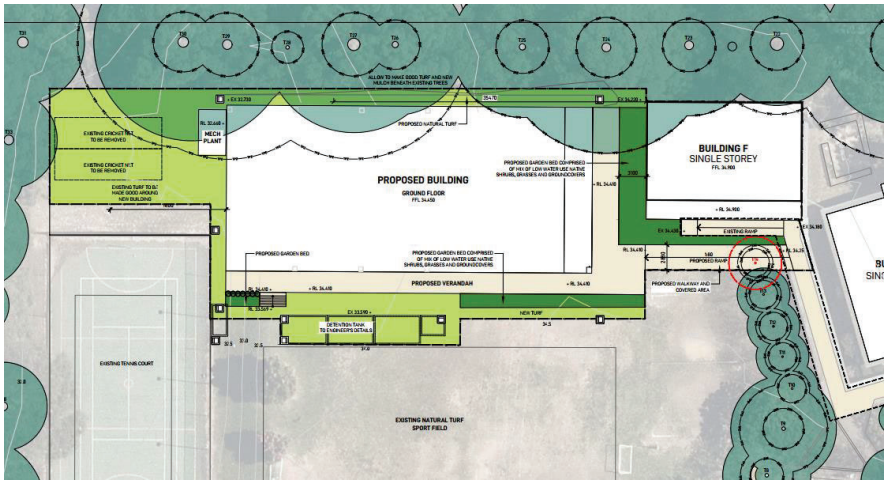
Landscape

The approach to the Landscape Architectural design for the Dundas Public School project guided by the existing landscaping around the proposed Block L.

The removal and resurfacing of the demountables will provide added play and assembly space. Additional landscaping to the eastern entry will provide better connection to the school.

Details of the landscape concept are attached to this report in **Appendix 4.**



Design Strategy	
Pattern Book Hubs	PS101 - General Learning Hub [SI Pattern Book Volume 2 rev.4]
Teaching Spaces	5 demountable removed 6 new teaching spaces (Block L) 15 permanent teaching spaces total
Amenities Strategy	Provision of toilets within the new Classroom Buildings has been calculated using a pro rata method of 15 TS of a max 44 TS for a medium core size school under EFSG2.0.
Play Space	26.7sqm / student
Building Services Strategy	Building Communications Room (BCR) is located at the ground floor of the service cores. Mechanical plant is located on grade.
Circulation Design Strategy	External walkways to comply with Pattern Book and EFSG Circulation Guidelines (DG08).
Connecting with Country	A formal Connection with Country process is not being undertaken for this project., however the design team will contact the school or AECG representatives to discuss initiatives that could be included in the campus.

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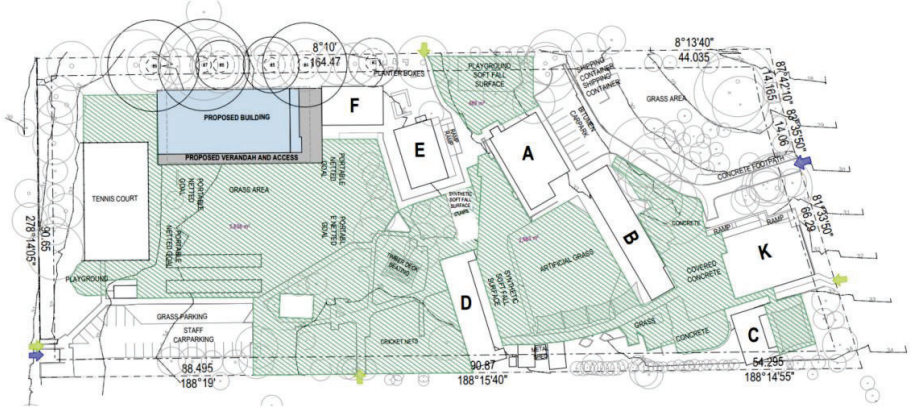
Concept Diagrams

- Play Space



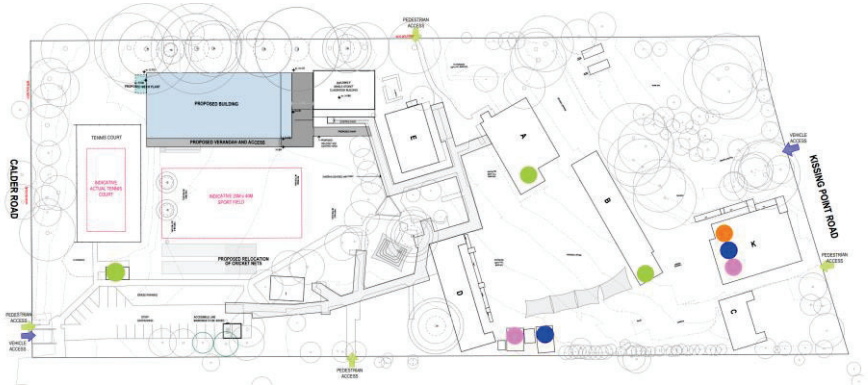
PROPOSED OUTDOOR PLAYSPACE AREA

PROPOSED PLAYSPACE AREA CALCULATIONS

ZONE	AREA	STUDENTS/SQM
PROPOSED OUTDOOR PLAYSPACE AREA	8788 m^2	26.7m^2/STUDENT*

*STUDENT/SQM CALCULATION IS BASED ON A EXISTING STUDENT POPULATION OF 330

- Amenities



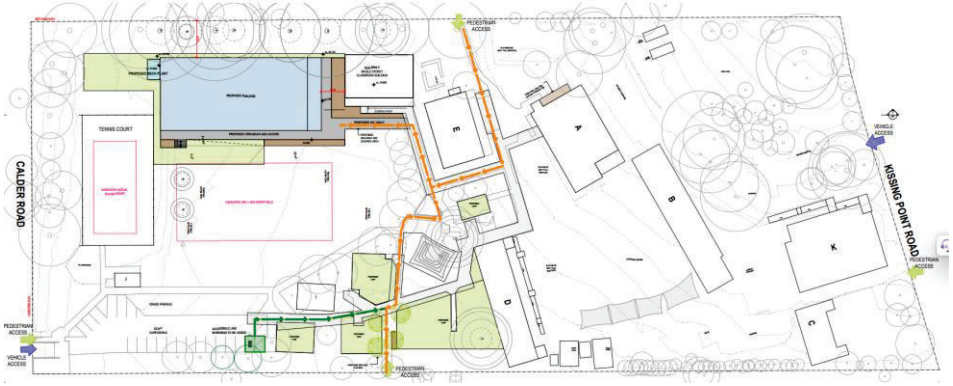
EXISTING AMENITIES QUANTITY

	MALE STUDENTS	FEMALE STUDENTS	ACCESSIBLE STAFF & STUDENTS	STAFF	
WC	6	9	1	8	
URINAL	10				
TOTAL	16	9	1	8	34

AMENITIES LEGEND

- MALE AMENITIES
- FEMALE AMENITIES
- STAFF AMENITIES
- ACCESSIBLE AMENITIES

- Accessibility and wayfinding (principal entry) DDA



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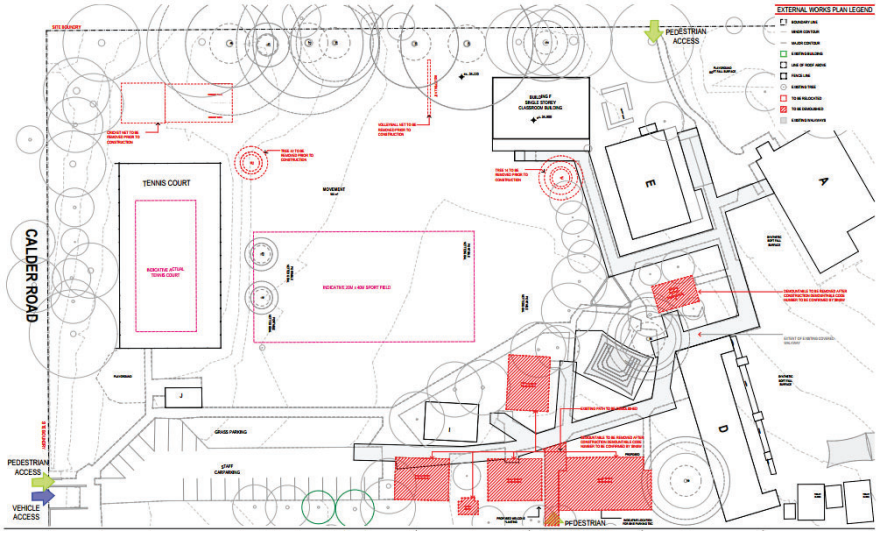
5 Consultation

Design Consultation

Fulton Trotter Architects have undertaken a detailed consultation process with the school, the various stakeholders within the NSW Schools Infrastructure and the school community as part of planning each phase of this development.

Buildability

Staging Issues: As outlined in the Staging Plans in the Architectural Drawings in Appendix 3, the existing cricket nets are to be removed prior to the commencement of the construction phase in order to clear the construction zone. Following construction of the new building the demountables will be removed from the site. This will need to be reviewed in detail with the school close to the time of the final removal of the demountables.



Construction Access: Construction access will be provided via the Calder Street frontage. This will either be achieved through the creation of a temporary construction access to the South East corner of the site (in between the existing mature trees in this area) or through the existing carpark to the South-Eastern corner of the site.

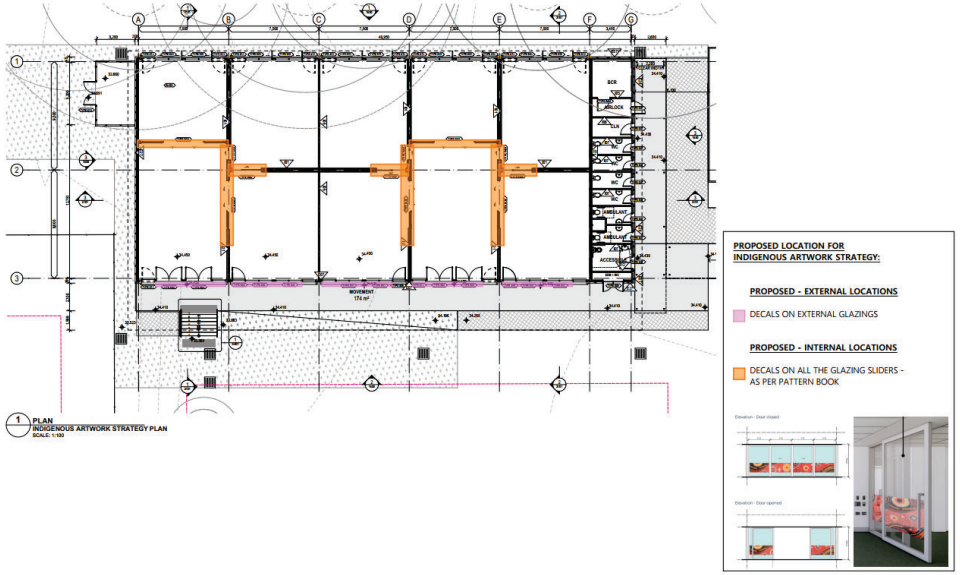
Safety in Design

A safety in design schedule has been processing to be developed for the project. At this stage related **Appendix 7** is excluded from this report.

Connecting with Country

A formal Connecting with Country process is not being undertaken for this project. The design team has attempted to contact the AECG representatives for the school to discuss initiatives that could be included in the campus. However, the team has been advised that there is no existing AECG representative for the school. The project team should continue to reach out to the AECG as the project progresses to seek their input into the aboriginal artwork strategy.

Opportunities for inclusion of artwork has been captured in schematic design documentation. This will be developed further in future phases of the project – following the engagement of the D&C contractor. Details of the artwork strategy is outlined in the **Architectural Drawings attached to this report in Appendix 3.**



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Sustainability

The project is not required to achieve a Green Star rating. The environmental performance of the development will be considered in the following ways –

- Siting and Orientation
- Natural Ventilation
- Façade design, utilising the Pattern Book shading devices as appropriate
- Energy Efficient Fixtures and Equipment
- External walls and roof material selection and insulation
- Potential for Rainwater Harvesting

EFSG

The project has been designed to comply with the requirements of the EFSG and all relevant legislation. Departures that have been raised during Concept Design from these requirements have been recorded in the **EFSG Departures Schedule** included in **Appendix 5**. of this report.

Further discussions, directions and advice from the Design Advisory Team is recorded in the **RFI Tracker** – which is included in **Appendix 6** of this report.

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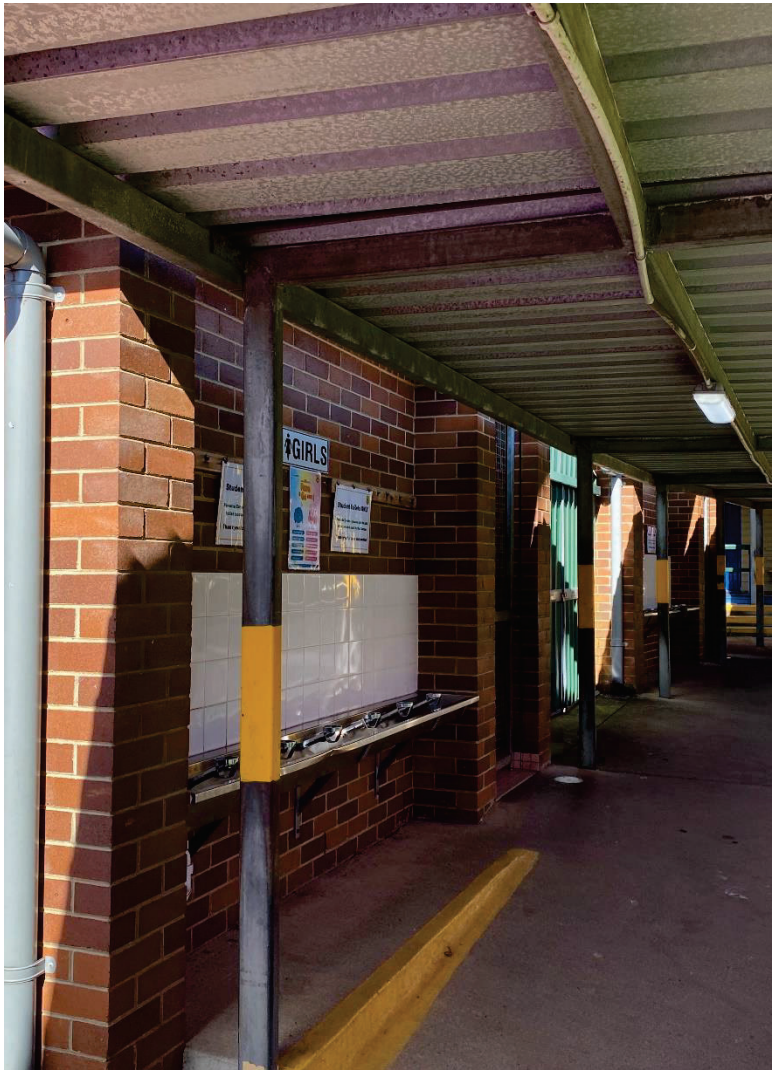
6 Services and Engineering

The provision of services to the site and proposed building have been considered and integrated into the overall design outcome. A summary of the services management is outlined below –



Service	
Rainwater & Stormwater Management (Meinhardt)	The stormwater strategy for the site will utilise an onsite detention tank with connections to nearest public domain kerb.
Structural Engineering (Meinhardt)	The 1-storey building is proposed to have a slab on ground with ground floor framing (incl. roof) to be a proprietary D&C light-weight steel modular frame structure (e.g. Austruss system.
Electrical Services (NDY)	The school is currently supplied by a 315kVa transformer which has does not have sufficient capacity for the proposed works. A new connection will be made to a 500kVa transformer on Kissing Point Road. A shut down will be required for the new connection. A new consumer main will be run to the existing main switchboard (MSB) in Building A. An electrical distribution board (EDB) and a building control room (BCR) will be provided on the ground floor of the new Building L. New communications reticulation will be provided from the Main Communications Room (MCR) in Building A.
Mechanical Services (NDY)	Air conditioning is provided to the proposed new Building L in line with EFSG Requirements. This is provided as a centralised system. Plant areas are to be provided in the ground core, with ventilation to the sky. A unit is also proposed for the BCR.

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Service	
Hydraulic & Fire (ACOR)	A new fire booster, inground fire main and hydrants are required. New cold-water supply from existing meter. New sewer will connect to existing site sewer service.
BCA & DDA Assessment	New Building L - BCA Class 9b (Educational Purposes (classrooms)) Construction Type: C Rise in storeys: 1 Climate zone: - Climate Zone 6
Disability Access	Building L has been sited to allow access from within the existing campus without the introduction of additional ramps.
Traffic	A Transport Working Group has been established between SINSW and Parramatta City Council. This has been facilitated by the project's Traffic Engineer's (SCT Consulting). These meetings will continue as details of the project are finalised. Additional bicycle parking is provided adjacent to Building A to allow for supervision by the Administration staff.
Waste Management	Waste management will be reviewed as part of Schematic Design phase.
Loading Zones & Deliveries	Loading zones and deliveries will be reviewed as part of Schematic Design phase.

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7 Next Steps

Design Comments – items to be resolved in next phase

1. **D&C Contractor:** The project will be tendered to D&C contractors based on the Schematic Design documentation.

2. **Design Development / Issued for Construction Documentation:** Once a contractor is engaged they will complete the remainder of the project documentation (through the Design Development phase) to allow for the construction of the project. The remainder of the details and coordination will be completed during this phase.

3. **Planning Approval:** Planning approval will be sought for the project through a Review of Environmental Factors (REF).

Refer also to the Design Comments Tracker in **Appendix 8**

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Appendix 1

CONTACT LIST

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Project Team Contact List

Company	Discipline	Title/description	First Name	Surname	Work Phone	Email	Consultant Invoice Contact Details	Reviewed
ACOR	Hydraulic/Fire	Senior Hydraulic Designer	Rhys	Edwards	0421 760 925	redwards@acor.com.au		TRUE
Arcadis	Cost Manager	Programme Director	David	Ball	0431 639 495	david.ball@arcadis.com		TRUE
Arcadis	Cost Manager	Cluster Director	Sumi	Sumithiran	0415 390 312	sumi.sumithiran@arcadis.com		TRUE
Arcadis	Cost Manager	Project Lead	Vincent	Caspe	0423 920 506	vincent.caspe@arcadis.com		TRUE
Arcadis	Cost Manager	Cost Manager	Juliana	Campbell		juliana.campbell@arcadis.com		TRUE
Gyde	Town Planners	Lead Planner	Belinda	Barrie	02 9071 1883	belindab@gyde.com.au		TRUE
Gyde	Town Planners	Assistant Planner	Lauren	Daly	02 9071 1848	laurend@gyde.com.au		TRUE
Fulton Trotter Architects	Architecture	Project Director	John	Ward	0411 877 753	johnw@fultontrotter.com.au	Invoice Contact: suel@fultontrotter.com.au CC: Johnw@fultontrotter.com.au (North & South Clusters) Gregi@fultontrotter.com.au (South Coast cluster)	TRUE
Fulton Trotter Architects	Architecture	Project Leader	Niloofar	Khodabandehloo	02 8383 5151	niloofark@fultontrotter.com.au		TRUE
Ground Ink	Landscape Architects	Project Director	Rob	Loughman	0411 352 122	robl@groundink.com.au		TRUE
Meinhardt	Project Lead	Associate Director	John	Bea	0414 350 360	john.bea@meinhardtgroup.com		TRUE
Meinhardt	Structural	Project Lead	Ehsan	Aimoradi	02 8252 0418	ehsan.almoradi@meinhardtgroup.com		TRUE
Meinhardt	Structural	Structural Engineer	Zheng	Cui	02 8247 8442	Zheng.Cui@meinhardtgroup.com		TRUE
Meinhardt	Structural	Structural Engineer	Vivien	Chen	+61 2 8247 8424	vivien.chen@meinhardtgroup.com		TRUE
Meinhardt	Civil	Associate Civil Engineer	Yolandi	Cooper	0432 323 113	yolandi.cooper@meinhardtgroup.com		TRUE
Meinhardt	Civil	Senior Civil Engineer	Brian	Kim	02 8252 0428	brian.kim@meinhardtgroup.com		TRUE
Meinhardt	Civil	Civil Lead	Brad	Lusty		brad.lusty@meinhardtgroup.com		TRUE
NDY	Elec/Mech/Acoustic/ESD		Jarrad	Underwood	0434 671 435	j.underwood@ndy.com		TRUE
NDY	Elec/Mech/Acoustic/ESD	Senior Engineer (Project Leader)	Shri	Sapre	0410 529 520	s.sapre@ndy.com		TRUE
NDY	Mechanical	Senior Engineer (Mechanical Lead)	Chia	Halim	0401 322 715	c.halim@ndy.com		TRUE
NDY	Electrical	Senior Engineer (Electrical Lead)	Kristina	Fernandez-Garcia	0449 094 451	k.fernandez@ndy.com		TRUE
NDY	Acoustics	Senior Engineer (Acoustic Lead)	Victoria	Rastelli	0421 736 119	v.rastelli@ndy.com		TRUE
NDY	ESD	Senior Engineer (ESD Lead)	Richard	Burton	0431 544 918	r.burton@ndy.com		TRUE
NDY	Acoustics	Acoustic Engineer	Jim	Wu	0482 598 946	j.wu@ndy.com		TRUE
MBC	BCA/DDA	Senior Building Surveyor	Curtis	Schumann	0498 214 943	cschumann@mbc-group.com.au		TRUE
MBC	BCA	Building Surveyor	Bilal	Kurdi	0419 949 112	bkurdi@mbc-group.com.au		TRUE
MBC	DDA	Access Consultant	Jhoanna	Colorado	0457 045 051	jcolorado@mbc-group.com.au		TRUE
RP Infrastructure	Project Manager	Associate Director (Program Lead)	Matt	Spooner	0418 203 222	matthew.spooner@rpinfrastructure.com.au		TRUE
RP Infrastructure	Project Manager	Senior Project Manager (North Metro Cluster Lead)	Lynne	Donohoe	0416 143 638	Lynne.Donohoe@rpinfrastructure.com.au		TRUE
RP Infrastructure	RP Infrastructure	Project Manager	Joe	Wood	0403 473 268	joe.wood@rpinfrastructure.com.au		TRUE
RP Infrastructure	RP Infrastructure	Senior Project Coordinator	Ann	Connolly	0401 313 437	ann.connolly@rpinfrastructure.com.au		TRUE
RP Infrastructure	RP Infrastructure	Project Manager	Cormac	McCartan	0452 080 970	cormac.mccartan@rpinfrastructure.com.au		TRUE
SINSW	Infrastructure Planning	Senior Project Director (Planning)	Ant	Courtman	0497 111 436	ant.courtman@det.nsw.edu.au		TRUE
SINSW	Infrastructure Planning	Project Director (Planning)	Carolina	Vuoso	0448 098 511	carolina.vuoso@det.nsw.edu.au		TRUE
SINSW	Infrastructure Planning	Senior Transport Planner, North Region Transport	Jessica	Ng	0460 821 882	jessica.ng11@det.nsw.edu.au		TRUE
SINSW	Infrastructure Planning	Transport Planning Manager, North Region Transport	Kamoru	Adetunmbi	0499 845 783	Kamoru.Adetunmbi2@det.nsw.edu.au		TRUE
SINSW	Infrastructure Delivery	Project Officer, Delivery	Zaid	Gourbandi	0499 542 027	zaid.gourbandi1@det.nsw.edu.au		TRUE
SINSW	Infrastructure Delivery	Senior Project Director	Peter	Krause	0422 803 555	pete.krause@det.nsw.edu.au		TRUE
SINSW	Infrastructure Delivery	Project Leader	Sudeep	Bile	0476 595 135	sudeep.bile1@det.nsw.edu.au		TRUE
SINSW	Internal SINSW Statutory Planner	Statutory Planning Officer (Planning)	Patrick	Mills	0413 692 339	patrick.mills11@det.nsw.edu.au		TRUE
SINSW	Internal SINSW Statutory Planner	Statutory Planning	David	Lewis		david.lewis83@det.nsw.edu.au		TRUE
SINSW	Internal SINSW Statutory Planner	Statutory Planning	Jenny	Chu	0436 367 781	jenny.chu4@det.nsw.edu.au		TRUE
SINSW	Infrastructure Planning	Infrastructure Planning Director	Evan	Reade		Evan.Reade1@det.nsw.edu.au		TRUE
SINSW	ICT Infrastructure Coordination and Operational Readiness	Project Manager	Ashwani	Jain	0457 512 637	ashwani.jain@det.nsw.edu.au		TRUE
SINSW	ICT Infrastructure Coordination and Operational Readiness	ICT Support Team Lead	Douglas	Ross	0417 463 535	douglas.b.ross@det.nsw.edu.au		TRUE
SINSW	Infrastructure Delivery	Design Manager	Ben	Coulston	0448 983 146	ben.coulston@det.nsw.edu.au		TRUE
SINSW	Infrastructure Delivery	Community Engagement Manager	Sara	Gardner-Gentles		sara.gardnergentles1@det.nsw.edu.au		TRUE
SINSW	Technical Services	Senior Heritage Officer	Alyce	Haast	0448 086 390	Alyce.Haast@det.nsw.edu.au		TRUE
SINSW	Technical Services	Senior Sustainability Officer	Maeve	Molins	0476 530 091	Maeve.Molins@det.nsw.edu.au		TRUE
SINSW	Asset Management (AMU)	Group Leader, AMU	Adam	Devine	0475 726 193	adam.devine7@det.nsw.edu.au		TRUE
SINSW	SINSW Sustainability	Senior Sustainability Officer, Technical Services	Maeve	Molins	0476 530 091	maeve.molins2@det.nsw.edu.au		TRUE
SINSW	SINSW Sustainability	Senior Sustainability Officer, Technical Services	Kate	Kelly	0427 122 486	kate.kelly45@det.nsw.edu.au		TRUE
DoE	Northmead Public School	Principal (Relieving)	Lynda	Zalaf	*9638 2813*	lynda.zalaf@det.nsw.edu.au		TRUE
DoE	Northmead Public School	Principal	Lee	Shipley	*9639 2813*	leslie.shipley@det.nsw.edu.au		
P&C	Northmead Public School	P&C Member	Sonya	Kral		sonyakral@outlook.com		TRUE
DoE	DoE	Director Educational Leadership,	David	Leydon		david.leydon@det.nsw.edu.au		TRUE

Appendix 2

SCHEDULE OF ACCOMMODATION

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NSW GOVERNMENT Education School Infrastructure

Primary School

GAP ANALYSIS AND SCHEDULE OF ACCOMMODATION - DETAILS

fulton trotter ARCHITECTS

Project information	
School name	Dundas Public School (K-6)
Current enrolments	334 (source: myschool website)
Target Proposed enrolments	
Current Stream size	2
Proposed Stream size	2 (Primary School Medium)

			Stream					Existing				Area Gap								
				EFSG				AMS Data				To EFSG standard				New and Refurbished Areas Total				
EFSG Unit ID	Proposed AMS Room Number	Room Number	Space	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Comments
PS 100			**GENERAL LEARNING SPACES**																	
PS101			**GENERAL LEARNING SPACES HUB**																	
PS101.01			General Learning Space (GLS)	67.5	24	1620	24	59	9	533	9									The majority of home bases are between 47-60sqm with one large HB (around 79sqm)
	LR1001		General Learning Space 1													66.0	1	66	1	
	LR1002		General Learning Space 2													66.0	1	66	1	
	LR1003		General Learning Space 3													66.0	1	66	1	
	LR1004		General Learning Space 4													66.0	1	66	1	
	LR1005		General Learning Space 5													66.0	1	66	1	
	LR1006		General Learning Space 6													66.0	1	66	1	
PS101.02			Storage		1			5	10	54										
			included in GLS as cabinetary																	
			Personal Effects Storage (PES)					6	3	18										
PS101.03			Learning Commons (LC)	135	6	810														
			Withdrawl - type 1					2.81	1	3										
			Withdrawl - type 2					11	2	23										
	LR1007		Learning Commons 1													85.0	1	85.0	0	
	LR1008		Learning Commons 2													85.0	1	85.0	0	
PS101.04			Practical Activities Area (PAA)		2			31	5	155										
			included within Learning Common																	
PS101.05			Multi Purpose Space (MPS)		6															
	LR1009		Multi Purpose Space 1													45.0	1	45.0	0	
	LR1010		Multi Purpose Space 2													45.0	1	45.0	0	
			TOTAL sqm GLS			*2430.0*	*24*			*786.0*	*9*			*-1644.0*	*-15*			*656.0*	*6*	
PS102			**GENERAL LEARNING SPACES HUB (SUPPORT HUB)**																	
				Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	
PS102.01			General Learning Space (GLS)	67.5	3	202.5														none noted on plans
PS102.02			Storage		1															
			included in GLS as cabinetary																	
PS102.03			Learning Commons (LC)	135	1	135														
PS102.04			Practical Activities Area (PAA)		2															
			included in Learning Commons																	
PS102.05			Multi Purpose Space (MPS)		1															

			Stream					Existing				Area Gap								
				EFSG				AMS Data				To EFSG standard				New and Refurbished Areas Total				
EFSG Unit ID	Proposed AMS Room Number	Room Number	Space	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Comments
			included in Learning Commons																	
PS102.06			Support Hub Meeting Room	20	1	20														
PS102.07			Staff WC	5.5	1	5.5														
PS102.08			Access Toilet	6.5	2	13														
PS102.09			Adult Change Facility + Shower	14	1	14														
PS102.10			Ambulant Toilets	3.5	2	7														
PS102.11			Laundry	8	1	8														
PS102.12			Outdoor Learning Commons (OLC)	1	135	135														
			TOTAL sqm SUPPORT GLS			*540.0*	*0*			*0.0*	*0*			*-540.0*	*0*			*0.0*	*0*	
PS 200			**CORE FACILITIES**																	
PS201			**ADMINISTRATION HUB**																	
				Size	No.	Total		Size	No.	Total		Size	No.	Total		Size	No.	Total	FTS Count	
PS201.01			Entry Vestibule	22	1	22		18.51	1	18.51										
PS201.02			Principal / Meeting Room	20	1	20		15.04	1	15.04										
PS201.03			Deputy Principal's Office	48	1	48			1	14.57										1 x single 13sqm min office & 1x double 26sqm min office
			Deputy Prinicipal type 2						1	19.02										
PS201.04			Interview Room / Office	33	1	33			1	11.83										1x 13sqm rooms min & 1x 17sqm room min.
			Interview office - type 3						1	17.19										
PS201.05			Clerical / Printing	61.5	1	61.5			2	42.01										
PS201.06			Security Store Room	11	1	11			1	22.64										
PS201.07			Sick Bay	14	1	14			1	13.48										
PS201.08			Accessible Toilet / Shower	8	1	8														
PS201.09			Store / Community Clinic		0	0														Not standard inclusion. Could be archive store, community clinici, other. Confirm with DoE
PS201.10			Circulation	19.5	1	19.5														
			TOTAL sqm ADMIN			*237.0*	*0*			*174.3*	*0*			*-62.7*	*0*			*0.0*	*0*	
PS202			**STAFF HUB**																	
				Size	No.	Total		Size	No.	Total		Size	No.	Total		Size	No.	Total	FTS Count	
PS202.01			Staff Lounge	125	1	125			1	63.3										
PS202.02			Kitchen Area	10	1	10														
PS202.03			Staff Toilets	33	1	33			5	23.66										2F + 2M + 1 Acc (includes circulation)
			Staff shower toilet						3	14.17										
			Staff room annex						7	139.83										
PS202.04			External Circulation	0	0	0														Not a standard inclusion. Found in S size only. Footprint could be utilised for other purposed. Confirm with DoE
			TOTAL sqm STAFF			*168.0*	*0*			*241.0*	*0*			*73.0*	*0*			*0.0*	*0*	
PS203			**HALL, CANTEEN & OSHC**																	
				Size	No.	Total		Size	No.	Total		Size	No.	Total		Size	No.	Total	FTS Count	
PS203.01			Communal Hall	216	1	216		122.5	3	367.5										
PS203.02			Stage	50	1	50														
PS203.03			Chair Store Room	14	1	14		13	1	13										
PS203.04			PE Store Room	16	1	16		16.4	1	16.4										
PS203.05			Sports Store Room	13	1	13		14.1	3	42.3										
PS203.06			Performance Store Room	11	1	11		10.4	1	10.4										

NSW GOVERNMENT Education
School Infrastructure

			Stream																	
				EFSG				Existing AMS Data				Area Gap To EFSG standard				New and Refurbished Areas Total				
EFSG Unit ID	Proposed AMS Room Number	Room Number	Space	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Comments
PS203.07			Sound Cupboard	2	1	2		2.1	1	2.1										
PS203.08			Toilets	20	1	20														3M + 3F
			Toilets girls - number of pans						3	7										
			Toilet boys - number of pans						2	6										
			Toilet boys - Linear metreage of urinals						1											
PS203.09			Accessible Toilet / Shower	8	1	8		7	1	7										
PS203.10			OSHC office	21	1	21														June 2023: OHSC is located in Block C but does not include these spaces.
PS203.11			OSHC store	26	1	26														
PS203.12			OSHC Kitchenette	20	1	20														
PS203.13			Canteen Office / Store Room	15	1	15		5.4	1	5.4										
PS203.14			Canteen	38	1	38		25.2	1	25.2										
PS203.15			Servery Covered Area		1	0														
			included in PS501.01 COLA (36sqm min)																	
PS203.16			Staff Accessible Toilet	8	1	8														
PS203.17			Garden Store Room	13	1	13														
PS203.18			Bulk Store Room	16	1	16														
PS203.19			Cleaning Supplies Store Room	10	1	10														
PS203.20			Internal Circulation	56.75	1	56.75														
			TOTAL sqm HALL, CANTEEN + OSHC (min.)			*573.8*	*0*			*502.3*	*0*			*-71.5*	*0*			*0.0*	*0*	
PS204			**LIBRARY HUB**																	
				Size	No.	Total		Size	No.	Total		Size	No.	Total		Size	No.	Total	FTS Count	
PS204.01			Library Main Area	270	1	270		130.5	1	131										
PS204.02			Shared Office / Workroom	27	1	27		17.1	1	17										
PS204.03			KLA Resource Store Room	20	1	20		8												June 2023: School has turned the staff toilets in the library to student toilets (1M and 1F). Refer to Student Amenities numbers
PS204.04			Staff Toilet	7	1	7														
PS204.05			Special Programs Room	33	2	66		42.2	2	84										
PS204.06			Special Programs Storage	0	1	0		3	1	3										
			Included within the GLS as cabinetry																	
PS204.07			Store	6	1	6														
PS204.08			Student Toilets	9	1	9														
PS204.09			Circulation		0	0														Not standard inclusion. Footprint could be utilised for other purposes. Confirm with DoE
			TOTAL sqm LIBRARY			*405.0*	*0*			*235.0*	*0*			*-170.0*	*0*			*0.0*	*0*	
PS 400			**STUDENT AMENITIES + STORAGE + SERVICES**																	
PS401			**STUDENT AMENITIES**																	
				Size	No.	Total		Size	No.	Total		Size	No.	Total		Size	No.	Total	FTS Count	
PS401.01			Toilets - Girls - WCs	4	17	68			8	23										June 2023: requires site validation
	LR1016		Toilets - Girls - WC														1	0		
	LR1017		Toilets - Girls - WC														1	0		
PS401.02			Toilets - Boys - WCs	4	15	60			7	24										June 2023: requires site validation
	LR1018		Toilets - Boys - WC														1	0		
	LR1019		Toilets - Boys - WC														1	0		
PS401.03			Toilets - Boys - Urinals			0			0	0										Urinals are replaced by cubicals at 1 cubical per 600mm of urinal Requires site validation
			Unisex Access toilet / shhower					4	0											June 2023: requires site validation
PS401.04			Drinking Facilities		17	0			0											June 2023: requires site validation

			Stream																	
				EFSG				Existing AMS Data				Area Gap To EFSG standard				New and Refurbished Areas Total				
EFSG Unit ID	Proposed AMS Room Number	Room Number	Space	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Comments
PS401.05			Hand Washing Outlets		18	0			0				-18				4			June 2023: requires site validation
PS401.06			Access Toilet	8	3	24														to code requirements
			Access Shower Toilet Change - size 2						0											June 2023: requires site validation
	LR1020		Access Toilet													6	1	6		
	LR1021		Male Ambulant WC													4	1	4		
	LR1022		Female Ambulant WC													4	1	4		
			TOTAL sqm STUDENT AMENITIES			*152.0*	*0*			*47.0*	*0*			*-105.0*	*0*			*14.0*	*0*	
PS402			**OTHER STORAGE / SERVICES**																	
				Size	No.	Total		Size	No.	Total		Size	No.	Total		Size	No.	Total	FTS Count	
PS402.01			Cleaning Distributed Store Room	3	1	3		2	4	8										
PS402.02			Main Communications Room	15.5	1	15.5			0											
PS402.03			Building Communications Room	8.4	2	16.8			0											
PS402.04			Laundry	8	1	8														
PS402.05			Kiln	6	1	6														
PS402.06			Main Switchboard Cupboard	8	1	8		3	1											Size to Statutory Requirements.
PS402.07			Distribution Board Cupboard			0		2	2	5										Size to Statutory Requirements.
PS402.08			Other services + Circulation Area Estimate	90.7	1	90.7														
			Garden Store					4.1	1	5										
			Bulk Store					9.1	6	54										
			Cleaning supplies store					9	1	9										
	LR1023		Building Control Room (BCR)													16	1	16		
	LR1024		Airlock														2	0		
	LR1025		Cleaners													6	1	6		
	LR1026		INV													4	1	4		
	LR1027		EDB													4	1	4		
			TOTAL sqm OTHER STORAGE / SERVICES			*148*	*0*			*81*	*0*			*-67.0*	*0*			*30.0*	*0*	
PS403			**OTHER MOVEMENT / SERVICES**																	
				Size	No.	Total		Size	No.	Total		Size	No.	Total		Size	No.	Total	FTS Count	
PS403.01			Mechanical Services Pad	0	0	0														excluded
PS403.02			Movement External (within 9x7.5 grid)	0	1	0														
PS403.03			Movement External (external corridor)	1227	1	1227			13	615.08										
PS403.04			External Circulation (PS401- within 9x7.5 grid)	125	1	125														
PS403.05			Staircase	396	1	396			0	0										x4 up to 3 storeys
PS403.06			Lifts		2	0			1	1.01										2 Lifts
			Circulation - internal						13	186.26				0						
	LR1028		Movement External													0	1	0		
	LR1029		Walkway													0	1	0		
			TOTAL sqm OTHER MOVEMENT / SERVICES			*1748*	*0*			*802*	*0*			*-945.7*	*0*			*0.0*	*0*	
			TOTAL AREA (FECA + UCA)			**6637.8**	**(includes PS501.1)**			**2868.9**				**-3532.9**				**700.0**		
PS 500			**OUTDOOR AREAS**																	
PS501			**OUTDOOR AREAS**																	
				Size	No.	Total		Size	No.	Total		Size	No.	Total		Size	No.	Total	FTS Count	
PS501.01			Covered Outdoor Space (COLA)	236	1	236		195	1	195										
			Servery Covered Area																	

NSW GOVERNMENT Education School Infrastructure

		Stream					Existing				Area Gap								
			EFSG				AMS Data				To EFSG standard				New and Refurbished Areas Total				
EFSG Unit ID	Proposed AMS Room Number	Room Number	Space	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Size	No.	Total	FTS Count	Comments
PS501.02			Tiered Outdoor Learning Space		1	0														
PS501.03			Assembly Court	630	1	630														
PS501.04			Assembly Court - Flagpole		3	0														
PS501.05			Games Court	576	1	576														
PS501.06			Open Play Space	10sqm / student																
PS501.07			Bulk Waste Pad	Variable																
PS501.08			Bicycle Parking / Enclosure	Variable																
PS501.09			Car Parking	Variable																
PS501.10			Kiss and Drop Zone	Variable																
PS501.11			Bus Zone /s	Variable																
			TOTAL sqm OUTDOOR AREAS			*1442*	*0*			*195*	*0*			*-1247.0*	*0*			*0*	*0*	

Note NUFA excludes horizontal and vertical circulation; structure, walls or other engineering; services and plant rooms

Note EFSG reference codes may vary depending on size of school

Appendix 3

ARCHITECTURAL SCHEMATIC DESIGN

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DUNDAS PUBLIC SCHOOL

FOR SCHOOL INFRASTRUCTURE NSW

7068DU01

						Drawing Name	Rev
DUPS	FTA	XX	XX	DR	A 0000	COVER SHEET + DRAWING LIST	04
DUPS	FTA	XX	XX	DR	A 0001	SPECIFICATION SCHEDULE & MATERIAL SCHEDULE	03
DUPS	FTA	00	00	DR	A 1001	EXISTING SITE PLAN	04
DUPS	FTA	00	00	DR	A 1002	DEMOLITION SITE PLAN	03
DUPS	FTA	00	00	DR	A 1003	SITE ANALYSIS PLAN	03
DUPS	FTA	00	00	DR	A 1101	PROPOSED SITE PLAN	04
DUPS	FTA	00	00	DR	A 1201	SITE SECTIONS	03
DUPS	FTA	00	00	DR	A 1401	EXTERNAL WORKS PLAN	04
DUPS	FTA	00	00	DR	A 1501	STAGING PLAN	04
DUPS	FTA	00	00	DR	A 1601	PLAYSCAPE CALCULATION	02
DUPS	FTA	00	00	DR	A 1602	AMENITIES STRATEGY	02
DUPS	FTA	00	00	DR	A 1603	ACCESS STRATEGY	01
DUPS	FTA	00	00	DR	A 1604	TREE REMOVAL PLAN	02
DUPS	FTA	00	00	DR	A 1610	INDIGENOUS ARTWORK STRATEGY	03
DUPS	FTA	00	00	DR	A 1630	EXTERNAL MATERIAL AND FINISHES	03
DUPS	FTA	00	00	DR	A 1640	SHADOW DIAGRAM	02
DUPS	FTA	B00L	GF	DR	A 2101	GROUND FLOOR PLAN	04
DUPS	FTA	B00L	LR	DR	A 2102	ROOF PLAN	04
DUPS	FTA	B00L	GF	DR	A 2201	REFLECTED CEILING GROUND FLOOR PLAN	04
DUPS	FTA	B00L	ZZ	DR	A 3001	ELEVATIONS 01	04
DUPS	FTA	B00L	ZZ	DR	A 3002	ELEVATIONS 02	04
DUPS	FTA	B00L	ZZ	DR	A 3101	SECTIONS 01	04
DUPS	FTA	B00L	ZZ	DR	A 4001	WALL TYPE DETAILS / PARTITION DETAILS	04
DUPS	FTA	B00L	ZZ	DR	A 4201	WALL SECTIONS 01	04
DUPS	FTA	B00L	ZZ	DR	A 4202	WALL SECTIONS 02	04
DUPS	FTA	B00L	ZZ	DR	A 4401	STAIR AND RAMP DETAILS	02
DUPS	FTA	B00L	ZZ	DR	A 4501	BALUSTRADE AND HANDRAIL DETAILS	03
DUPS	FTA	B00L	ZZ	DR	A 4801	TYPICAL COVERED WALKWAY DETAILS	03
DUPS	FTA	B00L	ZZ	DR	A 4901	TYPICAL FASCIA DETAILS	03
DUPS	FTA	B00L	ZZ	DR	A 6001	EXTERNAL DOOR & WINDOW SCHEDULE	03
DUPS	FTA	B00L	ZZ	DR	A 6002	INTERNAL DOOR & WINDOW SCHEDULE	03
DUPS	FTA	B00L	ZZ	DR	A 9001	PERSPECTIVES 1	03
DUPS	FTA	B00L	ZZ	DR	A 9002	PERSPECTIVES 2	03

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DESIGN CRITERA SCHEDULE

Design wind criteria
The design wind criteria applied in accordance with AS 1170.2, 'Structural Design Actions Part 2: Wind Actions', are:
Region: B
Building Importance Level: 3
Regional Wind Speed: 60 m/sec
Terrain Category: 2.5

Atmospheric corrosivity category
The atmospheric corrosivity category in accordance with AS/NZS 2312.2 is: xxx
Unless noted otherwise the minimum category applicable is to be category C. Categories D, E and F to apply if deemed appropriate by the relevant manufacturers.

Design Rainfall intensity to AS/NZS 3500.3 : confirm with hydraulic consultant

Insulation design requirements
The insulation design criteria are;
Building Climate Zone: 6
BCA Building Type: 9b
Roof system R value: 4.5 downwards
Wall system min R value: 1.4
Floor system min R value: not required

MATERIALS + FINISHES SELECTIONS

322 CONCRETE

Refer to specification for concrete selections and finishes.

332 MASONRY

MA01- BRICKS - FACEWORK - TYPE 1
Finishes Code: BK01 - PGH_Tinto Cream

332 STRUCTURAL STEEL

SS02 - STRUCTURAL STEEL - HOT DIPPED GALVANISED COATING

442 METAL ROOFING + CLADDING

MR02 - METAL ROOF SHEETING - RIBBED
Finishes Code: CB24 - Colorbond Surfmist

MR41 - GUTTER EAVES - 150mm HALF ROUND
Finishes Code: CB18 - Colorbond Monument

MR42 - GUTTER EAVES - 200mm HALF ROUND
Finishes Code: CB18 - Colorbond Monument

MR51 - DOWNPIPE - METAL - 100DIA ZINCALUME
Finishes Code: CB18 - Colorbond Monument

MR52 - DOWNPIPE - METAL - 150DIA ZINCALUME
Finishes Code: CB18 - Colorbond Monument

MR61 - DP PROTECTION - SMALL
Finishes Code: CB18 - Colorbond Monument

MR62 - DP PROTECTION - LARGE
Finishes Code: CB18 - Colorbond Monument

MR71 - FASCIA - METAL FACED CFC
Finishes Code: CB18 - Colorbond Monument

MR91 - FLASHINGS & TRIMS
Finishes Code: CB18 - Colorbond Monument

MR92 - GUTTER GUARD
Finishes Code: CB24 - Colorbond Surfmist

442 CLADDING

CL41 - PREFINISHED SHEETS - FC TYPE 1
Finish: IC02 - CEMINTEL_Barestone - Original
IC05 - CEMINTEL_Surround - Greyish
IC41 - CEMINTEL_Surround - Blueish

CL51 - FC SOFFIT SHEET - V JOINTS
Finishes Code: to match CB24 Surfmist

452 GLAZING

GL03 - LAMINATED GLASS - CLEAR

GL04 - LAMINATED GLASS - BODY TINTED
Finishes Code: Grey Tint

GL06 - TOUGHENED GLASS - CLEAR

GL07 - TOUGHENED GLASS - BODY TINTED
Finishes Code: Grey Tint

GL33 - VINYL FILM - PRINTED
Finishes Code: Window and Signage schedules

462 DOORS,WINDOWS & HARDWARE

ALUMINIUM FRAMED DOORS & WINDOWS
Finishes Code: MF03 - AAF Anodised Aluminium - Satin Quarry Beige

SOLID LEAF TYPES
Finishes Code: As noted on Door Schedule
PF21 - DULUX_ Midas Touch
PF51 - DULUX_Alpha Centuri

DW33 LOUVRES - 150MM
Finishes Code: to match CB13 - COLORBOND_Gully
PC51 - DULUX ALPHATEC _ Dark Violet

472 INSULATION & SARKING

Refer to specification for insulation and sarking selections.

512 LININGS & CEILINGS

PLASTERBOARD - WALLS, GENERALLY
Finishes Code: PF01 - [site selection pending]

PLASTERBOARD - CEILINGS, GENERALLY
Finishes Code: PF02 - [site selection pending]

FC LINING - WALLS, GENERALLY
Finishes Code: PF01 - [site selection pending]

FC LINING - CEILING - GENERALLY
Finishes Code: PF02 - [site selection pending]

LC59 - TRIM TIMBER
Finishes Code: PF03 - [site selection pending]

LC82 - ACOUSTIC CEILING PANEL - FELT
Finishes Code: AF01 - [site selection pending]

LC86 - ACOUSTIC WALL FABRIC
Finishes Code: AF01 - INSTYLE_Ecoustic Felt_Lunar

LC88 - ACOUSTIC WALL FABRIC - PATTERNED
Finishes Code: AF02 - INSTYLE_Ecoustic Yalgu_Stringybark

522 JOINERY

JY01 - 18MM MR E0 MDF
Finishes Code/Decor: LAM - [site selection pending]

JY02 - 25MM MR E0 MDF
Finishes Code/Decor: LAM - [site selection pending]

JY03 - 32MM MR E0 MDF
Finishes Code/Decor: LAM - [site selection pending]

JY04 - 33MM POSTFORM BENCHTOP
Finishes Code/Decor: LAM - [site selection pending]

JY10 - 10-13MM COMPACT LAMINATE - STANDARD GRADE
Finishes Code: LAM - [site selection pending]

JY21 - 25MM MILD STEEL - POWDERCOAT FRAME
Finishes Code: PC04 - Black

532 METALWORK

MW01 - BALUSTRADE - GALV STEEL
Finish: hot dip galvanised

MW21 - FENCING - TYPE 1 - SECURE LINE (2100 HIGH)
Finish: PC04 - Black

MW54 - AWNING ALUMINIUM TYPE 2 - VERTICAL FINS
Finishes Code: PC22 - DULUX DURATEC_ Intensity_ Sunshine_Gloss
PC51 - DULUX ALPHATEC _ Dark Violet

MW59 - FACADE FRAMING ELEMENT - ALUMINIUM
Finishes Code: to match CB18 - Monument

MW73 - ACOUSTIC LOUVRES PLANT SERVICES STORES - TYPE 2 (300 WIDE)
Finishes Code: MF03 - AAF Anodised Aluminium - Satin Quarry Beige

542 SIGNS AND DISPLAY

Refer to Specification for Statutory Signage requirements
Refer to Signage Schedule for all other sign types.

552 MISCELLANEOUS FIXTURES

FX91 - ROLLER BLINDS - MANUAL BLOCKOUT
Finishes Code: FB01 - [site selection pending]

582 HYDRAULIC FIXTURES

Refer Specification Volume 1 for Hydraulic Fixtures Selections and associated fixtures.

The quanities of the fixtures are listed below

HY01 - BASIN - WALL MOUNTED WITH MIXER
QTY: 6

HY05 - BASIN - PWD ACCESSIBLE WITH MIXER & SHELF
QTY: 1

HY14 - SINK - CLEANER WITH TAP
QTY: 1

HY19 - TROUGH - PRACTICAL ACTIVITIES
QTY: 4

HY21 - TOILET SUITE - STUDENT STANDARD
QTY: 4

HY24 - TOILET SUITE - ACCESSIBLE
QTY: 1

HY26 - TOILET SUITE - AMBULANT
QTY: 2

642 TILING

TG01 - FLOOR TILE
Finishes Code: TL01 - [site selection pending]

TG11 - WALL TILE
Finishes Code: TL02 - [site selection pending]

TG12 - FEATURE WALL TILE
Finishes Code: TL12 - [site selection pending]

652 RESILIENT FINISHES

RF01 - MAIN FLOOR VINYL
Finishes Code: VN - [site selection pending]

RF02 - ANTI-STATIC FLOOR VINYL
Finishes Code: VN02_GERFLOR_Mipolam Affinity EL7_Grey Storm 4159

RF04 - WET AREA VINYL
Finishes Code: VN - [site selection pending]

RF11 - WALL VINYL
Finishes Code: VN - [site selection pending]

662 CARPETS & MATS

CM01 - CARPET TILE
Finishes Code: CP - [site selection pending]

CM02 - CARPET TILE
Finishes Code: CP - [site selection pending]

CM26 - ENTRY MAT - INTERNAL
Finishes Code: CP - [site selection pending]

682 PAINT FINISHES

PF01 - PAINT FINISH
Colour: [site selections pending]

DRAWING & SPECIFICATION MATERIAL CODE LEGEND

The Codes below represent the Specification Trade Section where detailed selection information is to be obtained for elements nominated in the drawings. Th codes below will be followed by a two / three numeric trade selection reference fo each different selection type.

TRADE SECTION	CODE
GENERAL	
Fire Stopping	FS
Termite Management	TM
Access Safety Systems	AS
SITE	
Landscape	LD
STRUCTURE	
Concrete	CN
Brick & Block Construction	MA
Structural Steel	SS
Light Steel Framing	SF
Timber Framing	TF
Decking & Flooring	FD
ENCLOSURE	
Waterproofing External	WE
Metal Roofing & Cladding	MR
Roof Tiling	RT
Cladding	CL
Glazing	GL
Doors, Windows & Hardware	DW
Insulation & Sarking Membranes	IS
INTERIOR	
Linings & Ceilings	LC
Joinery	JY
Metalwork	MW
Signs and display	SD
Miscellaneous Fitures	FX
Equipment & Appliances	EQ
Furnishings & Furniture	FF
Hydraulic Fixtures	HY
FINISH	
Rendering & Plastering	RP
Cementitious Toppings	CT
Waterproofing - Wet Areas	WI
Tiling	TG
Resilient finishes	RF
Carpets	CM
Painting	PG

Patternbook Interior Design Components: Reference Documentation

Floor Finishes - refer to the *SINSW Patternbook, Volume 2, section 5.2* for Floor Finish Design intent to the Learning Commons and GLS / Multi-Purpose Room. Additional detail on finishes can be found on the SINSW GLS and SLU GA PLAN & FFE drawings.

Wall Finishes - refer to the *SINSW GLS and SLU GA PLAN & FFE* drawing for indicative extents of wall applied finishes.

Ceilings Finishes - refer to the *SINSW Patternbook, Volume 2*, section 5.3 for Ceiling Finish Design intent to the Learning Commons and GLS / Multi-Purpose Room. Additional detail on finishes can be found on the SINSW GLS and SLU GA PLAN & FFE drawings.

Joinery - refer to the *SINSW Patternbook, Volume 2*, section 5.4 for Joinery Design intent to the Learning Commons and GLS / Multi-Purpose Room. Additional detail on joinery can be found in the SINSW *Design Guide Note DGN005 - Furniture, Fixtures and Equipment (joinery)* in *Primary School General Learning Spaces.*

Furniture - refer to the *SINSW GLS and SLU GA PLAN & FFE* drawing for indicative furniture layouts.

REV.	DESCRIPTION	DATE	INT.
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	80% CONCEPT DESIGN	26/11/2024	NK

fulton trotter
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 2L-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au
Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550

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DIRECTORS
Greg Isaac nsa NSW 6655 QLD 2655
Justine Elsley hsia NSW 8371 QLD 3312
John Ward nsa VIC 16804 NSW 8371 QLD 3312
Rachael Dimopoulos hsia NSW 7434 QLD 4529
Paul Bekins hsia NSW 7160 QLD 3106
Ryan Loveday hsia QLD 4505

PHASE: SCHEMATIC DESIGN
CLIENT: SCHOOL INFRASTRUCTURE NSW
PROJECT: DUNDAS PUBLIC SCHOOL
ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING: SPECIFICATION SCHEDULE & MATERIAL SCHEDULE

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

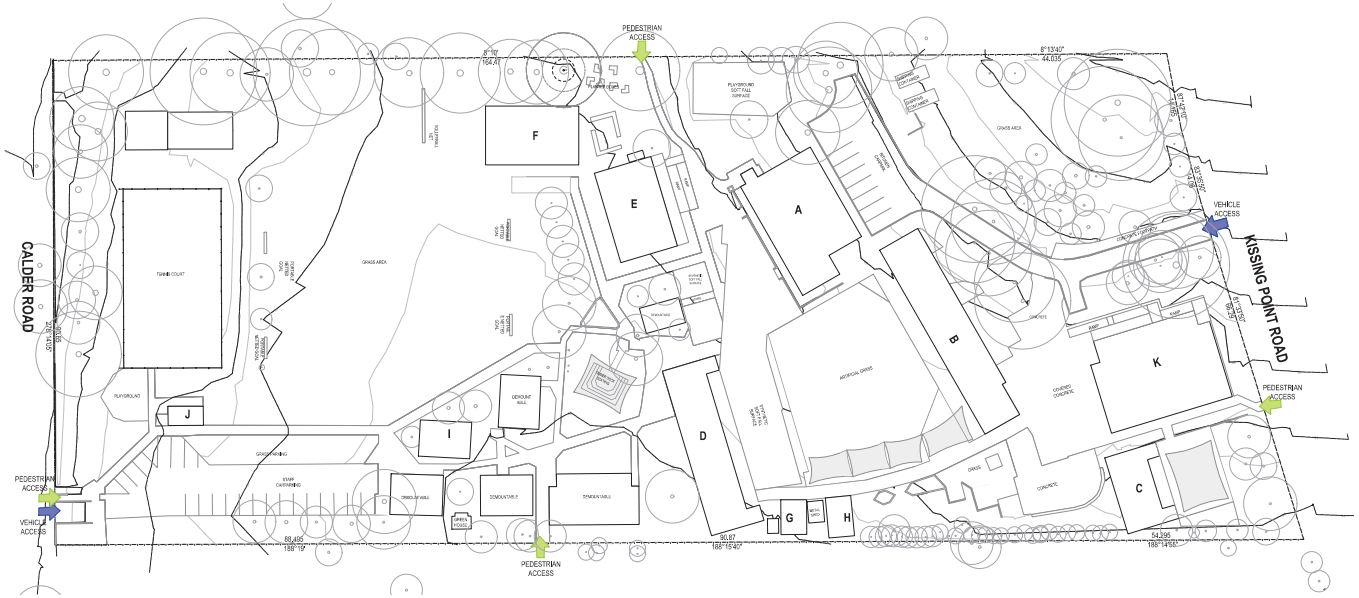
DRAWING NUMBER: DUPS-FTA-XX-XX-DR-A-0001
REVISION: 03

150mm @ A1
100
50
150mm @ A1

plot date: Thursday, 19 December 2024 12:20 PM | location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

SITE PLAN LEGEND

- BOUNDARY LINE
- MINOR CONTOUR
- MAJOR CONTOUR
- EXISTING BUILDING
- EXTENT OF HARD SURFACES
- LINE OF ROOF ABOVE
- FENCE LINE
- EXISTING TREE



1 **PLAN**
EXISTING SITE PLAN
SCALE: 1:500

150mm @ A1
100
50

REV.	DESCRIPTION	DATE	INT.
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P5	100% CONCEPT DESIGN	30/10/2024	NK
P4	80% CONCEPT DESIGN	18/10/2024	NK
P3	FOR INFORMATION	09/10/2024	NK
P2	FOR INFORMATION	27/09/2024	AK
P1	FOR INFORMATION	20/09/2024	AK

fulton trotter
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au

SYDNEY Suite 804, Level 8, 2L-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au

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DIRECTORS
Greg Isaac nsa — NSW 6655 QLD 2650
Justine Elsley hsia — QLD 3312
John Ward nsa — VIC 16804 NSW 9271 QLD 3529
Kristina Dervenkalis hsia — NSW 7494 QLD 4629
Paul Sakkara hsia — NSW 7160 QLD 1106
Ryan Loveday hsia — QLD 4505

PHASE **SCHEMATIC DESIGN**
CLIENT SCHOOL INFRASTRUCTURE NSW
PROJECT DUNDAS PUBLIC SCHOOL
ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **EXISTING SITE PLAN**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-00-00-DR-A-1001** REVISION **04**

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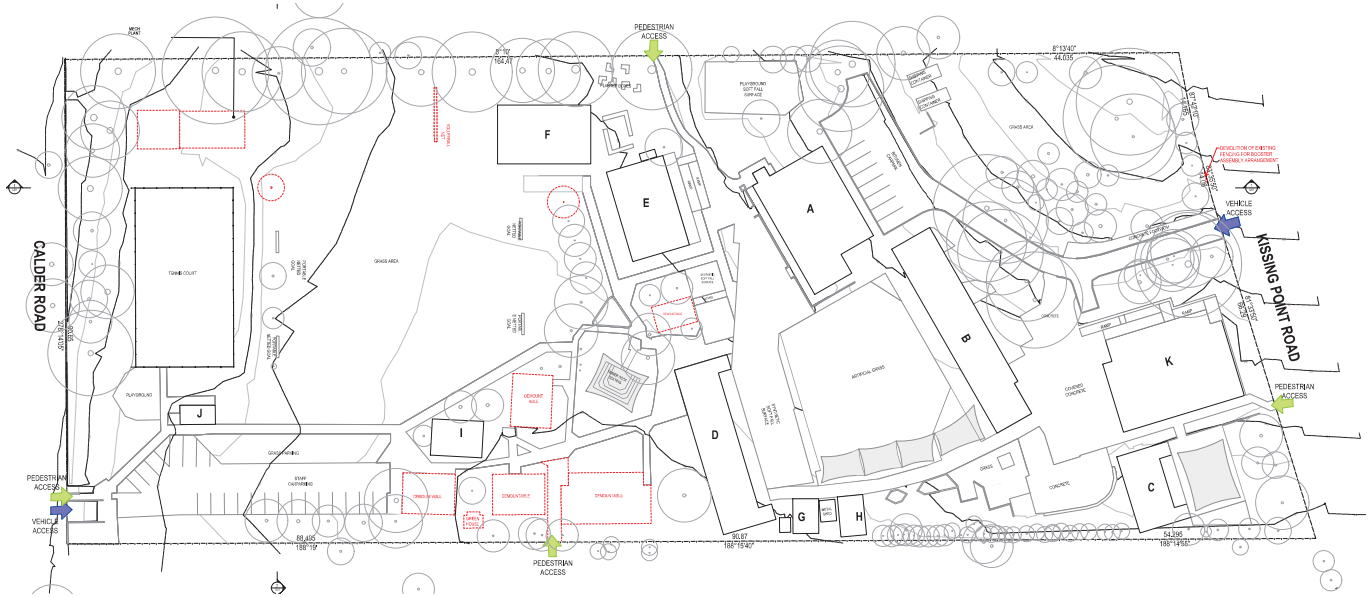
DEMOLITION PLAN LEGEND

- BOUNDARY LINE
- MINOR CONTOUR
- MAJOR CONTOUR
- EXISTING BUILDING
- EXTENT OF HARD SURFACES
- LINE OF ROOF ABOVE
- FENCE LINE
- EXISTING TREE
- DEMOLISHED BUILDING
- DEMOLISHED TREE



1 **PLAN**
DEMOLITION SITE PLAN
SCALE: 1:500

150mm @ A1
100
50
150mm @ A1

plot date: Thursday, 19 December 2024 12:20 PM|c location: BIM|cloud: FTA-SYD-BIM26 - BIM|cloud Basic for Archicad 26/7068DU01 Dundas Public School

REV.	DESCRIPTION	DATE	INT.
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	80% SCHEMATIC DESIGN	26/11/2024	NK

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ARCHITECTS BRISBANE SYDNEY
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DIRECTORS

Greg Isaac nsa		NSW 6655	QLD 2650
Justine Elsley fnaia			QLD 3312
John Ward raia		VIC 16804	NSW 9271	QLD 3312
Kristina Dumpleton fnaia			NSW 7494	QLD 4529
Paul Sekkas fnaia			NSW 7160	QLD 3106
Ryan Lovelay fnaia				QLD 4500

PHASE **SCHEMATIC DESIGN**

CLIENT SCHOOL INFRASTRUCTURE NSW

PROJECT DUNDAS PUBLIC SCHOOL

ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **DEMOLITION SITE PLAN**

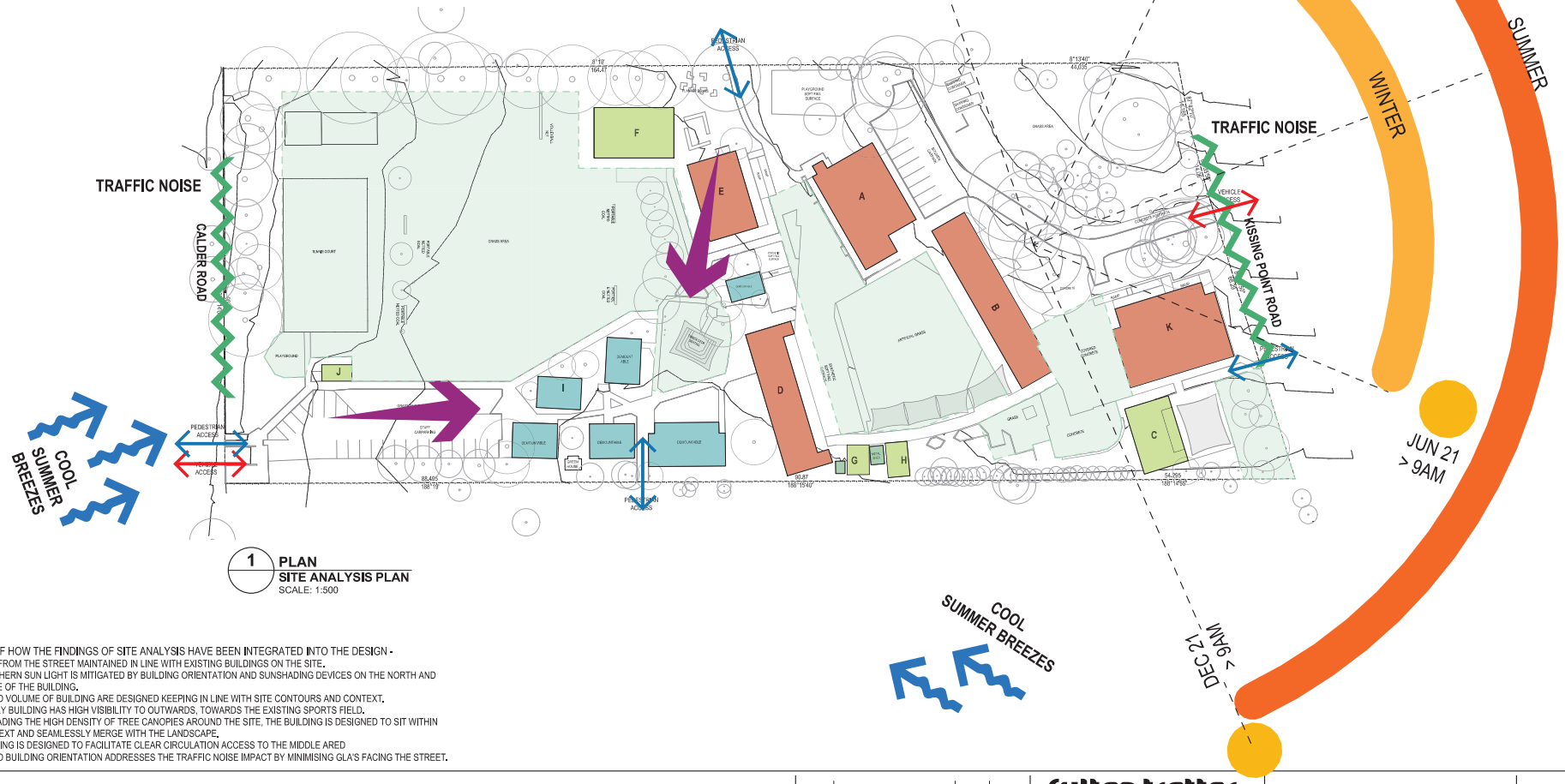
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

N

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-00-00-DR-A-1002**

REVISION **03**



1 PLAN
SITE ANALYSIS PLAN
SCALE: 1:500

EXAMPLES OF HOW THE FINDINGS OF SITE ANALYSIS HAVE BEEN INTEGRATED INTO THE DESIGN -

01. SETBACK FROM THE STREET MAINTAINED IN LINE WITH EXISTING BUILDINGS ON THE SITE.
02. THE NORTHERN SUN LIGHT IS MITIGATED BY BUILDING ORIENTATION AND SUNSHADING DEVICES ON THE NORTH AND EAST FACE OF THE BUILDING.
03. SCALE AND VOLUME OF BUILDING ARE DESIGNED KEEPING IN LINE WITH SITE CONTOURS AND CONTEXT.
04. GENERALLY BUILDING HAS HIGH VISIBILITY TO OUTWARDS, TOWARDS THE EXISTING SPORTS FIELD.
05. UNDERSTADING THE HIGH DENSITY OF TREE CANOPIES AROUND THE SITE, THE BUILDING IS DESIGNED TO SIT WITHIN THE CONTEXT AND SEAMLESSLY MERGE WITH THE LANDSCAPE.
07. THE BUILDING IS DESIGNED TO FACILITATE CLEAR CIRCULATION ACCESS TO THE MIDDLE ARED
08. PROPOSED BUILDING ORIENTATION ADDRESSES THE TRAFFIC NOISE IMPACT BY MINIMISING GLA'S FACING THE STREET.

REV.	DESCRIPTION	DATE	INT.
03	100% SCHEMATIC DESIGN	19/12/2024	NK
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01	80% SCHEMATIC DESIGN	26/11/2024	NK

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ARCHITECTS BRISBANE SYDNEY
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PHASE: SCHEMATIC DESIGN
CLIENT: SCHOOL INFRASTRUCTURE NSW
PROJECT: DUNDAS PUBLIC SCHOOL
ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING: SITE ANALYSIS PLAN

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PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: DUPS-FTA-00-00-DR-A-1003
REVISION: 03

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100
50
50 100 150mm @ A1

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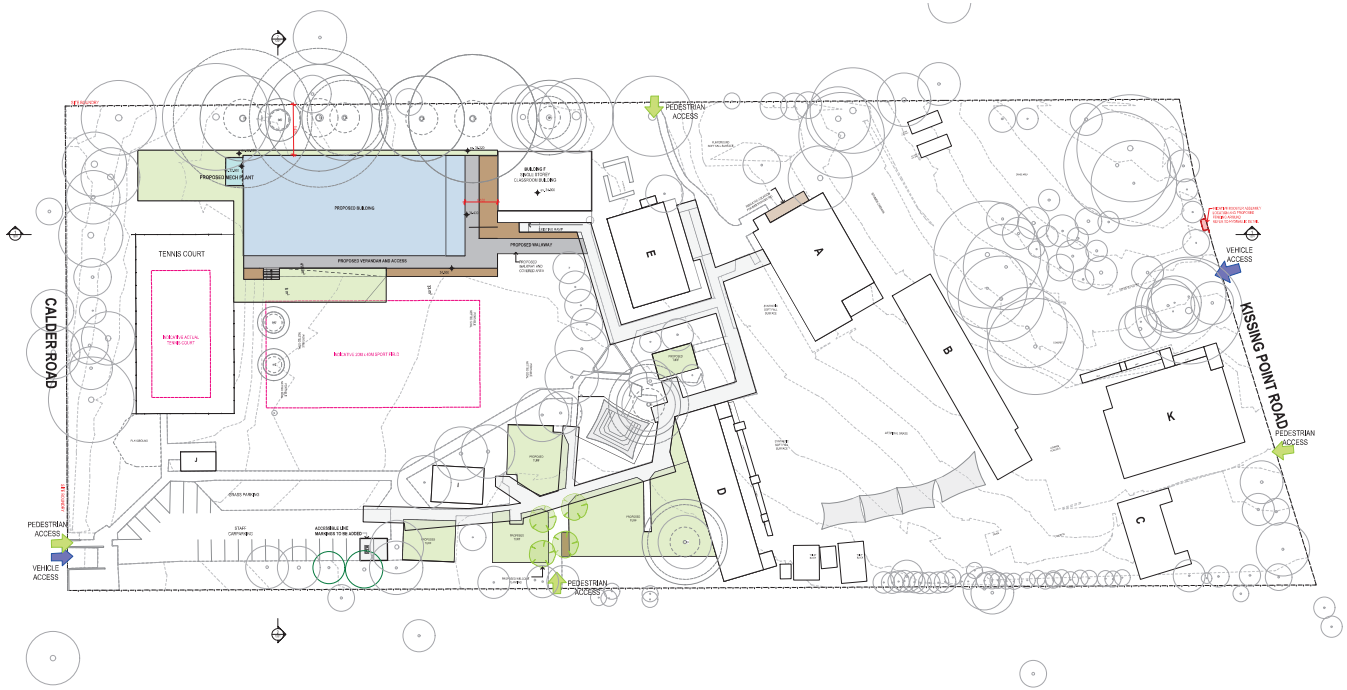
SITE PLAN LEGEND

- BOUNDARY LINE
- MINOR CONTOUR
- MAJOR CONTOUR
- EXISTING BUILDING
- EXTENT OF HARD SURFACES
- LINE OF ROOF ABOVE
- FENCE LINE
- EXISTING TREE
- PROPOSED BUILDING
- PROPOSED WALKWAYS
- EXISTING WALKWAYS
- PROPOSED NEW TURF
- PROPOSED PLANTED AREA



1 **PLAN**
PROPOSED SITE PLAN
SCALE: 1:500

150mm @ A1
100
50

REV.	DESCRIPTION	DATE	INT.
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P5	100% CONCEPT DESIGN	30/10/2024	NK
P4	80% CONCEPT DESIGN	18/10/2024	NK
P3	FOR INFORMATION	09/10/2024	NK
P2	FOR INFORMATION	27/09/2024	AK
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Greg Isaac nsw NSW 6655 QLD 2650
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John Ward nsw VIC 16804 NSW 9371 QLD 3312
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Ryan Lovelay nsw QLD 4500

PHASE **SCHEMATIC DESIGN**
CLIENT SCHOOL INFRASTRUCTURE NSW
PROJECT DUNDAS PUBLIC SCHOOL
ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **PROPOSED SITE PLAN**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-00-00-DR-A-1101**
REVISION **04**

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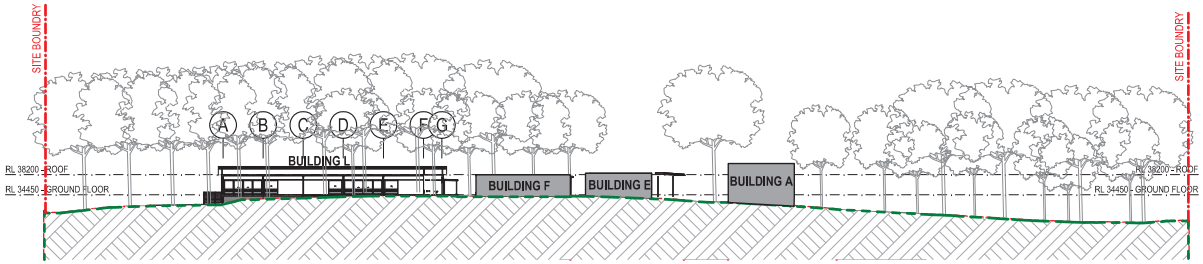
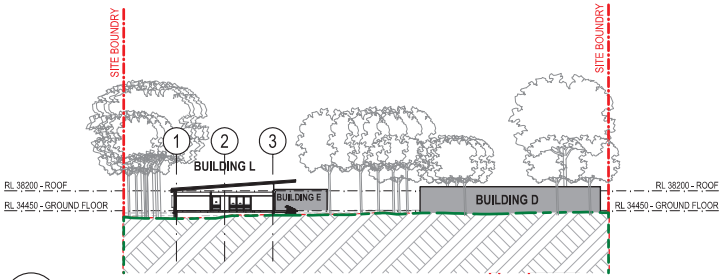


1 **SECTION**
LONG SECTION
SCALE: 1:500



2 **SECTION**
SHORT SECTION
SCALE: 1:500

150mm @ A1
100
50

REV.	DESCRIPTION	DATE	INT.
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01		26/11/2024	

fulton trotter
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 804, Level 8, 2&36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au

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Ryan Loveday hsia QLD 4505

ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

PROJECT: DUNDAS PUBLIC SCHOOL

CLIENT: SCHOOL INFRASTRUCTURE NSW

PHASE: **SCHEMATIC DESIGN**

DRAWING: **SITE SECTIONS**

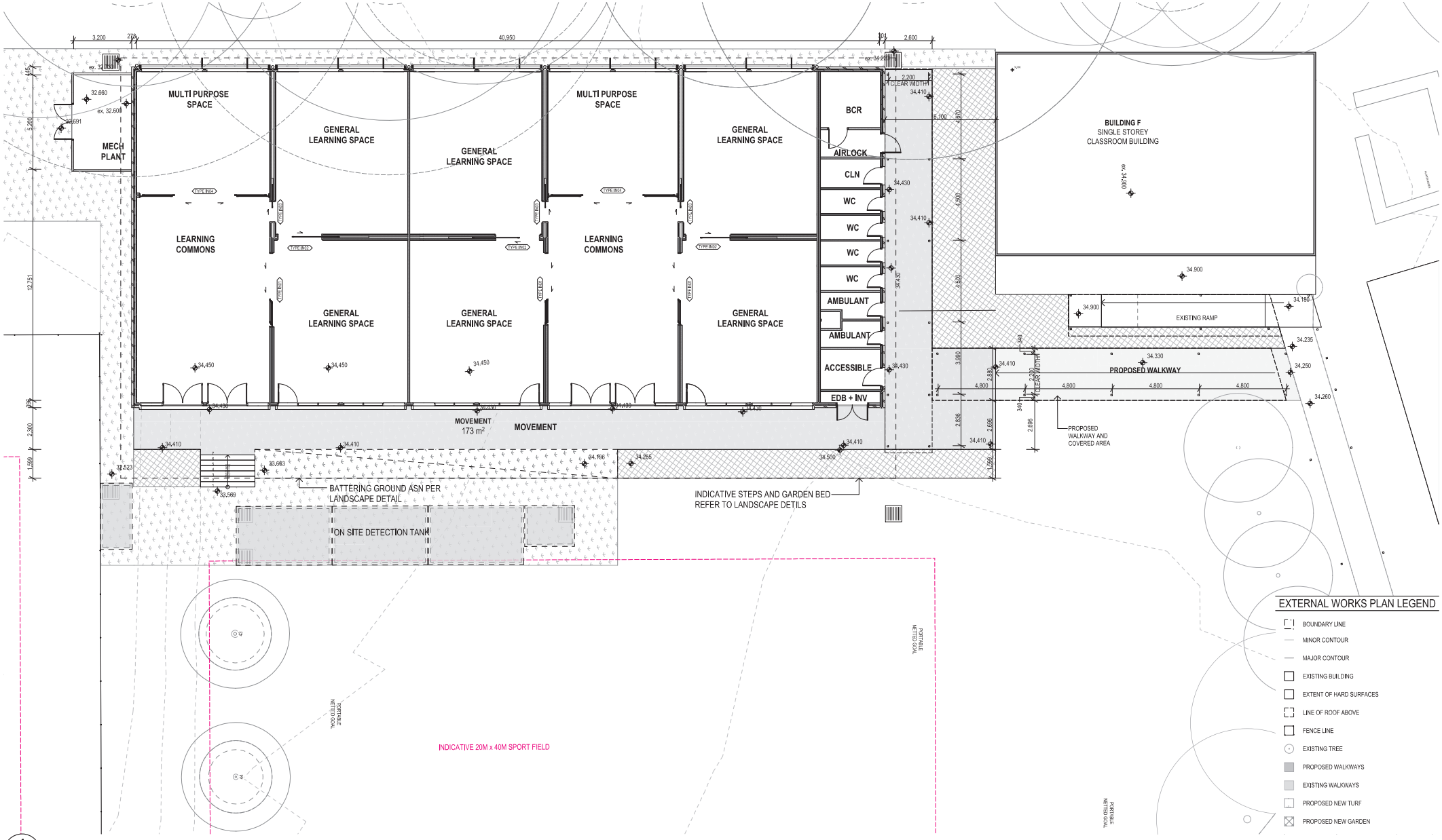
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	

DRAWING NUMBER: **DUPS-FTA-00-00-DR-A-1201**

REVISION: **03**

plot date: Thursday, 19 December 2024 12:20 PM | location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 PLAN
EXTERNAL WORKS PLAN
SCALE: 1:100

REV.	DESCRIPTION	DATE	INT.
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P5	100% CONCEPT DESIGN	30/10/2024	NK
P4	80% CONCEPT DESIGN	18/10/2024	NK
P3	FOR INFORMATION	09/10/2024	NK
P2	FOR INFORMATION	27/09/2024	AK
P1	FOR INFORMATION	20/09/2024	AK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 804, Level 8, 2&36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au
Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550

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DIRECTORS
Greg Isaac nsa NSW 6655 QLD 2655
Justine Elsley hsia QLD 3312
John Ward nsa VIC 16804 NSW 9271 QLD 3312
Rachel Dimopoulos hsia NSW 7434 QLD 4529
Paul Bekins hsia NSW 7160 QLD 1106
Ryan Loveday hsia QLD 4505

PHASE **SCHEMATIC DESIGN**
CLIENT SCHOOL INFRASTRUCTURE NSW
PROJECT DUNDAS PUBLIC SCHOOL
ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **EXTERNAL WORKS PLAN**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER **7068DU01** | DIRECTOR **JW** | CHECKED **NK**
DRAWING NUMBER **DUPS-FTA-00-00-DR-A-1401** | REVISION **04**

150mm @ A1
50 100 150mm @ A1
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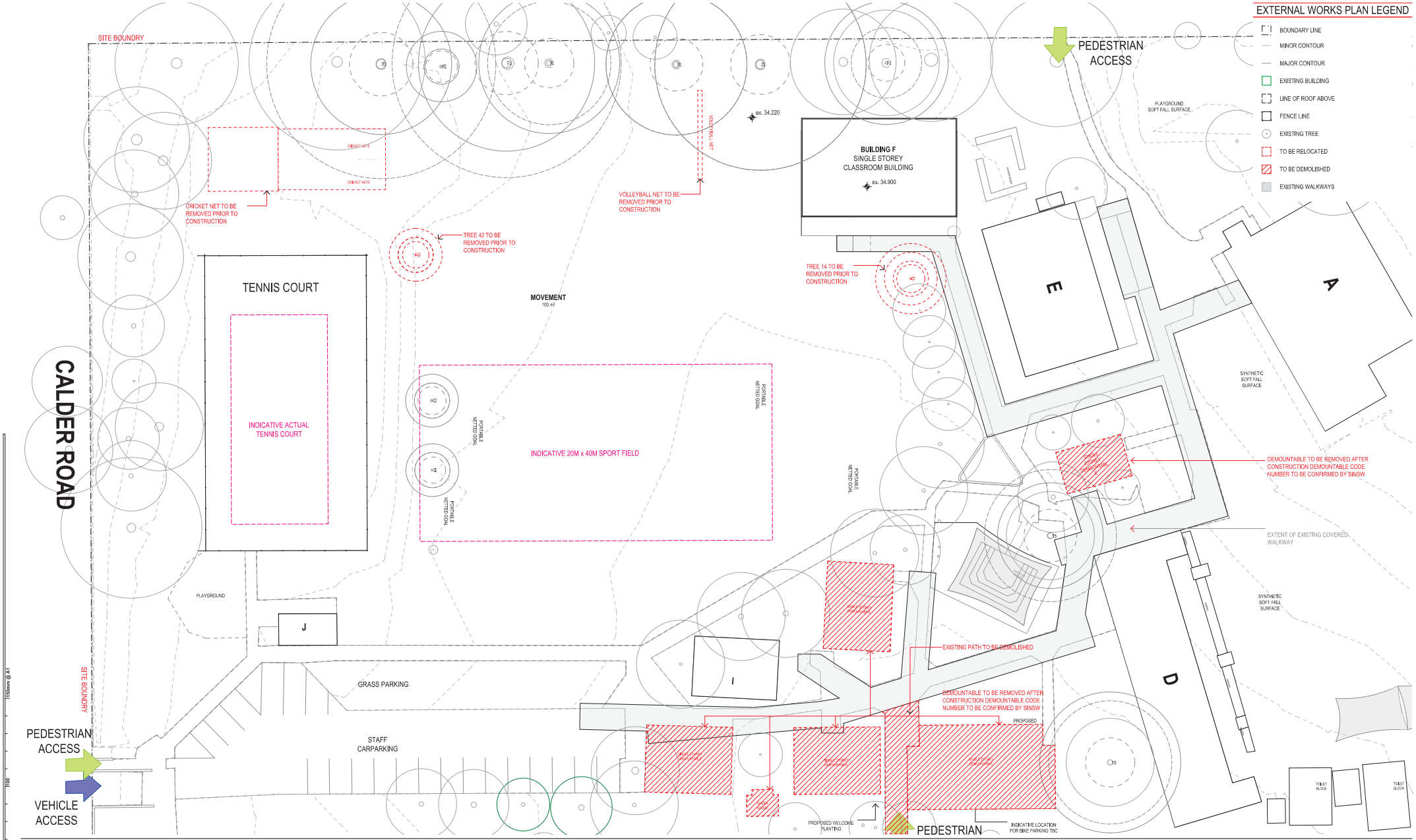

1 PLAN
STAGING PLAN
SCALE: 1:200

REV.	DESCRIPTION	DATE	INT.
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	90% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P3	100% CONCEPT DESIGN	30/10/2024	NK
P2	80% CONCEPT DESIGN	18/10/2024	NK
P1	FOR INFORMATION	09/10/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 804, Level 8, 2L-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550
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Greg Isaac nsa NSW 6655 QLD 2650
Justine Elsley hsia QLD 3312
John Ward nsa VIC 16804 NSW 9271 QLD 3415
Kristina Dunkerbeck hsia NSW 7434 QLD 4529
Paul Bekins hsia NSW 7160 QLD 1106
Ryan Loveday hsia QLD 4505

PHASE: SCHEMATIC DESIGN
CLIENT: SCHOOL INFRASTRUCTURE NSW
PROJECT: DUNDAS PUBLIC SCHOOL
ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING: STAGING PLAN

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: DUPS-FTA-00-00-DR-A-1501
REVISION: 04

150mm @ A1
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100
150

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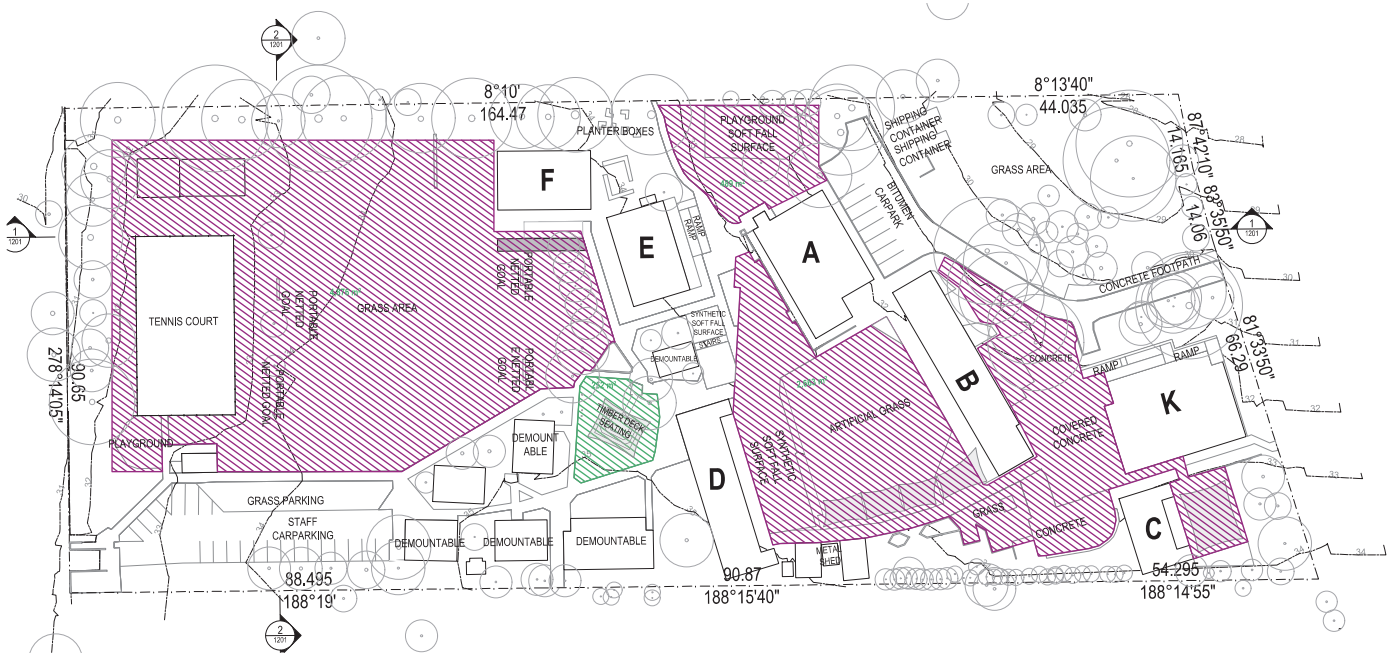
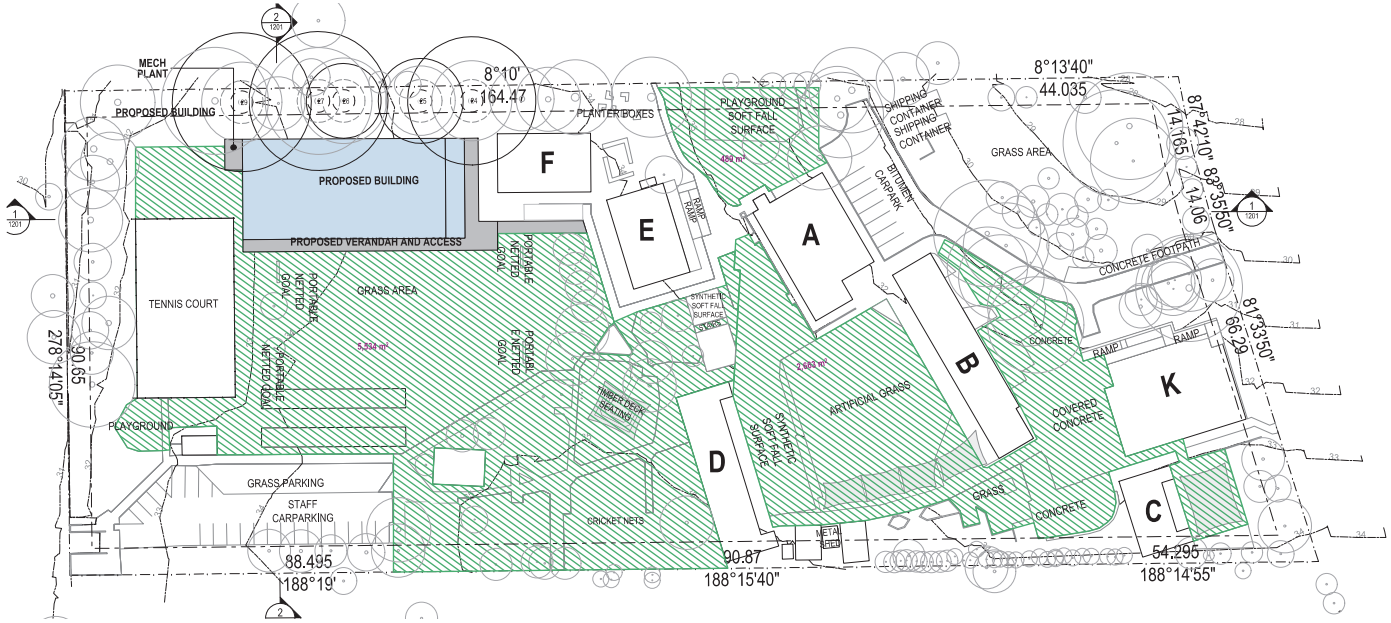


1 PLAN
EXISTING PLAY SPACE
SCALE: 1:500



2 PLAN
PROPOSED PLAY SPACE
SCALE: 1:500

PLAYSPACE LEGEND

- EXISTING OUTDOOR PLAYSPACE AREA
- PROPOSED OUTDOOR PLAYSPACE AREA
- PROPOSED HALL PLAYSPACE AREA
- PROPOSED ROOFTOP PLAYSPACE AREA

EXISTING PLAYSPACE AREA CALCULATIONS

ZONE	AREA	STUDENTS/SQM
EXISTING OUTDOOR PLAYSPACE AREA	8280m²	25.09m²/STUDENT*

*STUDENT/SQM CALCULATION IS BASED ON A EXISTING STUDENT POPULATION OF 330

PROPOSED PLAYSPACE AREA CALCULATIONS

ZONE	AREA	STUDENTS/SQM
PROPOSED OUTDOOR PLAYSPACE AREA	8686m²	26.3m²/STUDENT*

*STUDENT/SQM CALCULATION IS BASED ON A PROPOSED STUDENT POPULATION OF 330

REV.	DESCRIPTION	DATE	INT.
02	100% SCHEMATIC DESIGN	19/12/2024	NK
01	95% SCHEMATIC DESIGN	05/12/2024	NK

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SYDNEY Suite 904, Level 9, 2L-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au
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Greg Brown Qld QLD 2650
Justine Clowdy Vols NSW 6655 QLD 3312
John Ward Vols QLD 3312
Rachel Dimopoulos Nais VIC 16804 NSW 9271 QLD 4529
Paul Bekins Nais NSW 7434 QLD 3109
Ryan Lovelay Nais NSW 7160 QLD 4500

PHASE: SCHEMATIC DESIGN
CLIENT: SCHOOL INFRASTRUCTURE NSW
PROJECT: DUNDAS PUBLIC SCHOOL
ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING: PLAYSCAPE CALCULATION

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER: 7068DU01
DIRECTOR: JW
CHECKED: NK
DRAWING NUMBER: DUPS-FTA-00-00-DR-A-1601
REVISION: 02

150mm @ A1
50 100 150mm @ A1

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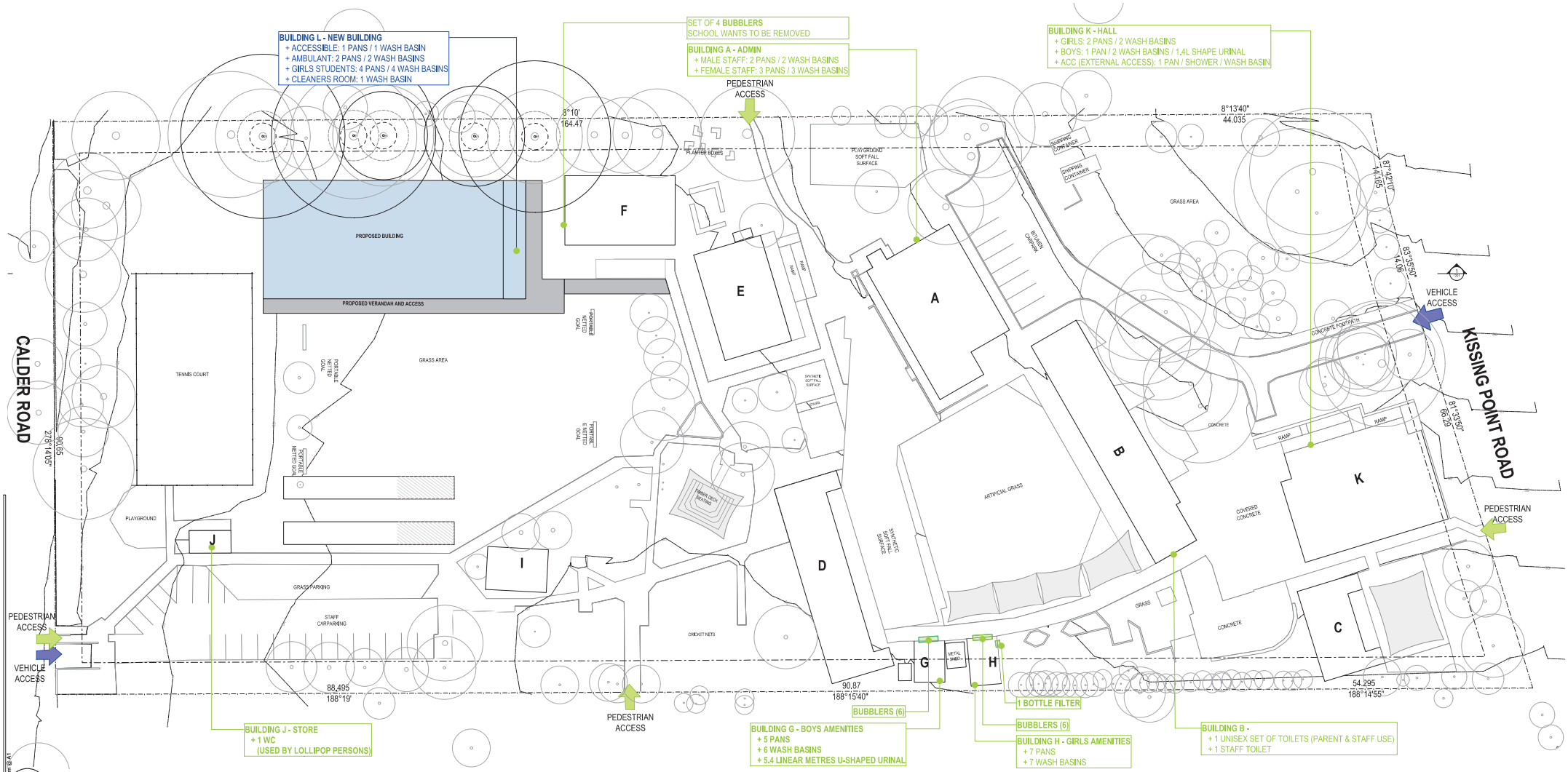

1 PLAN
AMENITIES STRATEGY
SCALE: 1:307.69

EXISTING AMENITIES

AMENITIES	EXISTING No.	POST DEMOLITION No.	EFSG No.	GAP
TOILETS - GIRLS	7	7	11	-4
TOILETS - BOYS (INCLUDING URINALS)	14	14	9	+5
TOILETS - ACC	1	1	1	0
TOILETS - STAFF	5	5	4	+1
BUBBLER	17	17	12	+5

PROPOSED NEW AMENITIES - BUILDING L

AMENITIES	PROPOSED No.
TOILETS - GIRLS	4
TOILETS - AMBULANT	2
TOILETS - ACC	1
TOILETS - STAFF	0
BUBBLER	0

REV.	DESCRIPTION	DATE	INT.
02	100% SCHEMATIC DESIGN	19/12/2024	NK
01	95% SCHEMATIC DESIGN	05/12/2024	NK

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SYDNEY Suite 804, Level 8, 2L-36 Foveaux Street, Surry Hills, NSW 2010
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Greg Isaac nsa NSW 6655 QLD 2655
Justine Elsley hsia QLD 3312
John Ward nsa NSW 6371 QLD 3312
Rashid Dadoolia hsia VIC 16804 NSW 7434 QLD 4529
Paul Bekins hsia NSW 7160 QLD 3106
Ryan Loveday hsia QLD 4505

PHASE: SCHEMATIC DESIGN
CLIENT: SCHOOL INFRASTRUCTURE NSW
PROJECT: DUNDAS PUBLIC SCHOOL
ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING: AMENITIES STRATEGY

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PROJECT NUMBER: 7068DU01
DIRECTOR: JW
CHECKED: NK
DRAWING NUMBER: DUPS-FTA-00-00-DR-A-1602
REVISION: 02

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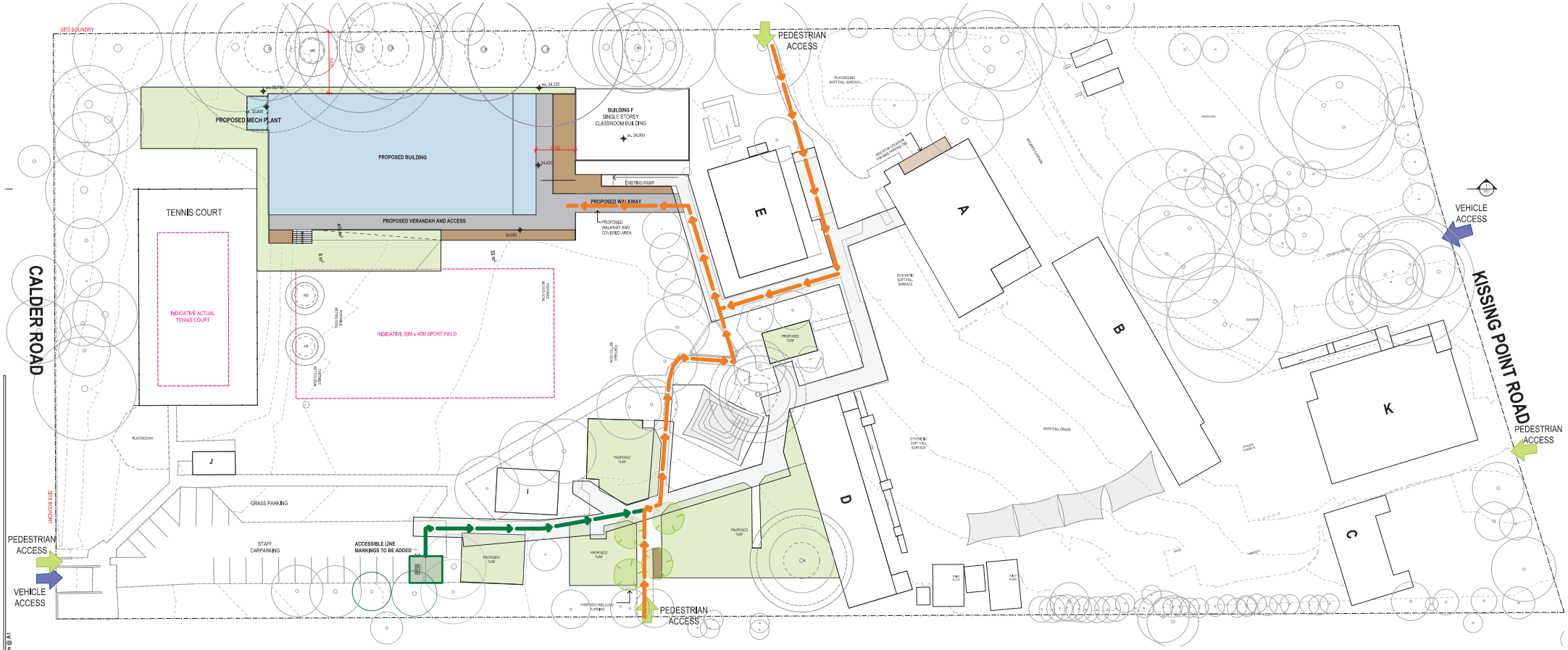

1 **PLAN**
ACCESS STRATEGY PLAN
SCALE: 1:300

REV.	DESCRIPTION	DATE	INT.
01	100% SCHEMATIC DESIGN	19/12/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 804, Level 8, 2&3-35 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au
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Greg Isaac nsa NSW 6655 QLD 2650
Justine Elsley nsa QLD 3312
John Ward nsa QLD 3312
Kingsley Dunham nsa VIC 16804 NSW 9271 QLD 4529
Paul Bekkink nsa NSW 7494 QLD 3106
Ryan Loveday nsa NSW 7160 QLD 4500

PHASE **SCHEMATIC DESIGN**
CLIENT SCHOOL INFRASTRUCTURE NSW
PROJECT DUNDAS PUBLIC SCHOOL
ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **ACCESS STRATEGY**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-00-00-DR-A-1603** REVISION **01**

150mm @ A1
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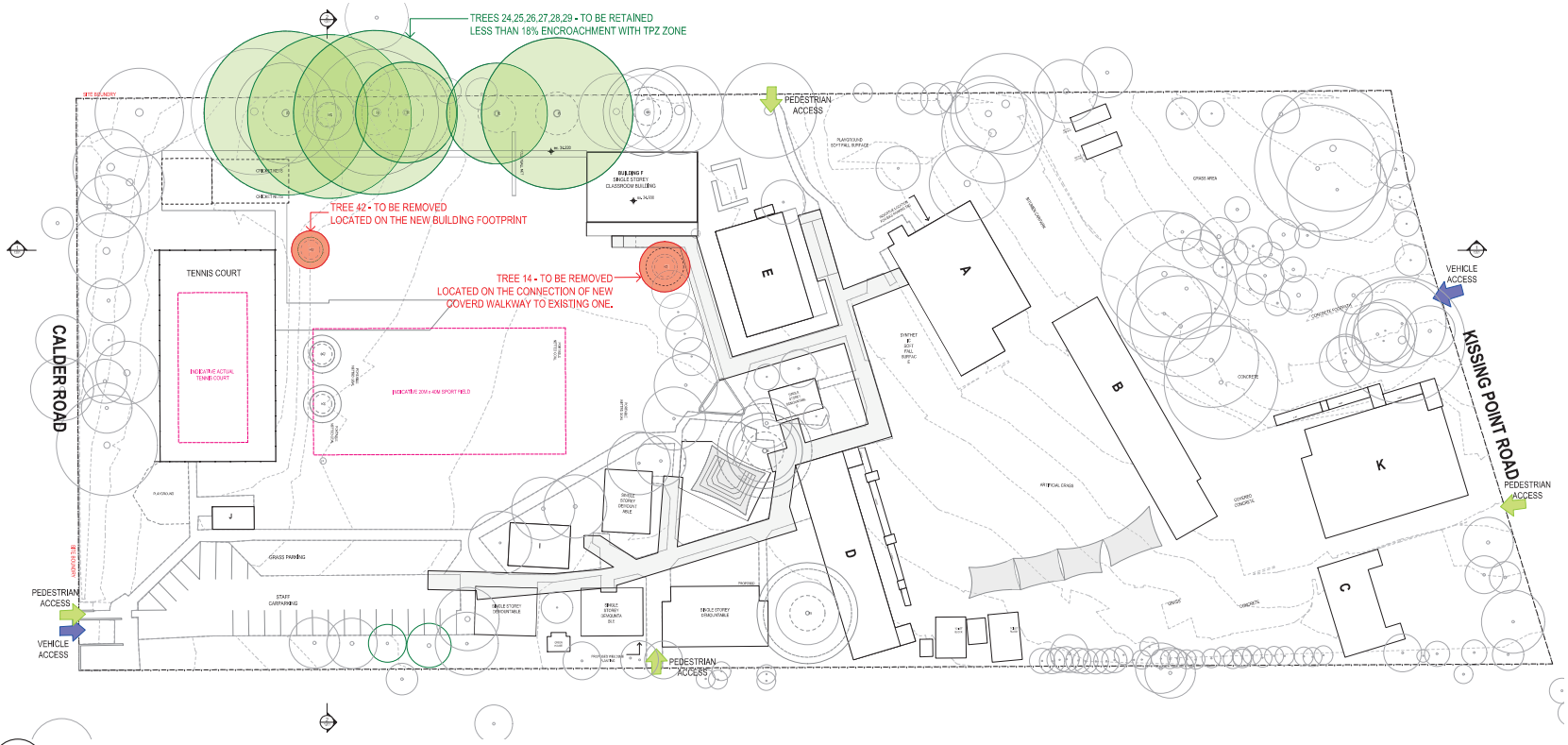
plot date: Thursday, 19 December 2024 12:20 PM|c:location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 **PLAN**
TREE REMOVAL PLAN
SCALE: 1:400

REV.	DESCRIPTION	DATE	INT.
02	100% SCHEMATIC DESIGN	19/12/2024	NK
01	95% SCHEMATIC DESIGN	09/12/2024	NK

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www.fultontrotter.com.au
SYDNEY Suite 804, Level 8, 2&-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au
Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550

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Greg Isaac nsa NSW 6655 QLD 2650
Justine Elsley hsia QLD 3312
John Ward nsa VIC 16804 NSW 9271 QLD 3312
Kristina Dumbrajs hsia NSW 7494 QLD 4529
Paul Selkirk hsia NSW 7160 QLD 3106
Ryan Loveday hsia QLD 4500

PHASE **SCHEMATIC DESIGN**
CLIENT SCHOOL INFRASTRUCTURE NSW
PROJECT DUNDAS PUBLIC SCHOOL
ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **TREE REMOVAL PLAN**

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PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-00-00-DR-A-1604** REVISION **02**

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100
50
150mm @ A1
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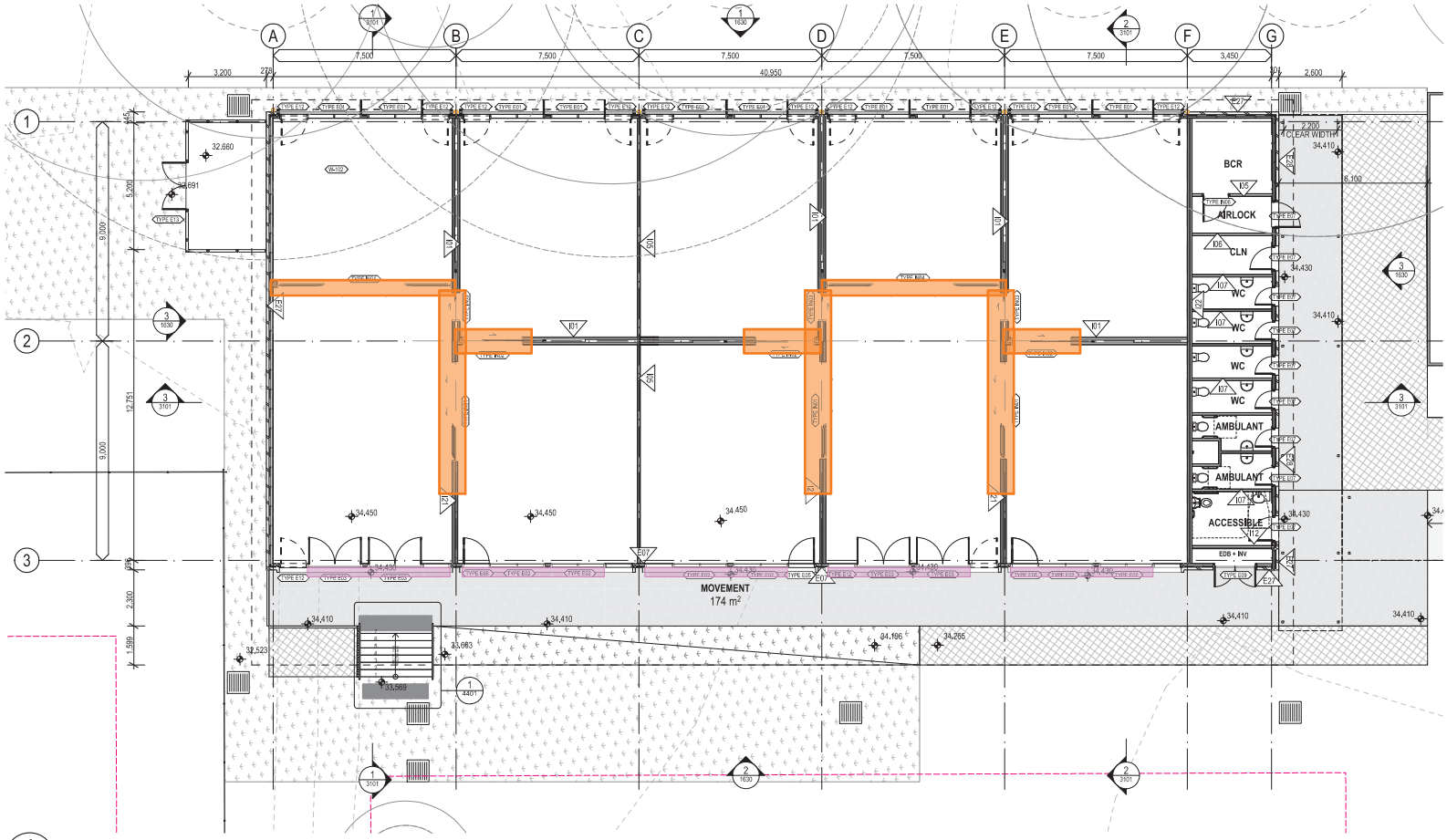


1 PLAN
INDIGENOUS ARTWORK STRATEGY PLAN
SCALE: 1:100

PROPOSED LOCATION FOR INDIGENOUS ARTWORK STRATEGY:

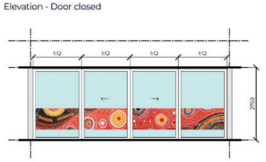
PROPOSED - EXTERNAL LOCATIONS

DECALS ON EXTERNAL GLAZINGS

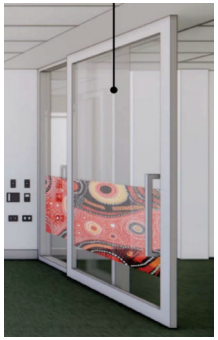
PROPOSED - INTERNAL LOCATIONS

DECALS ON ALL THE GLAZING SLIDERS - AS PER PATTERN BOOK

Elevation - Door closed



Elevation - Door opened



REV.	DESCRIPTION	DATE	INT.
03	100% SCHEMATIC DESIGN	19/12/2024	NK
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PHASE **SCHEMATIC DESIGN**
CLIENT SCHOOL INFRASTRUCTURE NSW
PROJECT DUNDAS PUBLIC SCHOOL
ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **INDIGENOUS ARTWORK STRATEGY**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-00-00-DR-A-1610**
REVISION **03**

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plot date: Thursday, 19 December 2024 12:20 PM|e location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

CFC CLADDING
CEMINTEL - BARESTONE

CFC CLADDING
CEMINTEL - SURROUND - BLUEISH

CFC CLADDING
CEMINTEL - SURROUND - GREYISH

DULUX
MIDAS TOUCH

DULUX
ALPHATEC - DARK VIOLET

DULUX
ALPHA CENTURI

COLORBOND
MONUMENT

COLORBOND
GULLY

EXTERNAL FINISHES - EAST

COLORBOND
SURFMIST

DULUX
MIDAS TOUCH

DULUX
ALPHATEC - DARK VIOLET

EXTERNAL FINISHES - WEST

BALUSTRADE & HANDRAIL
- HOT DIP GALV

BRICK
PGH - TINTO CREAM

REV.	DESCRIPTION	DATE	INT.
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	80% SCHEMATIC DESIGN	26/11/2024	NK

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ARCHITECTS BRISBANE SYDNEY
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SYDNEY Suite 804, Level 8, 2L-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

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Greg Isaac nsw NSW 6650 QLD 2650
Justine Elsley nsw QLD 3312
John Ward nsw VIC 16804 NSW 9271 QLD 3312
Kristina Dermanovska nsw NSW 7434 QLD 4529
Paul Bekins nsw NSW 7160 QLD 4109
Ryan Loveday nsw QLD 4500

PHASE **SCHEMATIC DESIGN**

CLIENT SCHOOL INFRASTRUCTURE NSW

PROJECT DUNDAS PUBLIC SCHOOL

ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **EXTERNAL MATERIAL AND FINISHES**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER DUPS-FTA-00-00-DR-A-1630

REVISION 03

150mm @ A1
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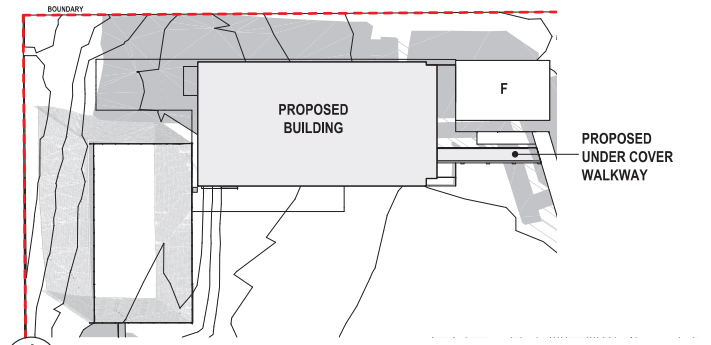
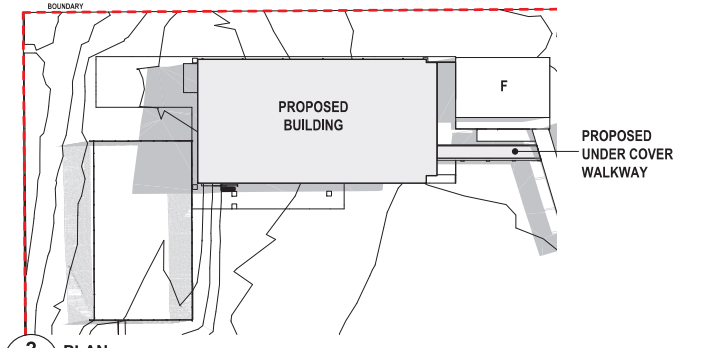
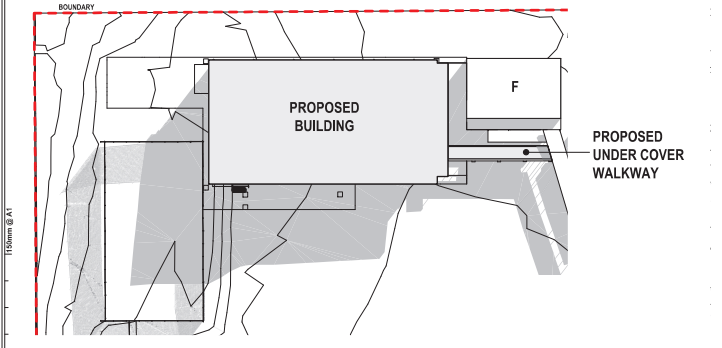


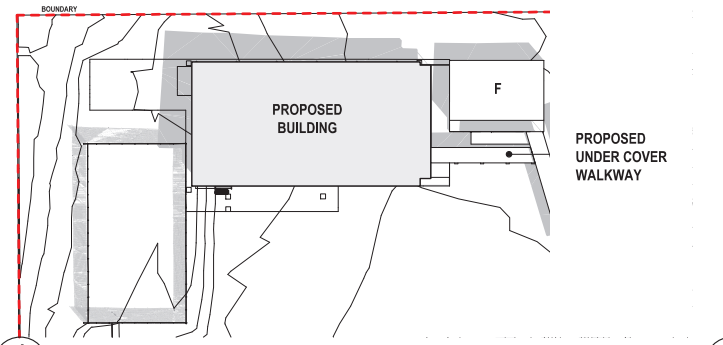
1 **PLAN**
JUNE 21 - 9AM
SCALE: 1:500



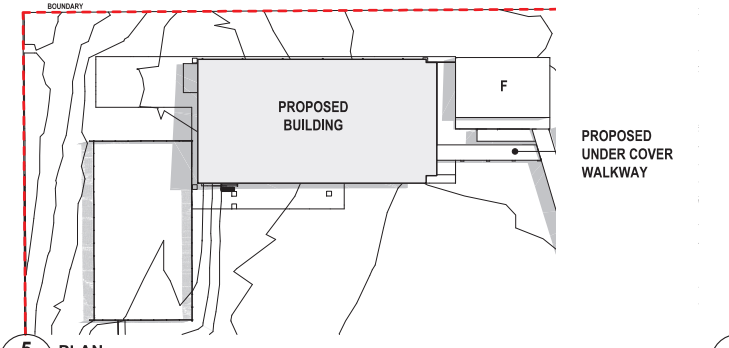
2 **PLAN**
JUNE 21 - 12PM
SCALE: 1:500



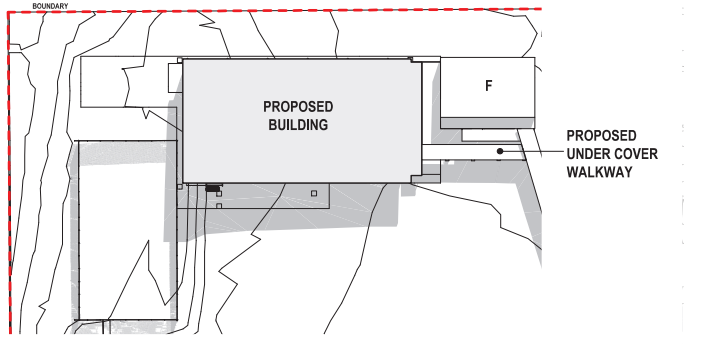
3 **PLAN**
JUNE 21 - 3PM
SCALE: 1:500



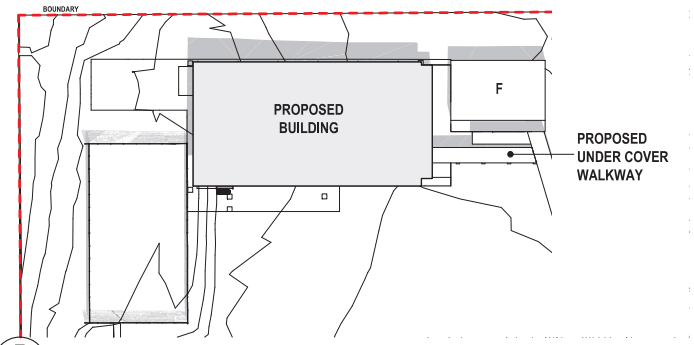
4 **PLAN**
SEPTEMBER 22 - 9AM
SCALE: 1:500



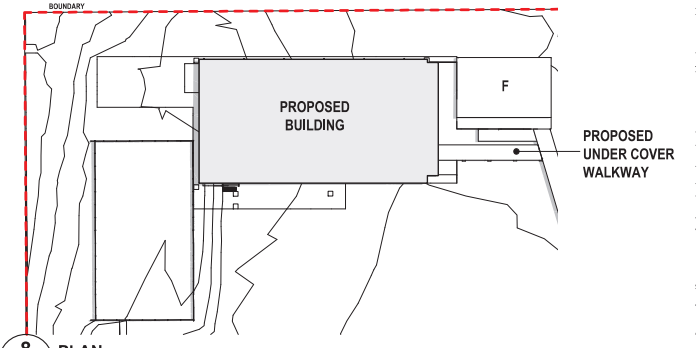
5 **PLAN**
SEPTEMBER 22 - 12PM
SCALE: 1:500



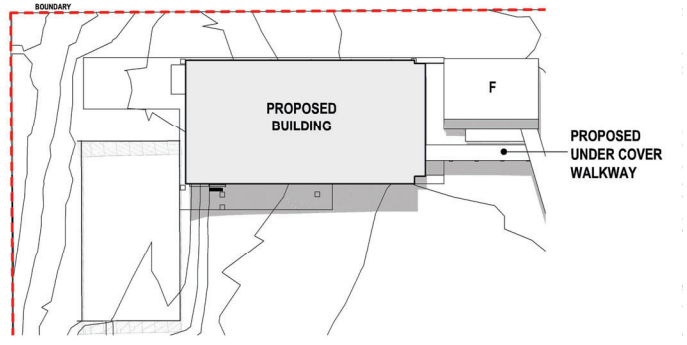
6 **PLAN**
SEPTEMBER 22 - 3PM
SCALE: 1:500



7 **PLAN**
DECEMBER 21 - 9AM
SCALE: 1:500



8 **PLAN**
DECEMBER 21 - 12PM
SCALE: 1:500



9 **PLAN**
DECEMBER - 3PM
SCALE: 1:500

REV.	DESCRIPTION	DATE	INT.
02	100% SCHEMATIC DESIGN	19/12/2024	NK
01	95% SCHEMATIC DESIGN	05/12/2024	NK

fulton trotter
ARCHITECTS BRISBANE SYDNEY
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SYDNEY Suite 804, Level 8, 2L-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au

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DIRECTORS
Greg Isaac nsa NSW 6655 QLD 2650
Justine Elsley fnaia QLD 3312
John Ward nsa VIC 16804 NSW 9271 QLD 3312
Rachel Devonshire fnaia NSW 7434 QLD 4529
Paul Bekkema fnaia NSW 7160 QLD 1106
Ryan Lovelay fnaia QLD 4505

PHASE **SCHEMATIC DESIGN**

CLIENT SCHOOL INFRASTRUCTURE NSW

PROJECT DUNDAS PUBLIC SCHOOL

ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **SHADOW DIAGRAM**

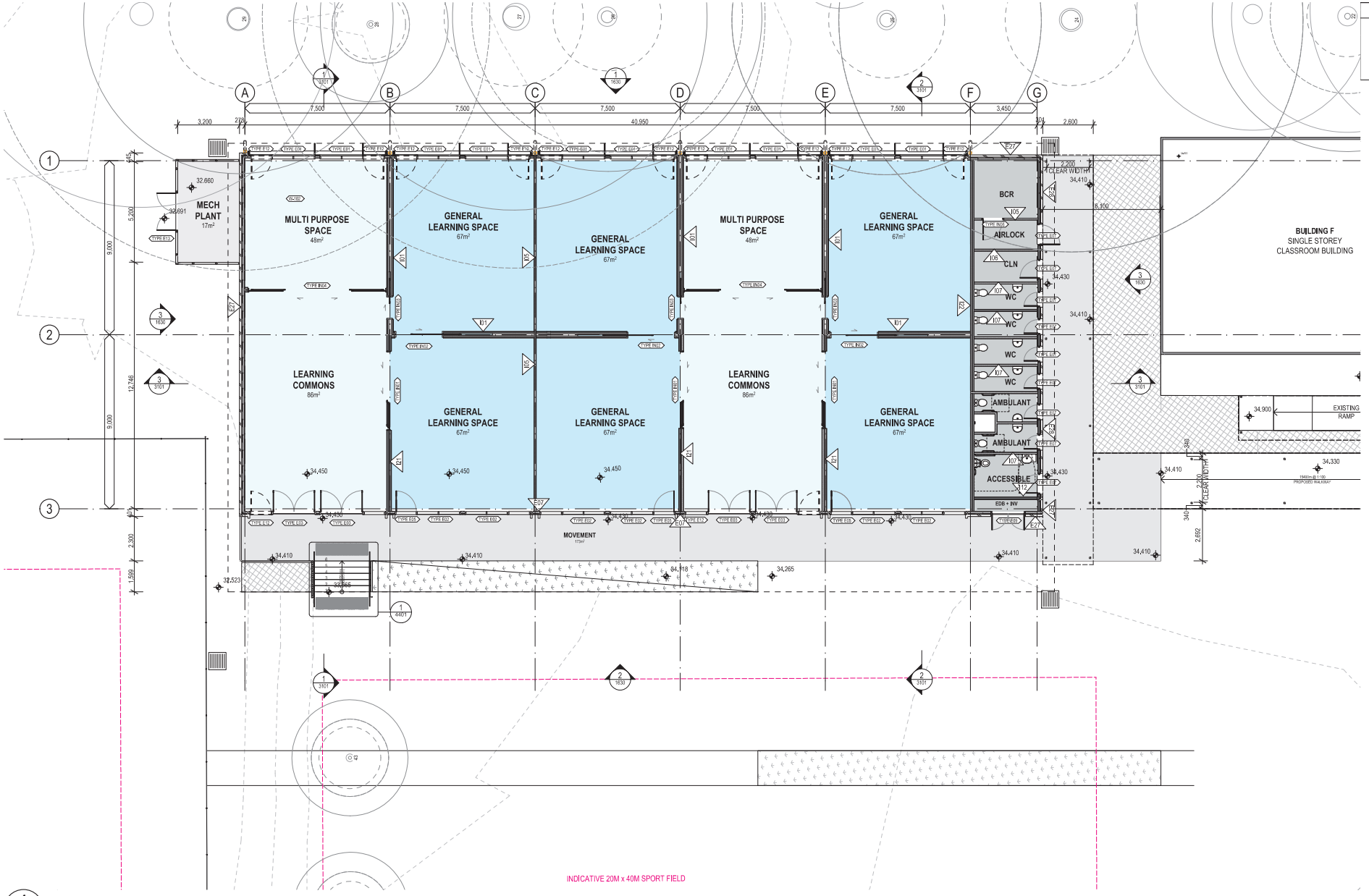
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	

DRAWING NUMBER **DUPS-FTA-00-00-DR-A-1640** REVISION **02**

150mm @ A1
100
50
150mm @ A1

plot date: Thursday, 19 December 2024 12:21 PM|c:|location: BIM|cloud: FTA-SYD-BIM26 - BIM|cloud Basic for Archicad 26/7068DU01 Dundas Public School



1 PLAN
GROUND FLOOR PLAN
SCALE: 1:100

REV.	DESCRIPTION	DATE	INT.
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P5	100% CONCEPT DESIGN	30/10/2024	NK
P4	80% CONCEPT DESIGN	18/10/2024	NK
P3	FOR INFORMATION	09/10/2024	NK
P2	FOR INFORMATION	27/09/2024	AK
P1	FOR INFORMATION	20/09/2024	AK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 2L-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au

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Kristina Dervenkalis nsw NSW 7434 QLD 4529
Paul Sakkas nsw NSW 7160 QLD 1106
Ryan Loveday nsw QLD 4505

PHASE **SCHEMATIC DESIGN**
CLIENT SCHOOL INFRASTRUCTURE NSW
PROJECT DUNDAS PUBLIC SCHOOL
ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

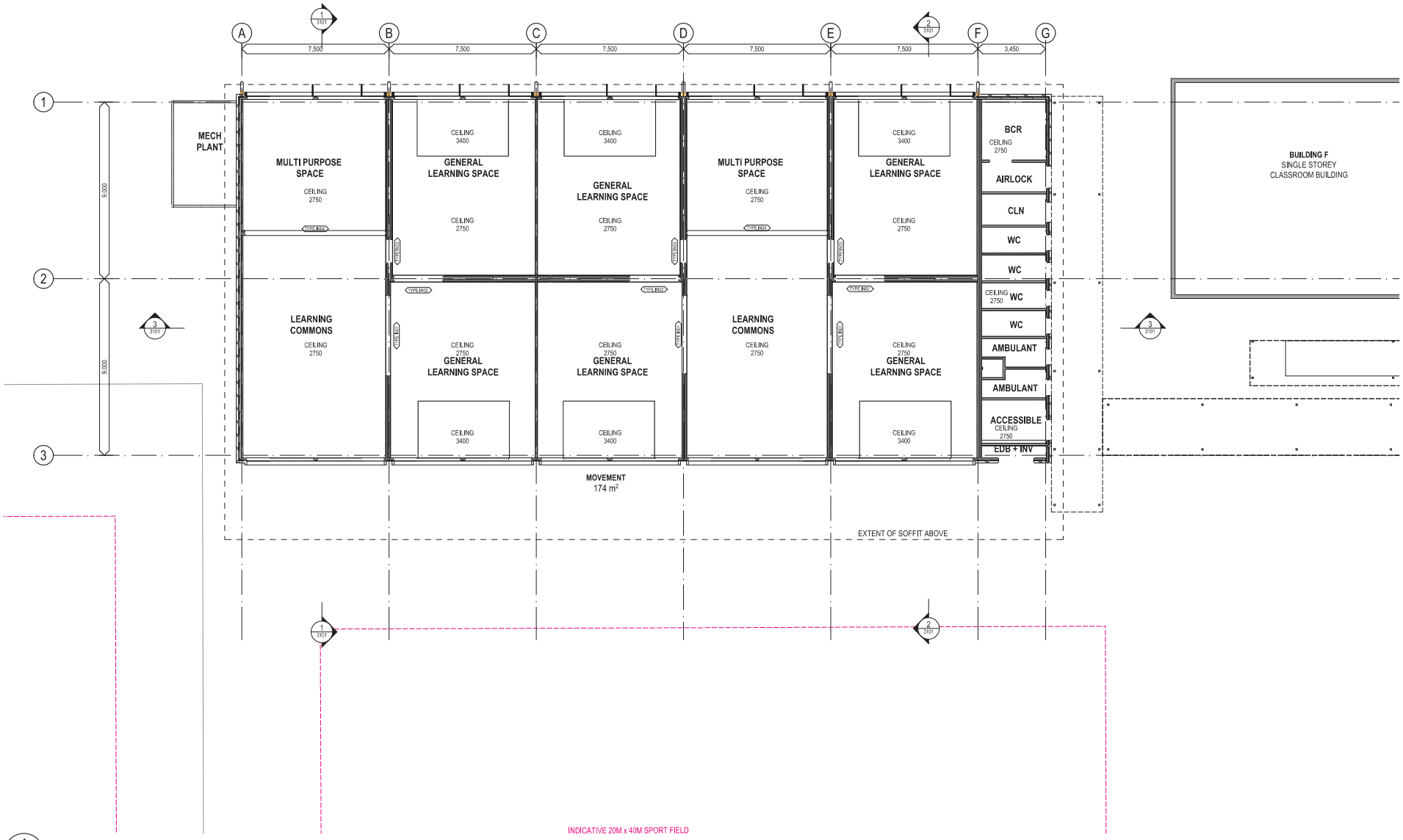
DRAWING **GROUND FLOOR PLAN**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-B00L-GF-DR-A-2101** REVISION **04**

plot date: Thursday, 19 December 2024 12:21 PM | location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 PLAN
CEILING PLAN GROUND FLOOR
SCALE: 1:100

REV.	DESCRIPTION	DATE	INT.
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	100% CONCEPT DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 804, Level 8, 2L-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au
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John Ward nsa VIC 16804 NSW 9271 QLD 3312
Kristina Dumpleton hsia NSW 7434 QLD 4529
Paul Bekins hsia NSW 7160 QLD 1106
Ryan Loveday hsia QLD 4505

PHASE **SCHEMATIC DESIGN**
CLIENT SCHOOL INFRASTRUCTURE NSW
PROJECT DUNDAS PUBLIC SCHOOL
ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **REFLECTED CEILING GROUND FLOOR PLAN**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-B00L-GF-DR-A-2201** REVISION **04**

150mm @ A1
100
50
150mm @ A1

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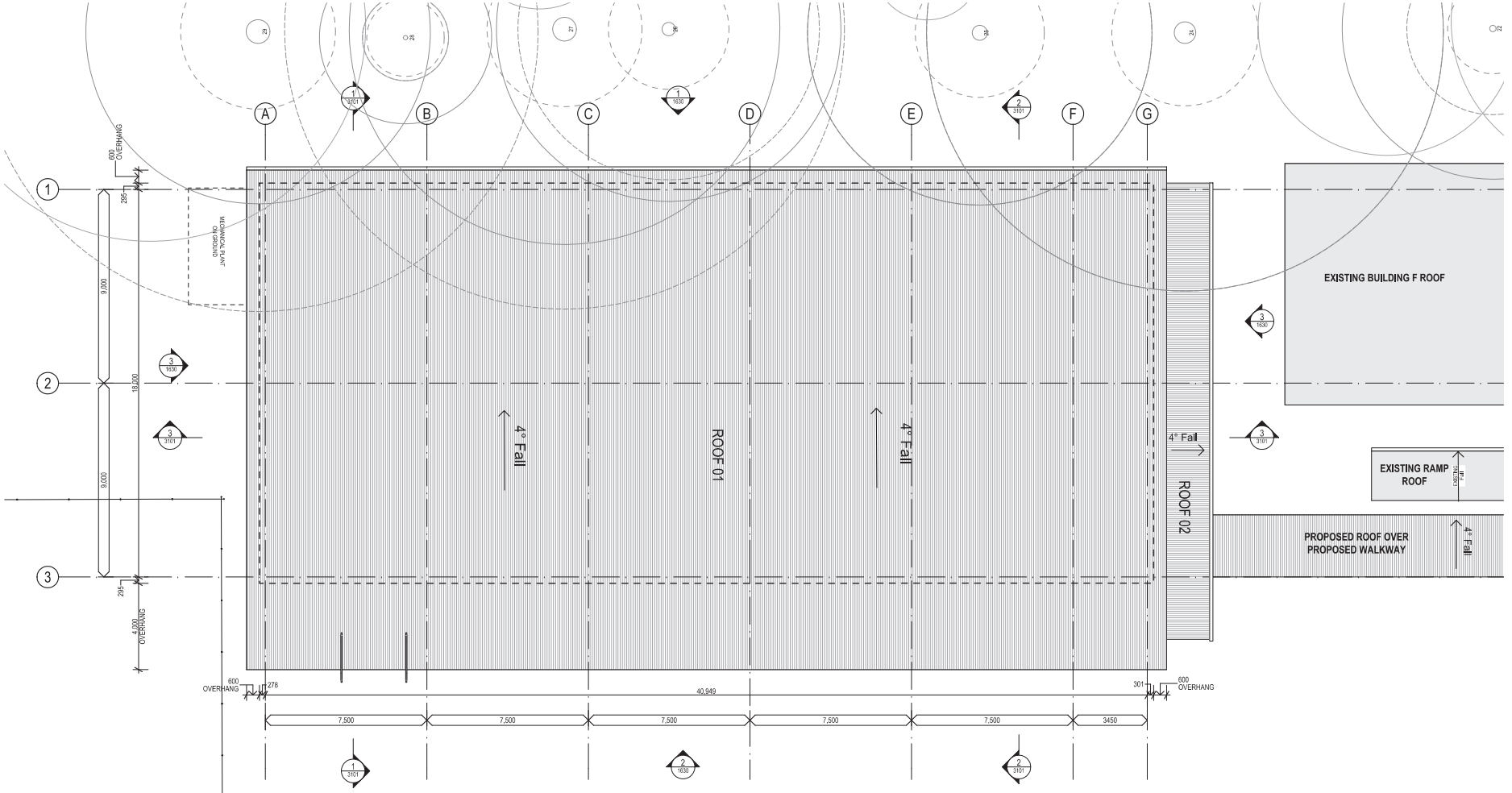

ROOF PLAN LEGEND

ROOF LABEL

ROOF 1← ROOF NUMBER
XX00 : XX00← FINISH CODE (REFER TO FINISHES LEGEND)
MATERIAL CODE (REFER TO MATERIAL LEGEND)
FALL 5°
FALL IN ROOF

4 PLAN
ROOF PLAN
SCALE: 1:100

REV.	DESCRIPTION	DATE	INIT.
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P5	100% CONCEPT DESIGN	30/10/2024	NK
P4	80% CONCEPT DESIGN	18/10/2024	NK
P3	FOR INFORMATION	09/10/2024	NK
P2	FOR INFORMATION	27/09/2024	AK
P1	FOR INFORMATION	20/09/2024	AK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 804, Level 8, 2&36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au

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Paul Bekins hsia NSW 7160 QLD 1106
Ryan Lovelay hsia QLD 4505

PHASE **SCHEMATIC DESIGN**
CLIENT SCHOOL INFRASTRUCTURE NSW
PROJECT DUNDAS PUBLIC SCHOOL
ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

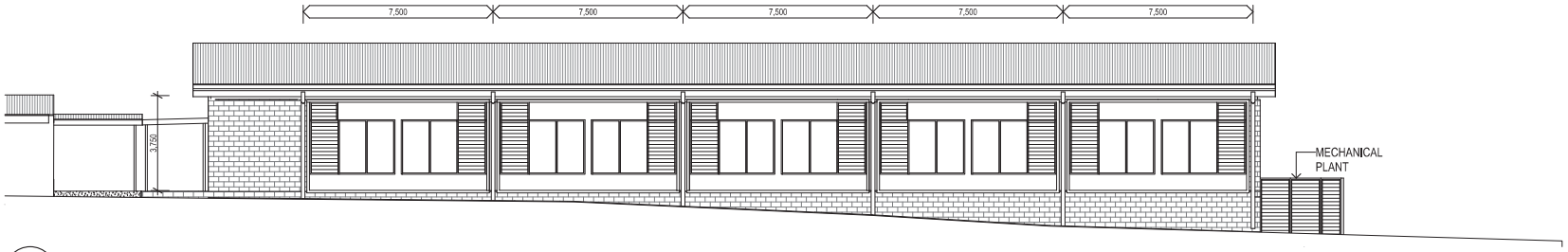
DRAWING **ROOF PLAN**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

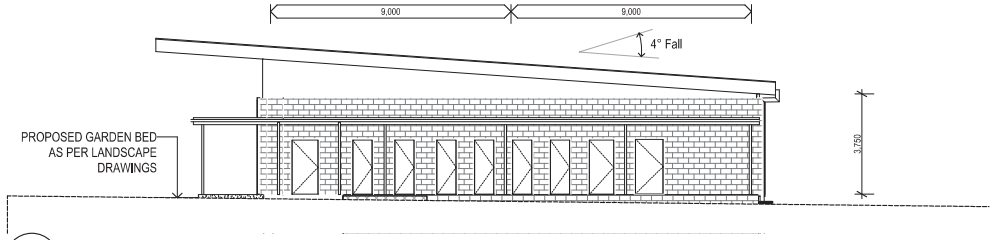
PROJECT NUMBER **7068DU01**
DIRECTOR **JW**
CHECKED **NK**
DRAWING NUMBER **DUPS-FTA-B00L-LR-DR-A-2102**
REVISION **04**

150mm @ A1
100
50
150mm @ A1
50
100

plot date: Thursday, 19 December 2024 12:21 PM|c location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 **ELEVATION**
WEST ELEVATION
SCALE: 1:100



2 **ELEVATION**
NORTH ELEVATION
SCALE: 1:100

REV.	DESCRIPTION	DATE	INT.
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P5	100% CONCEPT DESIGN	30/10/2024	NK
P4	80% CONCEPT DESIGN	18/10/2024	NK
P3	FOR INFORMATION	09/10/2024	NK
P2	FOR INFORMATION	27/09/2024	AK
P1	FOR INFORMATION	20/09/2024	AK

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Kristina Dermoudis nsw NSW 7494 QLD 4529
Paul Sakkara nsw NSW 7160 QLD 3106
Ryan Loveday nsw QLD 4505

PHASE **SCHEMATIC DESIGN**

CLIENT SCHOOL INFRASTRUCTURE NSW

PROJECT DUNDAS PUBLIC SCHOOL

ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **ELEVATIONS 01**

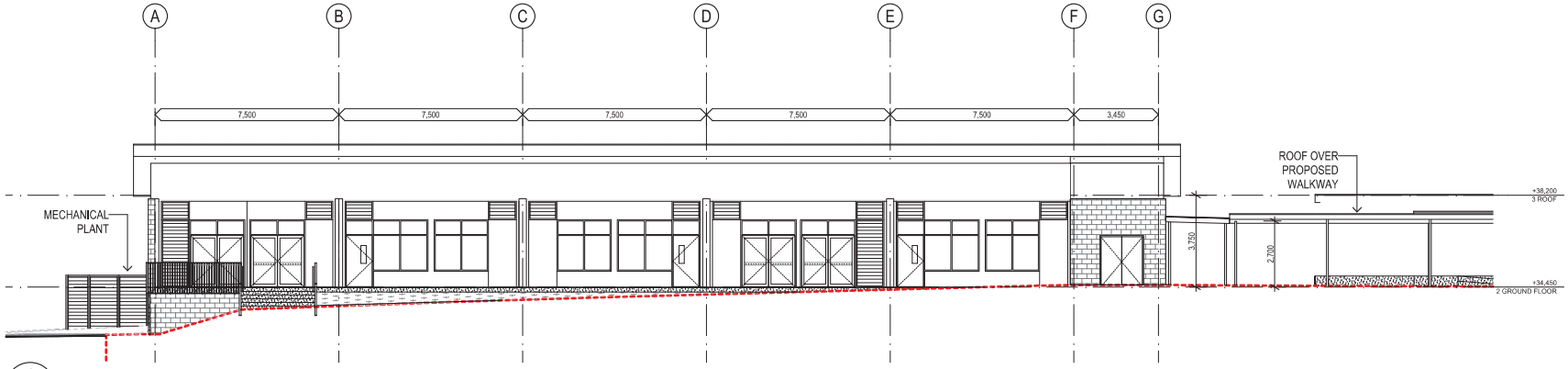
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

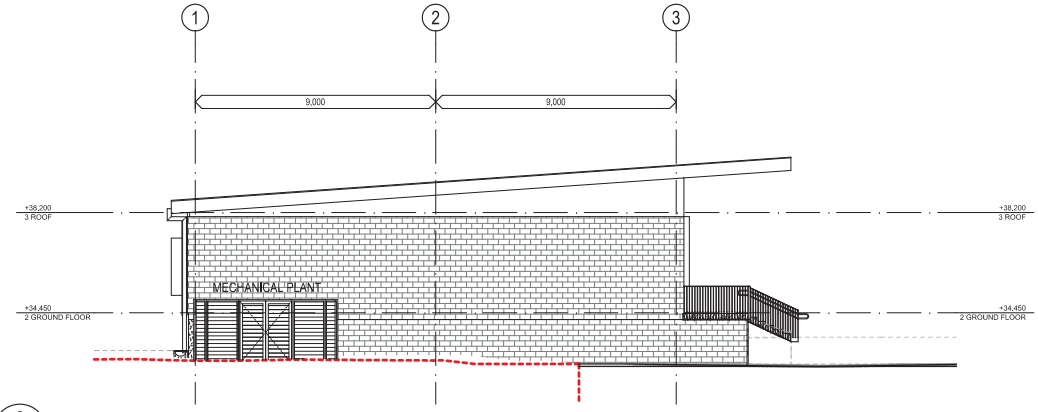
DRAWING NUMBER **DUPS-FTA-B00L-ZZ-DR-A-3001** REVISION **04**

150mm @ A1
100
50
150mm @ A1
100
50

plot date: Thursday, 19 December 2024 12:21 PM|e location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 **SECTION**
EAST ELEVATION
SCALE: 1:100



2 **SECTION**
SOUTH ELEVATION
SCALE: 1:100

150mm @ A1
100
50

REV.	DESCRIPTION	DATE	INT.
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P5	100% CONCEPT DESIGN	30/10/2024	NK
P4	80% CONCEPT DESIGN	18/10/2024	NK
P3	FOR INFORMATION	09/10/2024	NK
P2	FOR INFORMATION	27/09/2024	AK
P1	FOR INFORMATION	20/09/2024	AK

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SYDNEY Suite 804, Level 8, 2&36 Foveaux Street, Surry Hills, NSW 2010
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Paul Bekins hsia NSW 7160 QLD 3109
Ryan Loveday hsia QLD 4505

PHASE **SCHEMATIC DESIGN**

CLIENT SCHOOL INFRASTRUCTURE NSW

PROJECT DUNDAS PUBLIC SCHOOL

ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

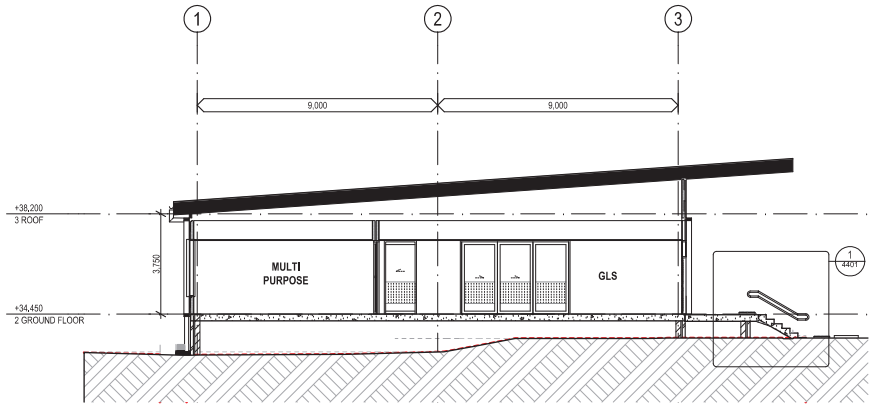
DRAWING **ELEVATIONS 02**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

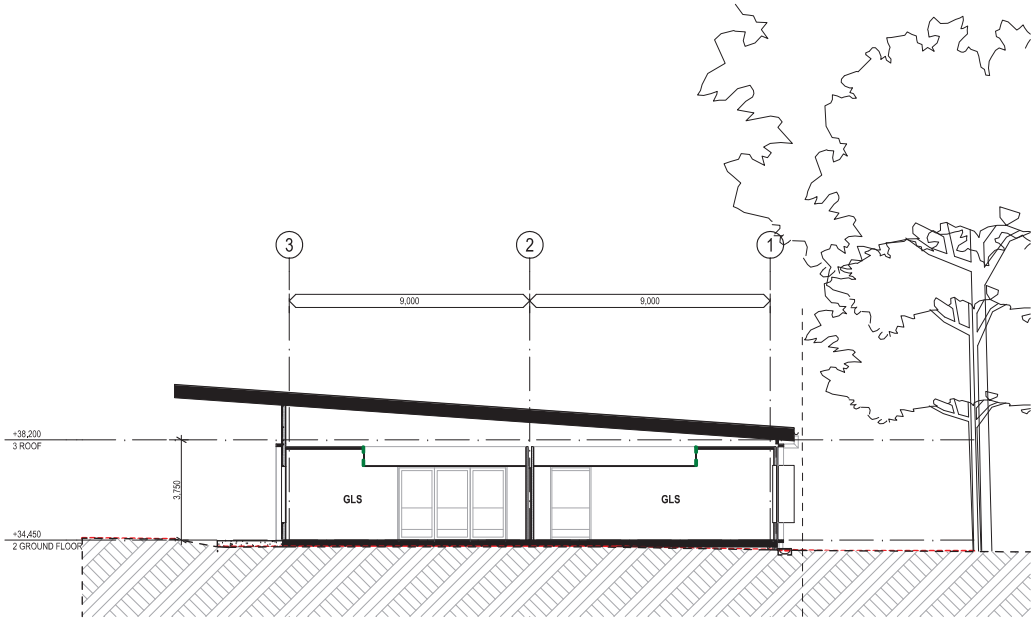
PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-B00L-ZZ-DR-A-3002** REVISION **04**

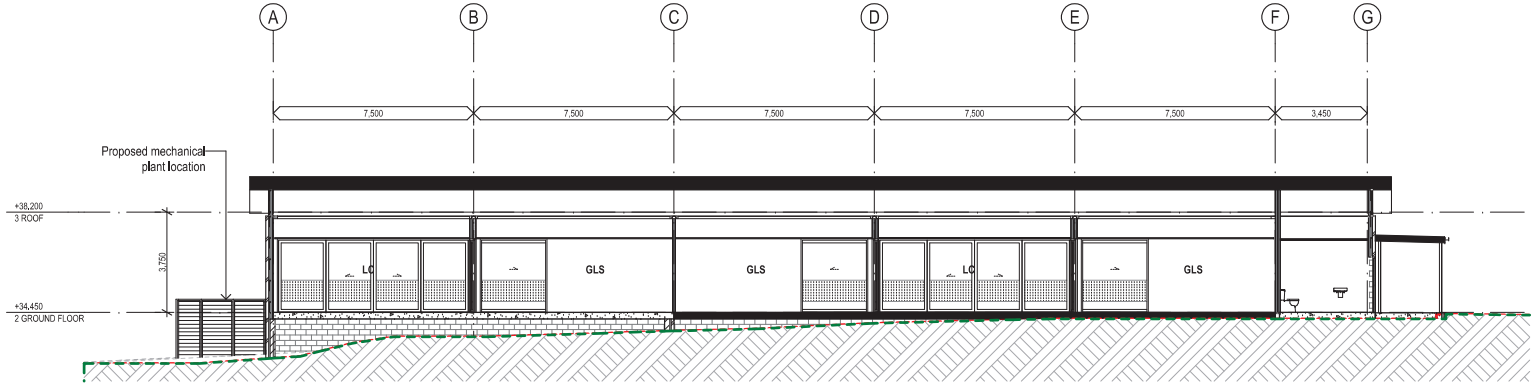
plot date: Thursday, 19 December 2024 12:21 PM|e location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 SECTION
SECTION A
SCALE: 1:100



2 SECTION
SECTION B
SCALE: 1:100



3 SECTION
SECTION C
SCALE: 1:100

REV.	DESCRIPTION	DATE	INT.
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P5	100% CONCEPT DESIGN	30/10/2024	NK
P4	80% CONCEPT DESIGN	18/10/2024	NK
P3	FOR INFORMATION	09/10/2024	NK
P2	FOR INFORMATION	27/09/2024	AK
P1	FOR INFORMATION	20/09/2024	AK

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ARCHITECTS BRISBANE SYDNEY
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Paul Bekins nsa NSW 7160 QLD 3106
Ryan Lovelay nsa QLD 4505

PHASE **SCHEMATIC DESIGN**

CLIENT SCHOOL INFRASTRUCTURE NSW

PROJECT DUNDAS PUBLIC SCHOOL

ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **SECTIONS 01**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

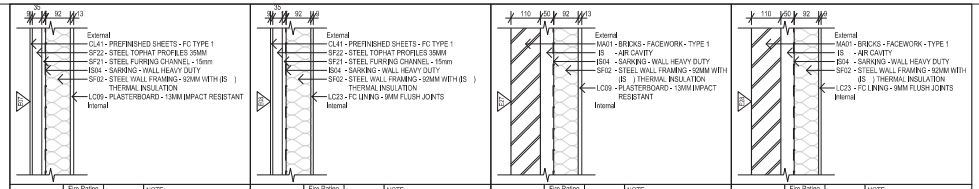
PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-B00L-ZZ-DR-A-3101** REVISION **04**

150mm @ A1
100
50
150mm @ A1

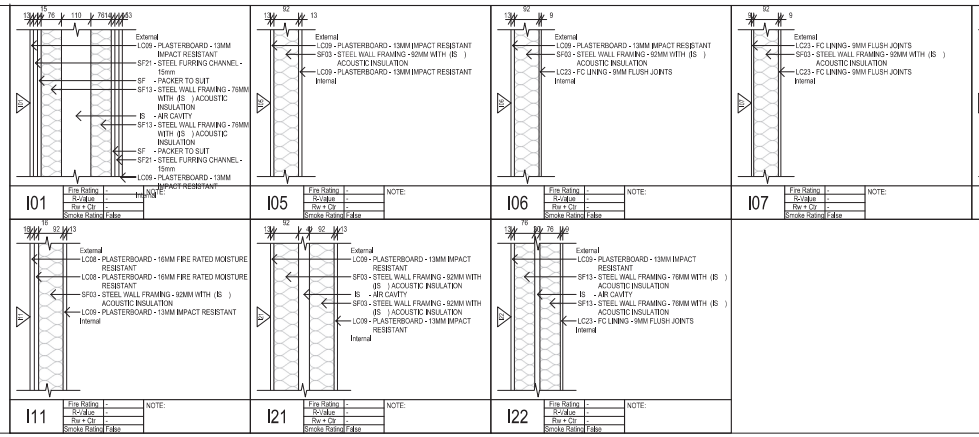
plot date: Thursday, 19 December 2024 12:21 PM|e location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

EXTERNAL WALL TYPES



E07	E08	E27	E28
Fire Rating: -	Fire Rating: -	Fire Rating: -	Fire Rating: -
R-Value: -	R-Value: -	R-Value: -	R-Value: -
Rw + Ctr: -	Rw + Ctr: -	Rw + Ctr: -	Rw + Ctr: -
Smoke Rating: False	Smoke Rating: False	Smoke Rating: False	Smoke Rating: False
NOTE:	NOTE:	NOTE:	NOTE:

INTERNAL WALL TYPES



I01	I05	I06	I07	I08	I09	I10
Fire Rating: -	Fire Rating: -	Fire Rating: -	Fire Rating: -	Fire Rating: -	Fire Rating: -	Fire Rating: -
R-Value: -	R-Value: -	R-Value: -	R-Value: -	R-Value: -	R-Value: -	R-Value: -
Rw + Ctr: -	Rw + Ctr: -	Rw + Ctr: -	Rw + Ctr: -	Rw + Ctr: -	Rw + Ctr: -	Rw + Ctr: -
Smoke Rating: False	Smoke Rating: False	Smoke Rating: False	Smoke Rating: False	Smoke Rating: False	Smoke Rating: False	Smoke Rating: False
NOTE:	NOTE:	NOTE:	NOTE:	NOTE:	NOTE:	NOTE:

I11	I21	I22
Fire Rating: -	Fire Rating: -	Fire Rating: -
R-Value: -	R-Value: -	R-Value: -
Rw + Ctr: -	Rw + Ctr: -	Rw + Ctr: -
Smoke Rating: False	Smoke Rating: False	Smoke Rating: False
NOTE:	NOTE:	NOTE:

REV.	DESCRIPTION	DATE	INT.
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK

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Ryan Loveday hsia QLD 4505

PHASE: **SCHEMATIC DESIGN**

CLIENT: SCHOOL INFRASTRUCTURE NSW

PROJECT: DUNDAS PUBLIC SCHOOL

ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING: **WALL TYPE DETAILS / PARTITION DETAILS**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

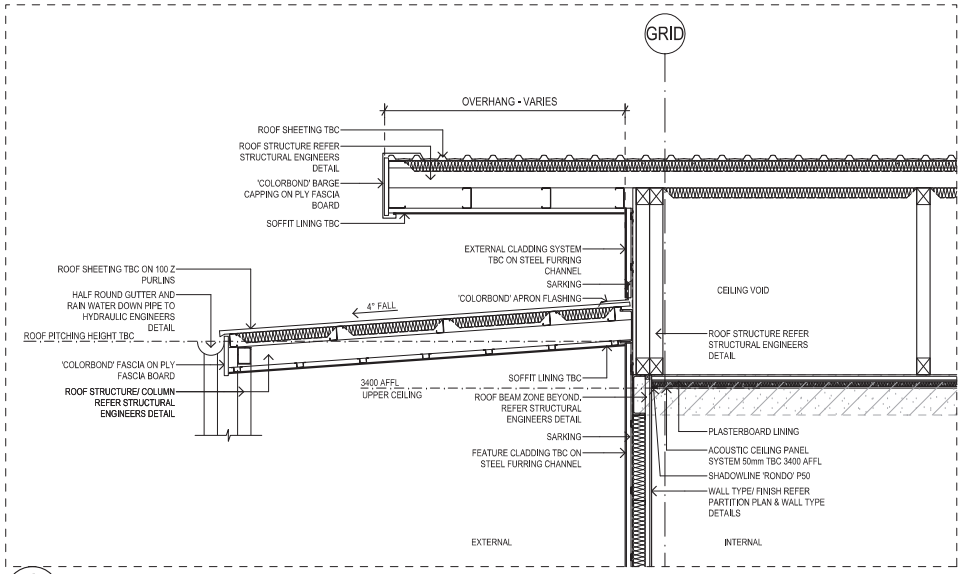
DRAWING NUMBER: DUPS-FTA-B00L-ZZ-DR-A-4001

REVISION: 04

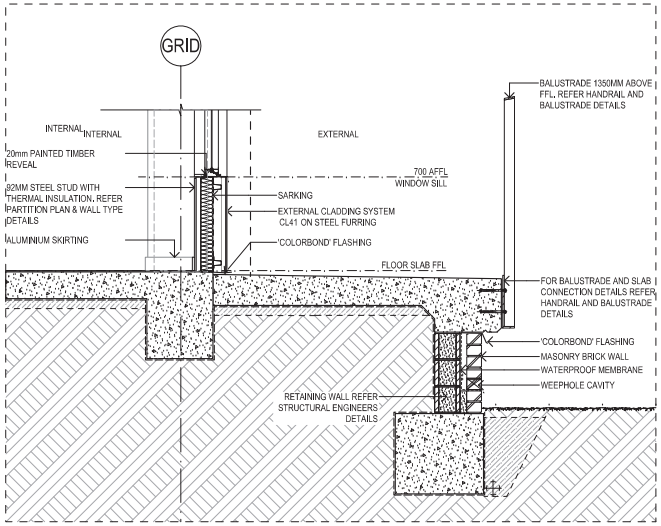
150mm @ A1 | 100 | 50

50 | 100 | 150mm @ A1

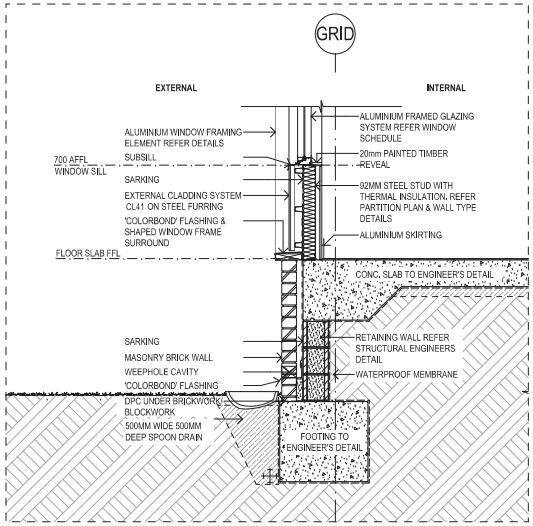
plot date: Thursday, 19 December 2024 12:21 PM|e location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



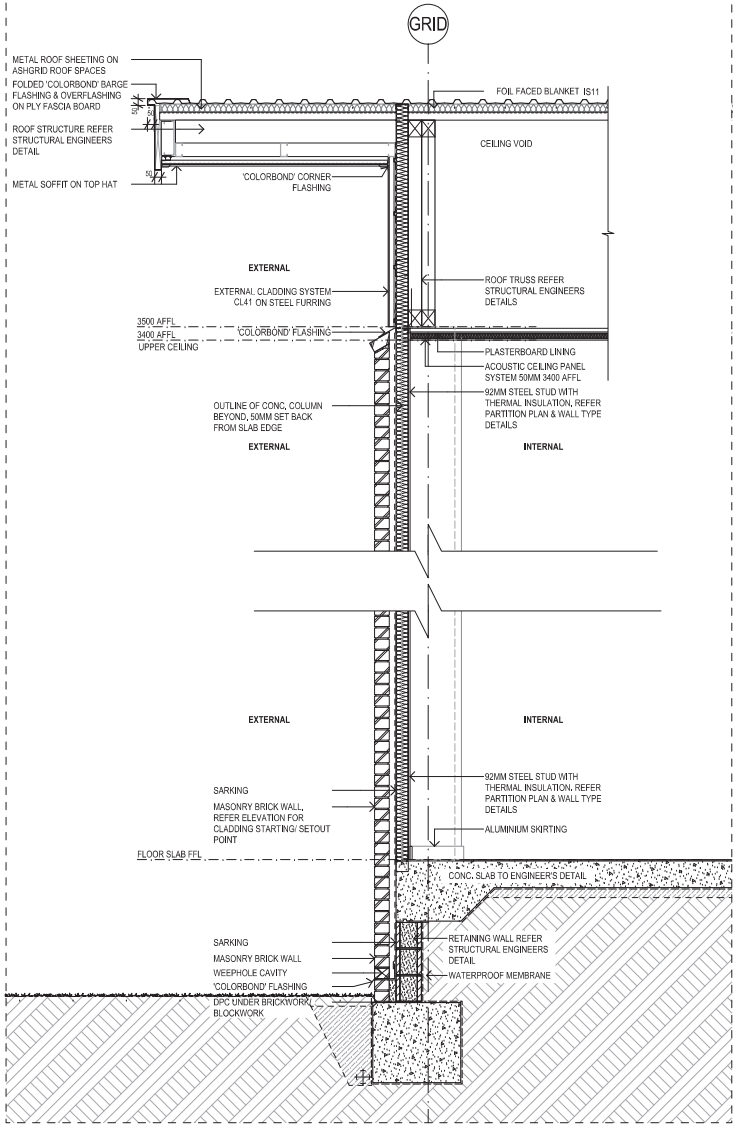
1 DETAIL SECTION
END WALL DETAIN IN JUCTION WITH COVERED AWNING
SCALE: 1:20



2 DETAIL SECTION
VERANDAH DETAIL SECTION
SCALE: 1:20



3 DETAIL SECTION
FC BACK WALL SECTION
SCALE: 1:20



4 DETAIL SECTION
BRICK SIDE WALL SECTION
SCALE: 1:20

REV.	DESCRIPTION	DATE	INT.
04	100% SCHEMATIC DESIGN	19/12/2024	NK
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02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK

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Paul Bekkes hsia NSW 7160 QLD 3106
Ryan Loveday hsia QLD 4505

PHASE: **SCHEMATIC DESIGN**
CLIENT: SCHOOL INFRASTRUCTURE NSW
PROJECT: DUNDAS PUBLIC SCHOOL
ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING: **WALL SECTIONS 01**

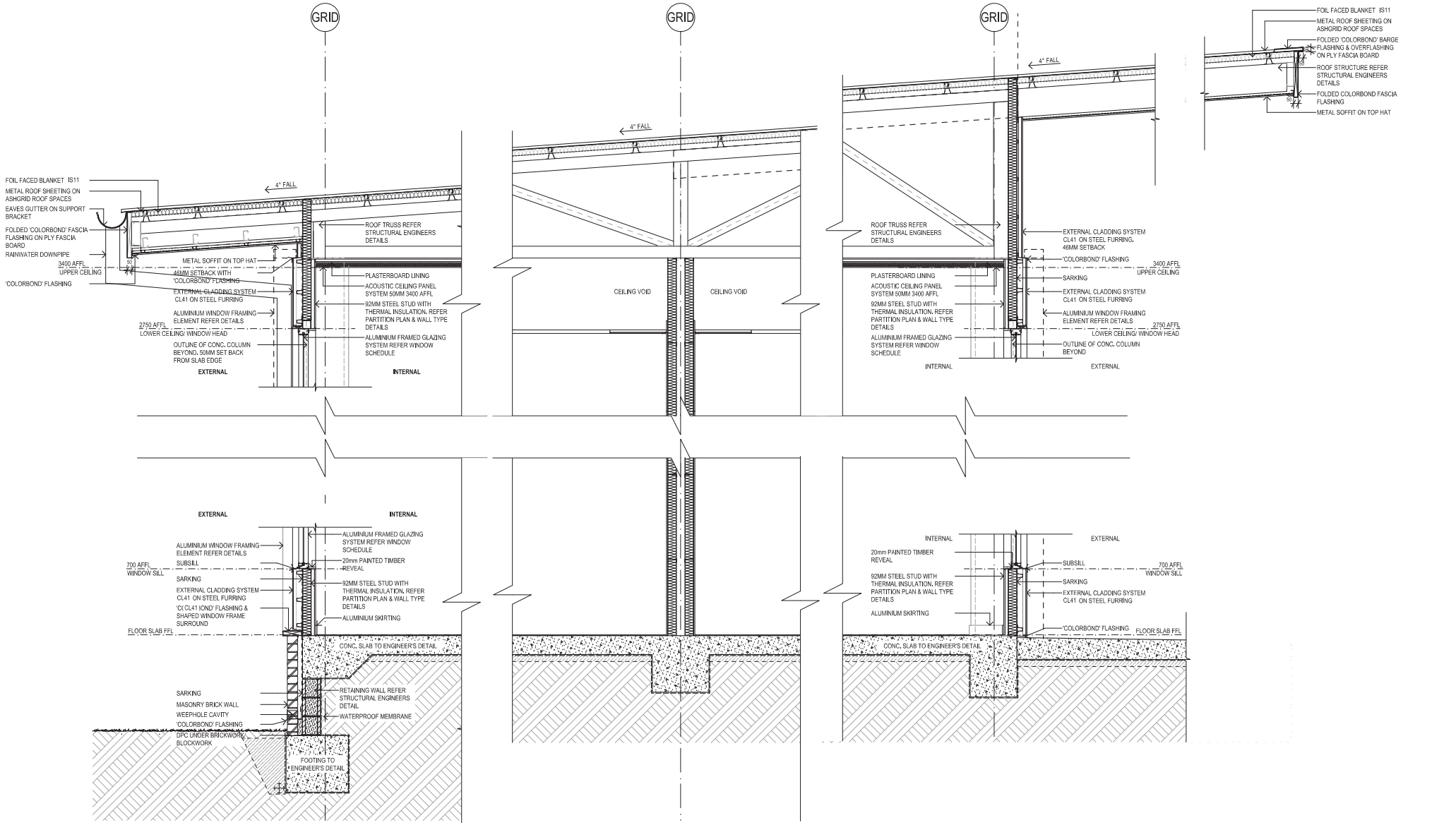
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: DUPS-FTA-B00L-ZZ-DR-A-4201
REVISION: 04

150mm @ A1
50 100 150mm @ A1

plot date: Thursday, 19 December 2024 12:21 PM|e location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



REV.	DESCRIPTION	DATE	INT.
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au

SYDNEY Suite 904, Level 9, 2L-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550

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DIRECTORS

Greg Isaac nsa		NSW 6655	QLD 2655
Justine Elsley hsia			QLD 3312
John Ward nsa		VIC 16804	NSW 9271 QLD 3312
Kristina Dominoska hsia			NSW 7494 QLD 4520
Paul Bekins hsia			NSW 7160 QLD 3106
Ryan Loveday hsia			QLD 4505

PHASE: **SCHEMATIC DESIGN**

CLIENT: SCHOOL INFRASTRUCTURE NSW

PROJECT: DUNDAS PUBLIC SCHOOL

ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING: **WALL SECTIONS 02**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

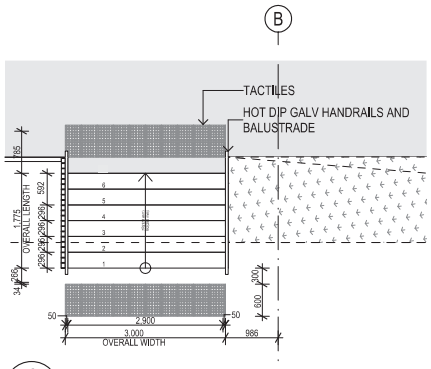
PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	

DRAWING NUMBER: DUPS-FTA-B00L-ZZ-DR-A-4202

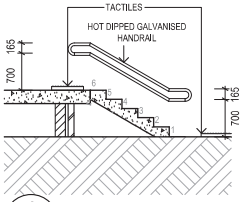
REVISION: 04

150mm @ A1 | 100 | 50

plot date: Thursday, 19 December 2024 12:21 PM|c location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 PLAN
STAIR 1 PLAN
SCALE: 1:50



1 PLAN
Detail
SCALE: 1:50

150mm @ A1
100
50

REV.	DESCRIPTION	DATE	INT.
02	100% SCHEMATIC DESIGN	19/12/2024	NK
01	95% SCHEMATIC DESIGN	05/12/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 804, Level 8, 2L-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au

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Greg Isaac nsw
Justine Elsley Nsw
John Ward nsw
Kristina Dumbrajs Nsw
Paul Bekins Nsw
Ryan Lovelay Nsw
NSW 6650 QLD 2650
QLD 3312
VIC 16804 NSW 9371 QLD 3312
NSW 7494 QLD 4529
NSW 7160 QLD 3109
QLD 4500

PHASE **SCHEMATIC DESIGN**

CLIENT SCHOOL INFRASTRUCTURE NSW

PROJECT DUNDAS PUBLIC SCHOOL

ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

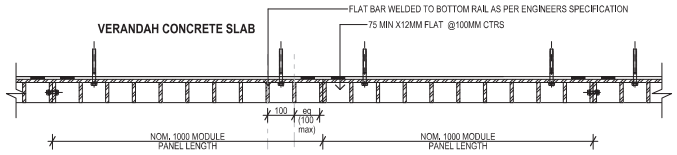
DRAWING **STAIR AND RAMP DETAILS**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

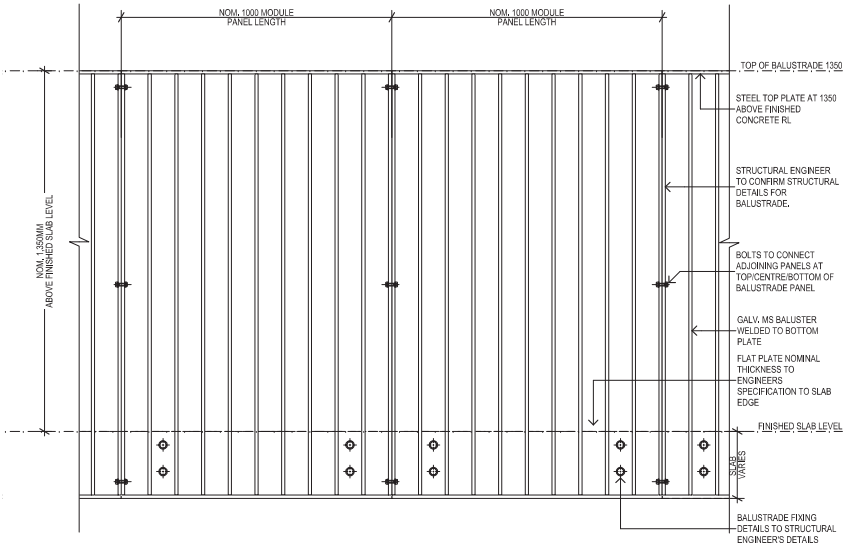
PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-B00L-ZZ-DR-A-4401** REVISION **02**

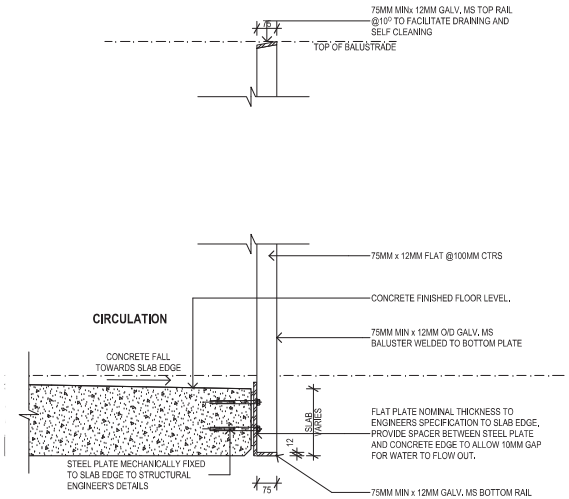
plot date: Thursday, 19 December 2024 12:22 PM|c location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 DETAIL PLAN
BALUSTRADE AND HANDRAIL DETAILS
SCALE: 1:10



2 DETAIL ELEVATION
BALUSTRADE AND HANDRAIL DETAILS
SCALE: 1:10



3 DETAIL SECTION
BALUSTRADE AND HANDRAIL DETAILS
SCALE: 1:10

REV.	DESCRIPTION	DATE	INT.
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	80% SCHEMATIC DESIGN	26/11/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 804, Level 8, 2L-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au
Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550

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Greg Isaac nsa NSW 6655 QLD 2655
Justine Elsley hsia QLD 3312
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Kristina Dumpleton hsia NSW 7494 QLD 4529
Paul Bekins hsia NSW 7160 QLD 3106
Ryan Loveday hsia QLD 4505

PHASE **SCHEMATIC DESIGN**
CLIENT SCHOOL INFRASTRUCTURE NSW
PROJECT DUNDAS PUBLIC SCHOOL
ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **BALUSTRADE AND HANDRAIL DETAILS**

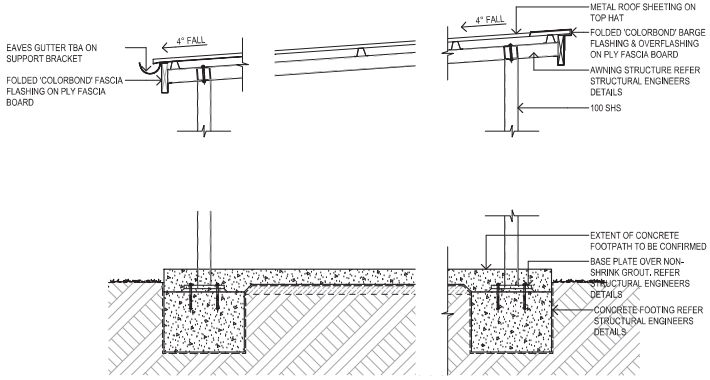
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-B00L-ZZ-DR-A-4501** REVISION **03**

150mm @ A1
100
50
50 100 150mm @ A1

plot date: Thursday, 19 December 2024 12:22 PM|e location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 DETAIL SECTION
TYPICAL COVERED WALKWAY
SCALE: 1:20

150mm @ A1
100
50

REV.	DESCRIPTION	DATE	INT.
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01		26/11/2024	

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SYDNEY Suite 804, Level 8, 2&36 Foveaux Street, Surry Hills, NSW 2010
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PHASE **SCHEMATIC DESIGN**
CLIENT SCHOOL INFRASTRUCTURE NSW
PROJECT DUNDAS PUBLIC SCHOOL
ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **TYPICAL COVERED WALKWAY DETAILS**

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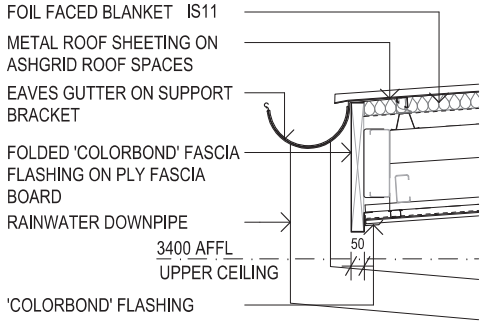
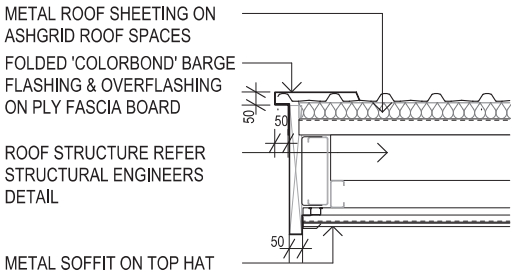
PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-B00L-ZZ-DR-A-4801** REVISION **03**

plot date: Thursday, 19 December 2024 12:22 PM|c location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 DETAIL SECTION
TYPICAL FASCIA DETAILS 01
SCALE: 1:10



2 DETAIL SECTION
TYPICAL FASCIA DETAILS 02
SCALE: 1:10

150mm @ A1
100
50

REV.	DESCRIPTION	DATE	INT.
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01		26/11/2024	

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 804, Level 8, 2&3-35 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au

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Paul Bekins hsia — NSW 7160 QLD 3106
Ryan Loveday hsia — QLD 4505

PHASE: **SCHEMATIC DESIGN**
CLIENT: SCHOOL INFRASTRUCTURE NSW
PROJECT: DUNDAS PUBLIC SCHOOL
ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

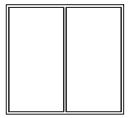
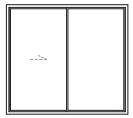
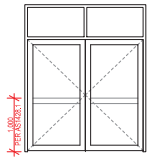
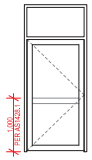
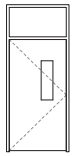
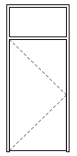
DRAWING: **TYPICAL FASCIA DETAILS**

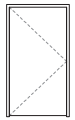
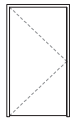
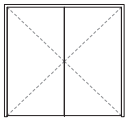
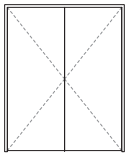
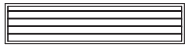
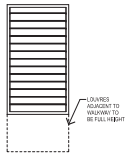
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: **DUPS-FTA-B00L-ZZ-DR-A-4901**
REVISION: **03**

plot date: Thursday, 19 December 2024 12:22 PM|e location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

						
TYPE CODE	TYPE E01	TYPE E02	TYPE E03	TYPE E04	TYPE E05	TYPE E06
TYPE DESCRIPTION	FIXED GLAZING	SLIDING WINDOW	GLAZED DOUBLE DOOR	GLAZED SINGLE DOOR	SOLID DOOR WITH VISION PANEL	SOLID DOOR (NO VISION PANEL)
OVERALL & LEAF SIZE (W X H)	Overall: WIDTH VARIES x 2,050mm H	Overall: WIDTH VARIES x 2,050mm H	Overall: 2,265mm W x 2,750mm H Leaves: 2 x 970 mm x 2040 mm,	Overall: WIDTH VARIES x 2,750mm H Leaves: 1 x 970 mm x 2040 mm	Overall: WIDTH VARIES x 2,750mm H Leaves: 1 x 1,070 mm x 2040 mm	Overall: WIDTH VARIES x 2,750mm H Leaves: 1 x 1,070 mm x 2040 mm
FRAME	Type: DW03 - FRAME - ALUMINIUM 150MM POCKET GLAZED Notes:	Type: DW01 - FRAME - ALUMINIUM 100MM POCKET GLAZED Notes:	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:
FRAME FINISH						
LEAF	Type: N/A Notes:	Type: DW21 - WINDOW - SLIDING ALUMINIUM Notes:	Type: DW41 - LEAF - HINGED ALUMINIUM Notes:	Type: DW41 - LEAF - HINGED ALUMINIUM Notes:	Type: DW52 - LEAF - EXTERNAL SOLID CORE PAINTED w VISION PANEL Notes:	Type: DW51 - LEAF - EXTERNAL SOLID CORE PAINTED Notes:
LEAF FINISH						
GLAZING	Glazing: GL04 - LAMINATED GLASS TYPE 2 - TINTED Film: N/A	Glazing: GL04 - LAMINATED GLASS TYPE 2 - TINTED Film: N/A	Glazing: GL04 - LAMINATED GLASS TYPE 2 - TINTED Film: GL32 - VINYL FILM - COLOURED	Glazing: GL04 - LAMINATED GLASS TYPE 2 - TINTED Film: GL32 - VINYL FILM - COLOURED	Glazing: GL04 - LAMINATED GLASS TYPE 2 - TINTED Film: N/A	Glazing: GL04 - LAMINATED GLASS TYPE 2 - TINTED Film: N/A
NOTES	REFER TO ELEVATIONS FOR NUMBER OF MULLIONS					

						
TYPE CODE	TYPE E07	TYPE E08	TYPE E09	TYPE E10	TYPE E11	TYPE E12
TYPE DESCRIPTION	SOLID DOOR (NO VISION PANEL, NO FANLIGHT)	SOLID FIRE DOOR (SINGLE LEAF)	SOLID FIRE DOOR DOUBLE LEAF)	SOLID DOOR (NO VISION PANEL, DOUBLE LEAF)	MECHANICAL LOUVRE	FIXED LOUVRE WITH INSULATED DOOR BEHIND
OVERALL & LEAF SIZE (W X H)	Overall: WIDTH VARIES x 2,100mm H Leaves: 1 x 1,070 mm x 2040 m	Overall: WIDTH VARIES x 2,750mm H Leaves: 1 x 1,070 mm x 2040 mm	Overall: WIDTH VARIES x 2,100mm H Leaves: 2 x 1,070 mm x 2040 mm	Overall: WIDTH VARIES x 2,750mm H Leaves: 2 x 1,070 mm x 2040 mm	Overall: WIDTH VARIES x 750mm H	Overall: WIDTH VARIES x 2,050mm H
FRAME	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:	Type: DW14 - DOOR FRAME - FIRE DOOR Notes:	Type: DW14 - DOOR FRAME - FIRE DOOR Notes:	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:	Type: DW03 - FRAME - ALUMINIUM 150MM POCKET GLAZED Notes:	Type: DW03 - FRAME - ALUMINIUM 150MM POCKET GLAZED Notes:
FRAME FINISH						
LEAF	Type: DW51 - LEAF - EXTERNAL SOLID CORE PAINTED Notes:	Type: DW71 - DOOR - FIRE Notes:	Type: DW71 - DOOR - FIRE Notes:	Type: DW51 - LEAF - EXTERNAL SOLID CORE PAINTED Notes:	Type: DW36 - LOUVRES - FIXED ALUMINIUM TYPE 1 Notes:	Type: DW33 - LOUVRES - 150MM Notes:
LEAF FINISH						
GLAZING	Glazing: GL04 - LAMINATED GLASS TYPE 2 - TINTED Film: N/A	Glazing: N/A Film: N/A	Glazing: N/A Film: N/A	Glazing: N/A Film: N/A	Glazing: N/A Various Colours: Film: N/A	Glazing: N/A Film: N/A
NOTES						

REV.	DESCRIPTION	DATE	INT.
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	90% SCHEMATIC DESIGN	26/11/2024	NK

fulton trotter
ARCHITECTS BRISBANE SYDNEY
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SYDNEY Suite 904, Level 9, 2L-36 Foveaux Street, Surry Hills, NSW 2010
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Ryan Lovelay nsw QLD 4505

PHASE **SCHEMATIC DESIGN**

CLIENT SCHOOL INFRASTRUCTURE NSW

PROJECT DUNDAS PUBLIC SCHOOL

ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **EXTERNAL DOOR & WINDOW SCHEDULE**

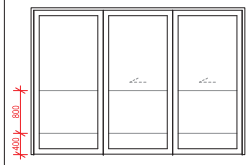
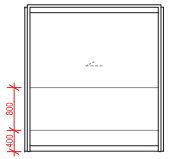
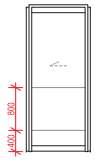
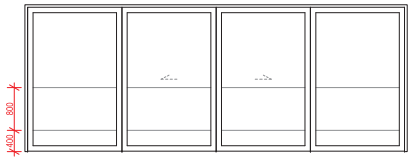
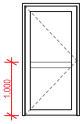
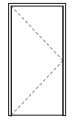
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

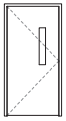
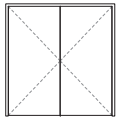
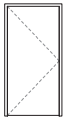
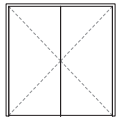
PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-B00L-ZZ-DR-A-6001** REVISION **03**

150mm @ A1 | 50 | 100 | 150mm @ A1

plot date: Thursday, 19 December 2024 12:22 PM|c location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

						
TYPE CODE	TYPE IN01	TYPE IN02	TYPE IN03	TYPE IN04	TYPE IN05	TYPE IN06
TYPE DESCRIPTION	GLS ENTRY LARGE SLIDING DOOR	INTER-GLS SLIDING DOOR	GLS ENTRY SMALL SLIDING DOOR	MULTIPURPOSE SLIDING DOOR	GLAZED SINGLE DOOR	SINGLE LEAF HINGED DOOR
OVERALL & LEAF SIZE (W X H)	Overall: 4,000mm W x 2,750mm H Leaves: 3 x 1,300mm x 2,690mm	Overall: 2,500mm W x 2,750mm H Leaf: 1 x 2,600mm x 2,690mm	Overall: 1,200mm W x 2,750mm H Leaf: 1 x 1,200mm x 2,690mm	Overall: 7,154mm W x 2,750mm H Leaves: 2 x 1,764mm + 2 x 1,764mm x 2,690mm	Overall: WIDTH VARIES x 2,100mm H Leaf: 1 x 970mm x 2,040mm	Overall: WIDTH VARIES x 2,100mm H Leaf: 1 x 970mm x 2,040mm
FRAME	Type: DW73 - DOOR - SLIDING ACOUSTIC - MULTI Notes:	Type: DW74 - DOOR - SLIDING ACOUSTIC - CAVITY Notes:	Type: DW74 - DOOR - SLIDING ACOUSTIC - CAVITY Notes:	Type: DW75 - DOOR - SLIDING ACOUSTIC - BI-PARTING Notes:	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:
FRAME FINISH						
LEAF	Type: DW73 - DOOR - SLIDING ACOUSTIC - MULTI Notes:	Type: DW74 - DOOR - SLIDING ACOUSTIC - CAVITY Notes:	Type: DW74 - DOOR - SLIDING ACOUSTIC - CAVITY Notes:	Type: DW75 - DOOR - SLIDING ACOUSTIC - BI-PARTING Notes:	Type: DW41 - LEAF - HINGED ALUMINIUM Notes:	Type: DW53 - LEAF - INTERNAL SOLID CORE PAINTED Notes:
LEAF FINISH						
GLAZING	Glazing: GL03 - LAMINATED GLASS TYPE 1 - CLEAR Film: GL33 - VINYL FILM - PRINTED	Glazing: GL03 - LAMINATED GLASS TYPE 1 - CLEAR Film: GL33 - VINYL FILM - PRINTED	Glazing: GL03 - LAMINATED GLASS TYPE 1 - CLEAR Film: GL33 - VINYL FILM - PRINTED	Glazing: GL03 - LAMINATED GLASS TYPE 1 - CLEAR Film: GL33 - VINYL FILM - PRINTED	Glazing: GL03 - LAMINATED GLASS TYPE 1 - CLEAR Film: GL32 - VINYL FILM - COLOURED	Glazing: N/A Film: N/A
NOTES						

				
TYPE CODE	TYPE IN07	TYPE IN08	TYPE IN09	TYPE IN10
TYPE DESCRIPTION	SINGLE LEAF HINGED DOORR WITH VISION PANEL	DOUBLE LEAF HINGED DOOR	FIRE DOOR (SINGLE LEAF)	FIRE DOOR (DOUBLE LEAF)
OVERALL & LEAF SIZE (W X H)	Overall: WIDTH VARIES x 2,100mm H Leaf: 1 x 970mm x 2,040mm	Overall: WIDTH VARIES x 2,100mm H Leaves: 1 x 970mm + 1 x 970mm x 2,040mm	Overall: WIDTH VARIES x 2,100mm H Leaf: 1 x 970mm x 2,040mm	Overall: WIDTH VARIES x 2,100mm H Leaves: 1 x 970mm + 1 x 970mm x 2,040mm
FRAME	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:	Type: DW71 - DOOR - FIRE Notes:	Type: DW71 - DOOR - FIRE Notes:
FRAME FINISH				
LEAF	Type: DW54 - LEAF - INTERNAL SOLID CORE PAINTED w VISION PANEL Notes:	Type: DW53 - LEAF - INTERNAL SOLID CORE PAINTED Notes:	Type: DW71 - DOOR - FIRE Notes:	Type: DW71 - DOOR - FIRE Notes:
LEAF FINISH				
GLAZING	Glazing: GL03 - LAMINATED GLASS TYPE 1 - CLEAR Film: GL30 == GLAZING FILMS ==	Glazing: N/A Film: N/A	Glazing: N/A Film: N/A	Glazing: N/A Film: N/A
NOTES				

REV.	DESCRIPTION	DATE	INIT.
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	90% SCHEMATIC DESIGN	28/11/2024	NK

fulton trotter
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550
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DIRECTORS
Greg Bauer nsa NSW 6855 QLD 2520
Justine Ebzery hsia QLD 3313
John Ward nsa VIC 18894 NSW 8371 QLD 3647
Katerina Drescpulke hsia NSW 7434 QLD 4529
Paul Sakuna hsa NSW 7180 QLD 3186
Ryan Loveday hsia QLD 4500

PHASE: **SCHEMATIC DESIGN**

CLIENT: SCHOOL INFRASTRUCTURE NSW

PROJECT: DUNDAS PUBLIC SCHOOL

ADDRESS: 85 KISSING POINT ROAD
DUNDAS, NSW

DRAWING: **INTERNAL DOOR & WINDOW SCHEDULE**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	

DRAWING NUMBER: **DUPS-FTA-B00L-ZZ-DR-A-6002**

REVISION: **03**

150mm @ A1
100
50
50 100 150mm @ A1

plot date: Thursday, 19 December 2024, 12:22 PM | location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

1 **PERSPECTIVE**
3D VIEW 01
SCALE: 1:3.33

2 **PERSPECTIVE**
3D VIEW 01
SCALE: 1:2.86

150mm @ A1
100
50
50
100
150mm @ A1

plot date: Thursday, 19 December 2024 12:22 PM|c location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

REV.	DESCRIPTION	DATE	INT.
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	80% SCHEMATIC DESIGN	26/11/2024	NK
P2	100% CONCEPT DESIGN	30/10/2024	NK
P1	80% CONCEPT DESIGN	18/10/2024	NK

fulton trotter
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au

SYDNEY Suite 804, Level 8, 2&36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550
To be used for authorised work only. Not to be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes.

DIRECTORS
Greg Isaac nsw
Justine Elsley Nsw
John Ward nsw
Kristina Dermoudis Nsw
Paul Bekins Nsw
Ryan Lovelay Nsw
VIC 16804
NSW 6650 QLD 2650
QLD 3312
NSW 9271 QLD 3312
NSW 7434 QLD 4529
NSW 7160 QLD 3106
QLD 4500

PHASE **SCHEMATIC DESIGN**
CLIENT SCHOOL INFRASTRUCTURE NSW
PROJECT DUNDAS PUBLIC SCHOOL
ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **PERSPECTIVES 1**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER	REVISION
DUPS-FTA-B00L-ZZ-DR-A-9001	03

1 PERSPECTIVE
VIEW 03

2 PERSPECTIVE
VIEW 04

150mm @ A1
100
50
150mm @ A1
100
50

plot date: Thursday, 19 December 2024 12:22 PM|c location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

REV.	DESCRIPTION	DATE	INT.
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	80% SCHEMATIC DESIGN	26/11/2024	NK
P2	100% CONCEPT DESIGN	30/10/2024	NK
P1		18/10/2024	

fulton trotter
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au

SYDNEY Suite 804, Level 8, 2L-35 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8353 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550

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DIRECTORS
Greg Isaac nsa NSW 6655 QLD 2655
Justine Elsley hsia QLD 3312
John Ward nsa VIC 16804 NSW 9271 QLD 3312
Siobhan Dwyer-Collins hsia NSW 7434 QLD 4529
Paul Bekkema hsia NSW 7160 QLD 3106
Ryan Loveday hsia QLD 4505

PHASE: SCHEMATIC DESIGN
CLIENT: SCHOOL INFRASTRUCTURE NSW
PROJECT: DUNDAS PUBLIC SCHOOL
ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING: PERSPECTIVES 2

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	

DRAWING NUMBER: DUPS-FTA-B00L-ZZ-DR-A-9002
REVISION: 03

Appendix 4

LANDSCAPE SCHEMATIC DESIGN

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DUNDAS PUBLIC SCHOOL

SCHOOL INFRASTRUCTURE NSW

LANDSCAPE DOCUMENTATION

DRAWING REGISTER

DRAWING NUMBER	DRAWING NAME	SCALE / SIZE	REVISION
DUPS-GIL-00-00-DR-L-0001	COVER SHEET	-	D
DUPS-GIL-00-00-DR-L-3001	LANDSCAPE PLAN	1:200 @ A1	M
DUPS-GIL-00-00-DR-L-9001	LANDSCAPE DETAILS	1:20 @ A1	C

PLANT SCHEDULE

BOTANICAL NAME	COMMON NAME	MATURE HEIGHT	NATIVE	INSTALL SIZE	SPACING	QUANTITY
TREES						
FRAXINUS EXCELSIOR	EUROPEAN ASH	12-15M		200L BAG	AS SHOWN	-
LAGERSTROEMIA INDICA	CREPE MYRTLE	5-8M		200L BAG	AS SHOWN	-
SHRUBS						
ACMENA SMITHII 'MINOR'	LILLY PILLY	2-4M	√	300MM POT	AS SHOWN	-
BANKSIA 'BIRTHDAY CANDLES'	HAIRPIN BANKSIA	1M	√	200MM POT	4/M^2	-
CRASSULA 'BLUE BIRD'	SILVER DOLLAR JADE	0.6M		300MM POT	4/M^2	-
DORYANTHES EXCELSA	GYMEA LILY	2.5M	√	300MM POT	AS SHOWN	-
GREVILLEA FILILOBA 'ELLENDALE'	ELLENDALE POOL GREVILLEA	1.5M	√	300MM POT	3/M^2	-
SYZYGIUM AUSTRALE 'RESILIENCE'	LILY PILLY	2-4M	√	300MM POT	AS SHOWN	-
WESTRINGIA FRUTICOSA 'SMOKEY'	COAST ROSEMARY	1.2M	√	300MM POT	AS SHOWN	-
GROUNDCOVERS & GRASSES						
CARPOBROTUS 'AUSSIE RAMBLER'	PIGFACE	0.3M	√	140MM POT	6 / M^2	-
DIANELLA 'LITTLE JESS'	FLAX LILY	0.4M	√	200MM POT	6 / M^2	-
DICHONDRA REPENS	KIDNEY WEED	0.2M	√	140MM POT	8 / M^2	-
GAZANIA TOMENTOSA	TREASURE FLOWER	0.3M		140MM POT	6 / M^2	-
HARDENBERGIA VIOLACEA	FALSE SARSAPARILLA	0.3M	√	140MM POT	6 / M^2	-
HIBBERTIA SCANDENS	GUINEA FLOWER	0.3M	√	140MM POT	8 / M^2	-
LIRIOPE 'JUST RIGHT'	LILY TURF	0.5M		140MM POT	5 / M^2	-
LOMANDRA CONFERTIFOLIA 'LITTLE CON'	MAT RUSH	0.4M	√	200MM POT	6 / M^2	-
MYOPORUM PARVIFOLIUM	CREEPING BOOBIALLA	0.2M	√	140MM POT	5 / M^2	-
SENECIO SERPENS	BLUE CHALKSTICKS	0.3M	√	140MM POT	5 / M^2	-
TRACHELOSPERMUM ASIATICUM	ASIATIC JASMINE YELLOW STAR	0.15M		140MM POT	5 / M^2	-
VIOLA HEDERACEA	NATIVE VIOLET	0.2M	√	140MM POT	8 / M^2	-
WESTRINGIA 'MUNDI'	DWARF COASTAL ROSEMARY	0.4M	√	200MM POT	6 / M^2	-

LANDSCAPE ARCHITECT
GROUND INK
LANDSCAPE ARCHITECTS
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ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	22.11.24	ISSUE FOR COORDINATION	QN	RL
B	25.11.24	ISSUE FOR 80% SCHEMATIC DESIGN	QN	RL
C	11.12.24	ISSUE FOR 95% SCHEMATIC DESIGN	QN	RL
D	18.12.24	ISSUE FOR 100% SCHEMATIC DESIGN	QN	RL

DRAWING TITLE
COVER SHEET

DRAWING NUMBER
DUPS-GIL-00-00-DR-L-0001

PROJECT
DUNDAS PUBLIC SCHOOL
DUNDAS, NSW 2117
85 KISSING POINT ROAD, DUNDAS NSW 2117

SCALE N/A @A1

REV
D

EXISTING TREE SCHEDULE

ID	BOTANICAL NAME	EXISTING HEIGHT	PROPOSED ACTION
T1	LAGERSTROEMIA INDICA (CREPE MYRTLE)	7M	RETAINED
T2	SYZYGIUM AUSTRALE (BRUSH CHERRY LILLY PILLY)	9M	RETAINED
T3	SYZYGIUM AUSTRALE (BRUSH CHERRY LILLY PILLY)	9M	RETAINED
T4	ACER NEGUNDO (BOX ELDER)	8M	RETAINED
T5	ACER NEGUNDO (BOX ELDER)	8M	RETAINED
T8	ACER NEGUNDO (BOX ELDER)	8M	RETAINED
T9	KOELREUTERIA PANICULATA (GOLDEN RAIN TREE)	10M	RETAINED
T10	LAGERSTROEMIA INDICA (CREPE MYRTLE)	8M	RETAINED
T11	LAGERSTROEMIA INDICA (CREPE MYRTLE)	8M	RETAINED
T12	LAGERSTROEMIA INDICA (CREPE MYRTLE)	8M	RETAINED
T13	LAGERSTROEMIA INDICA (CREPE MYRTLE)	8M	RETAINED
T14	LAGERSTROEMIA INDICA (CREPE MYRTLE)	8M	REMOVE
T16	FRAXINUS EXCELSIOR (EUROPEAN ASH)	11M	RETAINED
T17	ACER SP. (MAPLE)	4M	RETAINED
T18	ACER SP. (MAPLE)	5M	RETAINED
T19	LIQUIDAMBER STYRACIFLUA (LIQUIDAMBER)	20M	RETAINED
T20	KOELREUTERIA PANICULATA (GOLDEN RAIN TREE)	10M	RETAINED
T21	EUCALYPTUS SP. (GUM TREE)	24M	RETAINED
T22	EUCALYPTUS ROBUSTA (SWAMP MAHOGANY)	17M	RETAINED
T23	EUCALYPTUS MICROCORYS (TALLOWWOOD)	16M	RETAINED
T24	CORYMBIA MACULATA (SPOTTED GUM)	28M	RETAINED
T25	CORYMBIA TORELLIANA (CADAGHI)	15M	RETAINED
T26	EUCALYPTUS ROBUSTA (SWAMP MAHOGANY)	14M	RETAINED
T27	EUCALYPTUS MICROCORYS (TALLOWWOOD)	24M	RETAINED
T28	EUCALYPTUS NICHOLII (SMALL LEAVED PEPPERMINT)	5M	RETAINED
T29	EUCALYPTUS ROBUSTA (SWAMP MAHOGANY)	16M	RETAINED
T30	EUCALYPTUS MICROCORYS (TALLOWWOOD)	22M	RETAINED
T31	EUCALYPTUS MICROCORYS (TALLOWWOOD)	20M	RETAINED
T33	EUCALYPTUS SALIGNA (SYDNEY BLUE GUM)	26M	RETAINED
T38	EUCALYPTUS SP. (GUM TREE)	18M	RETAINED
T46	LOPHOSTEMON CONFERTUS (BRUSH BOX)	8M	RETAINED
T47	LOPHOSTEMON CONFERTUS (BRUSH BOX)	12M	RETAINED
T48	LOPHOSTEMON CONFERTUS (BRUSH BOX)	8M	RETAINED
T49	LOPHOSTEMON CONFERTUS (BRUSH BOX)	10M	RETAINED
T50	LOPHOSTEMON CONFERTUS (BRUSH BOX)	8M	RETAINED
T51	LOPHOSTEMON CONFERTUS (BRUSH BOX)	20M	RETAINED
T96	MAGNOLIA GRANDIFLORA 'LITTLE GEM' (MAGNOLIA)	6M	RETAINED

*EXISTING TREE HEIGHTS AND SPECIES SOURCED FROM PRELIMINARY ARBORICULTURAL REPORT BY L&CO CONSULTANCY ARBORICULTURE PLANT PATHOLOGY DATED 21ST FEBRUARY 2023

LANDSCAPE ARCHITECT
GROUND INK
LANDSCAPE ARCHITECTS
SUITE 19, 56 NERIDAH ST, CHATSWOOD NSW 2067 PH. (02) 9411 3279
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LEGEND

- FFL 00.00 — FINISHED FLOOR LEVEL
- + EX 00.00 — EXISTING SPOT LEVEL
- + RL 00.00 — PROPOSED SPOT LEVEL
- + TW 00.00 — TOP OF WALL LEVEL
- EXTENT OF WORKS BOUNDARY
- STRUCTURAL ROOT ZONE LINE
- TREE PROTECTION ZONE LINE
- LINE OF BUILDING OVERHEAD
- LINE OF REMOVED DEMOUNTABLES
- STORMWATER PIT
- PROPOSED GARDEN BED
- REMEDIATED TURF
- EXISTING TREES TO BE RETAINED
- EXISTING TREES TO BE REMOVED
- PROPOSED TREES

NOTE

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ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
E	22.10.24	ISSUE FOR 80% CONCEPT DESIGN	ON	RL
F	23.10.24	ISSUE FOR 80% CONCEPT DESIGN	ON	RL
G	30.10.24	ISSUE FOR 100% CONCEPT DESIGN	ON	RL
H	11.11.24	ISSUE FOR 100% CONCEPT DESIGN	ON	RL
I	22.11.24	ISSUE FOR COORDINATION	ON	RL
K	25.11.24	ISSUE FOR 80% SCHEMATIC DESIGN	ON	RL
L	11.12.24	ISSUE FOR 80% SCHEMATIC DESIGN	ON	RL
M	16.12.24	ISSUE FOR 100% SCHEMATIC DESIGN	ON	RL

DRAWING TITLE

LANDSCAPE PLAN

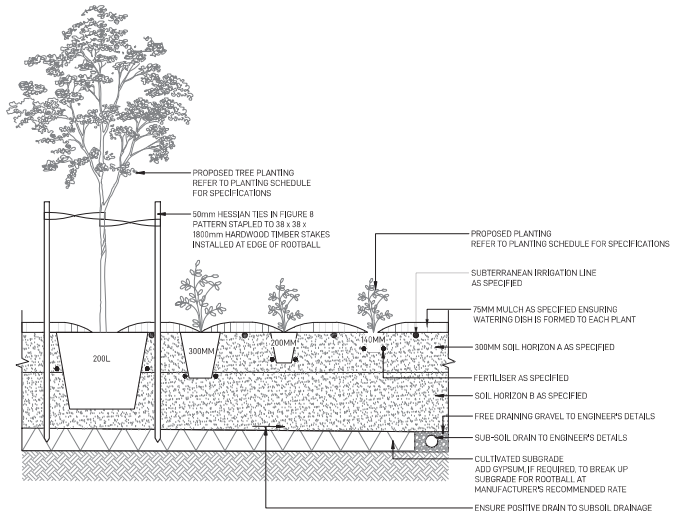
DRAWING NUMBER
DUPS-GIL-00-00-DR-L-3001

PROJECT
DUNDAS PUBLIC SCHOOL
DUNDAS, NSW 2117
85 KISSING POINT ROAD, DUNDAS NSW 2117

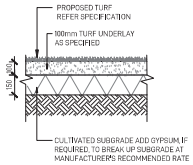
NORTH

SCALE 1:200 @ A1
0 1 2 3 4 5M

REV M



1 **PLANTING ON GRADE**
TYPICAL SECTION - SCALE 1:20



2 **TURF**
TYPICAL SECTION - SCALE 1:20

OUTLINE LANDSCAPE SPECIFICATION

GENERAL
MAINTENANCE SHALL MEAN THE CARE AND MAINTENANCE OF THE LANDSCAPE WORKS BY ACCEPTED HORTICULTURAL PRACTICE AS RECTIFYING ANY DEFECTS THAT BECOME APPARENT IN THE LANDSCAPE WORKS UNDER NORMAL USE. THE LANDSCAPE CONTRACTOR SHALL ATTEND THE SITE ON A WEEKLY BASIS TO MAINTAIN THE LANDSCAPE WORKS FOR THE FULL TERM APPROVED AT CC STAGE OF THE MAINTENANCE PERIOD (COMMENCING FROM PRACTICAL COMPLETION).

RUBBISH REMOVAL
DURING THE TERM OF THE MAINTENANCE PERIOD THE LANDSCAPE CONTRACTOR SHALL UNDERTAKE RUBBISH REMOVAL FROM THE SITE ON A WEEKLY BASIS TO ENSURE THE SITE REMAINS IN TIDY CONDITION.

WEED ERADICATION
WEED GROWTH THAT MAY OCCUR IN, PLANTED OR MULCHED AREAS IS TO BE REMOVED USING ENVIRONMENTALLY ACCEPTABLE METHODS I.E. NON-RESIDUAL GLYPHOSATE HERBICIDE, (E.G. 'ROUNDUP', APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS) OR HAND WEEDING.

TREE REPLACEMENT
TREES SHALL SHOW SIGNS OF HEALTHY VIGOROUS GROWTH AND BE FREE FROM DISEASE AND NOT EXHIBIT SIGNS OF STRESS PRIOR TO HANDOVER TO THE CLIENT. ANY TREES OR PLANT THAT DIE OR FAIL TO THRIVE, OR ARE DAMAGED OR STOLEN WILL BE REPLACED. REPLACEMENT MATERIAL SHALL HAVE THE MAINTENANCE PERIOD EXTENDED IN ACCORDANCE WITH THE LANDSCAPE CONTRACT CONDITIONS. TREES AND PLANT MATERIALS SHALL BE EQUAL TO THE MINIMUM REQUIREMENTS OF SPECIES SPECIFIED AND APPROVED MATERIAL DELIVERED TO SITE. SHOULD THE CONDITION DECLINE FROM THE APPROVED SAMPLE THE SUPERINTENDENT RESERVES THE RIGHT TO REJECT THE TREE / PLANTS.
FREQUENCY: AS REQUIRED.

PRUNING
SELECTIVE PRUNING MAY BE REQUIRED DURING THE ESTABLISHMENT PERIOD TO PROMOTE A BALANCED CANOPY STRUCTURE. THESE ACTIVITIES SHALL BE CARRIED OUT TO THE BEST HORTICULTURAL AND INDUSTRY PRACTICE. ALL PRUNED MATERIAL IS TO BE REMOVED FROM SITE.

IRRIGATION
A LOW VOLUME DRIP IRRIGATION SYSTEM MAY BE INSTALLED AT THE DISCRETION OF THE DEVELOPER. POSITION OF CONTROL BOX, SOLENOIDS AND IRRIGATION CONDUITS TO BE DESIGNED BY QUALIFIED IRRIGATION ENGINEER AT CC STAGE
CONTROLLERS SHALL BE MOUNTED ON A STABLE WALL, POWER RACK, OR FORMED AND CONSTRUCTED CONCRETE BASED PEDESTAL MOUNT.
PERFORMANCE SPECIFICATION TO BE PROVIDED BY LANDSCAPE ARCHITECT. NOMINALLY 25MM DELIVERED TO PLANT AREAS EACH WEEK DURING ESTABLISHMENT (DEPENDING ON WEATHER CONDITIONS). AFTER ESTABLISHMENT, IRRIGATION RATES CAN BE DECREASED IN CERTAIN AREAS OF THE LANDSCAPE DEPENDING ON THE SPECIES.

WATERING
IMPLEMENT AN APPROPRIATE HAND WATERING REGIME IN AREAS NOT IRRIGATED IN ASSOCIATION WITH CURRENT WATERING PROGRAMME TO MAINTAIN PLANT HEALTH AND VIGOUR. THE PROGRAM SHALL REFLECT SEASONAL CONDITIONS AND PLANT SPECIES.
FREQUENCY: WEEKLY OR AS REQUIRED.

DRAINAGE
ALL LANDSCAPE AREAS ARE TO HAVE POSITIVE DRAINAGE TO SW SYSTEMS. IF AREAS OF POOR DRAINAGE ARE IDENTIFIED ON SITE THEN THIS SHOULD BE BROUGHT TO THE SITE SUPERINTENDENTS ATTENTION. INSTALL AGG LINES IF REQUIRED.

SOILS
HORIZON A - GARDEN BEDS ON NATURAL GROUND
A SANDY LOAM TO CLAY LOAM TOPSOIL MIX DESIGNED FOR GENERAL PURPOSE, ON-GRADE LANDSCAPE GARDEN BED PLANTING OF GRASSES, WOODY AND HERBACEOUS ANNUALS AND PERENNIALS THAT HAVE HIGH NUTRIENT REQUIREMENT FOR SUSTAINED OPTIMUM GROWTH, AND ARE NOT SUBJECT TO COMPACTION BY PEDESTRIAN AND OTHER FOOT TRAFFIC. HEAVIER TEXTURED SOILS IN THIS SPECIFICATION MAY REQUIRE ENGINEERED SOLUTIONS WHERE EXCESSIVE WETNESS IS ANTICIPATED. NOTE THAT ORGANIC SOIL VARIANT SHOULD NOT BE CHOSEN FOR LOW P PLANTINGS AND SHOULD NOT BE USED BELOW 300MM. PLANTING METHODS INCLUDE DIRECT SEEDING, TUBE AND POTTED SPECIMENS UP TO 45L

HORIZON B - LARGER POTTED PLANTING BELOW 300MM
A SANDY, WELL DRAINED MEDIUM WITH LOW ORGANIC MATTER FOR BACKFILLING BELOW 300MM FROM THE SURFACE IN LARGER POTTED SPECIMENS OVER 45L OR 400MM DEPTH OF ROOT BALL, SEMI-ADVANCED, ADVANCED AND SUPER ADVANCED TREE PLANTING. THE SPECIFICATION MAY USE A SMALL PROPORTION OF SITE WON TOPSOIL OR SUBSOIL, PROVIDED THE ORGANIC MATTER UPPER LIMIT IS NOT EXCEEDED.

CULTIVATION
ALL GARDEN BEDS TO BE CULTIVATED TO A MIN DEPTH OF 150MM AND TREE PITS TO THE DEPTH OF THE ROOT BALL ONLY. IF ADDITIVES SUCH AS GYPSUM ARE REQUIRED CONDUCT THIS AFTER CULTIVATION INTO THE TOP 100MM OF SOIL.

PLANTING
ALL PLANTING TO BE GROWN TO NATSPEC SPECIFICATIONS. CONTRACTOR TO PREPARE SITE FOR PLANTING INCLUDING WATERING, HANDLING, SETTING OUT AND EXCAVATION. EXCAVATE A HOLE FOR EACH PLANT LARGE ENOUGH TO PROVIDE NOT LESS THAN 100MM ALL AROUND THE ROOT SYSTEM OF THE PLANT. FOR TREE PLANTING EACH HOLE SHALL BE DUG WITH A SHOVEL, BACKHOE OR SIMILAR TOOL. INDIVIDUAL HOLES SHALL BE EXCAVATED TO ALLOW ROOT SYSTEM TO SIT FLAT ON THE EXCAVATED HOLE AND 400MM TO EACH SIDE OF THE ROOT SYSTEM. BACKFILL PLANTING HOLES WITH EXISTING SITE SOIL AND TOPSOIL AS DESCRIBED IN SECTION 'SOIL'. PLANT / TREE SHALL BE SET PLUMB, WITH THE ROOT BALL SET SLIGHTLY BELOW THE FINAL SOIL LEVEL.

MULCHING
THE LANDSCAPE CONTRACTOR SHALL SUPPLY AND INSTALL 10MM PINE BARK MULCH TO ALL GARDEN BEDS SHOWN ON THE LANDSCAPE PLANS, TO A MINIMUM DEPTH OF 75MM. ALL MULCH IS TO BE FREE OF DELETERIOUS MATTER SUCH AS SOIL, WEEDS AND STICKS. MULCHED SURFACES ARE TO BE KEPT CLEAN AND TIDY AND FREE OF ANY DELETERIOUS MATERIAL AND FOREIGN MATTER. REINSTATE DEPTHS TO A UNIFORM LEVEL OF 75MM WITH MULCH AS SPECIFIED. MULCH TO BE FREE OF ANY WOOD MATERIAL IMPREGNATED WITH CCA OR SIMILAR TOXIC TREATMENT. MAINTAIN WATERING RINGS AROUND TREES. TOP UP MULCH LEVELS PRIOR TO HANDOVER TO CLIENT.

TURFING
THE LANDSCAPE CONTRACTOR SHALL SUPPLY AND INSTALL SAPPHIRE BUFFALO TURF IN STRETCHER PATTERN TO ALL TURF AREAS SHOWN ON THE LANDSCAPE PLANS AND IS TO FINISH FLUSH WITH ADJACENT SURFACES. TURF TO BE A MIN THICKNESS OF 50MM WITH A 40MM MOWING HEIGHT. CONTRACTOR TO ALLOW FOR FERTILISING, LAYING, TAMPING, WATERING, TOP DRESSING, MAINTENANCE AND MOWING. THE LANDSCAPE CONTRACTOR SHALL SUPPLY AND INSTALL TURF UNDERLAY UNDER ALL TURF AREAS, CONSISTING OF 100MM THICK LAYER OF SCREENED TOP SOIL.

PEST AND DISEASE CONTROL
THE LANDSCAPE CONTRACTOR SHALL SPRAY FOR PESTS AND DISEASE INFESTATIONS WHEN THE PEST AND FUNGAL ATTACK HAS BEEN POSITIVELY IDENTIFIED AND WHEN THEIR POPULATIONS HAVE INCREASED TO A POINT THAT WILL BECOME DETRIMENTAL TO PLANT GROWTH. APPLY ALL PESTICIDES TO MANUFACTURER'S DIRECTIONS.
FREQUENCY: WEEKLY INSPECTION

FERTILISING
PELLETS SHALL BE IN THE FORM INTENDED TO UNIFORMLY RELEASE PLANT FOOD ELEMENTS FOR A PERIOD OF APPROXIMATELY NINE MONTHS EQUAL TO SHIRLEYS KOKEI PELLETS, ANALYSIS 4,3.1,8.2,9 OR SIMILAR APPROVED. KOKEI PELLETS SHALL BE PLACED AT THE TIME OF PLANTING TO THE BASE OF THE PLANT, 50MM MINIMUM FROM THE ROOT BALL AT A RATE OF TWO PELLETS PER 300MM OF TOP GROWTH TO A MAXIMUM OF 8 PELLETS PER TREE. GENERALLY CHECK FOR SIGNS OF NUTRIENT DEFICIENCIES (YELLOWING OF LEAVES, FAILURE TO THRIVE), AND ADAPT FERTILISER REGIME TO SUIT. FERTILISER SHOULD BE APPLIED AT THE BEGINNING AND THE END OF THE (SUMMER) GROWING SEASON.

MAINTENANCE SCHEDULE

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
INSPECTIONS	2M		2M		2M		2M		2M		2M	
WATERING	W	W	W	W	W	W	W	W	W	W	W	W
WEED AND PEST MANAGEMENT	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR
LITTER REMOVAL	2M		2M		2M		2M		2M		2M	
REMOVAL OF DEAD/DYING TREE LIMBS	2M		2M		2M		2M		2M		2M	
PLANT REPLACEMENT IF REQUIRED	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR
MULCHING	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR
TREE STAKE ADJUSTMENTS	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR
FERTILISING	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR
PLANTING ESTABLISHMENT PERIOD - 12 MONTHS												
LANDSCAPE MATERIAL ESTABLISHMENT - 12 MONTHS												
KEY W=WEEKLY, 2M= EVERY TWO MONTHS, AR= AS REQUIRED												

THE CONTRACTOR IS TO ALLOW 52 WEEKS PLANTING ESTABLISHMENT PERIOD FROM THE DATE OF PRACTICAL COMPLETION. CONTRACTOR TO MAINTAIN A LOG BOOK TO KEEP A RECORD OF MAINTENANCE EVERY MONTH, REPLACEMENTS OF FAILED, DAMAGED OR STOLEN PLANTS TO BE CARRIED OUT DURING THE MAINTENANCE PERIOD, IRRIGATION SYSTEMS TO BE INSTALLED AND MAINTAINED DURING THE MAINTENANCE PERIOD. LANDSCAPE MAINTENANCE REPORT SHALL BE SUBMITTED TO THE PRINCIPLE CERTIFYING AUTHORITY BY THE CONTRACTOR.

LANDSCAPE ARCHITECT
GROUND INK
LANDSCAPE ARCHITECTS
SUITE 19, 56 NERIDAH ST, CHATSWOOD NSW 2067 PH.: (02) 9411 3279
WWW.GROUNDINK.COM.AU ABN 55 163 025 456 ACN 163 025 456
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NOTE
VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK. REPORT ALL DISCREPANCIES TO LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION. FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DRAWINGS. ALL WORK IS TO CONFORM TO RELEVANT AUSTRALIAN STANDARDS AND OTHER CODES AS APPLICABLE. LOCATION OF UNDERGROUND SERVICES TO BE PROVEN ON SITE AND PROTECTED IF NECESSARY PRIOR TO CONSTRUCTION. DIAL BEFORE YOU DIG. PLANT SPECIES AND QUANTITIES SHOWN ARE INDICATIVE ONLY AND ARE SUBJECT TO CHANGE BASED ON FUTURE PROJECT REQUIREMENTS.

ISSUE	DATE	DESCRIPTION	DRAWN	CHECKED
A	25.11.24	ISSUE FOR 80% SCHEMATIC DESIGN	QN	RL
B	11.12.24	ISSUE FOR 95% SCHEMATIC DESIGN	QN	RL
C	16.12.24	ISSUE FOR 100% SCHEMATIC DESIGN	QN	RL

DRAWING TITLE
LANDSCAPE DETAILS

DRAWING NUMBER
DUPS-GIL-00-00-DR-L-9001

PROJECT
DUNDAS PUBLIC SCHOOL
DUNDAS, NSW 2117
85 KISSING POINT ROAD, DUNDAS NSW 2117

SCALE 1:20@A1
0 0.1 0.2 0.3 0.4 0.5m

REV
C

Appendix 5

EFSG DEPARTURE SCHEDULE

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Education
School Infrastructure

EFSG DEPARTURES SCHEDULE

PROJECT INFORMATION

SCHOOL NAME	Group 2 Program	Prepared By: John Ward	Revision: A	18.12.24	EFSG Edition at Tender Date: <Vxx.xx.xx>

PROJECT TEAM

SI Project Director:		Architect:	Fulton Trotter Architects
Contractor:		Project Manger:	RP Infrastructure

Contractor/Architect/Consultant Input								Stakeholder Input				Project Management Input		
Item #	EFSG #	EFSG Requirement	Proposed Departure	Reason for Departure	Supporting Appendix or RFI Details Issued	Request by	Date	Stakeholder(s) Response	Other Stakeholder(s) to review	Issuer	Date	Closed Y/N	ESC Approval by	Date
C1		Acoustic Requirements - sliding doors	All sliding doors and internal walls to hub teaching spaces to achieve RW 32 in liue of RW 45 as per EFSG	Standard departure - functionality	-	FTA	24.10.24	XX XX XX XX	XX, XX	XX	XX.XX.XX	Y	XX, XX	
C2		Ceiling Void Ventilation	REMOVE REQUIREMENT FOR ROOF VENTILATORS option for not using require installation of roof ventilators/"whirly birds"	Standard departure - functionality - Roof ventilators should not be provided as they are leaky, reducing the effectiveness of air conditioning and energy consumption due to uncontrolled infiltration of outdoor air and allow large amounts of noise in from outside.	-	FTA	24.10.24	XX	XX, XX	XX	XX.XX.XX	Y	XX	
C3	DG45	Ceilings - FC Sheeting to Wet Areas	DG45 nominates fibre cement sheeting to all wet area ceilings. It is proposed to use moisture resistant plasterboard.	Standard departure - moisture resistant plasterboard is cheaper and quicker to install	-	FTA	24.10.24	XX	XX, XX	XX	XX.XX.XX	Y	XX	
C4		Coloured Concrete	Standard grey concrete to be used for paving areas	Standard departure - functionality - coloured concrete is prone to cracking and requires smaller pours hence more cost.	-	FTA	24.10.24	XX	XX, XX	XX	XX.XX.XX	N	XX	
C5		Concrete Classification	Require class 3 concrete finish to all unexposed areas and class 2 for exposed concerete	Standard departure - functionality	-	FTA	24.10.24	XX	XX, XX	XX	XX.XX.XX	N	XX	
C6		hot dip glvanising to internal steel	Alternative paint system to structural steel (internal – external to remain as HDG)	Standard departure - functionality	-	FTA	24.10.24	XX	XX, XX	XX	XX.XX.XX		XX	
C7		Ventilation System to Comms Rooms	Remove requirement for exhaust ventilation system to the Comms Rooms.	Standard Departure - SINSW ICT/ITD always require A/C spilt systems to all comms rooms and as such exhaust systems are redundant and a waste of time & money.	-	FTA	24.10.24	XX	XX, XX	XX	XX.XX.XX		XX	
C8		Internal Sliding Door Acoustics	Internal GLS sliding doors are required to meet RW45 acoustic values under the EFSG requirements. Slidng doors to acheive RW 32.	Standard Departure - This requirement is not achievable with the current EFSG Hub layouts with the GLS spaces often designed with operable shared walls for maximum flexibility.	-	FTA	24.10.24	XX	XX, XX	XX	XX.XX.XX		XX	
C9		Warranties	Rationalise warranty periods in general - accept warranties available to industry	Standard departure - functionality	-	FTA	24.10.24	XX	XX, XX	XX	XX.XX.XX		XX	
C10		Rain noise barrier	Delete rain noise layers to ceilings (Wavebar or solid lining above acoustic ceiling) where there are metal roofs above	Standard departure - functionality	-	FTA	24.10.24	XX	XX, XX	XX	XX.XX.XX		XX	
C11		Smart lighting	Remove Smart Lighting Control e.g C-Bus revert back to 240V and sensors	Standard departure - functionality	-	FTA	24.10.24	XX	XX, XX	XX	XX.XX.XX		XX	
C12		Windows	Remove requirement to use "PWD SUITE NO2" - accept semi commercial alternative suite	Standard departure - functionality	-	FTA	24.10.24	XX	XX, XX	XX	XX.XX.XX		XX	
Note Only				No Departures for Structural & Civil		Meinhardt	18.12.24	XX	XX, XX	XX	XX.XX.XX		XX	

Education
School Infrastructure

EFSG DEPARTURES SCHEDULE

PROJECT INFORMATION

SCHOOL NAME	Dundas Public School	Prepared By: John Ward	Revision: A	Date: 24.10.24	EFSG Edition at Tender Date: <Vxx.xx.xx>

PROJECT TEAM

SI Project Director:		Architect:	Fulton Trotter Architects
Contractor:		Project Manger:	RP Infrastructure

Contractor/Architect/Consultant Input								Stakeholder Input				Project Management Input		
Item #	EFSG #	EFSG Requirement	Proposed Departure	Reason for Departure	Supporting Appendix or RFI Details Issued	Request by	Date	Stakeholder(s) Response	Other Stakeholder(s) to review	Issuer	Date	Closed Y/N	ESC Approval by	Date
1	Pattern Book	Standard Core Layouts	The student amenities and services spaces in the proposed building don't align with one of the layouts provided in the Pattern Book	This is due to the number of amenities required to address the shortfall on the site and the services requirements to the building.	-	FTA	24.10.24	XX XX XX XX	XX, XX	XX	XX.XX.XX	Y	XX, XX	
2	0001C Design Checklist - Electrical Services	EDBs should be located such that all equipment supplied is within a 25m radius of the EDB.	The EDB for the new block L shall be located within the building core, resulting in a supply radius of approximately 45m.	Based on the EFSG patternbook, a single EDB in the core is appropriate for supplying the entire building. This also allows EDBs to be away from student areas, enabling clutter free learning spaces and improves maintenance personnel access.	Patternbook_Vol_2_-_Building_Components_-_Rev_4, 3.5 Electrical Strategy	NDY	25.10.24	XX	XX, XX	XX	XX.XX.XX	Y	XX	
3	0001C Design Checklist - Electrical Services	MSB is to be located within 50m of the point of supply.	The existing MSB is to be maintained, which is housed within an external enclosure outside block A.	The existing MSB is located approximately 80m from the proposed new connection point (pillar) at the property boundary. The consumer mains cabling will need to be upsized, but the route will be unchanged Retaining the existing MSB and its enclosure will be more cost-effective than establishing a new MSB closer to the property boundary.	0001C Design Checklist - Electrical Services	NDY	25.10.24	XX	XX, XX	XX	XX.XX.XX	Y	XX	
4	DoE Structured Cabling Systems Specifications	BCR shall be centrally located within single level buildings	BCR to be located within the building core	To align with the pattern book the BCR will be located in the services core, rather than in teaching spaces.	Patternbook_Vol_2_-_Building_Components_-_Rev_4, 3.5 Electrical Strategy	NDY	25.10.24	XX	XX, XX	XX	XX.XX.XX	N	XX	

Appendix 6

RFI TRACKER

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RP INFRASTRUCTURE

Dundas Public School

Item	Title	Description	Date Raised	Raised By (Org)	Raised By (Contact)	Action Required By	Due Date	Status	Comments
1	Existing Amenities	Toilet pan count from Architect to be verified by SINSW	1/8/2024	Architect - FTA		SINSW IP Team	8/9/2024	Complete	SINSW to review Architect's data
2	Design	Alternative design location for testing (avoids DTS installation)	7/23/2024	SINSW IP Team		Architect - FTA	8/7/2024	Complete	
3	Design	EFSG/DAIS team review of design options	7/23/2024	SINSW IP Team		SINSW IP Team	8/5/2024	Complete	EFSG meeting 5.08.24
4	Stakeholders	Transport Working Group meeting dates / membership	7/23/2024	SINSW IP Team		SINSW IP Team	8/8/2024	Complete	
5	Site Investigations / Due Diligence	* Gap analysis ICT capacity / capability of existing services vs new build EFSG scope * NDY to confirm if photos of Buildings E & F EDBs are sufficient for determining capacity etc * Preliminary enquiry request to energy authority for current capacity of the school.	7/23/2024	Project Manager		Electrical - NDY	8/8/2024	Complete	SI to follow up with school x/08/2024 Design Advisory meeting : Option 1- eastern entry around new build& enable new toilets as required Option 2: new build to the west + location for potential toilet block
6	Design	Roof structure up-specced for potential Level 1 addition	7/23/2024	Cost Manager - Arcadis		Cost Manager - Arcadis	8/8/2024	Complete	Order of magnitude from Arcadis - structure single vs 2-storey
7	Due Diligence	Age of Demountables	7/23/2024	Project Manager		SINSW IP Team	8/9/2024	Closed	Pop-Up Teams to advise. Over 48 months on site
8	Due Diligence	Aboriginal Heritage consultant to review alternative location. -Impact on program?	7/23/2024	Project Manager		SINSW IP Team	8/9/2024	Complete	AMAC variation to be raised. ACHAR completed and submitted to NSW Heritage and forwarded to SI Stat Planning
9	Design	Standard hub layout - site location + distance from toilet blocks . Toilet count with SI	7/23/2024	Project Manager		SINSW IP Team	8/7/2024	Complete	7/08/2024 Toilets validation - include FT toilets numbers in draft Validation Report
10	Due Diligence - arborist tree root mapping	* Tree root mapping required, western boundary of the alternative building location, to support structural system for new building	7/23/2024	Civil - Meinhardt		SINSW IP Team	28/08/24	Complete	Arborist site inspection 15.08.24. Meeting with Arborist 26.08.24 identified trees TPZ impacted, Building location to be reviewed by SINSW/Project team. Draft Arborist report completed and sent to project team
11	Due Diligence	Air quality consultant Acoustic services scope from NDY	7/23/2024	Town Planner		SINSW IP Team	8/9/2024	Complete	Gyde email 8.08.24 Air Quality Not required Acoustic report due 1.11.24
12	Due Diligence	Survey review by all design consultants & advise of any additional scope required	7/23/2024	SINSW IP Team		Other	8/9/2024	Closed	13.08.24: Survey shows R.L's in/around project site
13	Design	DDA compliance from principle point of entry following masterplan validation	7/23/2024	SINSW IP Team		BCA / DDA	8/16/2024	Complete	DDA report received for Masterplan Revalidation
14	Due Diligence	PAPS reporting	7/23/2024	Project Manager		Town Planner	8/9/2024	Closed	SINSW to confirm which plan to reference in PAPS. Also confirmation that Gyde should include removal of Demountables. Completed and submitted
15	Survey and inground services survey	Provide Survey and inground services survey	8/9/2024	Hydraulic - ACOR		Project Manager	8/16/2024	Complete	Surveys available on SINS Sharepoint
16	Due Diligence	Additional flooding information requested by Civil	8/9/2024	Civil - Meinhardt	Brian Kim	SINSW IP Team	8/30/2024	Closed	Meinhardt enquiring with Council. MHT have been provided the latest flood report. Site is not flood affected. MHT MPV has been updated.
18	Latest look	Photos of latest teaching spaces to show the PRG	16/08/2024	Project Manager	Matthew Spooner	SINSW IP Team	#VALUE!	Complete	
19	Annual Fire Saftey Statement	Please provide a valid ASFF for 2024	10/9/2024	Fire - ACOR		SINSW AMU	9/24/2024	Closed	AFSS sent to ACOR
20	Emergency Power Requirement	EFSG "0001c Design Checklist - Electrical Services" indicates emergency power supply requirements for schools that "are at risk of power loss due to bushfire, flood, adverse weather events and schools identified as a community evacuation facility (CEF)". Could you please indicate whether the school meets any of the criteria listed above and hence whether the emergency power supply requirements are to be included.	22/10/24	Electrical - NDY	Peter Santamaria				
21	Demountable scope	Confirm if demountable staging including demolition is to be done by the electrical contractor or by AMU.	20/11/2024	Electrical - NDY	Caitlan Gilmore / Shri Sapre	SINSW AMU			

Appendix 7

SAFETY IN DESIGN REGISTER

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Project Name: Dundas Public School

Safety in Design Risk Assessment

Developed & Assessed By: **Pre-Tender Phase** - Project Design Team — **Project Commencement** - Project & Design Team

Reviewed & Approved By: **Pre-Tender Phase** - HKA/DoE — **Project Commencement** - HCA/Designers/HKA

	HAZARD & HARM IDENTIFICATION				INITIAL ANALYSIS			CONTROLS	INITIAL ANALYSIS - 1			SUBSEQUENT ANALYSIS - 2			RESPONSIBILITY				
	HAZARD	RISK	ENTITY AFFECTED	LIKELIHOOD	CONSEQUENCE	RISK RATING	HIERARCHY OF CONTROL	ACTION FOR MITIGATION	LIKELIHOOD	CONSEQUENCE	RESIDUAL RISK	LIKELIHOOD	CONSEQUENCE	RESIDUAL RISK	ACTIONS REQUIRED	BY WHOM	DATE DUE	REMARKS	STATUS
SITE HAZARDS																			
S.01	Traffic and Pedestrian Management	Works outside builder's compound.	Student and Staff safety encountering works within School grounds outside builder's compound. Eg Site Service upgrades.	Students and Staff	Very Likely	Major	H-7		Out of hours works.	Unlikely	Moderate	L-14				Confirm requriement for construction management plan from D&C contractor	RPI	17.01.25		
S.02	Traffic and Pedestrian Management	Before and After School access during construction	Shared access with the School for before and after School care. New path/route to be considered.	Staff/ Students/ Parents	Very Likely	Major	H-7		Contractor to establish safe working practices as part of construction management plan.	Unlikely	Moderate	L-14				Confirm requriement for construction management plan from D&C contractor	RPI	17.01.25		
DEMOLITION OF EXISTING																			
D.01	Removal of Existing Demountables	Deconstruction and removal off site of Existing Demountables from site.	Potential injury to others in the proximity of the demountables while being relocated or to construction workers due to restricted access to demountables.	Staff / Students / Construction Workers	Very Likely	Major	H-7		Contractors to provide safe work methodology	Possible	Moderate	M-13				Confirm timing for demountable removal	RPI / SINSW	01.06.25		
D.02							VH-1												
							VH-1												
CONSTRUCTION																			
C.01	Traffic Routes and Control	Construction access off Calder Road	Construction access from Calder road creates potential clashes with vehicles and pedestrians	Pedestrians / Staff / Students	Very Likely	Major	H-7		Contractors to impliment appropriate fencing and traffic control measures.	Unlikely	Moderate	L-14				Confirm requriement for construction management plan from D&C contractor	RPI	17.01.25		
C.02	Adjoining Areas	New work is located close to exsiting Block F. Structure to be reviewed to ensure it doesn't impact on existing structures.	Collapse of existing structure	Staff / Students / Construction Workers	Possible	Major	HM-8		Structural engineers to review footing and temporary shoring requirements prior to construction.	Unlikely	Moderate	L-14				Structural engineers to review footing and temporary shoring requirements	RPI	01.06.25		
C.03	Adjoining Areas	New work adjacent to existing trees - Tree Protection Zones to be maintained during construction.	Damage to existing trees leading to collapse	Staff / Students / Construction Workers	Possible	Major	HM-8		Contractor to review impact on TPZ - including impact of scaffolding.	Unlikely	Moderate	L-14				Confirm requriement for TPZ from D&C contractor	RPI	01.06.25		
C.04	Noise Impact	Construction noise could impact on neighbouring residential properties.	Impact on classroom functionality or hearing of students and staff	Staff / Students / Neighbouring properties	Possible	Moderate	M-13		Noise impacts to be considered in Construction Management plan. Consider removing classes from Building F during the construction period.	Unlikely	Moderate	L-14				Confirm requriement for Noise management from D&C contractor	RPI	01.06.25		
C.05	Trenching	Trenching works will be required through school areas - outside of the construction zone.	Risk of saff / students or public falling into open trenches	Staff / Students / Public	Very Likely	Major	H-7		Construction Management Plan to be prepared to allow for trenching to be completed outside of school hours.	Unlikely	Moderate	L-14				Confirm requriement for construction management plan from D&C contractor	RPI	17.01.25		
C.06	Electrical Shutdown	Changeover of Electrical Substation / Power Supply could impact on operations of School	Loss of power unexpectedly could damage equipment	Staff / Students	Very Likely	Moderate	M-12		Construction Management Plan to be prepared to allow for electrical shutdown to be completed outside of school hours.	Unlikely	Moderate	L-14				Confirm requriement for construction management plan from D&C contractor	RPI	17.01.25		
USE FOR PURPOSE (FOR WHICH IT IS DESIGNED)																			
U.01	Finger Entrapment	Finger Entrapment	Finger entrapment in sliding doors and windows	Students	Very Likely	Moderate	M-12		Ensure operation of sliding doors doesn't create entrapment zones at handles or framing.	Unlikely	Minor	L-19				Details of sliding doors to be reviewed in greater detail at DD phase	Architect	01.06.25		
U.02	Access / Climbing Points	Fencing around Fire Booster Assembly	Risk of public climbing over fence	Students / Staff	Possible	Major	HM-8		New fenceline is provided around the new fire booster assembly	Unlikely	Minor	L-19				Confirm requirements for contractor in documentation	FTA	17.01.25		
U.03	Traffic and Pedestrian Management	Location of Bicycle Parking needs appropriate supervision and could impact on pedestrian movement	Risk of stolen property or clashes between pedestrians and cyclists.	Students / Staff	Possible	Moderate	M-13		Bicycle parking has been located adjacent to Building A to allow for supervision from the administration areas. This location also doesn't conflict with pedestrian movement paths.	Unlikely	Minor	L-19				Confirm requirements for contractor in documentation	FTA	17.01.25		
U.04	Water Impact on Mechanical Plant	The height of the mechanical plant slab could collect water overflowing from nearby stormwater drains.	Damage to plant and equipment	-	Possible	Moderate	M-13		Level of plant slab to be reviewed to confirm it sits at least 300mm higher than drain level.	Unlikely	Minor	L-19				Details to be reviewed during Detailed Design phase.	Architect	01.06.25		
FACILITY MANAGEMENT AND OPERATIONS - OPERATIONAL PHASE																			
F.01	Out of Bounds Areas	The location of the new building creates new areas of low visibility to the rear of the building.	Could pose a risk to child safety	Students	Possible	Moderate	M-13		School to develop new out of bounds policies to suit the new building.	Unlikely	Moderate	L-14				School to update out of bounds and play time policy	SINSW	01.06.26		
F.02	Maintenance at Heights	Risk of falling while servicing the Solar Panels on the roof	Falling from roof	Staff / Contractors	Possible	Major	HM-8		Supply Safe Roof Access system with appropriate connection points around PV cells	Unlikely	Moderate	L-14				Details of Safe Roof Access system to be confirmed with contractor during DD phase	Contractor	01.06.26		
F.03	Maintenance at Heights	Maintenance requried for leaf fall affecting the gutters	Falling from roof while servicing gutters	Staff / Contractors	Possible	Major	HM-8		Supply gutter guard to keep leaves out of gutters and downpipes. Provide Safe Roof Access system with appropriate connection points around PV cells	Unlikely	Moderate	L-14				Confirm requirements for contractor in documentation	FTA	17.01.25		
DECOMMISSIONING (END OF LIFE)																			

Appendix 8

DESIGN COMMENTS TRACKER

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Education
School Infrastructure

EFSG DEPARTURES SCHEDULE

PROJECT INFORMATION

SCHOOL NAME	Dundas Public School	Prepared By: John Ward	Revision: A	Date: 24.10.24	EFSG Edition at Tender Date: <Vxx.xx.xx>

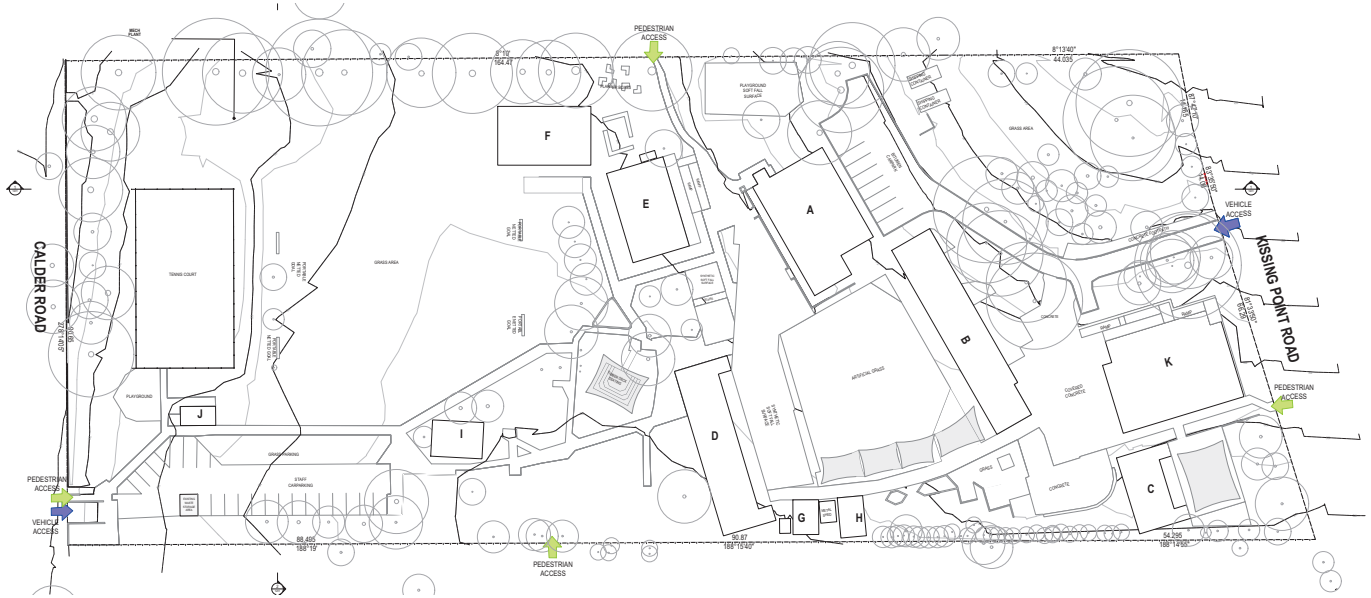
PROJECT TEAM

SI Project Director:		Architect:	Fulton Trotter Architects
Contractor:		Project Manger:	RP Infrastructure

Contractor/Architect/Consultant Input								Stakeholder Input				Project Management Input		
Item #	EFSG #	EFSG Requirement	Proposed Departure	Reason for Departure	Supporting Appendix or RFI Details Issued	Request by	Date	Stakeholder(s) Response	Other Stakeholder(s) to review	Issuer	Date	Closed Y/N	ESC Approval by	Date
1	Pattern Book	Standard Core Layouts	The student amenities and services spaces in the proposed building don't align with one of the layouts provided in the Pattern Book	This is due to the number of amenities required to address the shortfall on the site and the services requirements to the building.	-	FTA	24.10.24	XX XX XX XX	XX, XX	XX	XX.XX.XX	Y	XX, XX	
2	0001C Design Checklist - Electrical Services	EDBs should be located such that all equipment supplied is within a 25m radius of the EDB.	The EDB for the new block L shall be located within the building core, resulting in a supply radius of approximately 45m.	Based on the EFSG patternbook, a single EDB in the core is appropriate for supplying the entire building. This also allows EDBs to be away from student areas, enabling clutter free learning spaces and improves maintenance personnel access.	Patternbook_Vol_2_-_Building_Components_-_Rev_4, 3.5 Electrical Strategy	NDY	25.10.24	XX	XX, XX	XX	XX.XX.XX	Y	XX	
3	0001C Design Checklist - Electrical Services	MSB is to be located within 50m of the point of supply.	The existing MSB is to be maintained, which is housed within an external enclosure outside block A.	The existing MSB is located approximately 80m from the proposed new connection point (pillar) at the property boundary. The consumer mains cabling will need to be upsized, but the route will be unchanged Retaining the existing MSB and its enclosure will be more cost-effective than establishing a new MSB closer to the property boundary.	0001C Design Checklist - Electrical Services	NDY	25.10.24	XX	XX, XX	XX	XX.XX.XX	Y	XX	
4	DoE Structured Cabling Systems Specifications	BCR shall be centrally located within single level buildings	BCR to be located within the building core	To align with the pattern book the BCR will be located in the services core, rather than in teaching spaces.	Patternbook_Vol_2_-_Building_Components_-_Rev_4, 3.5 Electrical Strategy	NDY	25.10.24	XX	XX, XX	XX	XX.XX.XX	N	XX	

SITE PLAN LEGEND

- BOUNDARY LINE
- MINOR CONTOUR
- MAJOR CONTOUR
- EXISTING BUILDING
- EXTENT OF HARD SURFACES
- LINE OF ROOF ABOVE
- FENCE LINE
- EXISTING TREE
- DEMOUNTABLES AND ASSOCIATED LANDSCAPPING NOT PART OF REF APPLICATION /WORKS



1 PLAN
EXISTING SITE PLAN
SCALE: 1:500

REV.	DESCRIPTION	DATE	INT.
05	REF ISSUE	07/02/2025	NK
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P5	100% CONCEPT DESIGN	30/10/2024	NK
P4	80% CONCEPT DESIGN	18/10/2024	NK
P3	FOR INFORMATION	09/10/2024	NK
P2	FOR INFORMATION	27/09/2024	AK
P1	FOR INFORMATION	20/09/2024	AK

fulton trotter
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550
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DIRECTORS
Greg Isaac raia — NSW 6855 — QLD 2030
Justine Elsley fraia — NSW 8371 — QLD 3973
John Ward raia — VIC 16804 — QLD 3847
Andrew Theodosakis fraia — NSW 7434 — QLD 4029
Paul Selkova fraia — NSW 7160 — QLD 3108
Ryan Loveday fraia — QLD 4500

ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW
PROJECT: DUNDAS PUBLIC SCHOOL
CLIENT: SCHOOL INFRASTRUCTURE NSW
PHASE: **REF**

DRAWING: **EXISTING SITE PLAN**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

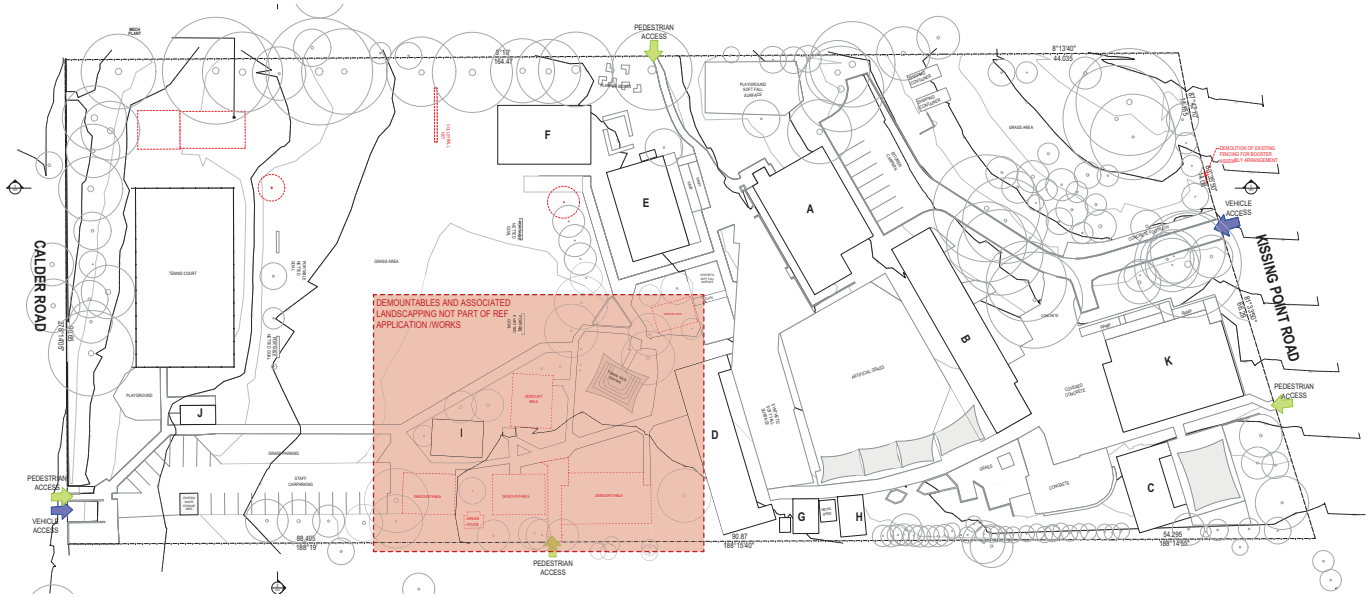
DRAWING NUMBER	REVISION
DUPS-FTA-00-00-DR-A-1001	05

150mm @ A1 | 100 | 50 | 0

plot date: Friday, 7 February 2025 12:45 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

DEMOLITION PLAN LEGEND

- BOUNDARY LINE
- MINOR CONTOUR
- MAJOR CONTOUR
- EXISTING BUILDING
- EXTENT OF HARD SURFACES
- LINE OF ROOF ABOVE
- FENCE LINE
- EXISTING TREE
- DEMOLISHED BUILDING
- DEMOLISHED TREE
- DEMOUNTABLES AND ASSOCIATED LANDSCAPPING NOT PART OF REF APPLICATION /WORKS



1 **PLAN**
DEMOLITION SITE PLAN
SCALE: 1:500

REV.	DESCRIPTION	DATE	INT.
05	SD TENDER ADDENDUM	19/02/2025	NK
04	REF ISSUE	07/02/2025	NK
03	100% SCHEMATIC DESIGN	19/12/2024	NK
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01	80% SCHEMATIC DESIGN	26/11/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550
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DIRECTORS
Greg Isaac rata NSW 6955 QLD 2030
Justine Elsley frata NSW 6371 QLD 3973
John Ward frata VIC 16804 NSW 7434 QLD 3847
Nicholas Papageorgiou frata NSW 7160 QLD 4509
Paul Sakkara frata QLD 3108
Ryan Lovelady frata QLD 4500

PHASE **REF**
CLIENT SCHOOL INFRASTRUCTURE NSW
PROJECT DUNDAS PUBLIC SCHOOL
ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **DEMOLITION SITE PLAN**

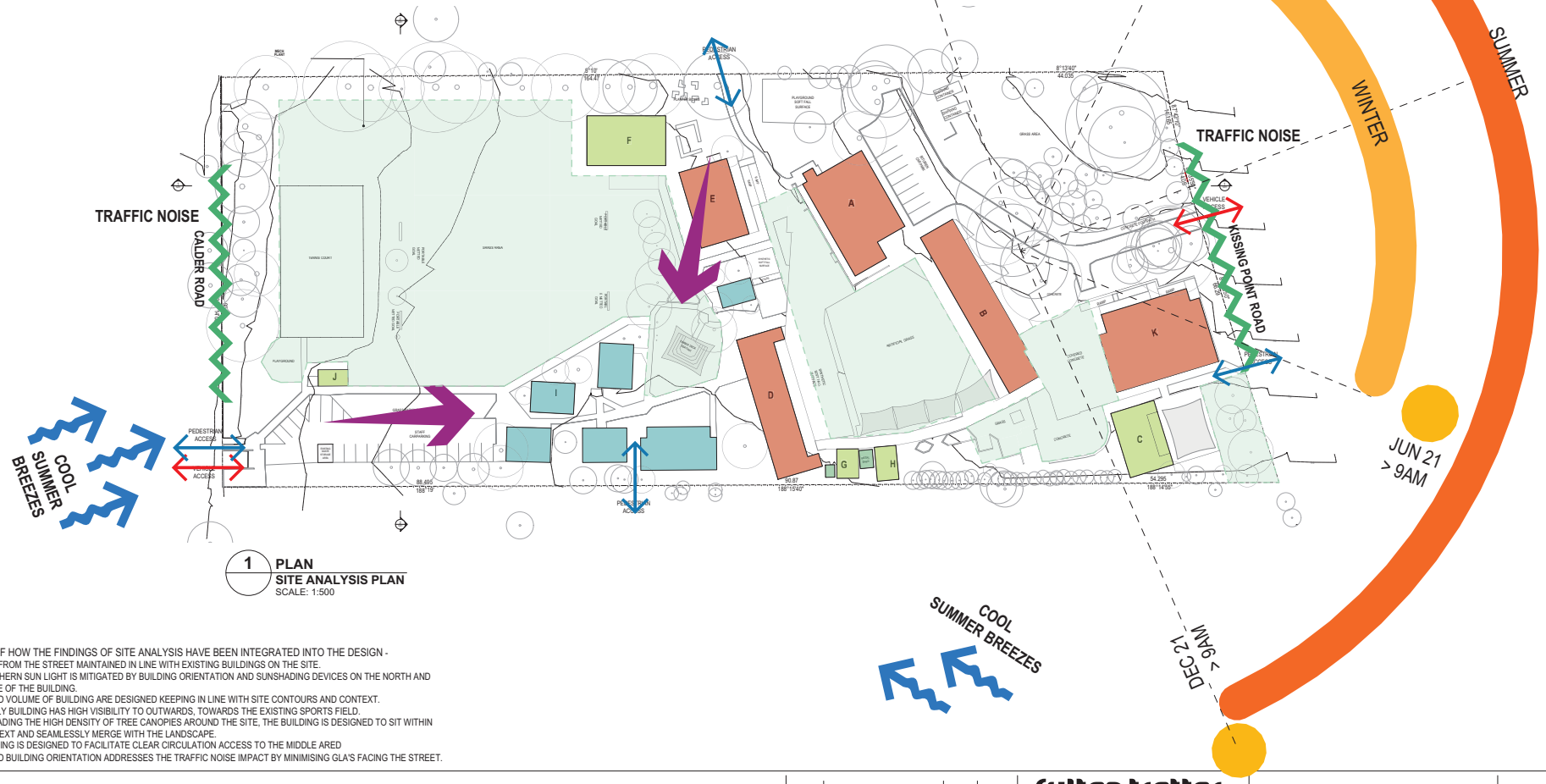
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-00-00-DR-A-1002** REVISION **05**

150mm @ A1 | 50 | 100 | 150mm @ A1

plot date: Wednesday, 26 February 2025 11:57 AM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 PLAN
SITE ANALYSIS PLAN
SCALE: 1:500

EXAMPLES OF HOW THE FINDINGS OF SITE ANALYSIS HAVE BEEN INTEGRATED INTO THE DESIGN -

01. SETBACK FROM THE STREET MAINTAINED IN LINE WITH EXISTING BUILDINGS ON THE SITE.
02. THE NORTHERN SUN LIGHT IS MITIGATED BY BUILDING ORIENTATION AND SUNSHADING DEVICES ON THE NORTH AND EAST FACE OF THE BUILDING.
03. SCALE AND VOLUME OF BUILDING ARE DESIGNED KEEPING IN LINE WITH SITE CONTOURS AND CONTEXT.
04. GENERALLY BUILDING HAS HIGH VISIBILITY TO OUTWARDS, TOWARDS THE EXISTING SPORTS FIELD.
05. UNDERSTADING THE HIGH DENSITY OF TREE CANOPIES AROUND THE SITE, THE BUILDING IS DESIGNED TO SIT WITHIN THE CONTEXT AND SEAMLESSLY MERGE WITH THE LANDSCAPE.
07. THE BUILDING IS DESIGNED TO FACILITATE CLEAR CIRCULATION ACCESS TO THE MIDDLE ARED
08. PROPOSED BUILDING ORIENTATION ADDRESSES THE TRAFFIC NOISE IMPACT BY MINIMISING GLA'S FACING THE STREET.

REV.	DESCRIPTION	DATE	INT.
04	REF ISSUE	07/02/2025	NK
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	80% SCHEMATIC DESIGN	26/11/2024	NK

fulton trotter
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

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DIRECTORS
Greg Isaac-raia NSW 6955 QLD 2030
Julie-ai Ellaney-raia QLD 3373
Kellie Ward-raia VIC 18804 NSW 8371 QLD 3847
Nicholas Papageorgiou-fraia NSW 7434 QLD 4029
Paul Sellona-fraia NSW 7180 QLD 3108
Ryan Loveday-fraia QLD 4500

ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW
PROJECT: DUNDAS PUBLIC SCHOOL
CLIENT: SCHOOL INFRASTRUCTURE NSW
PHASE: REF

DRAWING: SITE ANALYSIS PLAN

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

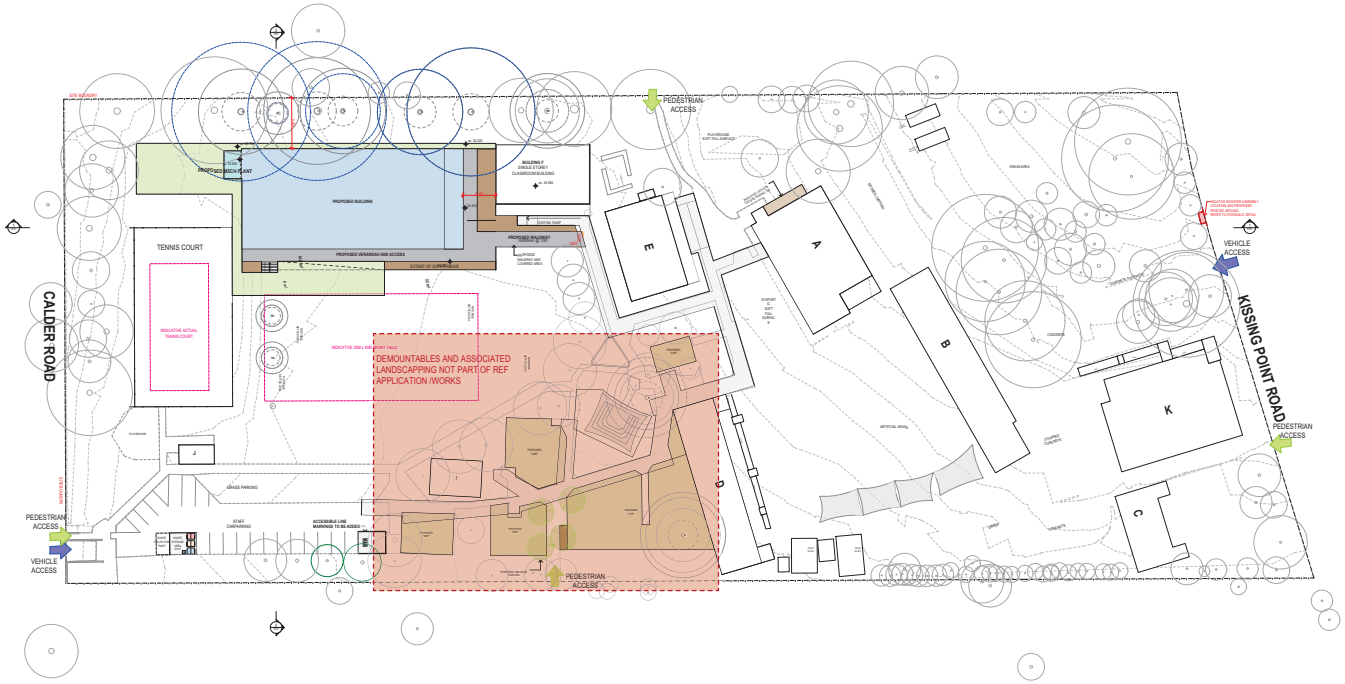
PROJECT NUMBER: 7068DU01
DIRECTOR: JW
CHECKED: NK
DRAWING NUMBER: DUPS-FTA-00-00-DR-A-1003
REVISION: 04

150mm @ A1 | 50 | 100 | 150mm @ A1

plot date: Friday, 7 February 2025 12:45 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

SITE PLAN LEGEND

- BOUNDARY LINE
- MINOR CONTOUR
- MAJOR CONTOUR
- EXISTING BUILDING
- EXTENT OF HARD SURFACES
- LINE OF ROOF ABOVE
- FENCE LINE
- EXISTING TREE
- PROPOSED BUILDING
- PROPOSED WALKWAYS
- EXISTING WALKWAYS
- PROPOSED NEW TURF
- PROPOSED PLANTED AREA



1 **PLAN**
PROPOSED SITE PLAN
SCALE: 1:500

REV.	DESCRIPTION	DATE	INIT.
05	REF ISSUE	07/02/2025	NK
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P5	100% CONCEPT DESIGN	30/10/2024	NK
P4	80% CONCEPT DESIGN	18/10/2024	NK
P3	FOR INFORMATION	09/10/2024	NK
P2	FOR INFORMATION	27/09/2024	AK
P1	FOR INFORMATION	20/09/2024	AK

fulton trotter
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550
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DIRECTORS
Greg Isaac nsw NSW 6855 QLD 2030
Justine Elsasy frais NSW 8371 QLD 3973
John Ward nsw VIC 16804 NSW 8371 QLD 3847
Nicholas Papadopoulos frais NSW 7434 QLD 4029
Paul Sakkas frais NSW 7160 QLD 3126
Ryan Lovelay frais QLD 4500

PHASE **REF**
CLIENT SCHOOL INFRASTRUCTURE NSW
PROJECT DUNDAS PUBLIC SCHOOL
ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **PROPOSED SITE PLAN**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER **7068DU01** | DIRECTOR **JW** | CHECKED **NK**
DRAWING NUMBER **DUPS-FTA-00-00-DR-A-1101** | REVISION **05**

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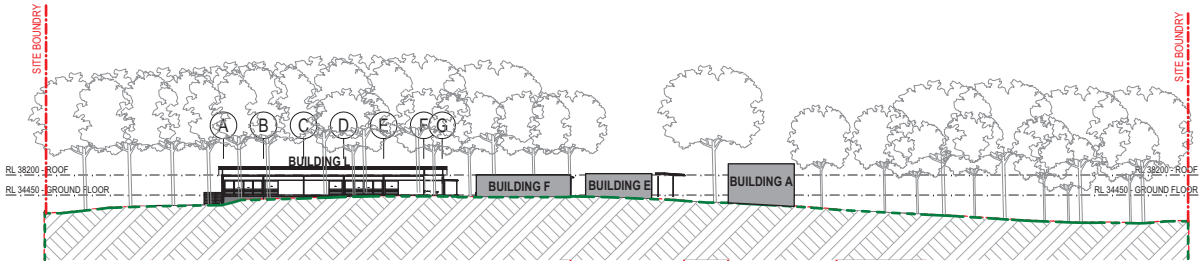
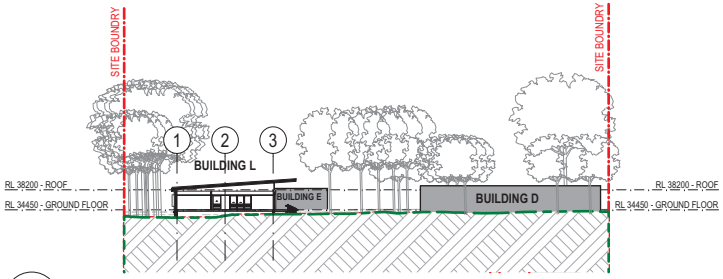
plot date: Friday, 7 February 2025 12:45 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 SECTION
LONG SECTION
SCALE: 1:500



2 SECTION
SHORT SECTION
SCALE: 1:500

150mm @ A1
150
100
50

REV.	DESCRIPTION	DATE	INT.
04	REF ISSUE	07/02/2025	NK
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01		26/11/2024	

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

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DIRECTORS
Greg Isaac nsia NSW 6858 QLD 2003
Justine Elsley fraia NSW 8371 QLD 3913
John Ward fraia VIC 16804 NSW 8371 QLD 3847
Stephen Athanopoulos fraia NSW 7434 QLD 4529
Paul Sakzewski fraia NSW 7160 QLD 3108
Ryan Loveday fraia QLD 4500

ADDRESS
85 KISSING POINT ROAD,
DUNDAS, NSW

PROJECT
DUNDAS PUBLIC SCHOOL

CLIENT
SCHOOL INFRASTRUCTURE NSW

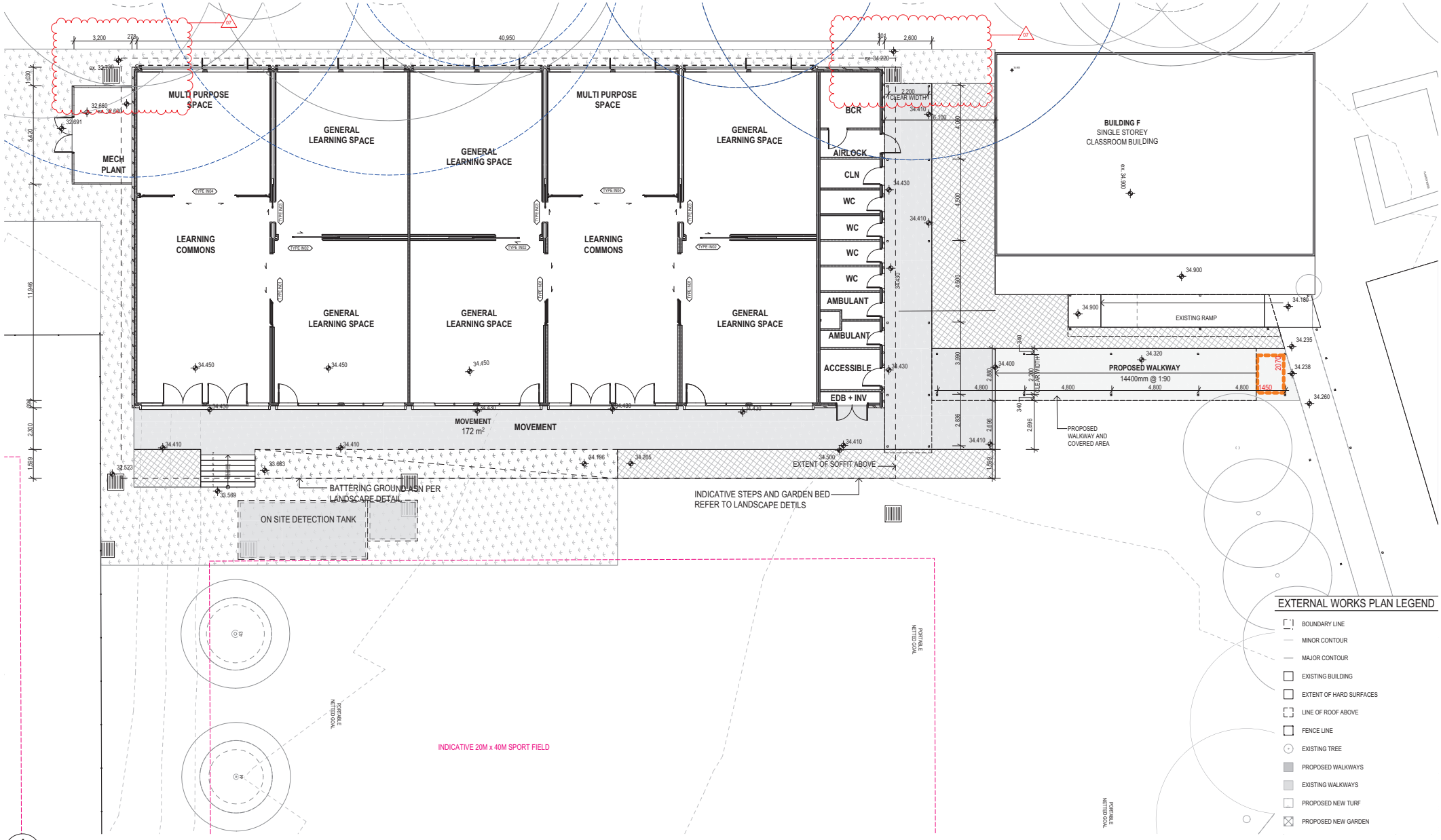
PHASE
REF

DRAWING
SITE SECTIONS

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER **7068DU01**
DIRECTOR **JW**
CHECKED
DRAWING NUMBER **DUPS-FTA-00-00-DR-A-1201**
REVISION **04**

plot date: Friday, 7 February 2025 12:45 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



EXTERNAL WORKS PLAN LEGEND

- BOUNDARY LINE
- MINOR CONTOUR
- MAJOR CONTOUR
- EXISTING BUILDING
- EXTENT OF HARD SURFACES
- LINE OF ROOF ABOVE
- FENCE LINE
- EXISTING TREE
- PROPOSED WALKWAYS
- EXISTING WALKWAYS
- PROPOSED NEW TURF
- PROPOSED NEW GARDEN

1 PLAN
EXTERNAL WORKS PLAN
SCALE: 1:100

REV.	DESCRIPTION	DATE	INT.
07	SD TENDER ADDENDUM	19/02/2025	NK
06	REF ISSUE	07/02/2025	NK
05	SD TENDER ADDENDUM	05/02/2025	NK
04	100% SCHEMATIC DESIGN	19/12/2024	NK
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02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P5	100% CONCEPT DESIGN	30/10/2024	NK
P4	80% CONCEPT DESIGN	18/10/2024	NK
P3	FOR INFORMATION	09/10/2024	NK
P2	FOR INFORMATION	27/09/2024	AK
P1	FOR INFORMATION	20/09/2024	AK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
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Paul Selkirk-raia NSW 7160 QLD 3108
Ryan Loveday-raia QLD 4500

PHASE: **REF**
CLIENT: SCHOOL INFRASTRUCTURE NSW
PROJECT: DUNDAS PUBLIC SCHOOL
ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING: **EXTERNAL WORKS PLAN (OFF SITE WORKS)**

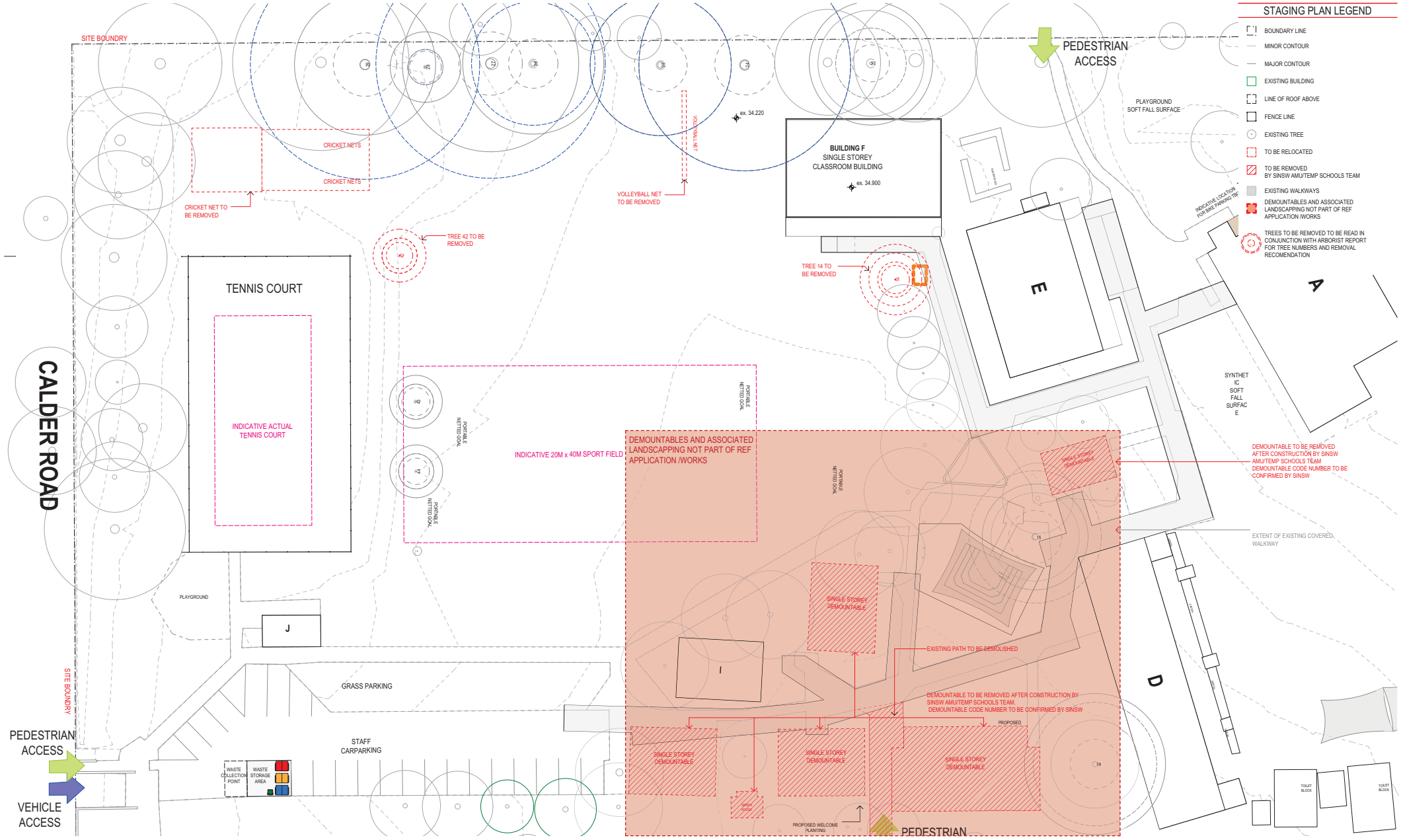
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: DUPS-FTA-00-00-DR-A-1401
REVISION: 07

150mm @ A1
50 100 150mm @ A1

plot date: Wednesday, 26 February 2025 11:57 AM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 **PLAN**
STAGING PLAN
SCALE: 1:200

REV.	DESCRIPTION	DATE	INIT.
06	SD TENDER ADDENDUM	19/02/2025	NK
05	REF ISSUE	07/02/2025	NK
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
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P1	FOR INFORMATION	09/10/2024	NK

fulton trotter
ARCHITECTS BRISBANE SYDNEY
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SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
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Justine Ellaway-raia QLD 3313
Alpher Ward-raia VIC 16804 NSW 8371 QLD 3847
Paul Sakkaropoulos-fraia NSW 7434 QLD 4029
Ryan Loveday-fraia NSW 7160 QLD 3108
QLD 4500

PHASE **REF**
CLIENT SCHOOL INFRASTRUCTURE NSW
PROJECT DUNDAS PUBLIC SCHOOL
ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **STAGING PLAN**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-00-00-DR-A-1501**
REVISION **06**

150mm @ A1
100
50
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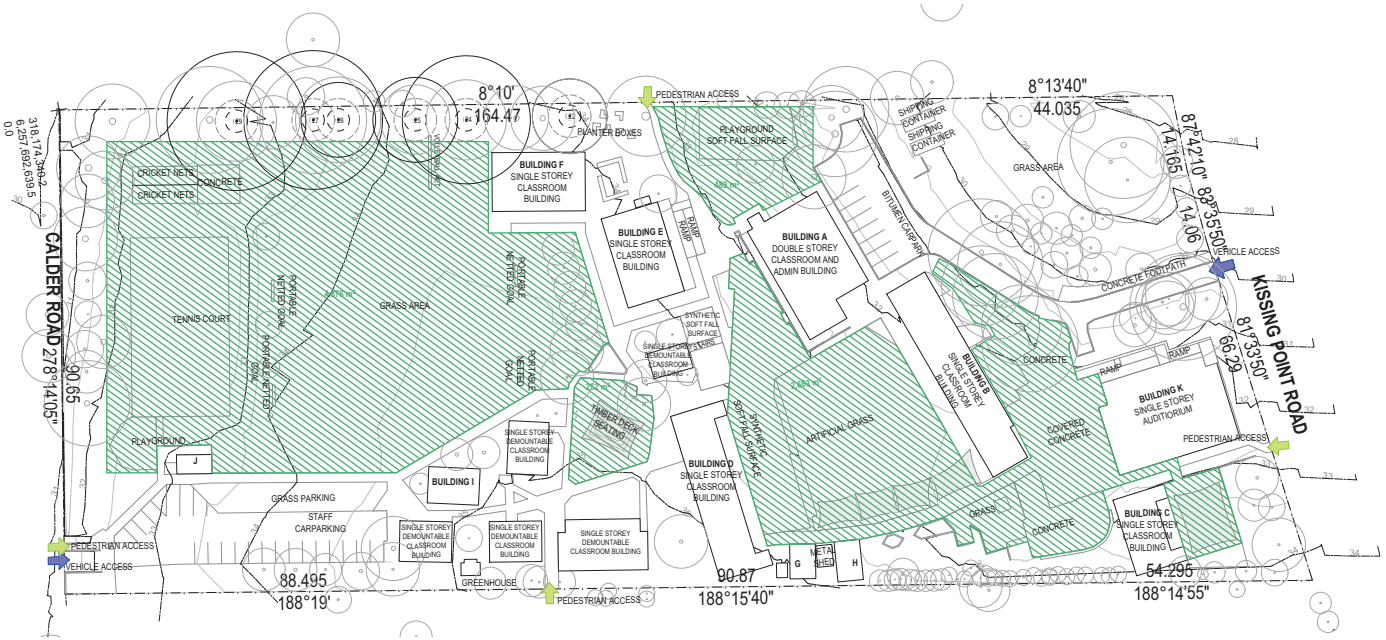
plot date: Wednesday, 26 February 2025 11:57 AM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



PLAYSPACE LEGEND

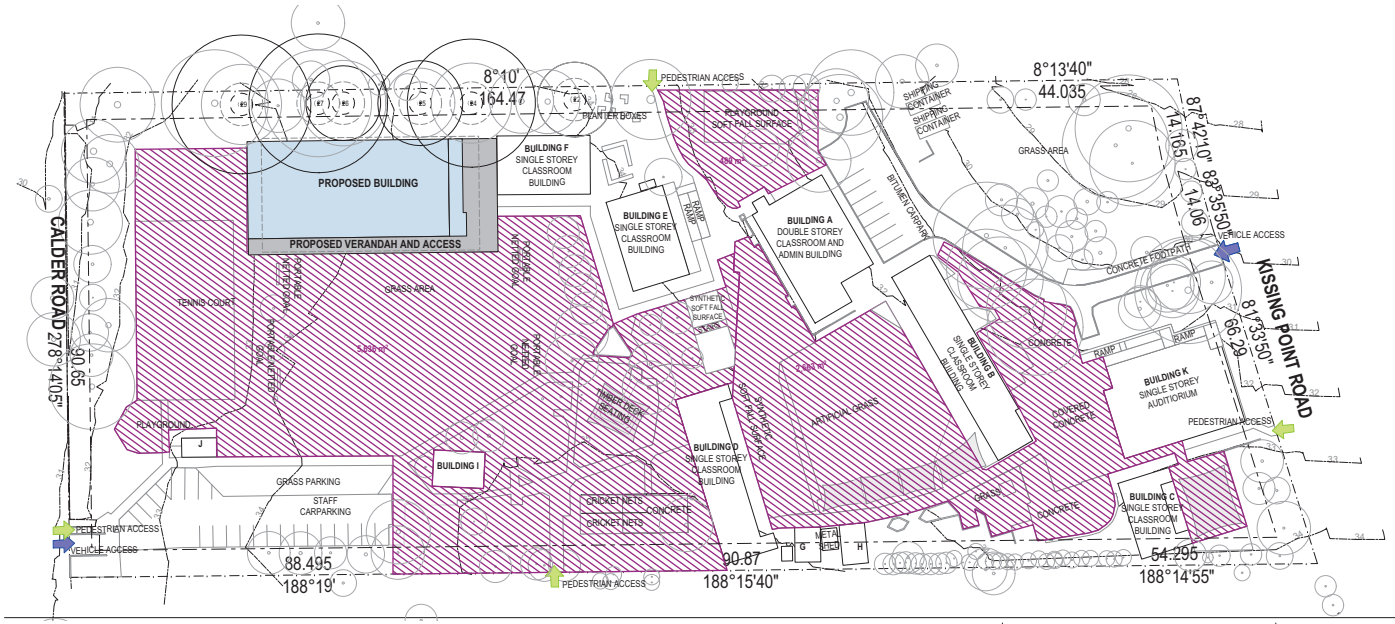
- EXISTING OUTDOOR PLAYSPACE AREA
- PROPOSED OUTDOOR PLAYSPACE AREA
- PROPOSED HALL PLAYSPACE AREA
- PROPOSED ROOFTOP PLAYSPACE AREA

EXISTING PLAYSPACE AREA CALCULATIONS

ZONE	AREA	STUDENTS/SQM
EXISTING OUTDOOR PLAYSPACE AREA	8280m²	25.09m²/STUDENT*

*STUDENT/SQM CALCULATION IS BASED ON A EXISTING STUDENT POPULATION OF 330

1 PLAN
EXISTING PLAY SPACE
SCALE: 1:500



PROPOSED PLAYSPACE AREA CALCULATIONS

ZONE	AREA	STUDENTS/SQM
PROPOSED OUTDOOR PLAYSPACE AREA	8686m²	26.3m²/STUDENT*

*STUDENT/SQM CALCULATION IS BASED ON A PROPOSED STUDENT POPULATION OF 330

2 PLAN
PROPOSED PLAY SPACE
SCALE: 1:500

REV.	DESCRIPTION	DATE	INIT.
03	REF ISSUE	07/02/2025	NK
02	100% SCHEMATIC DESIGN	19/12/2024	NK
01	95% SCHEMATIC DESIGN	09/12/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 26-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au
Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550

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DIRECTORS
Greg Isaac-raia NSW 6955 QLD 2030
Julie-ai Ellaway-raia QLD 3373
John Ward-raia VIC 16804 NSW 8371 QLD 3847
Peter Stathopoulos-raia NSW 7434 QLD 4029
Paul Sakkara-raia NSW 7160 QLD 3108
Ryan Loveday-raia QLD 4500

PHASE: REF
SCHOOL INFRASTRUCTURE NSW

CLIENT:

PROJECT: DUNDAS PUBLIC SCHOOL

ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING: PLAYSCAPE CALCULATION

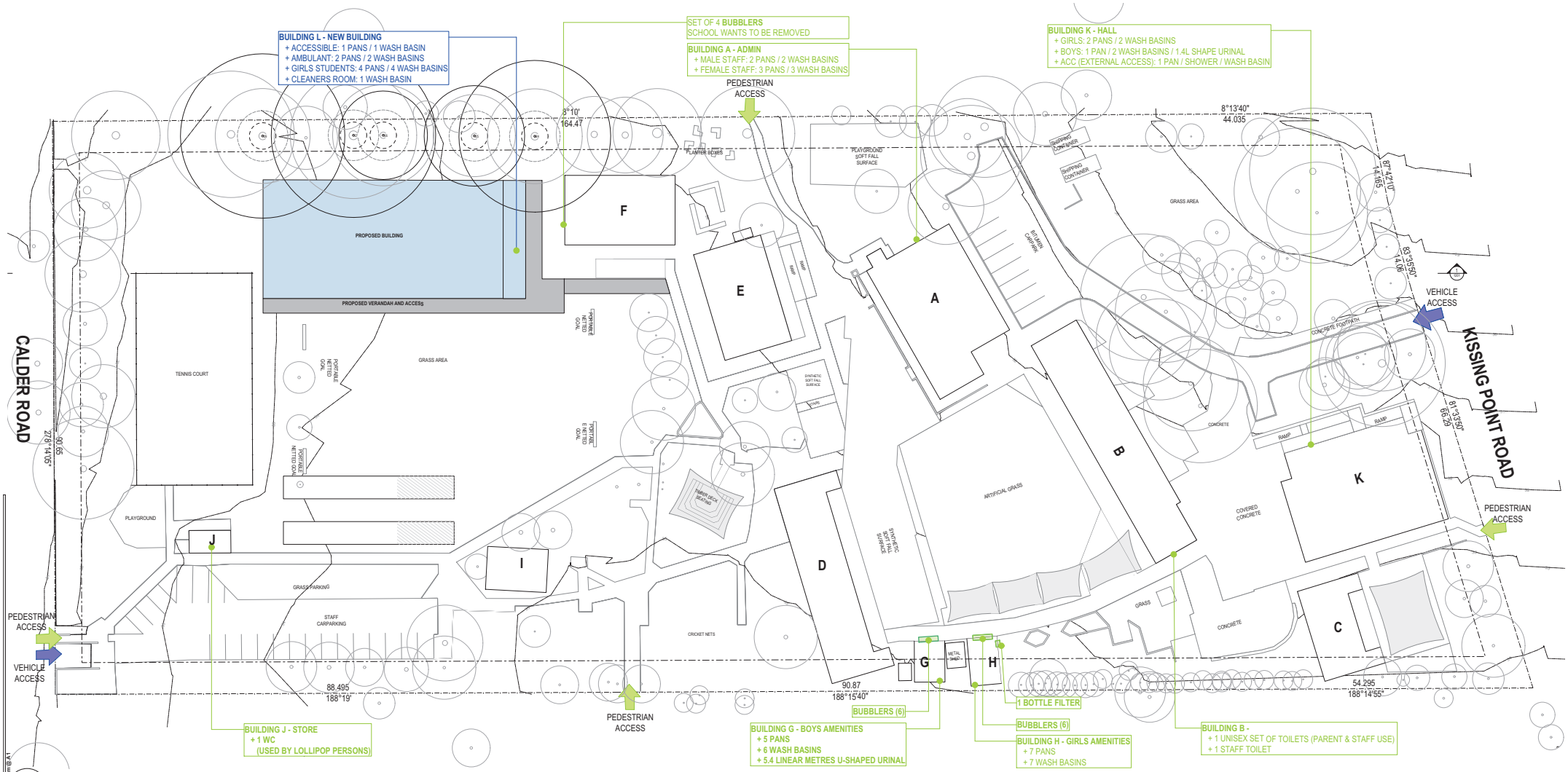
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: DUPS-FTA-00-00-DR-A-1601
REVISION: 03

150mm @ A1
50 100 150mm @ A1

plot date: Friday, 7 February 2025 12:45 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 **PLAN**
AMENITIES STRATEGY
SCALE: 1:307.69

EXISTING AMENITIES

AMENITIES	EXISTING No.	POST DEMOLITION No.	EFSG No.	GAP
TOILETS - GIRLS	7	7	11	-4
TOILETS - BOYS (INCLUDING URINALS)	14	14	9	+5
TOILETS - ACC	1	1	1	0
TOILETS - STAFF	5	5	4	+1
BUBBLER	17	17	12	+5

PROPOSED NEW AMENITIES - BUILDING L

AMENITIES	PROPOSED No.
TOILETS - GIRLS	4
TOILETS - AMBULANT	2
TOILETS - ACC	1
TOILETS - STAFF	0
BUBBLER	0

REV.	DESCRIPTION	DATE	INT.
03	REF ISSUE	07/02/2025	NK
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01	95% SCHEMATIC DESIGN	09/12/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550
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Alythe Ward-raia VIC 18804 NSW 8371 QLD 3847
Paul Sakkas-raia NSW 7434 QLD 4029
Ryan Loveday-raia NSW 7160 QLD 3108
QLD 4500

ADDRESS / PROJECT: 85 KISSING POINT ROAD, DUNDAS, NSW
CLIENT: DUNDAS PUBLIC SCHOOL
PHASE: **REF** SCHOOL INFRASTRUCTURE NSW

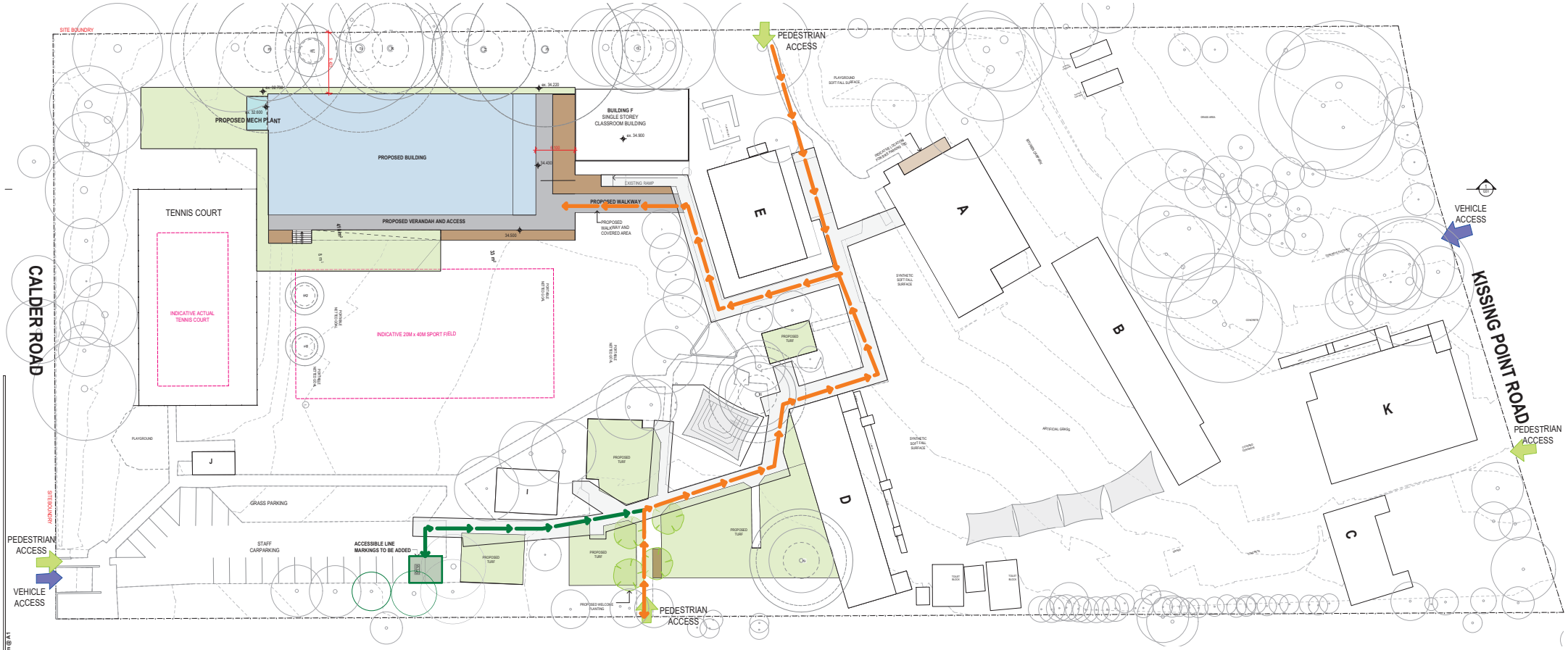
DRAWING: **AMENITIES STRATEGY**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER: **7068DU01**
DIRECTOR: **JW**
CHECKED: **NK**
DRAWING NUMBER: **DUPS-FTA-00-00-DR-A-1602**
REVISION: **03**

150mm @ A1
50 100 150mm @ A1

plot date: Friday, 7 February 2025 12:45 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 PLAN
ACCESS STRATEGY PLAN
SCALE: 1:300

REV.	DESCRIPTION	DATE	INIT.
02	REF ISSUE	07/02/2025	NK
01	100% SCHEMATIC DESIGN	19/12/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au
Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550

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DIRECTORS
Greg Isaac-raia NSW 6855 QLD 2030
Justine Elsbury-raia NSW 8371 QLD 3973
Kellie Ward-raia VIC 18804 NSW 8371 QLD 3847
John Trotter-papoulos-fraia NSW 7434 QLD 4029
Paul Salkova-fraia NSW 7160 QLD 3108
Ryan Loveday-fraia QLD 4500

ADDRESS
85 KISSING POINT ROAD,
DUNDAS, NSW

PROJECT
DUNDAS PUBLIC SCHOOL

CLIENT
SCHOOL INFRASTRUCTURE NSW

PHASE
REF

DRAWING
ACCESS STRATEGY

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

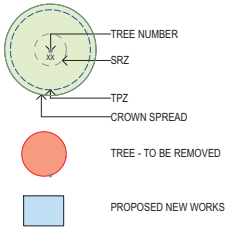
PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

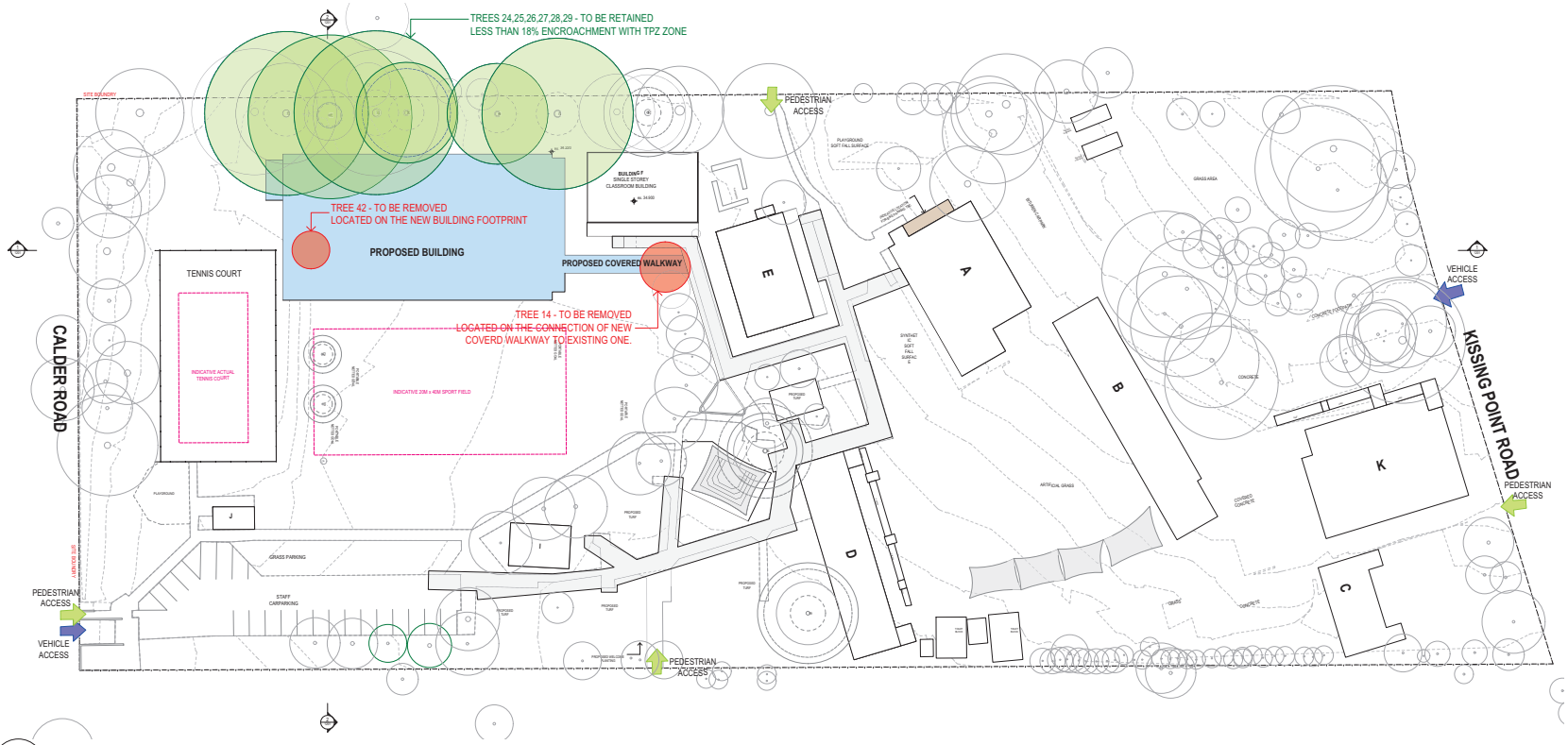
DRAWING NUMBER: DUPS-FTA-00-00-DR-A-1603
REVISION: 02

150mm @ A1
50 100 150mm @ A1

plot date: Friday, 7 February 2025 12:45 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

TREE REMOVAL LEGEND





1 **PLAN**
TREE REMOVAL PLAN
SCALE: 1:400

REV.	DESCRIPTION	DATE	INT.
04	SD TENDER ADDENDUM	19/02/2025	NK
03	REF ISSUE	07/02/2025	NK
02	100% SCHEMATIC DESIGN	19/12/2024	NK
01	95% SCHEMATIC DESIGN	09/12/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au
Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550

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Greg Isaac-raia NSW 6855 QLD 2030
Justine Elsbury fraia QLD 2073
John Ward fraia VIC 18804 NSW 8371 QLD 3847
Nicholas Papadopoulos fraia NSW 7434 QLD 4029
Paul Sakkara fraia NSW 7160 QLD 3108
Ryan Loveday fraia QLD 4500

ADDRESS
85 KISSING POINT ROAD,
DUNDAS, NSW

PROJECT
DUNDAS PUBLIC SCHOOL

CLIENT
SCHOOL INFRASTRUCTURE NSW

PHASE
REF

DRAWING
TREE REMOVAL PLAN

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: DUPS-FTA-00-00-DR-A-1604
REVISION: 04

150mm @ A1
100
50
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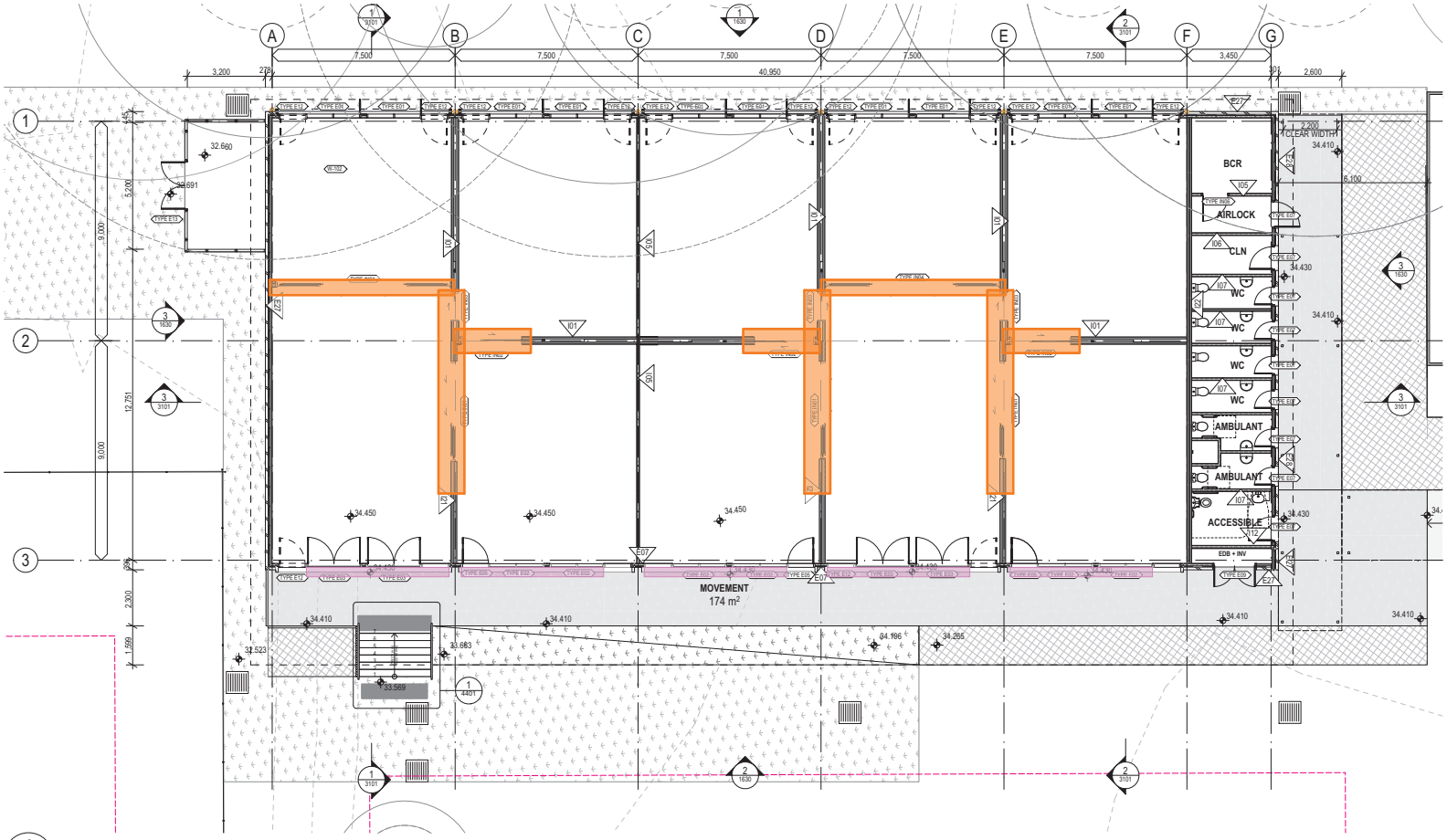
plot date: Wednesday, 26 February 2025 11:57 AM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 PLAN
INDIGENOUS ARTWORK STRATEGY PLAN
SCALE: 1:100

PROPOSED LOCATION FOR INDIGENOUS ARTWORK STRATEGY:

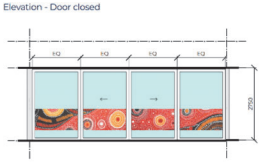
PROPOSED - EXTERNAL LOCATIONS

DECALS ON EXTERNAL GLAZINGS

PROPOSED - INTERNAL LOCATIONS

DECALS ON ALL THE GLAZING SLIDERS - AS PER PATTERN BOOK

Elevation - Door closed



Elevation - Door opened

REV.	DESCRIPTION	DATE	INT.
04	REF ISSUE	07/02/2025	NK
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	80% SCHEMATIC DESIGN	26/11/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

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Angelo Tsakonopoulos-raia NSW 7434 QLD 4529
Paul Sellenraia NSW 7160 QLD 3108
Ryan Loveday-raia QLD 4500

ADDRESS
85 KISSING POINT ROAD,
DUNDAS, NSW

PROJECT
DUNDAS PUBLIC SCHOOL

CLIENT
NSW

PHASE
REF
SCHOOL INFRASTRUCTURE

DRAWING
INDIGENOUS ARTWORK STRATEGY

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: DUPS-FTA-00-00-DR-A-1610
REVISION: 04

150mm @ A1 | 100 | 50

plot date: Friday, 7 February 2025 12:45 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

CFC CLADDING
CEMINTEL - BARESTONE

CFC CLADDING
CEMINTEL - SURROUND - BLUEISH

CFC CLADDING
CEMINTEL - SURROUND - GREYISH

DULUX
MIDAS TOUCH

DULUX
ALPHATEC - DARK VIOLET

DULUX
ALPHA CENTURI

COLORBOND
MONUMENT

COLORBOND
GULLY

EXTERNAL FINISHES - EAST

COLORBOND
SURFMIST

DULUX
MIDAS TOUCH

DULUX
ALPHATEC - DARK VIOLET

EXTERNAL FINISHES - WEST

BALUSTRADE & HANDRAIL
- HOT DIP GALV

BRICK
PGH - TINTO CREAM

REV.	DESCRIPTION	DATE	INT.
04	REF ISSUE	07/02/2025	NK
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	80% SCHEMATIC DESIGN	26/11/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au

SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
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DIRECTORS
Greg Isaac nsw
Justine Elsley frais
Kylie Ward nsw
Nicholas Papageorgiou frais
Paul Selkirk frais
Ryan Loveday frais

NSW 6858 QLD 2030
QLD 3373
VIC 16804 NSW 8371 QLD 3847
NSW 7434 QLD 4029
NSW 7160 QLD 3108
QLD 4500

PHASE
REF
SCHOOL INFRASTRUCTURE NSW

CLIENT

PROJECT
DUNDAS PUBLIC SCHOOL

ADDRESS
85 KISSING POINT ROAD,
DUNDAS, NSW

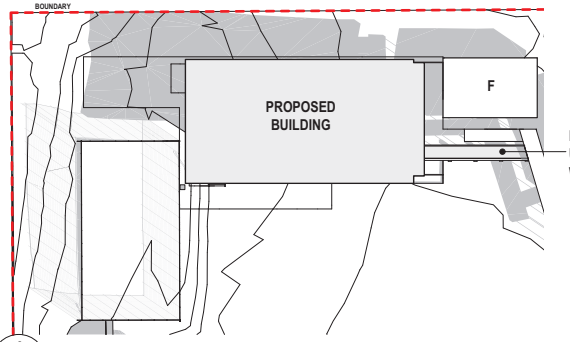
DRAWING
EXTERNAL MATERIAL AND FINISHES

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

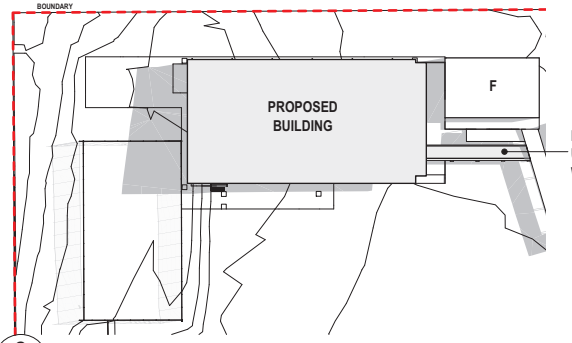
PROJECT NUMBER **7068DU01**
DIRECTOR **JW**
CHECKED **NK**
DRAWING NUMBER **DUPS-FTA-00-00-DR-A-1630**
REVISION **04**

150mm @ A1
100
50
150mm @ A1

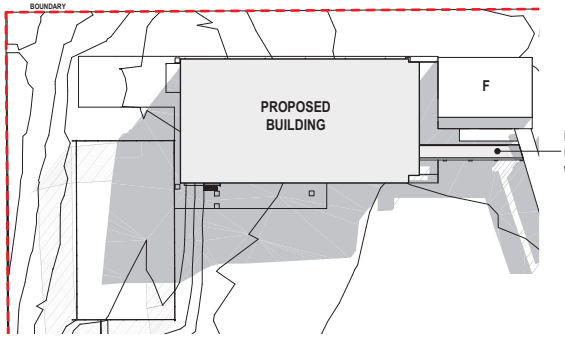
plot date: Friday, 7 February 2025 12:45 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



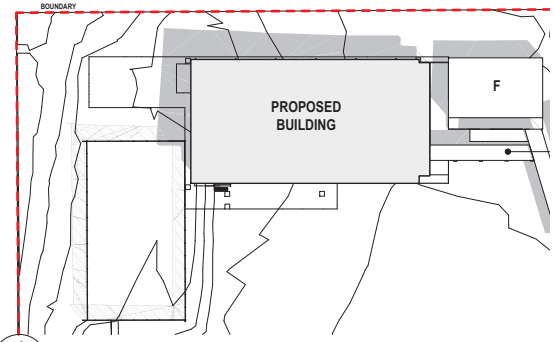
1 PLAN
JUNE 21 - 9AM
SCALE: 1:500



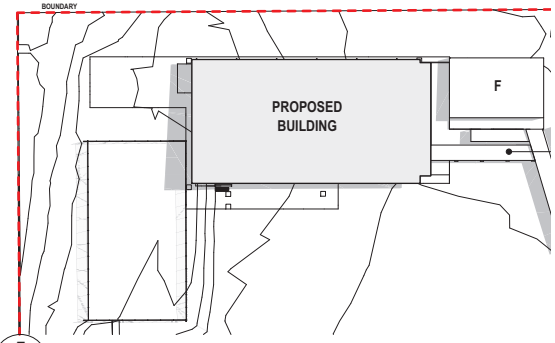
2 PLAN
JUNE 21 - 12PM
SCALE: 1:500



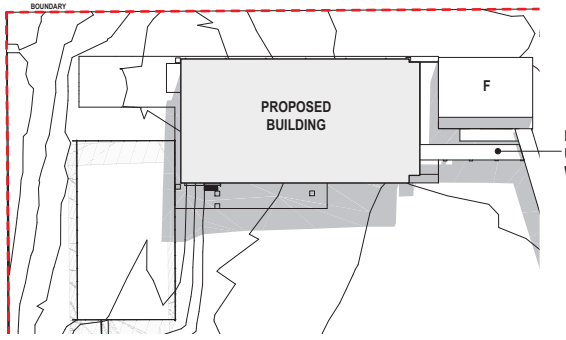
3 PLAN
JUNE 21 - 3PM
SCALE: 1:500



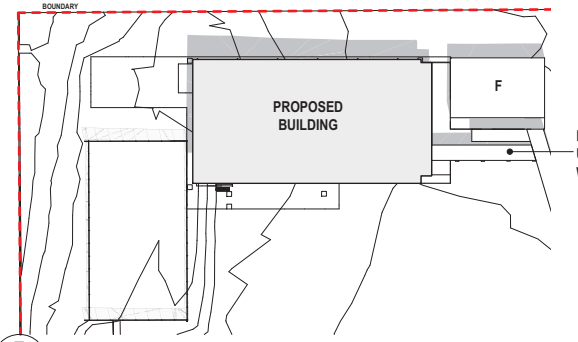
4 PLAN
SEPTEMBER 22 - 9AM
SCALE: 1:500



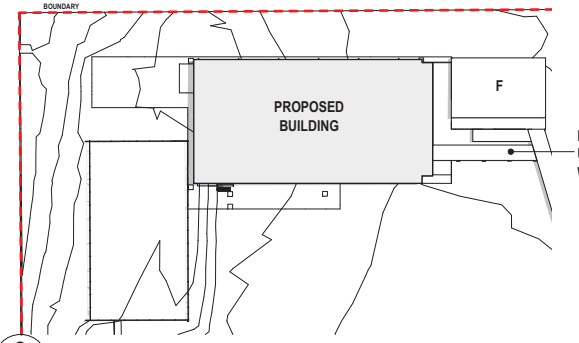
5 PLAN
SEPTEMBER 22 - 12PM
SCALE: 1:500



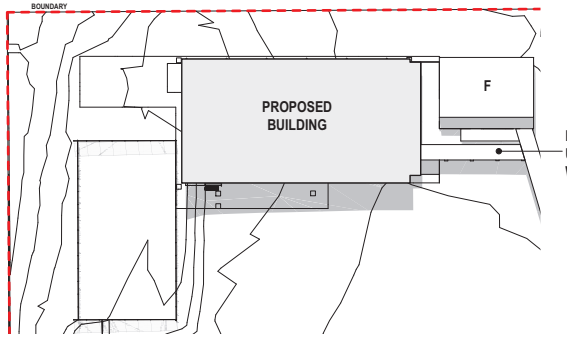
6 PLAN
SEPTEMBER 22 - 3PM
SCALE: 1:500



7 PLAN
DECEMBER 21 - 9AM
SCALE: 1:500



8 PLAN
DECEMBER 21 - 12PM
SCALE: 1:500



9 PLAN
DECEMBER - 3PM
SCALE: 1:500

150mm @ A1

REV.	DESCRIPTION	DATE	INT.
03	REF ISSUE	07/02/2025	NK
02	100% SCHEMATIC DESIGN	19/12/2024	NK
01	95% SCHEMATIC DESIGN	09/12/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

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Paul Sakkas-raia NSW 7160 QLD 4500
Ryan Loveday-raia

ADDRESS / PROJECT / CLIENT / PHASE

85 KISSING POINT ROAD, DUNDAS, NSW

DUNDAS PUBLIC SCHOOL

SCHOOL INFRASTRUCTURE NSW

REF

DRAWING

SHADOW DIAGRAM

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER **7068DU01**

DIRECTOR **JW**

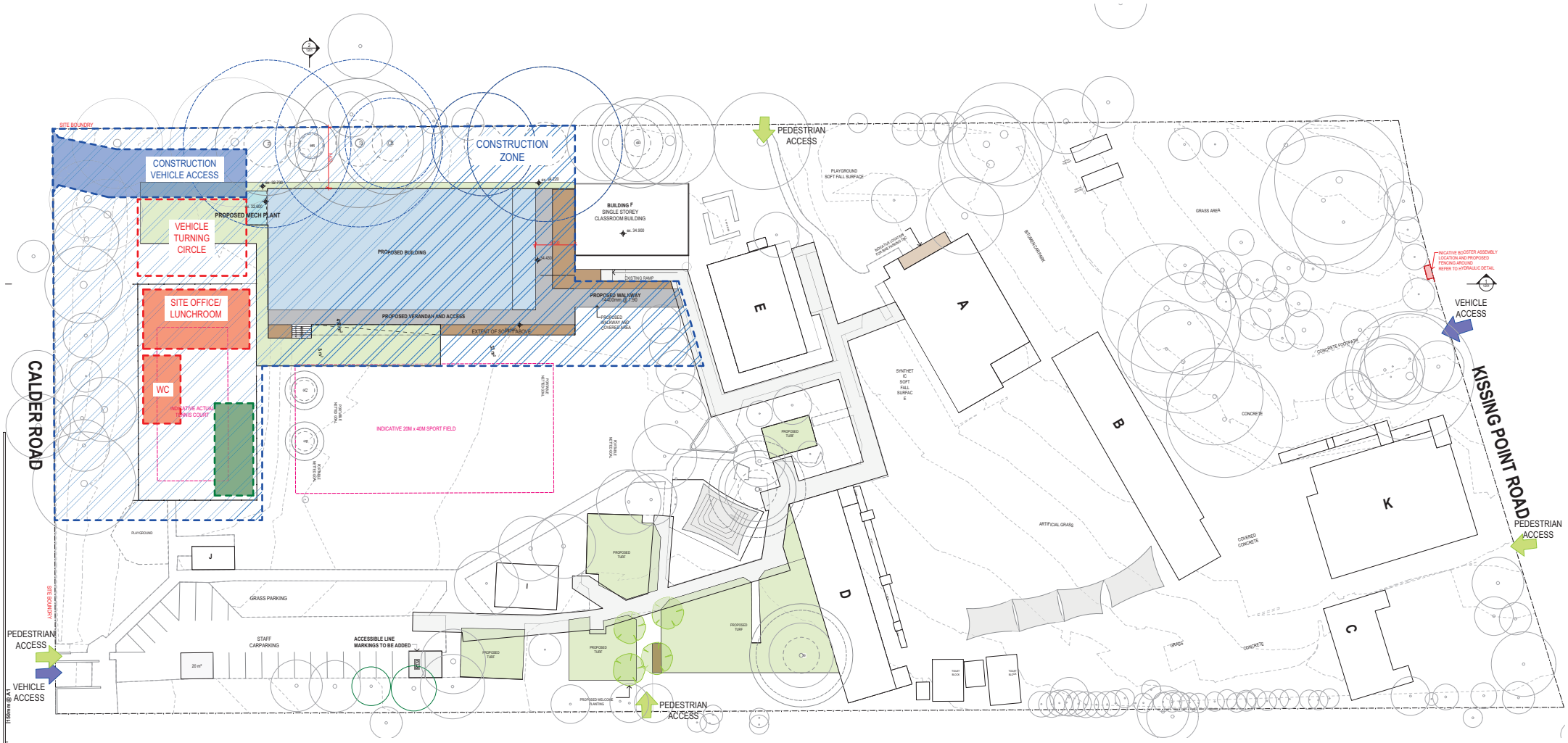
CHECKED

DRAWING NUMBER **DUPS-FTA-00-00-DR-A-1640**

REVISION **03**

50 100 150mm @ A1

plot date: Friday, 7 February 2025 12:46 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



REV.	DESCRIPTION	DATE	INIT.
02	REF ISSUE	07/02/2025	NK
01	100% SCHEMATIC DESIGN	19/12/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au

SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
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Asher Ward-raia VIC 16804 NSW 8371 QLD 3847
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Paul Sakkara-raia NSW 7160 QLD 3108
Ryan Loveday-raia QLD 4500

PHASE **REF**

CLIENT SCHOOL INFRASTRUCTURE NSW

PROJECT DUNDAS PUBLIC SCHOOL

ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **CONSTRUCTION MANAGEMENT STRATEGY**

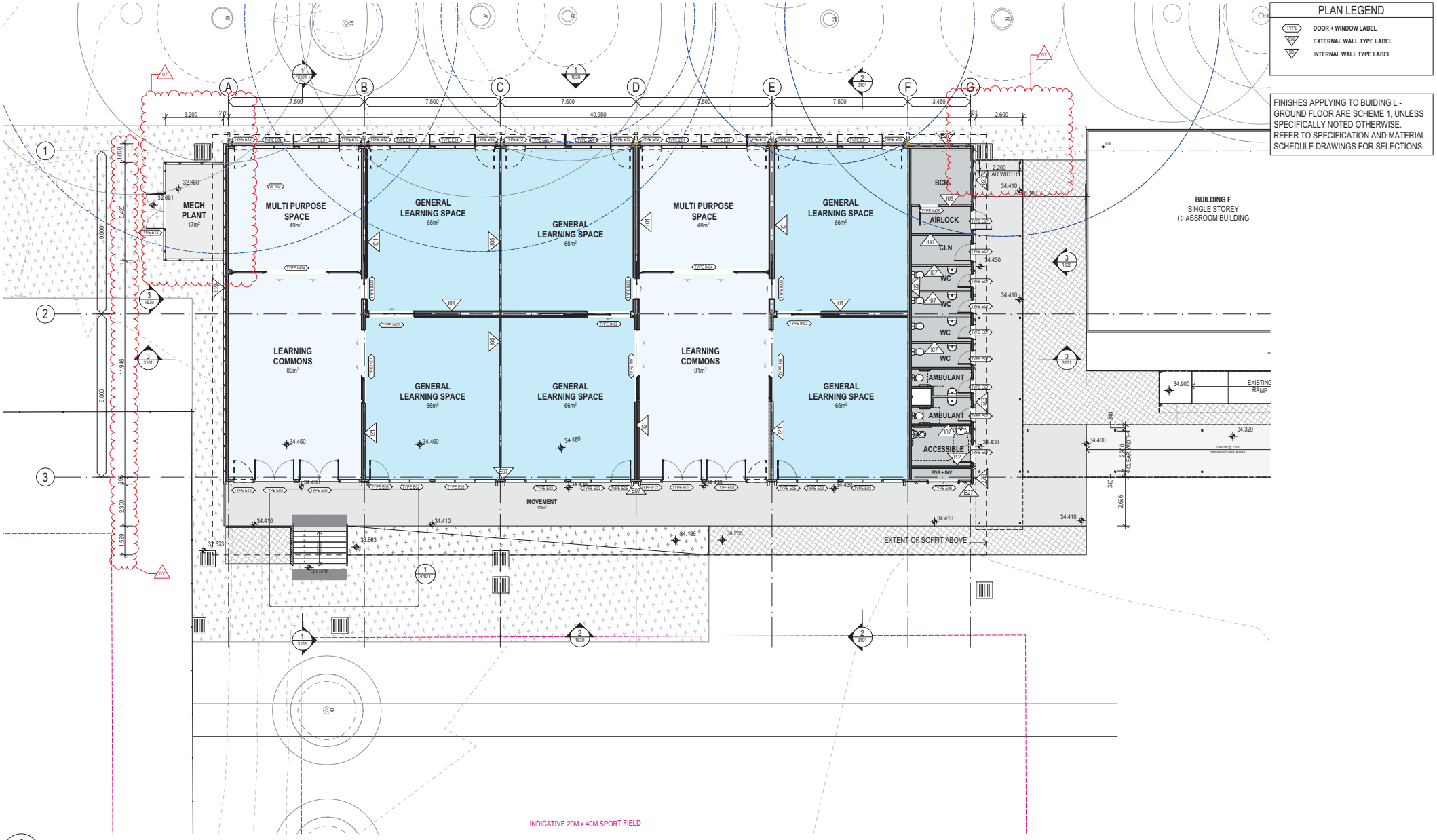
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	

DRAWING NUMBER **DUPS-FTA-00-00-DR-A-1650** REVISION **02**

150mm @ A1 | 50 | 100 | 150mm @ A1

plot date: Friday, 7 February 2025 12:46 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 PLAN
GROUND FLOOR PLAN
SCALE: 1:100

REV.	DESCRIPTION	DATE	INT.
07	SD TENDER ADDENDUM	19/02/2025	NK
06	REF ISSUE	07/02/2025	NK
05	SD TENDER ADDENDUM	21/01/2025	NK
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P5	100% CONCEPT DESIGN	30/10/2024	NK
P4	80% CONCEPT DESIGN	18/10/2024	NK
P3	FOR INFORMATION	09/10/2024	NK
P2	FOR INFORMATION	27/09/2024	AK
P1	FOR INFORMATION	20/09/2024	AK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au
Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550
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DIRECTORS
Greg Isaac-raia NSW 6855 QLD 2030
Justine Elsasy-raia QLD 2073
John Ward-raia VIC 16804 NSW 8371 QLD 3847
Nicholas Papageorgiou-raia NSW 7434 QLD 4529
Paul Sakkara-raia NSW 7160 QLD 3108
Ryan Loveday-raia QLD 4500

ADDRESS / PROJECT: 85 KISSING POINT ROAD, DUNDAS, NSW
CLIENT: DUNDAS PUBLIC SCHOOL
PHASE: **REF** SCHOOL INFRASTRUCTURE NSW

DRAWING: **GROUND FLOOR PLAN**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

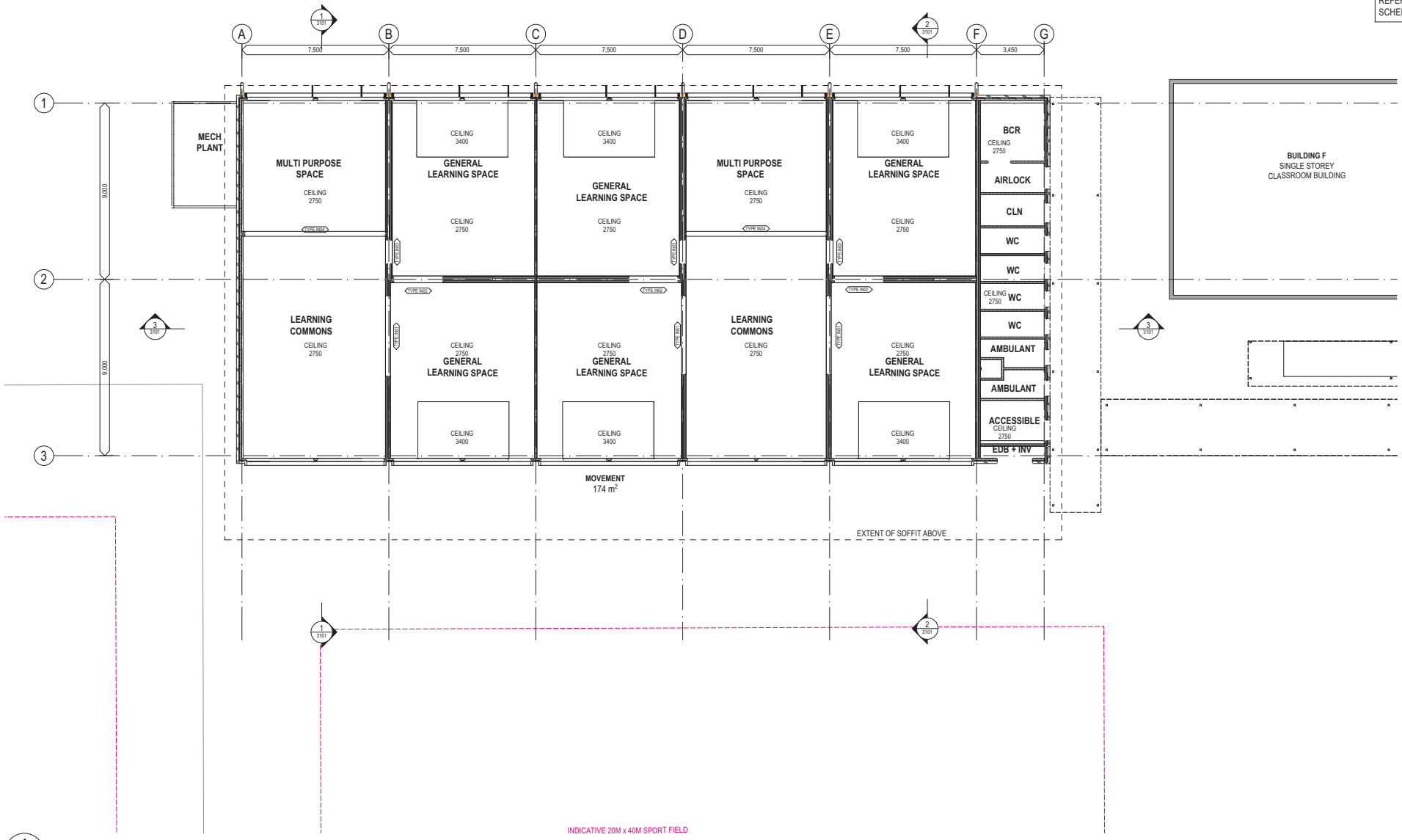
PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: DUPS-FTA-B00L-GF-DR-A-2101
REVISION: 07

150mm @ A1 | 50 | 100 | 150mm @ A1

plot date: Wednesday, 26 February 2025 11:57 AM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

FINISHES APPLYING TO BUIDING L - GROUND FLOOR ARE SCHEME 1, UNLESS SPECIFICALLY NOTED OTHERWISE. REFER TO SPECIFICATION AND MATERIAL SCHEDULE DRAWINGS FOR SELECTIONS.



1 PLAN
CEILING PLAN GROUND FLOOR
SCALE: 1:100

REV.	DESCRIPTION	DATE	INT.
06	REF ISSUE	07/02/2025	NK
05	SD TENDER ADDENDUM	21/01/2025	NK
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	100% CONCEPT DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK

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SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550
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Greg Isaac nsw
Justine Elsley frais
John Ward nsw
Stephen Papadopoulos frais
Paul Sakkas frais
Ryan Loveday frais
NSW 6855 QLD 2003
QLD 3313
VIC 16804 NSW 8371 QLD 3847
NSW 7434 QLD 4529
NSW 7160 QLD 3108
QLD 4500

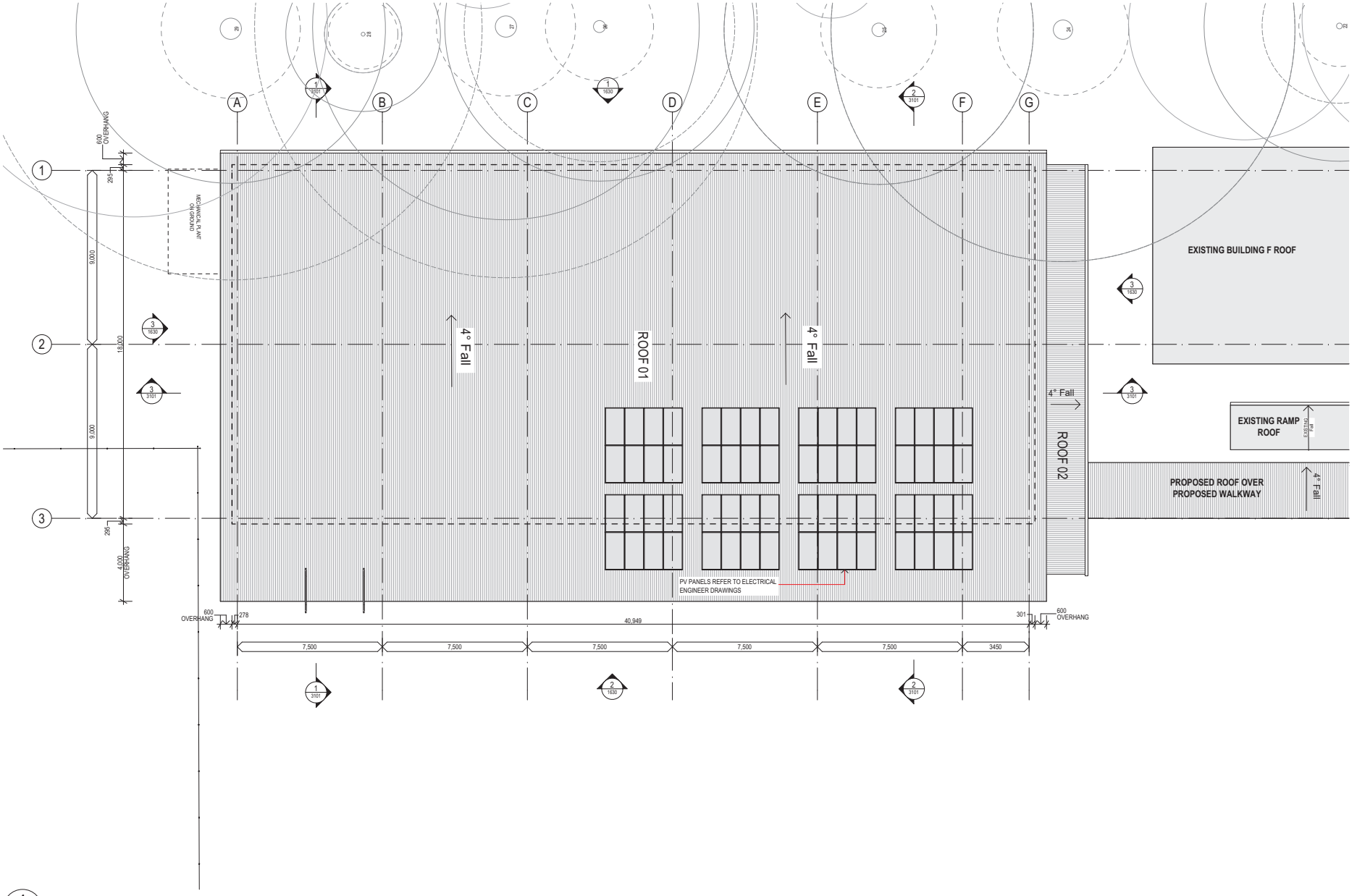
ADDRESS / PROJECT: 85 KISSING POINT ROAD, DUNDAS, NSW
DUNDAS PUBLIC SCHOOL
CLIENT: SCHOOL INFRASTRUCTURE NSW
PHASE: REF

DRAWING: REFLECTED CEILING GROUND FLOOR PLAN

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER: 7068DU01
DIRECTOR: JW
CHECKED: NK
DRAWING NUMBER: DUPS-FTA-B00L-GF-DR-A-2201
REVISION: 06

150mm @ A1
100
50
plot date: Friday, 7 February 2025 12:46 PM
file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 PLAN
ROOF PLAN
SCALE: 1:100

REV.	DESCRIPTION	DATE	INT.
05	REF ISSUE	07/02/2025	NK
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P5	100% CONCEPT DESIGN	30/10/2024	NK
P4	80% CONCEPT DESIGN	18/10/2024	NK
P3	FOR INFORMATION	09/10/2024	NK
P2	FOR INFORMATION	27/09/2024	AK
P1	FOR INFORMATION	20/09/2024	AK

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www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550
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DIRECTORS
Greg Isaac nsw NSW 6855 QLD 20053
Justine Elsley fnsa QLD 3313
John Ward nsw VIC 16804 NSW 8371 QLD 3847
Alexandra Papoutsis fnsa NSW 7434 QLD 4529
Paul Selkrig fnsa NSW 7160 QLD 3108
Ryan Loveday fnsa QLD 4500

PHASE: REF
CLIENT: SCHOOL INFRASTRUCTURE NSW
PROJECT: DUNDAS PUBLIC SCHOOL
ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

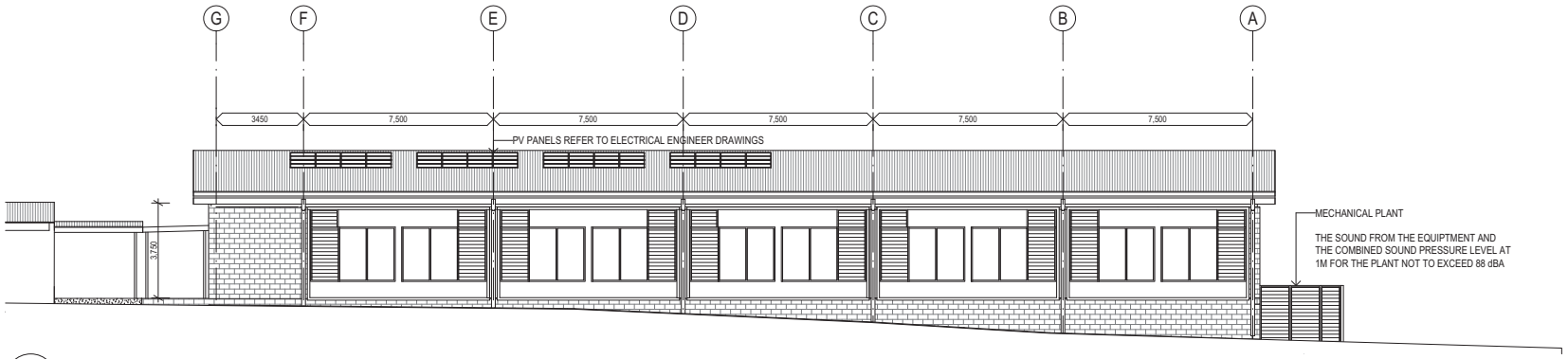
DRAWING: ROOF PLAN

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

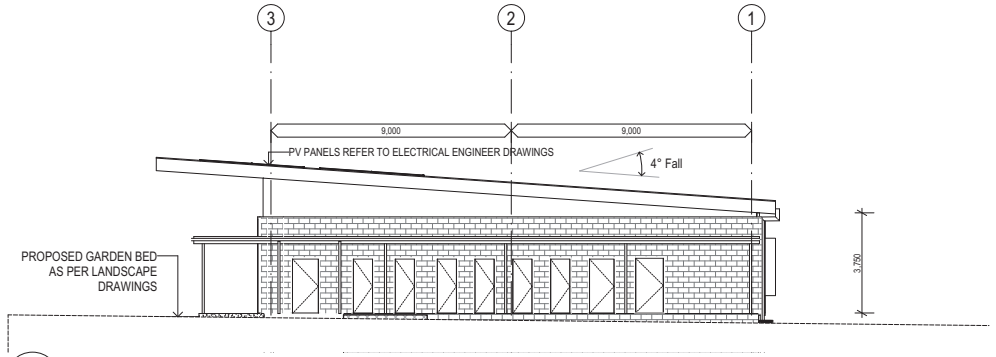
PROJECT NUMBER: 7068DU01
DIRECTOR: JW
CHECKED: NK
DRAWING NUMBER: DUPS-FTA-B00L-LR-DR-A-2102
REVISION: 05

150mm @ A1
50 100 150mm @ A1

plot date: Friday, 7 February 2025 12:46 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 ELEVATION
WEST ELEVATION
SCALE: 1:100



2 ELEVATION
NORTH ELEVATION
SCALE: 1:100

150mm @ A1
100
50
150mm @ A1

plot date: Friday, 7 February 2025 12:46 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

REV.	DESCRIPTION	DATE	INT.
05	REF ISSUE	07/02/2025	NK
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P5	100% CONCEPT DESIGN	30/10/2024	NK
P4	80% CONCEPT DESIGN	18/10/2024	NK
P3	FOR INFORMATION	09/10/2024	NK
P2	FOR INFORMATION	27/09/2024	AK
P1	FOR INFORMATION	20/09/2024	AK

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Greg Isaac nsia NSW 6855 QLD 2003
Justine Elsley fraia NSW 8371 QLD 3313
John Ward fraia VIC 16804 NSW 8371 QLD 3847
Stephen Athanopoulos fraia NSW 7434 QLD 4029
Paul Sakkara fraia NSW 7160 QLD 3109
Ryan Loveday fraia QLD 4500

ADDRESS
85 KISSING POINT ROAD,
DUNDAS, NSW

PROJECT
DUNDAS PUBLIC SCHOOL

CLIENT
SCHOOL INFRASTRUCTURE
NSW

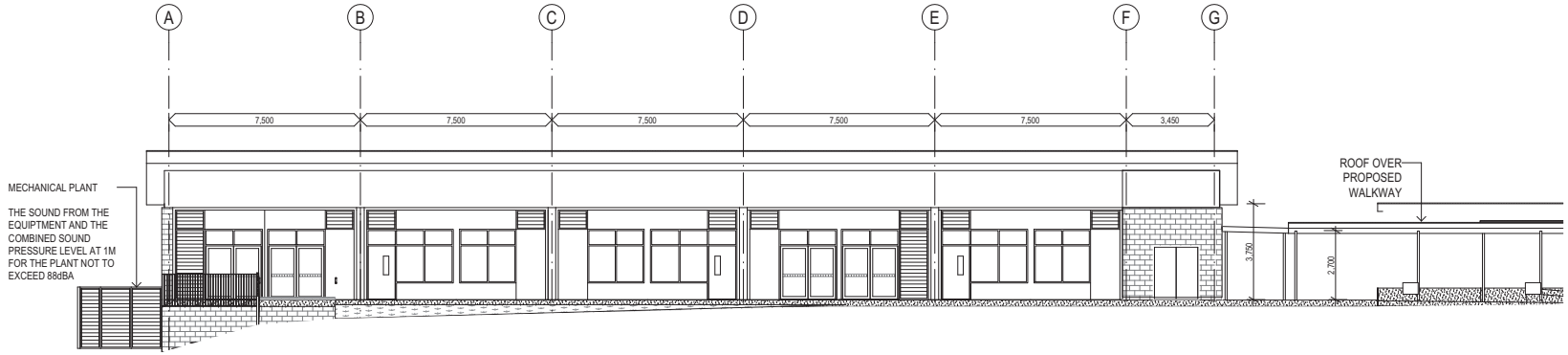
PHASE
REF

DRAWING
ELEVATIONS 01

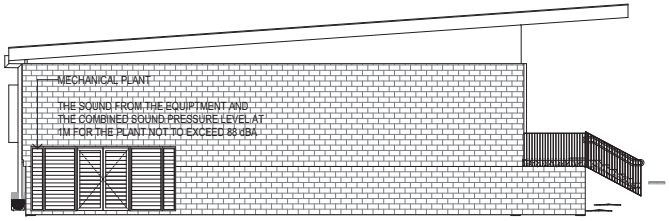
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: **DUPS-FTA-B00L-ZZ-DR-A-3001**
REVISION: **05**



1 SECTION
EAST ELEVATION
SCALE: 1:100



2 SECTION
SOUTH ELEVATION
SCALE: 1:100

150mm @ A1
100
50
150mm @ A1

plot date: Friday, 7 February 2025 12:46 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

REV.	DESCRIPTION	DATE	INT.
05	REF ISSUE	07/02/2025	NK
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P5	100% CONCEPT DESIGN	30/10/2024	NK
P4	80% CONCEPT DESIGN	18/10/2024	NK
P3	FOR INFORMATION	09/10/2024	NK
P2	FOR INFORMATION	27/09/2024	AK
P1	FOR INFORMATION	20/09/2024	AK

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Paul Sakzewski fraia NSW 7160 QLD 3108
Ryan Loveday fraia QLD 4500

PHASE
REF
SCHOOL INFRASTRUCTURE NSW

CLIENT

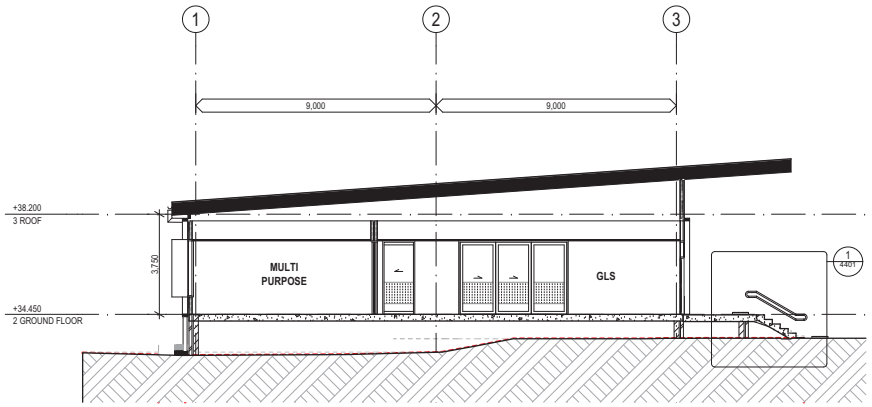
PROJECT
DUNDAS PUBLIC SCHOOL

ADDRESS
85 KISSING POINT ROAD,
DUNDAS, NSW

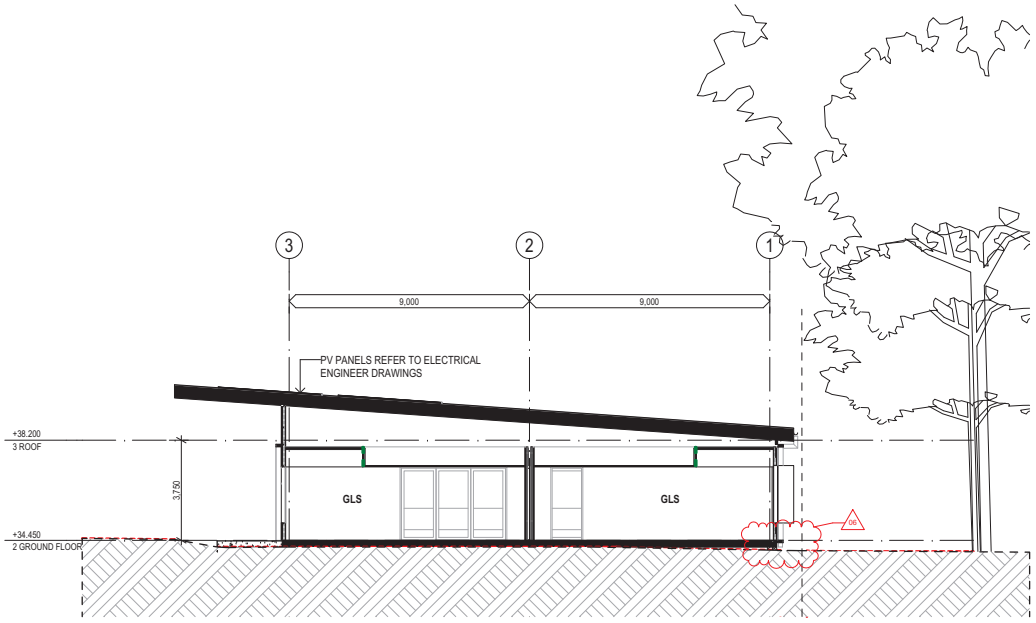
DRAWING
ELEVATIONS 02

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

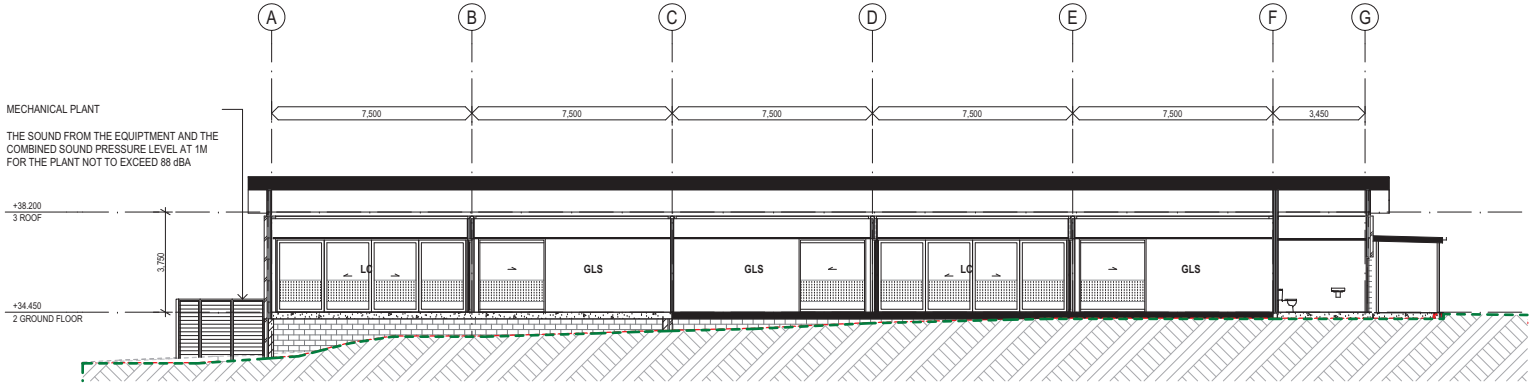
PROJECT NUMBER **7068DU01**
DIRECTOR **JW**
CHECKED **NK**
DRAWING NUMBER **DUPS-FTA-B00L-ZZ-DR-A-3002**
REVISION **05**



1 SECTION
SECTION A
SCALE: 1:100



2 SECTION
SECTION B
SCALE: 1:100



3 SECTION
SECTION C
SCALE: 1:100

REV.	DESCRIPTION	DATE	INT.
06	SD TENDER ADDENDUM	19/02/2025	NK
05	REF ISSUE	07/02/2025	NK
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK
P5	100% CONCEPT DESIGN	30/10/2024	NK
P4	80% CONCEPT DESIGN	18/10/2024	NK
P3	FOR INFORMATION	09/10/2024	NK
P2	FOR INFORMATION	27/09/2024	AK
P1	FOR INFORMATION	20/09/2024	AK

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ARCHITECTS BRISBANE SYDNEY
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SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
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ADDRESS
85 KISSING POINT ROAD,
DUNDAS, NSW

PROJECT
DUNDAS PUBLIC SCHOOL

CLIENT
SCHOOL INFRASTRUCTURE NSW

PHASE
REF

DRAWING
SECTIONS 01

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

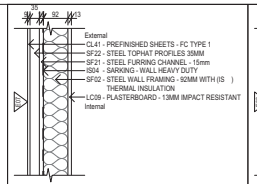
PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: DUPS-FTA-B00L-ZZ-DR-A-3101
REVISION: 06

150mm @ A1
100
50
150mm @ A1

plot date: Wednesday, 26 February 2025 11:57 AM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

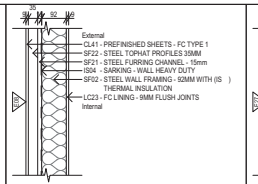
EXTERNAL WALL TYPES



E07

Fire Rating	-
R-Value	-
Rw + Ctr	-
Smoke Rating	False

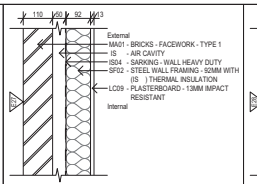
NOTE:



E08

Fire Rating	-
R-Value	-
Rw + Ctr	-
Smoke Rating	False

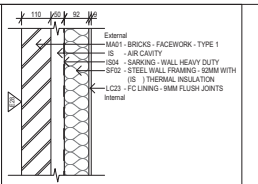
NOTE:



E27

Fire Rating	-
R-Value	-
Rw + Ctr	-
Smoke Rating	False

NOTE:

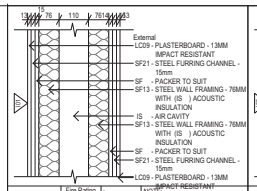


E28

Fire Rating	-
R-Value	-
Rw + Ctr	-
Smoke Rating	False

NOTE:

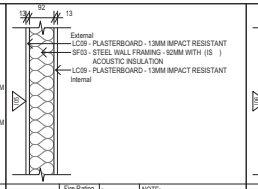
INTERNAL WALL TYPES



I01

Fire Rating	-
R-Value	-
Rw + Ctr	-
Smoke Rating	False

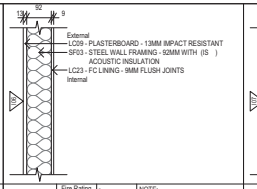
NOTE:



I05

Fire Rating	-
R-Value	-
Rw + Ctr	-
Smoke Rating	False

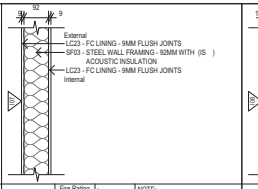
NOTE:



I06

Fire Rating	-
R-Value	-
Rw + Ctr	-
Smoke Rating	False

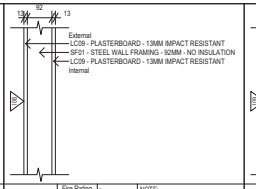
NOTE:



I07

Fire Rating	-
R-Value	-
Rw + Ctr	-
Smoke Rating	False

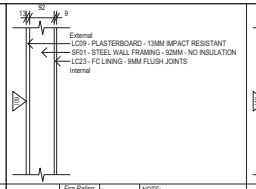
NOTE:



I08

Fire Rating	-
R-Value	-
Rw + Ctr	-
Smoke Rating	False

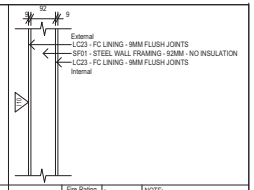
NOTE:



I09

Fire Rating	-
R-Value	-
Rw + Ctr	-
Smoke Rating	False

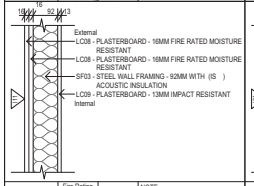
NOTE:



I10

Fire Rating	-
R-Value	-
Rw + Ctr	-
Smoke Rating	False

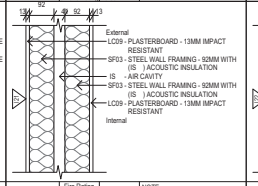
NOTE:



I11

Fire Rating	-
R-Value	-
Rw + Ctr	-
Smoke Rating	False

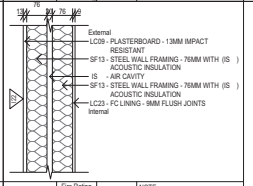
NOTE:



I21

Fire Rating	-
R-Value	-
Rw + Ctr	-
Smoke Rating	False

NOTE:



I22

Fire Rating	-
R-Value	-
Rw + Ctr	-
Smoke Rating	False

NOTE:

REV.	DESCRIPTION	DATE	INT.
05	REF ISSUE	07/02/2025	NK
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au
Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550

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DIRECTORS
Greg Isaac-raia NSW 6858 QLD 2003
Justine Elsbury fraia QLD 3313
Kiefer Ward fraia VIC 16804 NSW 8371 QLD 3847
Andrew Theodopoulos fraia NSW 7434 QLD 4529
Paul Sakkara fraia NSW 7160 QLD 3108
Ryan Lovelady fraia QLD 4500

ADDRESS / PROJECT / CLIENT / PHASE

REF
SCHOOL INFRASTRUCTURE NSW

DUNDAS PUBLIC SCHOOL

85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING
WALL TYPE DETAILS / PARTITION DETAILS

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

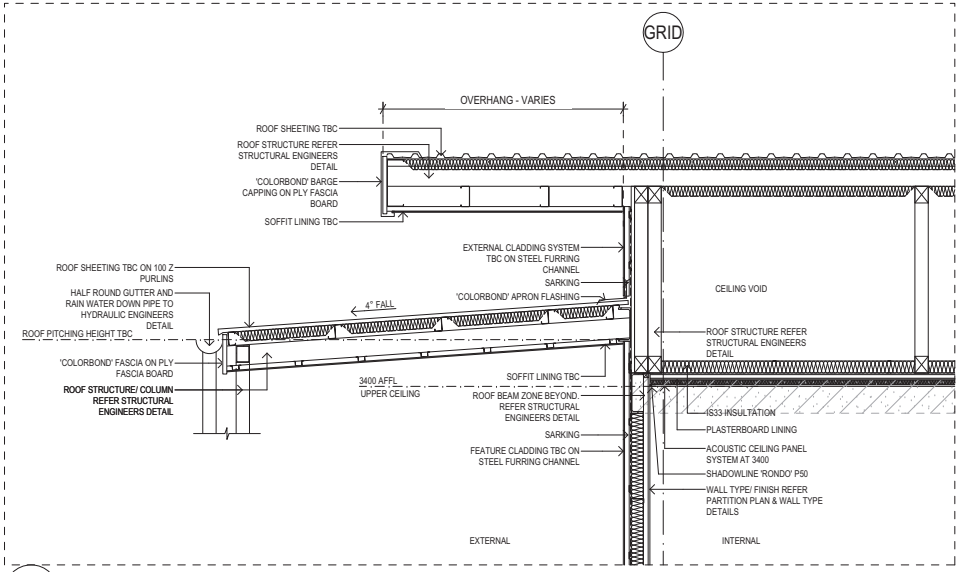
PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: DUPS-FTA-B00L-ZZ-DR-A-4001

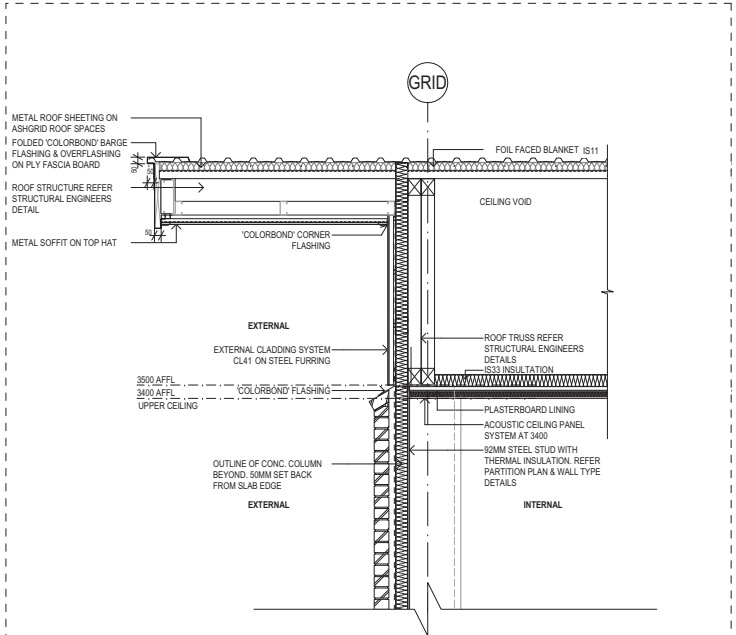
REVISION: 05

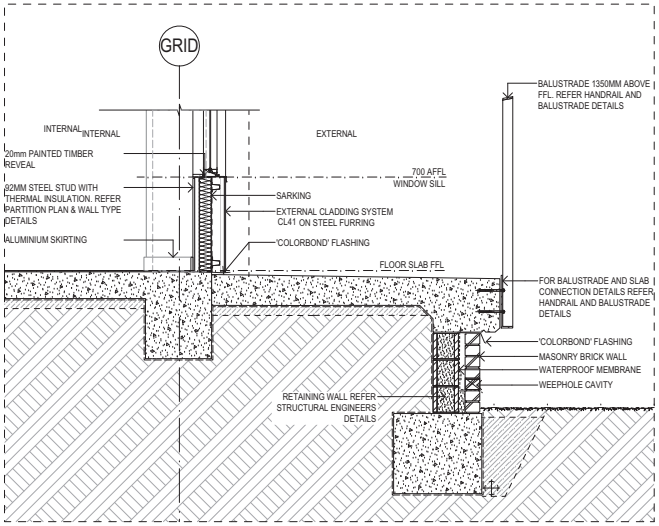
150mm @ A1
50 100 150mm @ A1

plot date: Friday, 7 February 2025 12:47 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

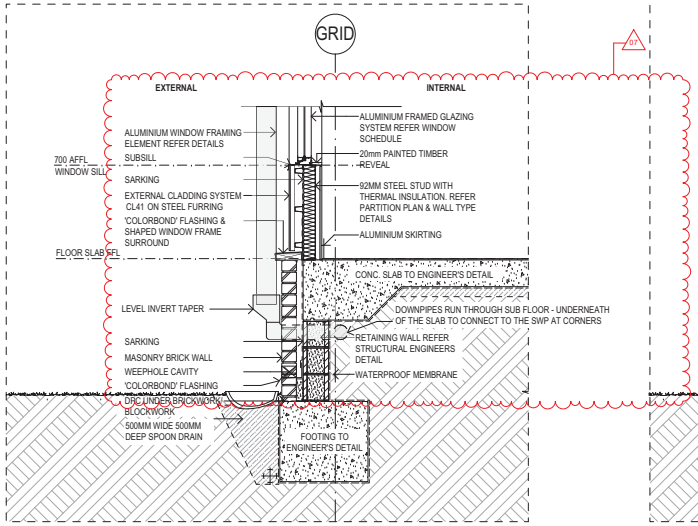


1 DETAIL SECTION
END WALL DETAIN IN JUCTION WITH COVERED AWNING
SCALE: 1:20

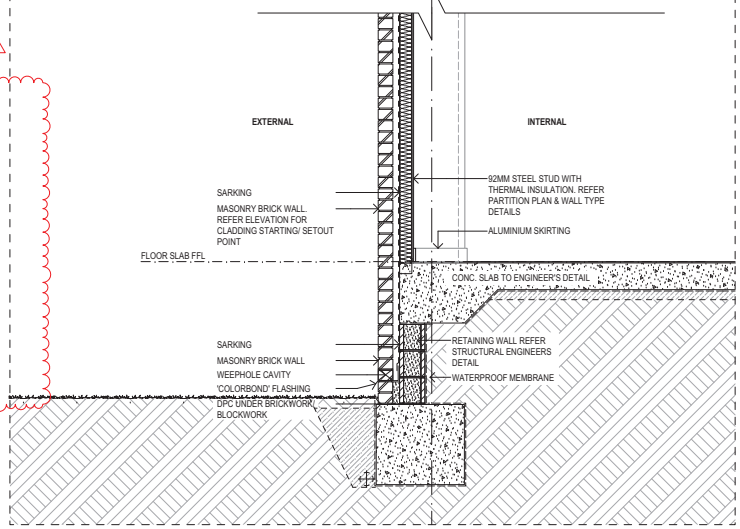




2 DETAIL SECTION
VERANDAH DETAIL SECTION
SCALE: 1:20



3 DETAIL SECTION
FC BACK WALL SECTION
SCALE: 1:20



4 DETAIL SECTION
BRICK SIDE WALL SECTION
SCALE: 1:20

REV.	DESCRIPTION	DATE	INT.
07	SD TENDER ADDENDUM	19/02/2025	NK
06	REF ISSUE	07/02/2025	NK
05	SD TENDER ADDENDUM	05/02/2025	NK
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

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DIRECTORS
Greg Isaac-raia NSW 6955 QLD 2030
Juliet-e Ellaway-raia QLD 2973
John Ward-raia VIC 16804 NSW 8371 QLD 3847
Paul Stathoulopoulos-fraia NSW 7434 QLD 4029
Paul Sutton-fraia NSW 7160 QLD 3108
Ryan Loveday-fraia QLD 4500

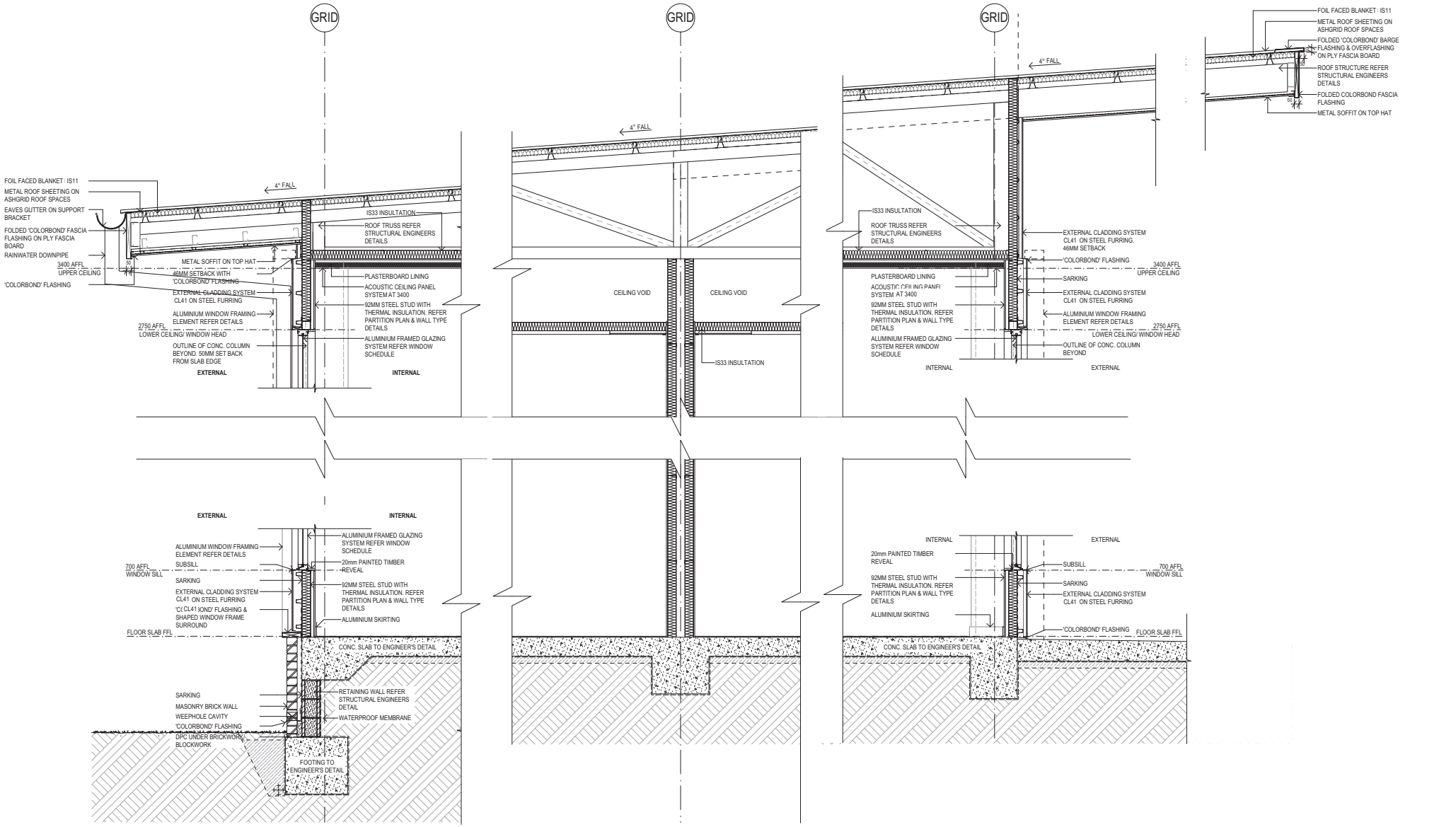
ADDRESS / PROJECT: 85 KISSING POINT ROAD, DUNDAS, NSW
CLIENT: DUNDAS PUBLIC SCHOOL
PHASE: **REF** SCHOOL INFRASTRUCTURE NSW

DRAWING: **WALL SECTIONS 01**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER: **7068DU01** | DIRECTOR: **JW** | CHECKED: **NK**
DRAWING NUMBER: **DUPS-FTA-B00L-ZZ-DR-A-4201** | REVISION: **07**

150mm @ A1
plot date: Wednesday, 26 February 2025 11:57 AM | file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



REV.	DESCRIPTION	DATE	INIT.
06	REF ISSUE	07/02/2025	NK
05	SD TENDER ADDENDUM	05/02/2025	NK
04	100% SCHEMATIC DESIGN	19/12/2024	NK
03	95% SCHEMATIC DESIGN	09/12/2024	NK
02	80% SCHEMATIC DESIGN	26/11/2024	NK
01	50% SCHEMATIC DESIGN	15/11/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au
Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550

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DIRECTORS
Greg Isaac-raia NSW 6855 QLD 20053
Justine Elizabey Raia QLD 3373
John Ward-Irvine VIC 16804 NSW 8371 QLD 3847
Paul Sakkara Raia NSW 7434 QLD 4029
Ryan Loveday Raia NSW 7180 QLD 3108
QLD 4500

ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

PROJECT: DUNDAS PUBLIC SCHOOL

CLIENT: SCHOOL INFRASTRUCTURE NSW

PHASE: **REF**

DRAWING: **WALL SECTIONS 02**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER: **7068DU01**

DIRECTOR: **JW**

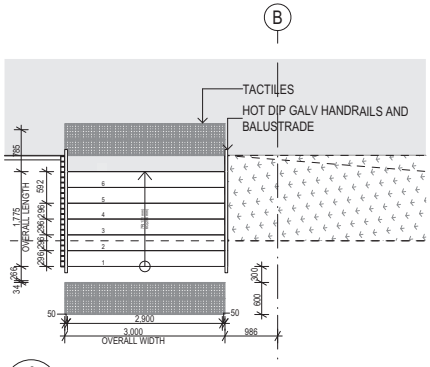
CHECKED:

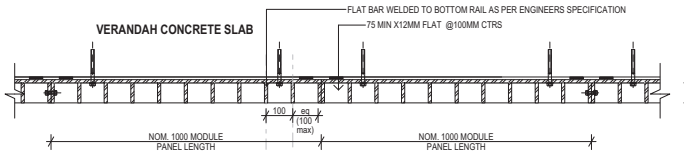
DRAWING NUMBER: **DUPS-FTA-B00L-ZZ-DR-A-4202**

REVISION: **06**

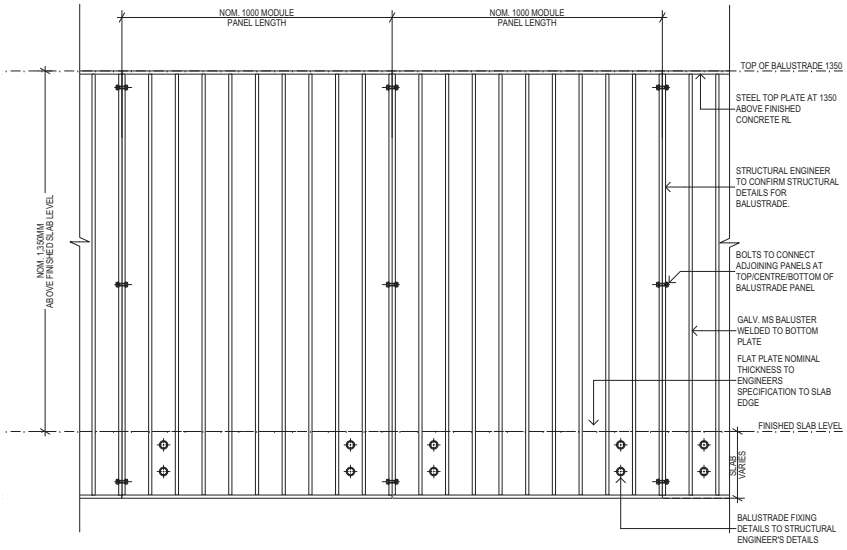
150mm @ A1 | 100 | 50

plot date: Friday, 7 February 2025 12:47 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

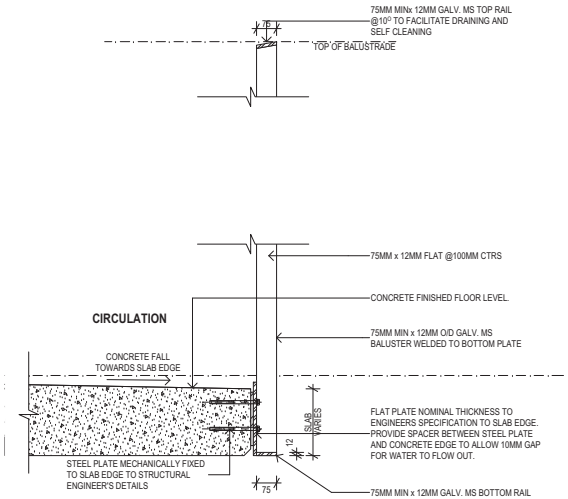

B
TACTILES
HOT DIP GALV HANDRAILS AND BALUSTRADE
165
992
1175
OVERALL HEIGHT
266
266
266



1 DETAIL PLAN
BALUSTRADE AND HANDRAIL DETAILS
SCALE: 1:10



2 DETAIL ELEVATION
BALUSTRADE AND HANDRAIL DETAILS
SCALE: 1:10



3 DETAIL SECTION
BALUSTRADE AND HANDRAIL DETAILS
SCALE: 1:10

REV.	DESCRIPTION	DATE	INT.
04	REF ISSUE	07/02/2025	NK
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	80% SCHEMATIC DESIGN	26/11/2024	NK

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 26-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550
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Greg Isaac-raia — NSW 6855 — QLD 2003
Justine Elsbury-fraia — QLD 3313
John Ward-fraia — NSW 8371 — QLD 3847
Christopher Papadopoulos-fraia — VIC 18804 — NSW 7434 — QLD 4529
Paul Sakkara-fraia — NSW 7180 — QLD 3108
Ryan Loveday-fraia — QLD 4500

ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW
PROJECT: DUNDAS PUBLIC SCHOOL
CLIENT: SCHOOL INFRASTRUCTURE NSW
PHASE: **REF**

DRAWING: **BALUSTRADE AND HANDRAIL DETAILS**

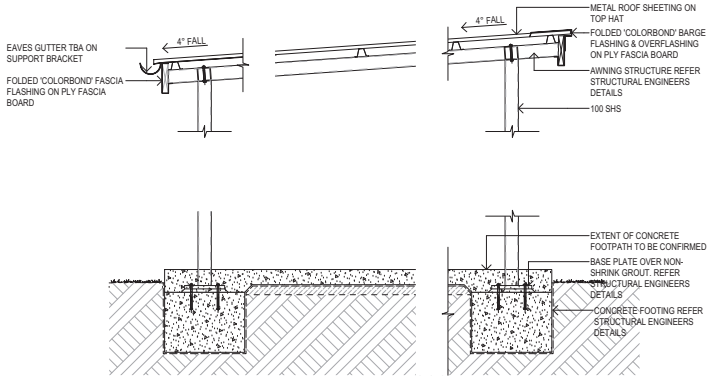
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: **DUPS-FTA-B00L-ZZ-DR-A-4501** REVISION: **04**

150mm @ A1 | 50 | 100 | 150mm @ A1

plot date: Friday, 7 February 2025 12:47 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School



1 DETAIL SECTION
TYPICAL COVERED WALKWAY
SCALE: 1:20

150mm @ A1
100
50
0
150mm @ A1

plot date: Friday, 7 February 2025 12:47 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

REV.	DESCRIPTION	DATE	INT.
04	REF ISSUE	07/02/2025	NK
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01		26/11/2024	

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ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550
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DIRECTORS
Greg Isaac nsia NSW 6855 QLD 20253
Justine Elsley fraia QLD 3313
John Ward fraia VIC 16804 NSW 8371 QLD 3847
Andrew Theodopoulos fraia NSW 7434 QLD 4529
Paul Sakkas fraia NSW 7160 QLD 3108
Ryan Loveday fraia QLD 4500

ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

PROJECT: DUNDAS PUBLIC SCHOOL

CLIENT: SCHOOL INFRASTRUCTURE NSW

PHASE: **REF**

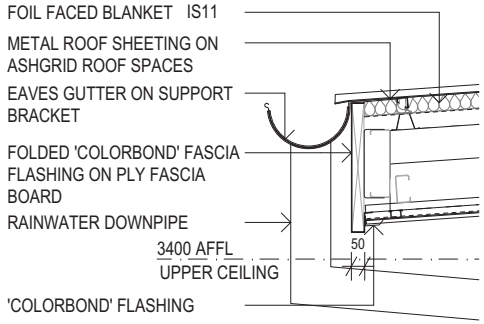
DRAWING: **TYPICAL COVERED WALKWAY DETAILS**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

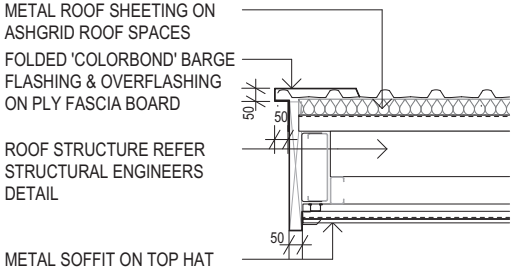
PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: **DUPS-FTA-B00L-ZZ-DR-A-4801**

REVISION: **04**



1 DETAIL SECTION
TYPICAL FASCIA DETAILS 01
SCALE: 1:10



2 DETAIL SECTION
TYPICAL FASCIA DETAILS 02
SCALE: 1:10

150mm @ A1
100
50
150mm @ A1

plot date: Friday, 7 February 2025 12:47 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

REV.	DESCRIPTION	DATE	INT.
04	REF ISSUE	07/02/2025	NK
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01		26/11/2024	

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ARCHITECTS BRISBANE SYDNEY
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Ryan Loveday fnia QLD 4500

ADDRESS
85 KISSING POINT ROAD,
DUNDAS, NSW

PROJECT
DUNDAS PUBLIC SCHOOL

CLIENT
SCHOOL INFRASTRUCTURE NSW

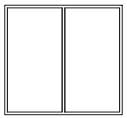
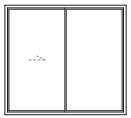
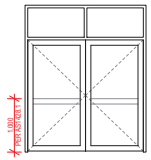
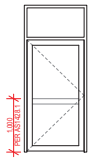
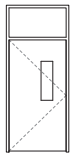
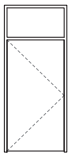
PHASE
REF

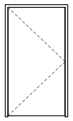
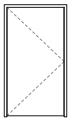
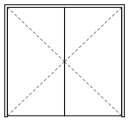
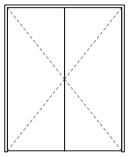
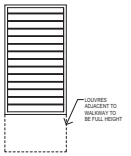
DRAWING
TYPICAL FASCIA DETAILS

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: DUPS-FTA-B00L-ZZ-DR-A-4901
REVISION: 04

						
TYPE CODE	TYPE E01	TYPE E02	TYPE E03	TYPE E04	TYPE E05	TYPE E06
TYPE DESCRIPTION	FIXED GLAZING	SLIDING WINDOW	GLAZED DOUBLE DOOR	GLAZED SINGLE DOOR	SOLID DOOR WITH VISION PANEL	SOLID DOOR (NO VISION PANEL)
OVERALL & LEAF SIZE (W X H)	Overall: WIDTH VARIES x 2,050mm H	Overall: WIDTH VARIES x 2,050mm H	Overall: 2,265mm W x 2,750mm H Leaves: 2 x 970 mm x 2040 mm,	Overall: WIDTH VARIES x 2,750mm H Leaves: 1 x 970 mm x 2040 mm	Overall: WIDTH VARIES x 2,750mm H Leaves: 1 x 1,070 mm x 2040 mm	Overall: WIDTH VARIES x 2,750mm H Leaves: 1 x 1,070 mm x 2040 mm
FRAME	Type: DW03 - FRAME - ALUMINIUM 150MM POCKET GLAZED Notes:	Type: DW01 - FRAME - ALUMINIUM 100MM POCKET GLAZED Notes:	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:
FRAME FINISH						
LEAF	Type: N/A Notes:	Type: DW21 - WINDOW - SLIDING ALUMINIUM Notes:	Type: DW41 - LEAF - HINGED ALUMINIUM Notes:	Type: DW41 - LEAF - HINGED ALUMINIUM Notes:	Type: DWS2 - LEAF - EXTERNAL SOLID CORE PAINTED w VISION PANEL Notes:	Type: DWS1 - LEAF - EXTERNAL SOLID CORE PAINTED Notes:
LEAF FINISH						
GLAZING	Glazing: GL04 - LAMINATED GLASS TYPE 2 - TINTED Film: N/A	Glazing: GL04 - LAMINATED GLASS TYPE 2 - TINTED Film: N/A	Glazing: GL04 - LAMINATED GLASS TYPE 2 - TINTED Film: GL32 - VINYL FILM - COLOURED	Glazing: GL04 - LAMINATED GLASS TYPE 2 - TINTED Film: GL32 - VINYL FILM - COLOURED	Glazing: GL04 - LAMINATED GLASS TYPE 2 - TINTED Film: N/A	Glazing: GL04 - LAMINATED GLASS TYPE 2 - TINTED Film: N/A
NOTES	REFER TO ELEVATIONS FOR NUMBER OF MULLIONS					

						
TYPE CODE	TYPE E07	TYPE E08	TYPE E09	TYPE E10	TYPE E11	TYPE E12
TYPE DESCRIPTION	SOLID DOOR (NO VISION PANEL, NO FANLIGHT)	SOLID FIRE DOOR (SINGLE LEAF)	SOLID FIRE DOOR DOUBLE LEAF)	SOLID DOOR (NO VISION PANEL, DOUBLE LEAF)	MECHANICAL LOUVRE	FIXED LOUVRE WITH INSULATED DOOR BEHIND
OVERALL & LEAF SIZE (W X H)	Overall: WIDTH VARIES x 2,100mm H Leaves: 1 x 1,070 mm x 2040 m	Overall: WIDTH VARIES x 2,750mm H Leaves: 1 x 1,070 mm x 2040 mm	Overall: WIDTH VARIES x 2,100mm H Leaves: 2 x 1,070 mm x 2040 mm	Overall: WIDTH VARIES x 2,750mm H Leaves: 2 x 1,070 mm x 2040 mm	Overall: WIDTH VARIES x 750mm H	Overall: WIDTH VARIES x 2,050mm H
FRAME	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:	Type: DW14 - DOOR FRAME - FIRE DOOR Notes:	Type: DW14 - DOOR FRAME - FIRE DOOR Notes:	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:	Type: DW03 - FRAME - ALUMINIUM 150MM POCKET GLAZED Notes:	Type: DW03 - FRAME - ALUMINIUM 150MM POCKET GLAZED Notes:
FRAME FINISH						
LEAF	Type: DW51 - LEAF - EXTERNAL SOLID CORE PAINTED Notes:	Type: DW71 - DOOR - FIRE Notes:	Type: DW71 - DOOR - FIRE Notes:	Type: DW51 - LEAF - EXTERNAL SOLID CORE PAINTED Notes:	Type: DW36 - LOUVRES - FIXED ALUMINIUM TYPE 1 Notes:	Type: DW33 - LOUVRES - 150MM Notes:
LEAF FINISH						
GLAZING	Glazing: GL04 - LAMINATED GLASS TYPE 2 - TINTED Film: N/A	Glazing: N/A Film: N/A	Glazing: N/A Film: N/A	Glazing: N/A Film: N/A	Glazing: N/A Various Colours: Film: N/A	Glazing: N/A Film: N/A
NOTES						

REV.	DESCRIPTION	DATE	INT.
04	REF ISSUE	07/02/2025	NK
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	80% SCHEMATIC DESIGN	26/11/2024	NK

fulton trotter
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550
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DIRECTORS
Greg Isaac-raia NSW 6858 QLD 2003
Justine Ellaway-fraia QLD 3313
Kellie Ward-raia VIC 16804 NSW 8371 QLD 3847
Andrew Trotter-papoulos fraia NSW 7434 QLD 4529
Paul Sedona fraia NSW 7160 QLD 3108
Ryan Loveday fraia QLD 4500

ADDRESS / PROJECT: DUNDAS PUBLIC SCHOOL
85 KISSING POINT ROAD, DUNDAS, NSW

CLIENT: NSW SCHOOL INFRASTRUCTURE

PHASE: **REF**

DRAWING: **EXTERNAL DOOR & WINDOW SCHEDULE**

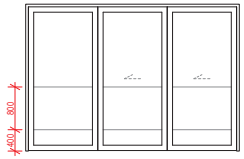
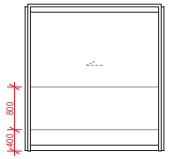
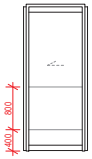
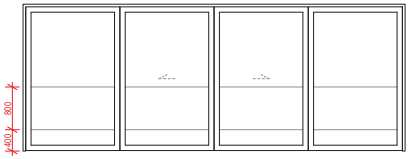
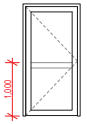
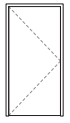
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

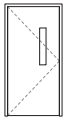
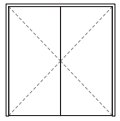
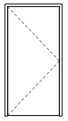
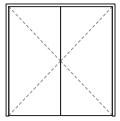
PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: **DUPS-FTA-B00L-ZZ-DR-A-6001** REVISION: **04**

150mm @ A1 | 50 | 100 | 150mm @ A1

plot date: Friday, 7 February 2025 12:47 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

						
TYPE CODE	TYPE IN01	TYPE IN02	TYPE IN03	TYPE IN04	TYPE IN05	TYPE IN06
TYPE DESCRIPTION	GLS ENTRY LARGE SLIDING DOOR	INTER-GLS SLIDING DOOR	GLS ENTRY SMALL SLIDING DOOR	MULTIPURPOSE SLIDING DOOR	GLAZED SINGLE DOOR	SINGLE LEAF HINGED DOOR
OVERALL & LEAF SIZE (W X H)	Overall: 4,000mm W x 2,750mm H Leaves: 3 x 1,300mm x 2,690mm	Overall: 2,500mm W x 2,750mm H Leaf: 1 x 2,600mm x 2,690mm	Overall: 1,200mm W x 2,750mm H Leaf: 1 x 1,200mm x 2,690mm	Overall: 7,154mm W x 2,750mm H Leaves: 2 x 1,764mm + 2 x 1,764mm x 2,690mm	Overall: WIDTH VARIES x 2,100mm H Leaf: 1 x 970mm x 2,040mm	Overall: WIDTH VARIES x 2,100mm H Leaf: 1 x 970mm x 2,040mm
FRAME	Type: DW73 - DOOR - SLIDING ACOUSTIC - MULTI Notes:	Type: DW74 - DOOR - SLIDING ACOUSTIC - CAVITY Notes:	Type: DW74 - DOOR - SLIDING ACOUSTIC - CAVITY Notes:	Type: DW75 - DOOR - SLIDING ACOUSTIC - BI-PARTING Notes:	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:
FRAME FINISH						
LEAF	Type: DW73 - DOOR - SLIDING ACOUSTIC - MULTI Notes:	Type: DW74 - DOOR - SLIDING ACOUSTIC - CAVITY Notes:	Type: DW74 - DOOR - SLIDING ACOUSTIC - CAVITY Notes:	Type: DW75 - DOOR - SLIDING ACOUSTIC - BI-PARTING Notes:	Type: DW41 - LEAF - HINGED ALUMINIUM Notes:	Type: DW53 - LEAF - INTERNAL SOLID CORE PAINTED Notes:
LEAF FINISH						
GLAZING	Glazing: GL03 - LAMINATED GLASS TYPE 1 - CLEAR Film: GL33 - VINYL FILM - PRINTED	Glazing: GL03 - LAMINATED GLASS TYPE 1 - CLEAR Film: GL33 - VINYL FILM - PRINTED	Glazing: GL03 - LAMINATED GLASS TYPE 1 - CLEAR Film: GL33 - VINYL FILM - PRINTED	Glazing: GL03 - LAMINATED GLASS TYPE 1 - CLEAR Film: GL33 - VINYL FILM - PRINTED	Glazing: GL03 - LAMINATED GLASS TYPE 1 - CLEAR Film: GL32 - VINYL FILM - COLOURED	Glazing: N/A Film: N/A
NOTES						

				
TYPE CODE	TYPE IN07	TYPE IN08	TYPE IN09	TYPE IN10
TYPE DESCRIPTION	SINGLE LEAF HINGED DOORR WITH VISION PANEL	DOUBLE LEAF HINGED DOOR	FIRE DOOR (SINGLE LEAF)	FIRE DOOR (DOUBLE LEAF)
OVERALL & LEAF SIZE (W X H)	Overall: WIDTH VARIES x 2,100mm H Leaf: 1 x 970mm x 2,040mm	Overall: WIDTH VARIES x 2,100mm H Leaves: 1 x 970mm + 1 x 970mm x 2,040mm	Overall: WIDTH VARIES x 2,100mm H Leaf: 1 x 970mm x 2,040mm	Overall: WIDTH VARIES x 2,100mm H Leaves: 1 x 970mm + 1 x 970mm x 2,040mm
FRAME	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:	Type: DW07 - DOOR FRAME - ALUMINIUM Notes:	Type: DW71 - DOOR - FIRE Notes:	Type: DW71 - DOOR - FIRE Notes:
FRAME FINISH				
LEAF	Type: DW54 - LEAF - INTERNAL SOLID CORE PAINTED w VISION PANEL Notes:	Type: DW53 - LEAF - INTERNAL SOLID CORE PAINTED Notes:	Type: DW71 - DOOR - FIRE Notes:	Type: DW71 - DOOR - FIRE Notes:
LEAF FINISH				
GLAZING	Glazing: GL03 - LAMINATED GLASS TYPE 1 - CLEAR Film: GL30 == GLAZING FILMS ==	Glazing: N/A Film: N/A	Glazing: N/A Film: N/A	Glazing: N/A Film: N/A
NOTES				

REV.	DESCRIPTION	DATE	INIT.
04	REF ISSUE	07/02/2025	NK
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	80% SCHEMATIC DESIGN	26/11/2024	NK

fulton trotter
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au
Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550

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DIRECTORS
Greg Isaac nsia NSW 6855 QLD 2920
Justine Ebzery fnsia QLD 3313
John Ward nsia VIC 18804 NSW 8371 QLD 3847
Katerina Dracopoulos fnsia NSW 7434 QLD 4529
Paul Sellava fnsia NSW 7180 QLD 3108
Ryan Loveday fnsia QLD 4500

PHASE **REF**

CLIENT SCHOOL INFRASTRUCTURE NSW

PROJECT DUNDAS PUBLIC SCHOOL

ADDRESS 85 KISSING POINT ROAD
DUNDAS, NSW

DRAWING **INTERNAL DOOR & WINDOW SCHEDULE**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	

DRAWING NUMBER **DUPS-FTA-B00L-ZZ-DR-A-6002** REVISION **04**

150mm @ A1 | 100 | 50 | 0

plot date: Friday, 7 February 2025, 12:47 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

1 **PERSPECTIVE**
3D VIEW 01
SCALE: 1:3.33

2 **PERSPECTIVE**
3D VIEW 01
SCALE: 1:2.86

REV.	DESCRIPTION	DATE	INT.
04	REF ISSUE	07/02/2025	NK
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	80% SCHEMATIC DESIGN	26/11/2024	NK
P2	100% CONCEPT DESIGN	30/10/2024	NK
P1	80% CONCEPT DESIGN	18/10/2024	NK

fulton trotter
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550
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DIRECTORS
Greg Isaac /aia — NSW 6858 — QLD 2003
Justine Elsley /aia — QLD 3313
Kiohn Ward /aia — VIC 18804 — NSW 8371 — QLD 3847
Nicholas Papageorgiou /aia — NSW 7434 — QLD 4529
Paul Selkrig /aia — NSW 7160 — QLD 3108
Ryan Loveday /aia — QLD 4500

PHASE **REF**
CLIENT SCHOOL INFRASTRUCTURE NSW
PROJECT DUNDAS PUBLIC SCHOOL
ADDRESS 85 KISSING POINT ROAD, DUNDAS, NSW

DRAWING **PERSPECTIVES 1**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER **DUPS-FTA-B00L-ZZ-DR-A-9001** REVISION **04**

150mm @ A1
50 100 150mm @ A1

plot date: Friday, 7 February 2025 12:47 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

1 **PERSPECTIVE**
VIEW 03

2 **PERSPECTIVE**
VIEW 04

150mm @ A1
100
50
150
100
50

REV.	DESCRIPTION	DATE	INT.
04	REF ISSUE	07/02/2025	NK
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	80% SCHEMATIC DESIGN	26/11/2024	NK
P2	100% CONCEPT DESIGN	30/10/2024	NK
P1		18/10/2024	

fulton trotter
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550
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DIRECTORS
Greg Isaac nsia NSW 6855 QLD 2003
Justine Elsley fraia QLD 3373
Kylie Ward fraia VIC 16804 NSW 8371 QLD 3847
Andrew Theocharopoulos fraia NSW 7434 QLD 4029
Paul Sutherland fraia NSW 7160 QLD 3108
Ryan Loveday fraia QLD 4500

ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW

PROJECT: DUNDAS PUBLIC SCHOOL

CLIENT: SCHOOL INFRASTRUCTURE NSW

PHASE: **REF**

DRAWING: **PERSPECTIVES 2**

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER: **7068DU01**
DIRECTOR: **JW**
CHECKED:
DRAWING NUMBER: **DUPS-FTA-B00L-ZZ-DR-A-9002**
REVISION: **04**

plot date: Friday, 7 February 2025 12:47 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

DUNDAS PUBLIC SCHOOL

FOR SCHOOL INFRASTRUCTURE NSW

7068DU01

						Drawing Name	Rev
DUPS	FTA	XX	XX	DR	A 0000	COVER SHEET + DRAWING LIST	05
DUPS	FTA	XX	XX	DR	A 0001	SPECIFICATION SCHEDULE & MATERIAL SCHEDULE	06
DUPS	FTA	XX	XX	DR	A 0002	SIGNAGE SCHEDULE	02
DUPS	FTA	00	00	DR	A 1001	EXISTING SITE PLAN	05
DUPS	FTA	00	00	DR	A 1002	DEMOLITION SITE PLAN	04
DUPS	FTA	00	00	DR	A 1003	SITE ANALYSIS PLAN	04
DUPS	FTA	00	00	DR	A 1101	PROPOSED SITE PLAN	05
DUPS	FTA	00	00	DR	A 1201	SITE SECTIONS	04
DUPS	FTA	00	00	DR	A 1401	EXTERNAL WORKS PLAN (OFF SITE WORKS)	06
DUPS	FTA	00	00	DR	A 1501	STAGING PLAN	05
DUPS	FTA	00	00	DR	A 1601	PLAYSCAPE CALCULATION	03
DUPS	FTA	00	00	DR	A 1602	AMENITIES STRATEGY	03
DUPS	FTA	00	00	DR	A 1603	ACCESS STRATEGY	02
DUPS	FTA	00	00	DR	A 1604	TREE REMOVAL PLAN	03
DUPS	FTA	00	00	DR	A 1610	INDIGENOUS ARTWORK STRATEGY	04
DUPS	FTA	00	00	DR	A 1630	EXTERNAL MATERIAL AND FINISHES	04
DUPS	FTA	00	00	DR	A 1640	SHADOW DIAGRAM	03
DUPS	FTA	00	00	DR	A 1650	CONSTRUCTION MANAGEMENT STRATEGY	02
DUPS	FTA	B00L	GF	DR	A 2101	GROUND FLOOR PLAN	06
DUPS	FTA	B00L	LR	DR	A 2102	ROOF PLAN	05
DUPS	FTA	B00L	GF	DR	A 2201	REFLECTED CEILING GROUND FLOOR PLAN	06
DUPS	FTA	B00L	ZZ	DR	A 3001	ELEVATIONS 01	05
DUPS	FTA	B00L	ZZ	DR	A 3002	ELEVATIONS 02	05
DUPS	FTA	B00L	ZZ	DR	A 3101	SECTIONS 01	05
DUPS	FTA	B00L	ZZ	DR	A 4001	WALL TYPE DETAILS / PARTITION DETAILS	05
DUPS	FTA	B00L	ZZ	DR	A 4201	WALL SECTIONS 01	06
DUPS	FTA	B00L	ZZ	DR	A 4202	WALL SECTIONS 02	06
DUPS	FTA	B00L	ZZ	DR	A 4401	STAIR AND RAMP DETAILS	03
DUPS	FTA	B00L	ZZ	DR	A 4501	BALUSTRADE AND HANDRAIL DETAILS	04
DUPS	FTA	B00L	ZZ	DR	A 4801	TYPICAL COVERED WALKWAY DETAILS	04
DUPS	FTA	B00L	ZZ	DR	A 4901	TYPICAL FASCIA DETAILS	04
DUPS	FTA	B00L	ZZ	DR	A 6001	EXTERNAL DOOR & WINDOW SCHEDULE	04
DUPS	FTA	B00L	ZZ	DR	A 6002	INTERNAL DOOR & WINDOW SCHEDULE	04
DUPS	FTA	B00L	ZZ	DR	A 9001	PERSPECTIVES 1	04
DUPS	FTA	B00L	ZZ	DR	A 9002	PERSPECTIVES 2	04

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DESIGN CRITERA SCHEDULE

Design wind criteria
The design wind criteria applied in accordance with AS 1170.2, 'Structural Design Actions Part 2: Wind Actions', are:
Region: A2
Building Importance Level: 3
Regional Wind Speed: 46 m/sec
Terrain Category: 3

Atmospheric corrosivity category
The atmospheric corrosivity category in accordance with AS/NZS 2312.2 is: C3
Unless noted otherwise the minimum category applicable is to be category C. Categories D, E and F to apply if deemed appropriate by the relevant manufacturers.

Design Rainfall intensity to AS/NZS 3500.3 : Eaves Gutters = 1 in 20 year storm, 5 minute duration (240mm/hr)

Insulation design requirements
The insulation design criteria are;
Building Climate Zone: 6
BCA Building Type: 9b
Roof system R value: 4.5 downwards
Wall system min R value: 1.4
Floor system min R value: not required

MATERIALS + FINISHES SELECTIONS

322 CONCRETE

Refer to specification for concrete selections and finishes.

332 MASONRY

MA01- BRICKS - FACEWORK - TYPE 1
Finishes Code: BK01 - PGH_Tinto Cream

332 STRUCTURAL STEEL

SS02 - STRUCTURAL STEEL - HOT DIPPED GALVANISED COATING

442 METAL ROOFING + CLADDING

MR02 - METAL ROOF SHEETING - RIBBED
Finishes Code: CB24 - Colorbond Surfmist

MR41 - GUTTER EAVES - 150mm HALF ROUND
Finishes Code: CB18 - Colorbond Monument

MR42 - GUTTER EAVES - 200mm HALF ROUND
Finishes Code: CB18 - Colorbond Monument

MR51 - DOWNPIPE - METAL - 100DIA ZINCALUME
Finishes Code: CB18 - Colorbond Monument

MR52 - DOWNPIPE - METAL - 150DIA ZINCALUME
Finishes Code: CB18 - Colorbond Monument

MR61 - DP PROTECTION - SMALL
Finishes Code: CB18 - Colorbond Monument

MR62 - DP PROTECTION - LARGE
Finishes Code: CB18 - Colorbond Monument

MR71 - FASCIA - METAL FACED CFC
Finishes Code: CB18 - Colorbond Monument

MR91 - FLASHINGS & TRIMS
Finishes Code: CB18 - Colorbond Monument

MR92 - GUTTER GUARD
Finishes Code: CB24 - Colorbond Surfmist

442 CLADDING

CL41 - PREFINISHED SHEETS - FC TYPE 1
Finish: IC02 - CEMINTEL_Barestone - Original
IC05 - CEMINTEL_Surround - Greyish
IC41 - CEMINTEL_Surround - Blueish

CL51 - FC SOFFIT SHEET - V JOINTS
Finishes Code: to match CB24 Surfmist

452 GLAZING

GL03 - LAMINATED GLASS - CLEAR

GL04 - LAMINATED GLASS - BODY TINTED
Finishes Code: Grey Tint

GL06 - TOUGHENED GLASS - CLEAR

GL07 - TOUGHENED GLASS - BODY TINTED
Finishes Code: Grey Tint

GL33 - VINYL FILM - PRINTED
Finishes Code: Refer Signage schedule

462 DOORS,WINDOWS & HARDWARE

ALUMINIUM FRAMED DOORS & WINDOWS
Finishes Code: MF03 - AAF Anodised Aluminium - Satin Quarry Beige

SOLID LEAF TYPES
Finishes Code: As noted on Door Schedule
PF21 - DULUX_ Midas Touch
PF51 - DULUX_ Alpha Centuri

DW33 LOUVRES - 150MM
Finishes Code: to match CB13 - COLORBOND_Gully
PC51 - DULUX ALPHATEC _ Dark Violet

472 INSULATION & SARKING

Refer to specification for insulation and sarking selections.

512 LININGS & CEILINGS

PLASTERBOARD - WALLS, GENERALLY
Finishes Code: PF01 - DULUX_Lexicon Quarter

PLASTERBOARD - CEILINGS, GENERALLY
Finishes Code: PF02 - DULUX_Ceiling White

FC LINING - WALLS, GENERALLY
Finishes Code: PF01 - DULUX_Lexicon Quarter

FC LINING - CEILING - GENERALLY
Finishes Code: PF02 - DULUX_Ceiling White

LC59 - TRIM TIMBER
Finishes Code: PF03 - DULUX_Smokebush

LC81 - ACOUSTIC CEILING PANEL SYSTEM
Finishes Code: AF12 - WOVEN IMAGE_EchoPanel_Cinnamon

LC86 - ACOUSTIC WALL FABRIC
Finishes Code: AF01 - INSTYLE_Ecoustic Felt_Lunar
Scheme 1: AF11 - WOVEN IMAGE_EchoPanel_Wine
AF12 - WOVEN IMAGE_EchoPanel_Cinnamon
AF14 - AUTEX_Composition_Cavalier

LC87 - ACOUSTIC WALL FABRIC - PATTERNED
Finishes Code: AF02 - INSTYLE_Ecoustic Yalgu_Stringybark
Scheme 1: AF13 - INSTYLE_Ecoustic Yalgu_Tamarind

522 JOINERY

JY01 - 18MM HIGH PRESSURE LAMINATE - MR E0 MDF
Locations: Generally doors, drawers and gables

JY02 - 18MM LOW PRESSURE LAMINATE - MR E0 MDF

JY03 - 25MM HIGH PRESSURE LAMINATE - MR E0 MDF
Locations: Generally full height doors and open shelving

JY04 - 38MM HIGH PRESSURE LAMINATE - MR E0 MDF

JY05 - 38MM POSTFORM HIGH PRESSURE LAMINATE BENCHTOP - MR EO MDF

JY07 - WRITABLE SURFACE

JY08 - CARCASS / WHITEBOARD

JY09 - 18MM RAW MR E0 MDF BOARD

JY11 - 13MM COMPACT LAMINATE

LAMINATE SELECTIONS
Finishes Code/Decor: LAM01 - FORESTONE_Egger_Premium White_Gloss
LAM06 - FORESTONE_Egger_White Linen
Scheme 1: LAM11 - FORESTONE_Egger_Rusty Red, U335 ST9
LAM12 - FORESTONE_Egger_Antique Rose, U325 ST9
LAM13 - FORESTONE_Egger_Sand Yellow, U125 ST9

JY21 - 25MM MILD STEEL - POWDERCOAT FRAME
Finishes Code: PC04 - Black

532 METALWORK

MW01 - BALUSTRADE - GALV STEEL
Finish: hot dip galvanised

MW21 - FENCING - TYPE 1 - SECURE LINE (2100 HIGH)
Finish: PC04 - Black

MW54 - AWNING ALUMINIUM TYPE 2 - VERTICAL FINS
Finishes Code: PC22 - DULUX DURATEC_ Intensity_ Sunshine_Gloss
PC51 - DULUX ALPHATEC _ Dark Violet

MW59 - FACADE FRAMING ELEMENT - ALUMINIUM
Finishes Code: to match CB18 - Monument

MW72 - ACOUSTIC LOUVRES PLANT SERVICES STORES - TYPE 1 (150 WIDE)
Finishes Code: MF03 - AAF Anodised Aluminium - Satin Quarry Beige

542 SIGNS AND DISPLAY

Refer to Specification for Statutory Signage requirements
Refer to Signage Schedule for all other sign types.

552 MISCELLANEOUS FIXTURES

FX91 - ROLLER BLINDS - MANUAL BLOCKOUT
Finishes Code: FB01 - HUNTER DOUGLAS_Paperbark

582 HYDRAULIC FIXTURES

Refer Specification Volume 1 for Hydraulic Fixtures Selections and associated fixtures.

The quanities of the fixtures are listed below

HY01 - BASIN - WALL MOUNTED WITH MIXER
QTY: 6

HY05 - BASIN - PWD ACCESSIBLE WITH MIXER & SHELF
QTY: 1

HY14 - SINK - CLEANER WITH TAP
QTY: 1

HY19 - TROUGH - PRACTICAL ACTIVITIES
QTY: 4

HY21 - TOILET SUITE - STUDENT STANDARD
QTY: 4

HY24 - TOILET SUITE - ACCESSIBLE
QTY: 1

HY26 - TOILET SUITE - AMBULANT
QTY: 2

642 TILING

TG01 - FLOOR TILE
Finishes Code: TG01 - GLENNON TILES_ Bauhaus_ 100x100_ Pewter

TG11 - WALL TILE
Finishes Code: TG11 - GLENNON TILES_ Bauhaus_ 100x100_ Gloss White

TG12 - FEATURE WALL TILE
Finishes Code: TG12 - GLENNON TILES_ New Vintage F402_ 150x75_ Light Taupe

652 RESILIENT FINISHES

RF01 - MAIN FLOOR VINYL
Finishes Code: VN01 - TARKETT_Granit_Warm Grey
Scheme 1: VN11 - TARKETT_iQ Granit_Red Brick

RF02 - ANTI-STATIC FLOOR VINYL
Finishes Code: VN02_GERFLOR_Mipolam Affinity EL7_Grey Storm 4159

RF11 - WALL VINYL
Finishes Code: VN06 - TARKETT_Protect Wall 1.5mm_Uni Linen

662 CARPETS & MATS

CM01 - CARPET TILE TYPE 1
Finishes Code: CP01 - SIGNATURE_Raw Elements_Bedrock_Shale_3-000-000-01
Scheme 1: CP11 - SIGNATURE_Raw Elements_Gemstone_ Shale Ruby_3-133-134-01
CP12 - SIGNATURE_Raw Elements_Gemstone_ Shale Sunstone_3-135-136-01
CP13 - SIGNATURE_Raw Elements_Gemstone_ Shale Ametrine_3-133-134-01

CM26 - ENTRY MAT - INTERNAL
Finishes Code: CP06 - FORBO_Coral Classic_4721 Mouse Grey

DRAWING & SPECIFICATION MATERIAL CODE LEGEND

The Codes below represent the Specification Trade Section where detailed selection information is to be obtained for elements nominated in the drawings. The codes below will be followed by a two / three numeric trade selection reference for each different selection type.

TRADE SECTION	CODE
GENERAL	
Fire Stopping	FS
Termite Management	TM
Access Safety Systems	AS
SITE	
Landscape	LD
STRUCTURE	
Concrete	CN
Brick & Block Construction	MA
Structural Steel	SS
Light Steel Framing	SF
Timber Framing	TF
Decking & Flooring	FD
ENCLOSURE	
Waterproofing External	WE
Metal Roofing & Cladding	MR
Roof Tiling	RT
Cladding	CL
Glazing	GL
Doors, Windows & Hardware	DW
Insulation & Sarking Membranes	IS
INTERIOR	
Linings & Ceilings	LC
Joinery	JY
Metalwork	MW
Signs and display	SD
Miscellaneous Fitures	FX
Equipment & Appliances	EQ
Furnishings & Furniture	FF
Hydraulic Fixtures	HY
FINISH	
Rendering & Plastering	RP
Cementitious Toppings	CT
Waterproofing - Wet Areas	WI
Tiling	TG
Resilient finishes	RF
Carpets	CM
Painting	PG

Patternbook Interior Design Components: Reference Documentation

Floor Finishes - refer to the *SINSW Patternbook, Volume 2, section 5.2* for Floor Finish Design intent to the Learning Commons and GLS / Multi-Purpose Room. Additional detail on finishes can be found on the SINSW GLS and SLU GA PLAN & FFE drawings.

Wall Finishes - refer to the *SINSW GLS and SLU GA PLAN & FFE* drawing for indicative extents of wall applied finishes.

Ceilings Finishes - refer to the *SINSW Patternbook, Volume 2,* section 5.3 for Ceiling Finish Design intent to the Learning Commons and GLS / Multi-Purpose Room. Additional detail on finishes can be found on the SINSW GLS and SLU GA PLAN & FFE drawings.

Joinery - refer to the *SINSW Patternbook, Volume 2,* section 5.4 for Joinery Design intent to the Learning Commons and GLS / Multi-Purpose Room. Additional detail on joinery can be found in the SINSW *Design Guide Note DGN005 - Furniture, Fixtures and Equipment (joinery)* in *Primary School General Learning Spaces.*

Furniture - refer to the *SINSW GLS and SLU GA PLAN & FFE* drawing for indicative furniture layouts.

REV.	DESCRIPTION	DATE	INT.
06	REF ISSUE	07/02/2025	NK
05	SD TENDER ADDENDUM	05/02/2025	NK
04	SD TENDER ADDENDUM	21/01/2025	NK
03	100% SCHEMATIC DESIGN	19/12/2024	NK
02	95% SCHEMATIC DESIGN	09/12/2024	NK
01	80% CONCEPT DESIGN	26/11/2024	NK

fulton trotter
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 26-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au

Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550
To be used for authorised work only. Not to be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes.

DIRECTORS
Greg Isaac-raia NSW 6858 QLD 2003
Julie M Ellaway-raia QLD 3373
John Ward-raia VIC 16804 NSW 8371 QLD 3847
Andrew Theocharopoulos-fraia NSW 7434 QLD 4029
Paul Selkova-fraia NSW 7180 QLD 3108
Ryan Loveday-fraia QLD 4500

ADDRESS: 85 KISSING POINT ROAD, DUNDAS, NSW
PROJECT: DUNDAS PUBLIC SCHOOL
CLIENT: SCHOOL INFRASTRUCTURE NSW
PHASE: REF

DRAWING: SPECIFICATION SCHEDULE & MATERIAL SCHEDULE

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	NK

DRAWING NUMBER: DUPS-FTA-XX-XX-DR-A-0001
REVISION: 06

150mm @ A1 | 150 | 50 | 100 | 150mm @ A1

plot date: Friday, 7 February 2025 12:45 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

SN21 – SIGN EXTERNAL – Decorative Building ID Letters/ AMS building identification

Property	Description
Drawing Code:	**SN21**
Item:	Decorative Building Identification Letters
Details:	Aluminium powder coated sign plate with either laser cut 3M vinyl film (strong adhesive to avoid pealing and students picking) or printed directly onto sign Aluminium panel with engraved and paint filled lettering screw fixed to wall
Sign Text:	Letters created with diagonally angled lines. Area between lines increases halfway through the letter.
Font:	Gill Sans MT Regular (As per EFSG Details)
Size:	600mm H (Width according to letter proportion) Exact size to be confirmed
Fixing:	Pre-drilled holes in each corner at a maximum of 300mm intervals Screw and adhesive fix to wall through pre-drilled holes with compatible noncorrosive screws.
Finish:	Powder Coat Aluminium – Colour to be as per the selected colour scheme Vinyl - white
Colour Scheme:	
Mock Up & Example:	
Notes:	ACM (Aluminium Composite Material) will **NOT** be accepted as an alternative to aluminium.
Quantity:	2

SN23 – ROOM ID SIGN – AMU Room Numbers

Property		Description
Drawing Code:		**SN23**
Name:		Fixed Room Identification System (AMS Signage)
Sign Details:		Changeable Plate System within Aluminium Holder
Plate Details:		Laminated plastic with contrasting-coloured layers contrasting coloured layers with engraved characters. Depth of engraving sufficient to cut through top layer to reveal lower laminate colour. (as per EFSG Details)
Holder Details:		Extruded aluminium in natural satin finish to 10 microns (minimum)
Typeface:		Folio Medium Extended (As per EFSG Details)
Size:	Plate:	(Text width + 30mm each end) W x 30mm H *(As per EFSG Details)*
	Holder:	(Text width + 32mm each end) W x 32mm H *(As per EFSG Details)*
	Text:	Characters 16mm H
Install Location:		Centre of door frame at top of the door
Fixing:		Screw Fixed on flat section in 3 places. Glue and screw fix with 3mm diameter countersunk screws (EFSG requirement)
Finish:	Plate:	Silver (as shown in example below)
	Text:	Black Letters (as shown in example below)
EFSG Details:		Ensure EFSG approval before ordering or manufacturing sign
Example:		
Notes:		Existing doors with existing door number plates to be reviewed. If the sign is missing or damaged, to be replaced with the specification note above. If the sign is in good condition and the room function is the same no sign required. If the sign is in good condition but the room's purpose has changed only new sign plate is require with new purpose as listed below.
Location:		**ALL DOORS MUST** have AMS Room Number Displayed in accordance with EFSG requirements.
Quantity:		19

SN24 – ROOM ID SIGN – BOH Rooms

Property		Description
Drawing Code:		**SN24**
Name:		Fixed Room Identification (AMS Door Signs)
Details:		Changeable Plate System within Aluminium Holder
Typeface:		Folio Medium Extended (As per EFSG Details)
Size:	Plate:	(Text width + 30mm each end) W x 30mm H *(As per EFSG Details)*
	Holder:	(Text width + 32mm each end) W x 32mm H *(As per EFSG Details)*
	Text:	Characters 16mm H
Install Location:		1000mm AFFL to centre, centred on door.
Fixing:		Screw Fixed on flat section in 3 places. Glue and screw fix with 3mm diameter countersunk screws (EFSG requirement)
Finish:	Plate:	Silver
	Text:	Black Letters
Example:		
Notes:		
Location:		To **ALL** timber doors and to rooms which are not identified under SN020 or SN021. Exact Room names to be confirmed with School.
Quantity:		4

SN40 – AMENITIES SIGN – Aluminium door signage

Property	Description
Drawing Code:	**SN40**
Name:	Aluminium amenities identification signage
Details:	Laser cut aluminium icon indicating the function of the room is located on (Male, Female, Ambulant or Accessible). Discreetly direct fixed to the door.
Size (mm):	1000mm ht (Width in proportion to height) – exact height TBC
Finish:	Black anodised aluminium
Icon:	As per the signage schedule
Fixing:	Secure conceal fixed to door
Mock Up:	
Quantity:	7

REV.	DESCRIPTION	DATE	INT.
02	REF ISSUE	07/02/2025	NK
01		21/01/2025	

fulton trotter
ARCHITECTS BRISBANE SYDNEY
www.fultontrotter.com.au
SYDNEY Suite 904, Level 9, 28-36 Foveaux Street, Surry Hills, NSW 2010
t. (02) 8383 5151 e. sydney@fultontrotter.com.au
Fulton Trotter Architects ACN 677 264 550 ABN 57 677 264 550

To be used for authorised work only. Not to be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes.

DIRECTORS
Greg Isaac-raia NSW 6855 QLD 2003
Justine Ellaney-raia QLD 2073
Kellie Ward-raia VIC 16804 NSW 8371 QLD 3847
Andrew Trotter-papoulos fraia NSW 7434 QLD 4029
Paul Sakkara fraia NSW 7160 QLD 3108
Ryan Loveday fraia QLD 4500

ADDRESS / PROJECT / CLIENT / PHASE

REF
SCHOOL INFRASTRUCTURE NSW

DUNDAS PUBLIC SCHOOL

85 KISSING POINT ROAD,
DUNDAS, NSW

DRAWING

SIGNAGE SCHEDULE

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068DU01	JW	KW

DRAWING NUMBER: **DUPS-FTA-XX-XX-DR-A-0002**

REVISION: **02**

150mm @ A1
150
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100
150mm @ A1

plot date: Friday, 7 February 2025 12:45 PM file location: BIMcloud: FTA-SYD-BIM26 - BIMcloud Basic for Archicad 26/7068DU01 Dundas Public School

School Infrastructure Group 2

Design & Construction

MASTER SPECIFICATIONS

7068VA01

For: Department of Education NSW / SINSW

Specification of Workmanship and Materials

Volume 1 - Architectural

Rev	Date	Issue	By	Rev	Date	Issue	By
-	26.11.2024	Schematic Design 80% Issue Dundas Public School, Northmead Public School	JWH	-	21.01.2025	Schematic Design Tender Addendum Issue Dundas Public School, Northmead Public School	JWH
-	06.12.2024	Schematic Design 80% Issue Kingswood Public School, Dalmeny Public School, Greenway Pk Public School, Kogarah Public School	JWH				
-	12.12.2024	Schematic Design 80% Issue Vincentia High School, Milton Public School, Ulladulla Pk Public School, Ulladulla High School	JWH				
-	16.12.2024	Schematic Design 80% Issue Cammeray Public School	JWH				
-	18.12.2024	Schematic Design 100% Issue Cammeray PS. Dundas PS, Kingswood PS, Northmead PS, Dalmeny PS, Greenway PK PS, Kogarah PS	JWH				

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ARCHITECTS

Company name: Fulton Trotter & Partners Architects Pty Ltd
ABN: 71 657 008 791
NATSPEC Subscriber Number: 93100887

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School Infrastructure Group 2 - D&C
Project No: 7068VS01

MASTER SPECIFICATIONS
Volume 1 – Architectural

SPECIFICATION OF WORKMANSHIP AND MATERIALS TO BE PROVIDED FOR:

School Infrastructure Group 2 - D&C

Project No: 7068VS01

for: **Department of Education NSW / SINSW**

To the satisfaction of the following Consultants:

ARCHITECTS: **Fulton Trotter Architects (FTA)**
Suite 904, L9, 28 Foveaux Street
SURRY HILLS NSW 2010
p: 02 8383 5151
e: sydney@fultontrotter.com.au

BUILDER: To be confirmed

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Project No: 7068VS01

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XXXX- FTA-XX-XX-SH-A-0002	Finishes Board	Rev 1
XXXX- ASS-XX-XX-SH-A-0003	Door Hardware Schedule	Rev 1
XXXX- FTA-XX-XX-SH-A-0004	Building Manual Template	Rev 1

School Infrastructure Group 2 - D&C
Project No: 7068VS01

THIS DOCUMENT IS SET UP FOR DOUBLE SIDED PRINTING CONSEQUENTLY THIS PAGE IS NOT USED

HOW TO USE THIS SPECIFICATION

Fulton Trotter Architects have been working hard to ensure our documents are well coordinated and less ambiguous. In developing our specification system we have identified 4 key elements to assist with achieving these goals. These elements are:

1 GENERIC MATERIALS AND WORKMANSHIP SECTIONS

Each of the trades contained within the specification will have a corresponding 'generic' materials and workmanship section. The reference number for each of these sections will end in a 1 (eg 111 Preliminaries, 451 Windows, Glazed Doors & Glazing and 671 Painting). While we use the term 'generic' the specification section has been developed by Fulton Trotter Architects using NATSPEC as its base.

The 'generic' section will generally contain subsections relating to:

1 GENERAL

2 PRODUCTS AND MATERIALS

3 EXECUTION AND WORKMANSHIP

Being 'generic' it may contain references to particular generic products and materials NOT used in this particular project however for consistency and quality assurance purposes this 'generic' section will not be amended to suit the particular project. Project specific information is contained within the project specific SELECTIONS sections.

2 PROJECT SPECIFIC SELECTIONS SECTIONS

Each of the trades contained within the specification that require project specific selections of products and materials will have a corresponding SELECTIONS section. The reference number for each of these sections will have the first two digits matching the 'generic' section and will end in a 2 (eg 112 Preliminaries Schedules and Annexure, 452 Windows, Glazed Doors & Glazing Selections and 672 Painting Selections.

If a trade does not have a SELECTIONS section, then it is deemed that that particular trade does not have any project specific selections relevant to the project. Trades that fall into this category include 121 General Requirements, 131 Common Requirements, as examples.

3 MATERIALS & PRODUCT CODES

Within the SELECTIONS section of each trade there are a series of tables/schedules nominating specific products, materials and systems relevant to the project. Each product, material or system will have a unique material code included within the table/schedule. This unique material code matches the codes attributed to elements within the architectural model and consequently these codes will appear on the drawings.

Legends listing the products, materials and systems used within the architectural model that appear on that particular drawing will automatically be generated and included on the respective drawing sheet. The material code consists of 2 alpha characters and generally 2 numerals. The alpha characters relate to the trade (eg MR = Metal roofing and cladding) to assist in locating the particular product within the specification. Accordingly each trade within the specification is identified with the corresponding trade code. the intention is to make it easier to locate the specification details for products, materials and systems nominated on drawings.

The list of trades and respective trade codes are included at the end of this section.

School Infrastructure Group 2 - D&C
Project No: 7068VS01

4 PROPRIETARY ITEMS

Fulton Trotter Architects has nominated proprietary items where appropriate. Considerable time and energy goes into selecting appropriate materials and systems for our projects and consequently we recommend for all proprietary items to be included in a tender for it to be conforming.

In some instances we have nominated more the one proprietary item in a specific selection. This indicates that all alternatives nominated will be accepted and there is no need to nominate this at tender time. In other instances 'or equal' may be nominated, and in this instance 'equal' alternatives will be considered however these should be nominated at time of tender. Detailed information regarding the proposed alternative need not be submitted with the tender however if the tender is being considered this detail will be required prior to finalising any tender and acceptance of same. This means all 'alternatives' will be agreed prior to accepting the tender and starting construction.

At all times prior to accepting a tender and preparing contract documents 'alternatives' may be proposed however a conforming tender should also be prepared and submitted.

SPEC CODE	MATERIAL CODE	TRADE SECTION
100		**GENERAL**
100S		INSIDE COVER & CONSULTANT LIST
121	GR	GENERAL REQUIREMENTS
131	CR	COMMON REQUIREMENTS
141	FS	FIRE STOPPING
142	FS	FIRE STOPPING SELECTIONS
151	TM	TERMITE MANAGEMENT
152	TM	TERMITE MANAGEMENT SELECTIONS
161	RS	ROOF ACCESS SAFETY SYSTEMS
162	RS	ROOF ACCESS SAFETY SYSTEMS SELECTIONS
200		**SITE**
211	DE	DEMOLITION
212	DE	DEMOLITION SELECTIONS
221	GW	GROUNDWORKS
222	GW	GROUNDWORKS SELECTIONS
300		**STRUCTURE**
321	CN	CONCRETE
322	CN	CONCRETE SELECTIONS
331	MA	MASONRY
332	MA	MASONRY SELECTIONS
341	SS	STRUCTURAL STEEL
342	SS	STRUCTURAL STEEL SELECTIONS
351	SF	LIGHT STEEL FRAMING
352	SF	LIGHT STEEL FRAMING SELECTIONS
361	TF	TIMBER FRAMING
362	TF	TIMBER FRAMING SELECTIONS
371	FD	FLOORING & DECKING
372	FD	FLOORING & DECKING SELECTIONS
400		**ENCLOSURE**
411	WE	WATERPROOFING - EXTERNAL
412	WE	WATERPROOFING - EXTERNAL SELECTIONS

School Infrastructure Group 2 - D&C
Project No: 7068VS01

SPEC CODE	MATERIAL CODE	TRADE SECTION
421	MR	METAL ROOFING & CLADDING
422	MR	METAL ROOFING & CLADDING SELECTIONS
441	CL	CLADDING
442	CL	CLADDING SELECTIONS
451	GL	GLAZING
452	GL	GLAZING SELECTIONS
461	DW	DOORS, WINDOWS & HARDWARE
462	DW	DOORS, WINDOWS & HARDWARE SELECTIONS
471	IS	INSULATION AND SARKING
472	IS	INSULATION AND SARKING SELECTIONS
500		**INTERIOR**
511	LC	LININGS & CEILINGS
512	LC	LININGS & CEILINGS SELECTIONS
521	JY	JOINERY
522	JY / LAM / AC	JOINERY SELECTIONS
531	MW	METALWORK
532	MW	METALWORK SELECTIONS
541	SD	SIGNS & DISPLAY
542	SD	SIGNS & DISPLAY SELECTIONS
551	FX	MISCELLANEOUS FIXTURES
552	FX	MISCELLANEOUS FIXTURES SELECTIONS
600		**FINISH**
621	CT	CEMENTITIOUS TOPPINGS
622	CT	CEMENTITIOUS TOPPINGS SELECTIONS
631	WI	WATERPROOFING – WET AREAS
632	WI	WATERPROOFING – WET AREAS SELECTIONS
641	TG	TILING
642	TL	TILING SELECTIONS
651	RF	RESILIENT FINISHES
652	VN	RESILIENT FINISHES SELECTIONS
661	CM	CARPETS & MATS
662	CP	CARPETS & MATS SELECTIONS
671	PG	PAINTING
672	PF	PAINTING SELECTIONS

IF IN DOUBT – ASK

If there is a discrepancy or ambiguity in the documents please seek clarification from the Architect responsible as soon as the discrepancy or ambiguity becomes evident. During the tender period addendum will be issued to clarify any issues.

121 GENERAL REQUIREMENTS

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project.

1.2 INTERPRETATION

Abbreviations
General: For the purposes of this contract the abbreviations given below apply.

- AS: Australian Standard.
- BCA: Building Code of Australia.
- CFC: Compressed fibre cement.
- CSIRO CMSE: ActivFire Register of Fire Protection Equipment.
- DPC: Damp proof course.
- MS: Mild steel.
- MSDS: Material safety data sheets.
- NATA: National Association of Testing Authorities.
- NZS: New Zealand Standard.
- PCA: Plumbing Code of Australia.
- SS: Stainless steel.
- VOC: Volatile organic compound.

Definitions
General: For the purposes of this contract the definitions given below apply.

- Attendance: ‘Attendance’, ‘provide attendance’ and similar expressions mean ‘give assistance for examination and testing’.
- Contract administrator: ‘Contract administrator’ has the same meaning as ‘architect’ or ‘superintendent’ and is the person appointed by the ‘owner’ or ‘principal’ under the contract.
- Default: Specified value, product or installation method which is to be provided unless otherwise documented.
- Design life: The period of time for which it is assumed, in the design, that an asset will be able to perform its intended purpose with only anticipated maintenance but no major repair or replacement being necessary.
- Documented: ‘Documented’, ‘as documented’ and similar terms mean contained in the contract documents.
- Economic life: The period of time from the acquisition of an asset to when the asset, while still physically capable of fulfilling its function and with only anticipated maintenance, ceases to be the lowest cost alternative for satisfying that function.
- Geotechnical site investigation: The process of evaluating the geotechnical characteristics of the site in the context of existing or proposed construction.
- Give notice: ‘Give notice’, ‘submit’, ‘advise’, ‘inform’ and similar expressions mean ‘give notice (submit, advise, inform) in writing to the contract administrator’.
- Hold point: The activity cannot proceed without the approval of the contract administrator.

- IP: 'IP', 'IP code', 'IP rating' and similar expression have the same meaning as 'IP Code' in AS 60529.
- Obtain: 'Obtain', 'seek' and similar expressions mean 'obtain (seek) in writing from the contract administrator'.
- Metallic-coated: Steel coated with zinc or aluminium-zinc alloy as follows:
  . Metallic-coated steel sheet: To AS 1397. Metal thicknesses specified are base metal thicknesses.
  . Ferrous open sections zinc coated by an in-line process: To AS/NZS 4791.
  . Ferrous hollow sections zinc coated by a continuous or specialised process: To AS/NZS 4792.
- Pipe: Includes pipe and tube.
- Principal: 'Principal' has the same meaning as 'owner', 'client' and 'proprietor' and is the party to whom the contractor is legally bound to construct the works.
- Professional engineer: A person who is listed on the National Professional Engineers Register (NPER) in the relevant discipline at the relevant time. For projects located in Queensland, the Engineer shall be a practising Professional Engineer registered under the Professional Engineer's Act 2002 (Queensland).
- Proprietary: 'Proprietary' means identifiable by naming manufacturer, supplier, installer, trade name, brand name, catalogue or reference number.
- Provide: 'Provide' and similar expressions mean 'supply and install' and include development of the design beyond that documented.
- Registered testing authority:
  . An organisation registered by the National Association of Testing Authorities (NATA) to test in the relevant field; or
  . An organisation outside Australia registered by an authority recognised by NATA through a mutual recognition agreement; or
  . An organisation recognised as being a Registered Testing Authority under legislation at the time the test was undertaken.
- Required: Means required by the documents, the local council or statutory authorities.
- If required: A conditional specification term for work which may be shown in the documents or be a legislative requirement.
- Samples: Includes samples, prototypes and sample panels.
- Supply: 'Supply', 'furnish' and similar expressions mean 'supply only'.
- Tests:
  . Pre-completion tests: Tests carried out before completion tests.
  . Type tests: Tests carried out on an item identical with a production item, before delivery to the site.
  . Production tests: Tests carried out on a purchased item, before delivery to the site.
  . Site tests: Tests carried out on site.
  . Completion tests: Tests carried out on completed installations or systems and fully resolved before the date for practical completion, to demonstrate that the installation or system, including components, controls and equipment, operates correctly, safely and efficiently, and meets performance and other requirements. The superintendent may direct that completion tests be carried out after the date for practical completion.
- Tolerance: The permitted difference between the upper limit and the lower limit of dimension, value or quantity.
- Verification: Provision of evidence or proof that a performance requirement has been met or a default exists.
- Witness points: Provides an opportunity to attend an activity but does not involve an obligation. The activity can proceed without approval from the contract administrator.

1.3 PRECEDENCE

Precedence
General: Requirements of subsequent worksections of the specification override conflicting requirements in this worksection.

1.4 REFERENCED DOCUMENTS

Contractual relationships
General: Responsibilities and duties of the principal, contractor and contract administrator are not altered by requirements in the documents referenced in this specification.

Current editions
General: Use referenced documents which are the editions, with amendments, current 3 months before the closing date for tenders, except where other editions or amendments are required by statutory authorities.

1.5 EFSG COMPLIANCE

Notwithstanding other BCA and Australian Standard compliance requirements and the requirements of the drawings and specifications, the project shall generally comply with the requirements of Schools Infrastructure NSW (SINSW) Education Facilities Standards and Guidelines (EFSG).

1.6 GREEN STAR REQUIREMENTS

Indoor Environment Quality
As per the Green Building Council of Australia, Greenstar Matrix Section 13. INDOOR POLLUTANTS 13.1.1/2 requires 95% of Paints, Adhesives, Sealants, and Carpets to be LOW VOC. Compliance must be achieved through one of the following, Product Certification, Lab Test or No paints, adhesives, or sealants/carpets. Proof of compliance must be provided by the Architect and / or Builder.

Innovation
As per the Green Building Council of Australia, Greenstar Matrix Section 30. IMPROVING ON GREEN STAR BENCHMARKS 30.C - 50% of all paints used to be classed as ULTRA LOW VOC, with the rest to be LOW VOC.

1.7 OCCUPATION CERTIFICATE

It is an offence for any person to occupy any portion of a building of class 2 to 9 inclusive until an OCCUPATION CERTIFICATE has been issued by the nominated Building Certifier.

It is the Contractor's responsibility to collect and collate all certificates required by the Council and Building Certifier in order to obtain the Occupation Certificate.

Provide all other certification as required and obtain the Local Authority's / Private Certifier's Occupation Certificate of the building or completed sections at Practical Completion.

Practical Completion cannot be achieved until the above certificates are provided to the Superintendent.

1.8 INTERPRETATION OF DRAWINGS

Survey drawings
Existing and proposed ground levels are indicated on the drawings including natural ground lines on sections etc. If available, a copy of the existing survey is included in the tender documents.

Setting out
The Contractor shall allow to employ a licensed surveyor to identify and peg all relevant boundaries of the site and set out the building on the site including structural columns, floor levels, external overhangs, external wall lines and the like.

Where set out dimensions for the buildings relate to boundaries and existing buildings these are to be checked and any discrepancies identified and resolved with the Superintendent prior to commencing work.

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Note that all civil and landscape works are digitally set out and must be set out on site by a licensed surveyor. The Contractor is to allow to carry out the required surveys.

Existing services
If the Works include alterations to and/or removal of existing services. Verify the locations of all existing services and features before proceeding. Notify any discrepancies to the Superintendent.

Levels
Spot levels shall take precedence over contour lines and ground profile lines.

Discrepancies
The Contractor shall notify the Superintendent in the case of discrepancies in Drawings and/or Specification. Any claims shall be referred to the Superintendent for clarification and/or determination. Where conflicting standards or quality, of materials, or of work and materials are specified, the better quality and more expensive, shall be deemed to have been allowed in any Subcontract, pending decision by the Superintendent.

Diagrammatic layouts
Layouts of service lines, plant, equipment and furniture shown on the drawings are diagrammatic only, except where figured dimensions are provided. Before commencing work, obtain all measurements and other necessary information.

1.9 SHOP DRAWINGS

General
Submit shop drawings showing the following information:

- Relevant details of each assembly, component and connection.
- Information relative to fabrication, surface treatment, transport and erection.
- **Submit Three-Dimensional Shop Drawings including reference grids in XYZ coordinates.**
- **Submission of a co-ordination grid required from shop drawing to confirm alignment of model space and origin prior to the commencement of shop drawing taking place.**
- **Drawing model space origin and location to be aligned with provided Architectural Base Grid IFC File.**
- **3D Shop drawings submission file format: IFC 2x3 & PDF – (DWG or native file format will be not accepted)**
- **2D Shop Drawing submission file format: PDF & 2D DWG**

Particular
Include the following information:

- Identification
- Dimensions of items
- Procedures necessary for shop and site assembly, and erection
- Required fixings for adjoining building elements

Copies
Supply an electronic copy in the file types noted in the above.

Review Process
If the review process requires additional re-submission and review after the first initial review, the superintendent reserves the right to invoice the Contractor for the time associated with the above review. Costs shall be determined using currently published hourly rates for staff employed by the Superintendent.

Permission to use
If the Superintendent considers that such documents are suitable for use for the purposes of the Contract he shall give permission so to use them. Such permission shall not give relief from responsibility for the correctness of such documents except in so far as any error in or omission from such documents has been caused by an error or omission from any documents which the Principal has issued, or caused to be issued, to the Contractor for the purposes of the Contract.

Commencing fabrication

Other than at their own risk, do not stockpile, manufacture, order, assemble or supply anything affected by shop drawings until such drawing submission procedures have been completed.

Note: Shop drawings shall be submitted **before** the cutting and/or fabrication of the elements of the items.

Should elements be cut and/or fabricated before the approved shop drawings are issued by the Superintendent any complete or partially completed work NOT complying with the approved shop drawings shall either be scrapped, reworked or amended to comply with the approved shop drawings.

The Contract Sum shall NOT be changed by the costs of changes or any other consequential costs for labour, materials and/or costs for extension of time and/or overtime to correct the errors.

Supply in sufficient time

Documents to be supplied in accordance with the Contract, including shop drawings, shall be supplied in sufficient time for examination, and revision if necessary, to occur before such documents are required for use. In the event that the time period or the quantum of shop drawing to be reviewed is escalated to assist the Contractor in meeting the program, the superintendent shall reserve the right to invoice the Contractor for the time associated with the above review. Costs shall be determined using currently published hourly rates for staff employed by the Superintendent.

Availability

Keep copies of approved shop drawings on site.

1.10 RESPONSIBILITY

The Contractor shall be held responsible for the proper execution of all work, material and fittings comprised in any Subcontract and for their care, maintenance and protection.

The Contractor shall ensure all caulking and pointing up is executed in the best possible manner and be responsible for the watertightness of the work.

Any separate Contractor employed by the Principal will be responsible for their work, materials, equipment and fittings until same are handed over to the Principal in a satisfactory condition. In such a case the Contractor shall exercise reasonable care and protection but will not be held responsible for such work materials, equipment or fittings not included in his General Contract or Subcontracts, and insufficiently protected by such separate Contractors.

The Contractor shall allow reasonable access to the Works during normal working hours for artists and artisans employed directly by the Principal to carry out particular work.

1.11 TRANSPORT OF MATERIALS AND LABOUR TO SITE

The Contractor shall arrange for all materials to be delivered to site and when they are required, stock piling if necessary to ensure no delay to the Works occur due to impassability of long distance roadways due to flooding or other seasonal access difficulties.

1.12 MEASUREMENT OF WORK

Building work

Unless otherwise specified, measurement of work for the purpose of the Contract shall be in accordance with the principles of the Edition last published prior to the closing date of tenders of the Australian Standard Method of Measurement of Building Works, as authorised by agreement between the Master Builders Federation of Australia Inc. and the Australian Institute of Quantity Surveyors, including amendments thereto.

Civil engineering work

Unless otherwise specified, measurements of work for the purpose of the Contract shall be in accordance with the Edition last published prior to the closing date of tenders of AS 1181 Method of Measurement of Civil Engineering Works and Associated Building Works.

2 PRODUCTS AND MATERIALS

2.1 MANUFACTURER'S RECOMMENDATIONS

Unless otherwise specified, use manufactured items in the work under any subcontract in accordance with the most recently published recommendations of the manufacturer, relevant to such use.

The use of these items includes, but is not limited to, provision, selection, transportation, delivery, storage, handling, protection, finishing, adjusting and preparation for use.

Proprietary items/systems/assemblies: Assemble, install or fix to substrate in accordance with the current written recommendations and instructions of the manufacturer or supplier.

Project modifications: Advise of activities that supplement, or are contrary to, manufacturer's or suppliers' written recommendations and instructions.

2.2 HANDLING OF MATERIALS

Delivery, unloading, handling and hoisting of material and equipment shall be the sole responsibility of the Contractor and his Subcontractors.

2.3 RESPONSIBILITY FOR MEASUREMENTS

The Contractor shall be responsible for establishing site sizes and construction tolerances for any aspect of his work and shall have no claim in respect of discrepancy caused by his failure to check on-site conditions.

2.4 BUILDING MANUAL

Save and except where otherwise covered in this Specification, Subcontractors shall, where requested by the Superintendent, deliver to him through the Contractor:

Building Manual

REQUIREMENT: Before or at ~~At~~ the Date of Practical Completion, provide to the Superintendent one draft electronic Building Manual in electronic or PDF format as agreed with the superintendent, organised in the relevant trade sections as per the specification, for review by the superintendent and consultants.

After the Superintendent and consultants have reviewed the draft Building Manual, feedback shall be returned to the contractor for completion and forwarding to the superintendent within 2 weeks.

The contractor shall apply the following final submission of Building Manual documents:

Electronic Documents (CD or USB drive): 1 copies.

The Building Manual shall take generally the following form:

The manuals shall have a Title Page with name and title of the installation. Each section shall be clearly identified for quick access.

All data must be organised in a neat and concise manner. The sections shall consist of:

Title Page

- Project Name
- Project Address
- Building Manual Prepared by

Emergency Issues Contact Details

(including Business Name, Contact Name, Address, Phone Number, Email address)

- Electrical Issues
- Mechanical Issues
- Hydraulic Issues
- Aluminium Glazing Door and Auto Doors
- Door Hardware
- Tapware, sanitary items, bathroom accessories, hot water systems

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Project Design Consultants

- Architect
- Structural engineer
- Mechanical Engineer
- Electrical engineer
- Hydraulic Services Consultant
- Building Surveyor

Trade Contacts

- Concrete Place
- Structural Steel
- Aluminium Windows and Doors
- Door Hardware
- Walls and Ceiling linings
- Joinery
- Acoustic Wall fabric
- Window Blinds
- Waterproofing
- Flooring
- Painting

Maintenance Schedule

- Hot Water System (6, 12 month, 5 year)
- TMV (12 month)
- RPZ (12 month)
- Exit & emergency Lighting (6 month)
- RCD Testing (3 month)
- Mechanical (3 month)
- Fire Safety (6 month)

Trades – Operational & Maintenance Manual Details

Within each of the following trades include the following supporting information:

- *Name of subcontractor*
- *Contact details of subcontractor*
- *Explanation of system constructed.*
- *As built drawings.*
- *Warranties and guarantees (**Name the principal as warrantee)***
- *Form 12*
- *Detailed maintenance required.*

- Concrete Place
- Structural Steel
- Door Windows and Hardware
  - *Engineers certificate confirming compliance with AS 2047*
- Linings and Ceilings
- Joinery
- Waterproofing
- Floor Coverings
- Painting
- Hydraulic Services

(In addition to the above)
- Equipment Supplied (Asset Register of fixtures and fittings)
- Commissioning Documents
- Installation Test Results and Certificates.
- CCTV Camera recorded footage of installed sanitary drainage.
- Valve numbering register and their isolation areas
- *Warranties and guarantees (**Name the principal as warrantee)***
- Detailed maintenance required.
- As Installed Drawings and Documentation.

- Mechanical Services
  (In addition to the above)
  - Equipment Supplied
  - Schedule of Spares and Consumables
  - Operating Instructions
  - *Warranties and guarantees (**Name the principal as warrantee)***
  - Commissioning Reports (Test Data)
  - Detailed maintenance required.
  - As Installed Drawings and Documentation.

- Electrical Services
  (In addition to the above)
  - Equipment Supplied
  - *Warranties and guarantees (**Name the principal as warrantee)***
  - Form 12
  - Detailed maintenance required.
  - As Installed Drawings and Documentation.

- Building Certification
  - Form 11 Certificate of Occupancy.

Building Maintenance Details

- **General Description of Systems, Equipment and Materials**
  - Include brief overall description of systems, materials and design references and descriptions of each individual system, material and equipment involved.
- **Maintenance of Systems and Equipment and Materials**
  - Include maintenance duties in general, daily and all other periodic maintenance, cleaning and lubrication charts and spare parts list. In addition, include a maintenance schedule as relevant to each component or group of components.
- **Equipment Schedules**
  - Include schedules of equipment showing quantity, location, make, supplier, etc. a value schedule and a schedule of all suppliers with addresses and telephone numbers.
- **Manufacturer's Literature**
  - Manufacturer's advertising literature and/or advertising catalogues will not be acceptable for operation and maintenance instructions but may be included for clarification purposes.
  - Include manufacturer's data on maintenance and operation of all equipment and materials installed. Do not include irrelevant data. Provide copies of warranties and guarantees made out to and in the name of the proprietor.
  - Include any miscellaneous charts, graphs, description, data etc, needed for complete maintenance and operating instructions of all systems and equipment and materials installed.
- **Warranties and Guarantees**
  - Copies of all warranties and guarantees; **Name the principal as warrantee.** Register with manufacturers as necessary. Retain copies delivered with components and equipment. Commence warranty periods at practical completion or at acceptance of installation, if

acceptance is not concurrent with practical completion. If installation is not by manufacturer, and product warranty is conditional on the manufacturer's approval of the installer, submit the manufacturer's written approval of the installing firm.

As Built Drawings

During construction the contractor shall present at each site meeting, draft hand marked as-built drawings, showing the progressive accurate recording of information

The contractor shall engage the hydraulic, civil and electrical consultants to prepare as built drawings for the hydraulic, civil, electrical and mechanical component of the works. The contractor shall provide to the consultant dimensions of all in ground services from the face of the existing buildings, depths, invert and surface levels, location of pits and underground service locations etc, to complete a full set of as built documents. The consultant may request additional information if the contractor's expense for approval. On approval provide two (2) copies of drawings marked "as built" on tracing paper as well as two (2) disk copies of drawings in .dwg file format compatible with AutoCAD Release 2000.

2.5 SAMPLES

APPROVED SAMPLES

Items or work in respect of which samples are specified or requested, shall be in accordance with the approved sample, or within a range defined by approved samples, as determined by the Superintendent. Otherwise such items or work shall be liable to rejection. Keep identifiable approved samples in good condition on the site until Practical Completion.

2.6 SUBMISSIONS

Timing

Submit documents in a timely manner, to suit the construction program. Advise if any of the documents are to be returned. Coordinate submissions of related items. Do not cause delays by making late or inadequate submissions.

Quantity

Bound documents: 3 copies.

Loose documents up to and including A3: One copy.

Loose documents larger than A3: One transparency on heavyweight plastic film the same size as the standard contract drawings.

Electronic documents in PDF and DWG format as applicable.

Identification

Identify the project, contractor, subcontractor or supplier, manufacturer, applicable product, model number and options, as appropriate and include pertinent contract document references. Include service connection requirements and product certification. Identify non-compliances with project requirements, and characteristics which may be detrimental to successful performance of the completed work.

Endorsement

Witness points: Give notice before commencing work affected by contractor's submissions, unless the submissions have been endorsed as satisfactory.

Hold points: Do not commence work affected by contractor's submissions until, if appropriate, the submissions have been endorsed as satisfactory,

Errors: If a document contains errors, submit a new or amended document as appropriate, indicating changes since the previous submission.

Design

General: If part or all of an installation is to be designed by the contractor, submit documents showing the layout and details of the installation.

Variation documents: If it is proposed to change the installation from that shown on the contract documents, or if changes are required by statutory authorities, submit variation documents showing the proposed changes.

Authorities

Submit copies of correspondence and notes of meetings with authorities.

Authorities' approvals: Submit documents showing approval of the authorities whose requirements apply to the work.

Materials & components

Product data: For proprietary equipment, submit the manufacturer's product data including:

- technical specifications and drawings;
- type test reports;
- performance and rating tables; and
- recommendations for installation and maintenance.

Proposed products schedules: For major products not specified as proprietary items, within 3 weeks of site possession submit a schedule of those proposed for use.

Product certification: If products must comply with product certification schemes, submit evidence of compliance.

Execution

Fixing of services: Submit typical details of locations, types and methods of fixing of services to structure, before installation.

Embedded services: Submit proposals for embedding services in concrete walls or floors, or chasing into concrete or masonry walls.

Inaccessible services: If services will be enclosed and not accessible after completion, submit proposals for location of service runs and fittings.

Acceptance of substrate: Submit installers' statements verifying that the substrate is satisfactory for receiving the installation.

2.7 TESTING

INDEPENDENT TESTING AUTHORITY: Unless otherwise specified, any testing required by the Contract to be by an independent authority shall be carried out by an approved member of the National Association of Testing Authorities Australia (NATA).

2.8 QUALITY CONTROL

Quality Assurance

Where there is a recognised quality programme applicable to a specified product, provide assurance of product quality under the authority of that programme. The programme shall be one in which the manufacturer has in place a quality control management system which is subject to continual monitoring through quality audits by a recognised independent organisation.

Data Submission

Before fabrication commences, obtain and submit the following data:

MANUFACTURER'S DATA: The manufacturer's published product data including:

- technical specification;
- recommendations for installation;
- type test or factory test date; and
- instructions for operation, care and maintenance.

TESTING AUTHORITY'S REPORTS: Test report certified by an independent testing authority showing compliance with the criteria of specified tests.

PRODUCT WARRANTIES: Product manufacturer's written statements certifying that the proposed products comply with the specification and are suitable for their intended conditions of use.

APPROVAL OF INSTALLER: If the installation is not by the manufacturer and the manufacturer's warranty is conditional on his approval of the installer, the manufacturer's written approval of the specialist installing firm.

General Requirements of Completed Assemblies
The design proposal must be equivalent to or improve the design, function and material standards described on the drawings and specified.

2.9 PROPRIETARY ITEMS

Definition
A proprietary item shall be any item identified by graphic representation on the Drawings, or by naming one or more of the following: manufacturer, supplier, installer, trade name, brand name, catalogue or reference number, and the like.

Implication
The identification of a proprietary item shall imply exclusive preference for the item so identified and these items must be included in the tender for it to be 'conforming'. If noted otherwise (ie by specifically referring to a product followed by 'or equal' or 'or equal approved') alternative products or systems will be considered however these must be identified at the time of tendering accompanied by reasons for consideration including costs.

Alternatives
If indicated (as noted above) that an alternative may be acceptable the proprietary item shall be deemed to indicate the required properties of the item, such as type, quality, appearance, finish, method of construction, performance, warranties and the like.

Alternative products or systems will be considered however these must be identified at the time of tendering accompanied by reasons for consideration including costs.

In these instances only a similar alternative item having the required properties may be offered by the Contractor. The Superintendent may in his absolute discretion adopt or reject the alternative. No alternative shall be used in works without the Superintendents written permission.

Claims
No claim shall arise from any rejection, nor, unless otherwise agreed, shall adoption of an alternative be ground for any claim for variation to cost or time.

Information
When offering an alternative for approval, the Contractor shall provide all available technical information, and any other relevant information requested by the Superintendent necessary to demonstrate the alternative item is equal to the specified item in all aspects. This information shall be compiled so that there is a direct comparison between the properties of the original item and the alternative proposed. No consideration will be given to any requests for alternatives that do not present the necessary information in this format. If so requested, obtain and submit reports on relevant tests by an independent testing authority.

Alterations
State whether the use of the alternative will require alteration to any other part of the Works. If the alternative is adopted, carry out any such alteration (whether identified at the time or not) without extra charge.

2.10 SEALED CONTAINERS

REQUIREMENT: Materials and products supplied by the manufacturer in closed or sealed containers or packages shall be brought to the point of use in the works in the original unbroken container or package, otherwise they shall be liable to rejection.

2.11 ITEMS SUPPLIED BY PROPRIETOR

SUPPLY: Any materials and other items will be supplied free to the Contractor for use only in the execution of the work.

3 EXECUTION AND WORKMANSHIP

3.1 SITE MANAGER

Throughout the entire course of the works, the Contractor shall maintain on site an experienced Site Manager with a good command of the English language and support staff. During technical sections of the work, the Contractor shall ensure that those sections are adequately supervised by suitably experienced and qualified persons.

Any instructions given to the Site Manager are to be considered as though given to the Contractor.

3.2 CO-ORDINATION

Relationship
The basic relationship between the Contractor and Subcontractor and others shall be of mutual co-operation to ensure the co-ordinated and continuous progress in all sections of the work without delay or interruption.

Extras
Extras will not be authorised by the Superintendent for necessary and/or additional work arising through lack of co-operation between the Contractor and Subcontractors and/or arising from the non-compliance with the previous requirement.

THE CONTRACTOR SHALL ENSURE THAT ALL SUBCONTRACTORS ARE GIVEN THE OPPORTUNITY TO STUDY THIS COMPLETE SPECIFICATION BEFORE TENDERING.

3.3 INSTALLATION

General
Install equipment and services plumb, fix securely and organise reticulated services neatly. Allow for movement in both structure and services.

Arrangement
Arrange services so that services running together are parallel with each other and with adjacent building elements. Under suspended ground floors, keep services at least 150 mm clear above ground surface, additional to insulation, and ensure access is not impeded.

Lifting
Provide permanent fixtures attached to the equipment, for lifting heavy items of equipment, as recommended by the manufacturer.

3.4 SERVICES CONNECTIONS

Statutory authorities' requirements
If the authorities elect to perform or supply part of the works, make the necessary arrangements. Install equipment supplied, but not installed, by the authorities.

Connections
Connect to statutory authorities' services or service points. Excavate to locate and expose connection points. On completion reinstate the surfaces and facilities which have been disturbed.

3.5 SYSTEM INTEGRATION

Interconnect system elements so that the installations perform their designated functions.

3.6 BUILDING PENETRATIONS

Piping sleeves
General: Provide metal or UPVC sleeves formed from pipe sections, for piping penetrations through building elements.

Sleeve diameter (for non fire-rated building elements): Sufficient to provide an annular space around the pipe or pipe insulation of at least 12 mm.

Minimum sleeve thickness:

- Metal: 1 mm.
- UPVC: 3 mm.

Sleeve terminations:

- If cover plates are fitted: Flush with the finished building surface.
- In floors draining to floor wastes: 50 mm above finished floor.
- In fire-rated and acoustic-rated building elements: 50 mm beyond finished building surface.
- Elsewhere: 5 mm beyond finished building surface.

Finish: Prime paint ferrous surfaces.

Cable sleeves

Provide UPVC sleeves formed from pipe sections, for penetrations through ground floor slabs and beams and external walls by cables not enclosed in conduit. In addition, for MIMS cables, provide sleeves for penetrations through masonry.

Fire rated building elements

Seal penetrations with a system conforming to AS 4072.1.

Non-fire rated building elements

Seal penetrations around conduits and sleeves. Seal around cables within sleeves. If the building element is acoustic rated, maintain the rating.

Limitations

General: Do not penetrate or fix to the following without approval:

- Structural building elements including external walls, fire walls, floor slabs and beams.
- Membrane elements including damp-proof courses, waterproofing membranes and roof coverings.

Membranes: If approval is given to penetrate membranes, provide a waterproof seal between the membrane and the penetrating component.

3.7 FIXING

If equipment and services are not suitable for fixing to non-structural building elements, fix directly to structure and trim around holes or penetrations in non-structural elements.

3.8 FIRE PROTECTION

Restrictions

Light no fires on site.

3.9 DISPOSAL OF REFUSE

Requirement

Regularly remove all refuse from the site (including food scraps and the like) resulting from work under any Subcontract. Handle refuse in a manner so as to confine the material completely and prevent dust emission.

Each Subcontractor shall be responsible for regular cleaning of the working area and/or site, of debris resulting from his works. All such debris shall be deposited in a heap as directed by the Project Foreman, to be removed by the Contractor from time to time. If any Subcontractor fails to comply with the above, or as and when requested by the Foreman, the Contractor may clean up at the Subcontractor's expense and deduct the costs from any moneys which may be or become due to the Subcontractor.

3.10 PROTECTION OF TREES

General

Refer to the site plan for the location of tree and soft landscaping to be retained or removed. Where shown to be retained, the contractor shall erect protective barriers to the extent indicated. The contractor shall be responsible for rectification of damaged trees and landscaping and shall employ a qualified tree surgeon to undertake rectification.

3.11 EROSION & SEDIMENT CONTROL

The contractor shall erect a sediment control fence or straw bale filter and a stabilised site access area in accordance Council requirements.

4 SITE SAFETY INSTRUCTIONS TO SUBCONTRACTORS

4.1 WORKPLACE HEALTH AND SAFETY LEGISLATION

Contractors, employees and Subcontractors are expected to be aware of and conversant with the current legislation which imposes "Duties of Care" upon specified classes of persons. Such duties have always existed under common law but include such persons as Employers, persons in control of workplaces, manufacturers, employees, persons other than employees, owners and manufacturers of specified plant, etc.

5 ON COMPLETION

5.1 CLEANING

At hand over of the premises on Practical Completion the Contractor shall have left all finishes and internal surfaces clean and in good condition. The Contractor shall employ a fully qualified Contract Cleaning Company to carry out the following works which shall not be considered conclusive, and shall be considered as items requiring regular ongoing attention by a firm appointed by the Proprietor.

Glass

Clean both sides of all glass in windows shower screens and glazed panels. Remove grease and glazing materials (mastic, sealants or putty) with approved commercial solvents such as mineral spirits, naphtha or xylene, followed by a normal wash and rinse.

Strong solvents, hydrogen-fluoride producing compounds, kerosene or caustic solutions that would injure the sealant shall not be used. For routine cleaning, dilute ammonia and water, or a mild soap solution are acceptable. Cleaners shall not damage window sills by standing on them with unsuitable footwear.

Hardware

Wash all doors, windows.

Oil and adjust all locks, closers and handles.

Provide all keys tagged for all locks as specified in 461 DOORS & HARDWARE and 462 DOORS & HARDWARE SELECTIONS. The Contractor shall also supply a master key diagram.

Mirrors

Clean as for vision glass. Strong solutions are not to be used to avoid the risk of damaging the silvering on the back.

Light Fittings

Lightly feather dust all plastic eggcrate and flat diffusers, light bulbs and tubes to maintain designed artificial light level and prolong life of components. Ensure replacement items are of the same manufacturer, colour and wattage. Remove all dead moths, flies etc. as they accumulate.

Air Conditioning Units

A specialist subcontractor shall ensure all filters are regularly cleaned and maintained, suggest designed monthly intervals. Ensure this contractor does not damage panels, make dirty marks and replaces panels correctly. Frequently feather dust all louvres.

Sanitary Fittings

Remove all manufacturers' labels, tighten and secure all fixings for WC seats and cover flaps.

Wash and polish all ceramic surfaces.

Keep stock of and replace all missing wash basin plugs, push buttons to cistern immediately. Replace any sanitary fittings that are cracked, noisy, blocked or any flushing cisterns that are malfunctioning.

Ensure all access panels are located and kept shut and not stuck due to over application of paint etc. Special keys (Allen keys etc.) shall be kept by the Proprietor.

Wall Tiles

Wipe with damp cloth and polish with a dry cloth. Check that grouting is clean and remains in place.

Floor Tiles

Mop with a damp cloth and buff dry. Clean all grout and ensure it remains in place.

Stairs

Sweep all stairs. Walls and handrails dusted after sweeping has been completed.

Metals

Chrome plated, Brass, Stainless Steel, Powder coated

Handrails, door furniture (handles, kickplates, push plates) sinks and drainers shall be kept clean and polished. Wipe excess cleaning products from adjoining surfaces. Take great care to ensure that polishing material does not disfigure or affect backing surfaces eg. block, plasterboard and the like.

Taps

Bright chrome ware can be cleaned by application of warm soapy water and polished with soft cloth. Resistant stains eg. lime deposit can be removed by a special product eg. 'Groheclean'. Tap heads should be vandal proof. Replace any missing heads from stock if tap design warrants. Repair any leaking taps, ensure washers are promptly replaced before stains appear on sanitary ware.

Vinyl Flooring

Sweep or vacuum clean and buff polish. Strip and reapply polish at regular intervals to prevent build up.

Carpet

Check and report any damage caused by foot traffic, furniture, badly hung doors or leaking roofs, insecure stitching etc. Vacuum clean all accessible areas of carpet.

Arrange for offcuts of the carpet to be left on the premises, for use in the case of irreparable damage to isolated areas. Storm damaged carpet shall be taken up and dry cleaned.

Door Mats

Clean out mat well and ensure any drainage tubes are kept clean.

Furniture

Dust with dry flicked cloth or feather duster all benches including vanity tops.

Dust tops of suspended linear lighting troughs and exposed air conditioning ducts.

Vermin

Report on any evidence of vermin, particularly cockroaches, beetles and rodents.

6 WARRANTIES

Warranty Schedule

WARRANTY	FORM	PERIOD
General	**Warranties as required by the EFSG**	
	411 WATERPROOFING EXTERNAL	
Membranes, adhesive types and toppings	Manufacturer's warranties - Against faulty products and processes	10 years
	421 METAL ROOFING & CLADDING	
Roofing systems and associated components	Manufacturers' warranties - against integrity of metal roofing and associated components	20 years
	Manufacturers' warranties - against coating stability and colour retention of metal roofing and associated components	10 years

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WARRANTY	FORM	PERIOD
	Suppliers' / Installers' warranties - against faults in supplying and installing metal roofings and associated components	5 years
	Contractors' warranty against: - defective materials; and - the consequences thereof, including making good promptly and without charge all defects notified during the warranty period, as well as any damage to the building resulting directly from the defects or the making good thereof	5 years
	451 WINDOWS, GLAZED DOORS & GLAZING	
Window systems and associated components	Manufacturer's warranties - against defective materials, operating equipment and finishes	5 years
	Installer's warranties - against faulty workmanship	5 years
	Contractor's warranties - defects in materials and workmanship - the consequences thereof, including weather penetration, air infiltration physical deterioration, vermin infestation, and like disturbances.	5 years
	Aluminium finish Powder coating film warranty	Minimum 25 years
	Colour retention for EFSG compliance.	Minimum 15 years
Glass and glazing systems and associate components	Manufacturer's warranties - standard warranties	5 years
	Installer's warranties - standard warranties	5 years
	Contractor's warranties - defects in materials and workmanship - written certification that the glass and glazing systems and associated components have been supplied and fixed in full accordance with manufacturers' and installers' guarantee and warranty terms and conditions - to repair or replace glass and glazing systems that become defective or prove unsuitable for the application within the warranty period, provided that the manufacturers' recommendations for maintenance of such products have been followed during the intervening period - the consequences thereof, including weather penetration, air infiltration, physical deterioration, vermin infestation, and like disturbances	5 years
	461 DOORS & HARDWARE	
Door systems and associated components	Manufacturers' warranties - against defective materials and fabrication, including distortion and delamination of components conditional only on doors, frames and other components having been transported, stored, prepared and installed in accordance with the respective manufacturer's written recommendations.	5 years
	Installer's warranties	5 years

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WARRANTY	FORM	PERIOD
	- against faulty workmanship associated with the doors and frames	
	Contractor's warranties - defects in materials and workmanship - the consequences thereof, including weather penetration, air infiltration, physical deterioration, vermin infestation, and like disturbances.	5 years
Hardware and associated systems and components	Manufacturer's warranties - for hardware generally	Minimum 2 years
	Installer's warranties - for hardware generally	Minimum 2 years
	Contractor's warranties - written certification that the hardware and associated systems and components have been supplied and fixed in full accordance with manufacturers' and installers' guarantee and warranty terms and conditions - against defects in materials and workmanship	Minimum 2 years
	511 LININGS & CEILINGS	
Suspended ceiling systems and associated components	Manufacturer's' warranties against defective materials	5 years
	Installers' warranties against faulty workmanship	5 years
	Contractors' warranties - defective materials - the consequences thereof, including making good promptly and without charge all defects notified during warranty period, as well as any damage to the building resulting directly from the defects or the making good thereof	5 years
	521 JOINERY	
Built-in joinery components and finishes	Manufacturer's warranties - against faulty products and processes	Minimum 2 years
	Installer's warranties - against faulty workmanship	Minimum 2 years
	Contractor's warranties - written certification that the built-in joinery components and finishes have been supplied and fixed in full accordance with manufacturers' and installers' guarantee and warranty terms and conditions - defects in materials and workmanship	2 years
	531 METALWORK & MISC FURNITURE	
Metal work components and finishes	Manufacturer's warranties - against faulty products and processes	Minimum 5 years
	Installer's warranties - against faulty workmanship	Minimum 5 years
	Contractor's warranties - written certification that the metalwork components and finishes have been supplied and fixed in full accordance with manufacturers' and installers' guarantee and warranty terms and conditions - defects in materials and workmanship	5 years

WARRANTY	FORM	PERIOD
Furniture, fittings and equipment components and finishes	Manufacturer's warranties - against faulty products and processes	Minimum 2 years
	Installer's warranties - against faulty workmanship	Minimum 2 years
	Contractor's warranties - written certification that the furniture, fittings and equipment components and finishes have been supplied and fixed in full accordance with manufacturers' and installers' guarantee and warranty terms and conditions - defects in materials and workmanship	2 years
	541 SIGNS & DISPLAY	
Signs and display components and finishes	Manufacturer's warranties - against faulty products and processes	Minimum 2 years
	Installer's warranties - against faulty workmanship	Minimum 2 years
	Contractor's warranties - written certification that the signs and display components and finishes have been supplied and fixed in full accordance with manufacturers' and installers' guarantee and warranty terms and conditions - defects in materials and workmanship	2 years
	621 CEMENTITIOUS TOPPINGS **631 WATERPROOFING – WET AREAS**	
Membranes, adhesive types and toppings	Manufacturer's warranties - against faulty products and processes	10 years
	651 RESILIENT FINISHES	
Resilient finishes systems and associated components	Manufacturer's warranties - against faulty products and processes	5 years
	Installer's warranties - against faulty products and processes	5 years
	Contractor's warranties - written certification that the resilient finishes and associated components have been supplied and fixed in full accordance with manufacturers' and installers' guarantee and warranty terms and conditions - defects in materials and workmanship - the consequences thereof, including removal, replacement of fixtures and fittings and preparation, reinstatement of substrates and adjoining finishes disturbed as a result of repair work	5 years
	671 PAINTING	
Paint systems	Manufacturer's warranties - against faulty products and processes	5 years
	Installer's warranties - against faulty workmanship	5 years
	Contractor's warranties - written certification that the paint systems have been supplied and fixed in full accordance with manufacturers'	5 years

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WARRANTY	FORM	PERIOD
	and installers' guarantee and warranty terms and conditions - defects in materials and workmanship - the consequences thereof, including removal, replacement of fixtures and fittings and preparation, reinstatement of substrates and adjoining finishes disturbed as a result of repair work	
	OTHER	
Civil	Refer to Civil documents	
Structural	Refer to Structural documents	
Hydraulics	Refer to Hydraulics documents	
Electrical	Refer to Electrical documents	
Mechanical	Refer to Mechanical documents	
Electronic Services	Refer to Electronic Services documents	

Note the latest version of the EFSG takes precedence over this schedule, or whichever applies the greater Warranty provision.

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General Requirements Required by the Certifier for NCC Compliance:

DESIGN SPECIFICATION - COMPLIANCE WITH THE BUILDING CODE OF AUSTRALIA (2022)

Specification Details:

Disabled Access - Part D3 of the NCC requires access for people with disabilities to comply with NCC Part D4, Part F and AS 1428.1 -2009 and AS 1428.4.1 as applicable

- 850mm clear openings for doorways (920mm leaf, and if Double doors the active leaf must be 850mm clear, so may not be even sized door leafs in the design)
- Circulation requirements in accordance with AS1428.1-2009 around doorways and toilets, including corridor widths.
- Glazing – All frameless or fully glazed doors, side lights must be clearly marked in accordance with AS1428.1-2009 (Decals or Transoms)
- Luminance contrast for doorways, doors, and circulation space at doorways, will be provided in accordance with Clause 13.1 of AS1428.1-2009

Fire Hazard Properties – all new linings, insulation and the like to and within floors, walls, ceilings are to comply with Specification 7 and ??? of the National Construction Code (NCC) for the required Group numbers, CRF values and smoke developed indices, and combustibility requirements as nominated in these parts of the BCA depending on the location of the material/attachment/lining/insulation/acoustic treatment etc.

Door latching / Operation - Clause D3D26 of the NCC requires all door handles to … "*be readily openable without a key from the side that faces a person seeking egress, by a single hand downward or pushing action on a single device which is located between 900mm and 1,100mm from the floor, except if it is fitted with a fail-safe device …*" Note: If fail safe devices are proposed then compliance with NCC D3D26 and D3D24 are to enable fail safe release. (Fire Panel failsafe connection/release).

Glazing including glazing for balustrades, is to comply with Part B1 of the NCC, AS 1288 – 2006 and AS 2047 – 1999, & Clause 6.6 of AS 1428.1-2009.

Paths of travel to an exit including spacing between workstations, non-door openings, and fittings is to have a minimum unobstructed width of 1,000mm as per NCC D2D7, D2D8, D2D9, D2D10, D2D11,

All new artificial lighting is to comply with NCC Part J7, AS 1680.0 Specification 40 of the NCC.

All new floor linings are to achieve compliance with the slip-resistance requirements of AS4586-2013 & HB198-2014.

Non-Structural elements (walls, partitions, ceilings, fixtures and fittings and the like) are to achieve compliance with Section 8 of AS 1170.4-2007.

All stairways & ramps are to comply with NCC Part D3, as well as NCC Table D3.15 of the BCA for slip resistance requirements.

Penetrations to Fire Rated walls, floors, risers – new penetrations to fire rated elements are to achieve compliance with Specification 13 of the NCC, including AS 4072.1-2005 and AS 1530.4-2014 as referenced in the BCA. ***Note***: After 1st May 2022 old test reports to older standards may no longer be valid for fire seals, collars, dampers or the like.

The proposed works are to achieve compliance with the following for all new works:

All new floor, wall, insulation materials, ceiling and other listed materials and linings are to comply with Specification 7 of the NCC.

All new linings, insulation and ancillary elements to the external wall are to achieve compliance with NCC Clause ??? and ??? as applicable.

All new door handles and locks are to comply with NCC Clause D3D26 (or NCC D3D24 if sliding doors).

All new glazing is to comply with AS 1288-2006 and AS 2047, and Decals to comply with Clause 6.6 of AS 1428.1-2009.

Disabled access provisions, facilities and circulation spaces for the new works are to comply with Disability (Access to Premises – Buildings) Standards 2010 and Part D3 & F4 and Clause D3D22 of the NCC, AS1428.1-2009 and AS 1428.4-2009.

All exits and paths of travel to an exit from any point on the floor are to comply with Clause D1.6 of the BCA.

All new artificial lighting is to achieve compliance with Part F6 of the NCC.

All new non-structural elements (walls, partitions, ceilings, fixtures and fittings and the like) are to achieve compliance with Section 8 of AS 1170.4-2007. The building contractor is to provide Certification for the various elements of this standard to confirm installation compliance as a condition of obtaining an Occupation Certificate.

All new floor, stair and ramp linings/finishes are to achieve compliance with BCA Part D2, as well as NCC Table ??? and HB 198.

All new services penetration are to achieve compliance with NCC Specification 13 and AS 4072.1-2005 and AS 1530.4-2014 for fire collars, fire dampers, fire seals etc.

All new non-services requirements of NCC 2022 Section J, including Part J 4 Building Fabric and Part J5 (Building Sealing).

END OF SECTION 121 GENERAL REQUIREMENTS

131 COMMON REQUIREMENTS

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements

1.2 INTERPRETATION

Additional definitions
For the purposes of this worksection the definitions given below apply.

- Plywood: To AS/NZS 4491.
- 'Standard trade common names': To AS/NZS 1148.
- Groups of timbers: Terms employed for that purpose in relevant Australian standards.

1.3 STANDARDS & PERFORMANCE

Adhesives and sealants
General: Provide adhesives and sealants capable of transmitting imposed loads, sufficient to ensure the rigidity of the assembly, or integrity of the joint and which will not cause discolouration of finished surfaces.

Compatibility: Do not use sealants or adhesives that are incompatible with the products to which they are applied.

Movement: Where an adhered or sealed joint may be subject to movement, select a system accredited to accommodate the projected movement under the conditions of service.

Refurbishment: Use sealants that can be safely removed and prepared for refurbishment.

Fasteners
Provide fasteners accredited for the particular use, capable of transmitting imposed loads and maintaining the rigidity of the assembly.

Responsibilities
Fitness for purpose: Provide adhesives, sealants and fasteners capable of transmitting imposed loads, sufficient to ensure the rigidity of the assembly, or integrity of the joint.

Finished surface: Provide adhesives and sealants that will not cause discolouration.

Compatibility: Do not use sealants or adhesives that are incompatible with the products to which they are applied.

Sealant replacement: Use sealants that can be safely removed without compromising the application of the replacement sealant for future refurbishment.

1.4 INSPECTIONS

General
Refer to the various worksections for specific information regarding inspections for building elements, components.

1.5 SUBMISSIONS

Sealants
Samples: Submit colour samples of visible joint sealants.

Timber materials
Rainforest species: Submit source certification.

Pressure preservative treatment: For timber required to be pressure treated, submit a certificate or other satisfactory evidence showing that the timber has been treated.

2 PRODUCTS AND MATERIALS

2.1 ADHESIVES

Standards
Mastic adhesive: To AS 2329.

Polymer emulsion adhesive for timber: To AS 2754.2, not inferior to Type 3.

VOC limits
- Indoor carpet adhesive: 50 g/litre.
- Carpet pad adhesive: 50 g/litre.
- Outdoor carpet adhesive: 150 g/litre.
- Wood flooring adhesive: 100 g/litre.
- Rubber flooring adhesive: 60 g/litre.
- Sub-floor adhesive: 50 g/litre.
- Ceramic tile adhesive: 65 g/litre.
- Cove base adhesive: 50 g/litre.
- Drywall and panel adhesive: 50 g/litre.
- Mulitpurpose construction adhesive: 70 g/litre.
- Structural glazing adhesive: 100 g/litre.

Tests
Compliance testing: To South Coast Air Quality Management District (AQMD) (California, U.S.) – Rule 1168.

High strength adhesive tape
General description: A foam of cross linked polyethylene or closed cell acrylic coated both sides with a high performance acrylic adhesive system, encased in release liners of paper or polyester.

Product classification: Ensure product suitability for the following substrates:
- Firm high strength foam tapes for high energy surfaces including most bare metals such as stainless steel and aluminium.
- Conformable high strength foam for medium energy surfaces including many plastics and paints, and bare metals.
- Conformable high strength foam for lower energy surfaces including many plastics, most paints and powder coatings, and bare metals.

Thickness: Select the tape to ensure a mismatch between surfaces does not exceed half the tape thickness under the applied lamination pressure.

2.2 SEALANTS

Standards
General: To ISO 11600.

External masonry joints
General: Provide sealant and bond breaking backing materials compatible with each other and the substrate and which are non-staining to masonry. Do not use bituminous materials with absorbent masonry units.

Bond breaking backing:
- Bond breaking materials: Non-adhesive to sealant, or faced with a non-adhering material.

- Foamed materials: Closed-cell or impregnated, not water-absorbing.

Fire rated control joints

General: Provide sealant materials that maintain the nominated fire resistant rating.

- Fire stopping: To AS 4072.1.

Pointing and bedding

General: Provide sealants for fast moving joints in light weight building elements that are compatible with the contact materials.

Fire rated pointing, bedding and stopping

General: Provide sealant materials that maintain the nominated fire resistant rating.

- Fire stopping: To AS 4072.1.

Floor movement joints

General: Provide trafficable sealants for that are compatible with the contact materials.

Bond breaking backing:

- Bond breaking materials: Non-adhesive to sealant, or faced with a non-adhering material.
- Foamed materials: Closed-cell or impregnated, not water-absorbing.

VOC limits

Compliance testing: To South coast Air Quality Management District (California, U.S.) – Rule 1168.

- Architectural sealants: 250 g/litre.

2.3 FASTENERS

General

Masonry anchors: Proprietary expansion or chemical type.

Plain washers: To AS 1237.1.

- Provide washers to the heads and nuts of bolts, and the nuts of coach bolts.

Plugs: Proprietary purpose-made plastic.

Powder-actuated fasteners: To AS/NZS 1873.4.

Stainless steel fasteners: To ASTM A240/240M.

Steel nails: To AS 2334.

- Length: At least 2.5 x the thickness of the member being secured, and at least 4 x the thickness if the member is plywood or building board < 10 mm thick.

Unified hexagon bolts, screws and nuts: To AS/NZS 2465.

Fasteners in CCA treated timber: Epoxy coated or stainless steel.

Bolts

Coach bolts: To AS/NZS 1390.

Hexagon bolts Grades A and B: To AS 1110.1.

Hexagon bolts Grade C: To AS 1111.1.

Corrosion resistance

Atmospheric corrosivity category: Refer to Structural Engineer requirements.

Steel products: Conform to the **Corrosion resistance table** or provide proprietary products with metallic and/or organic coatings of equivalent corrosion resistance. These requirements are considered to be the minimum required. Refer specific trade sections and manufacturer's recommendations for additional information.

Corrosion-resistance table – Atmospheric corrosivity categories A and B to AS/NZS 2312

Situation	Self drilling screws to AS 3566.2 Class	Threaded fasteners and anchors		Powder actuated fasteners	
		Material	Minimum local metallic coating thickness (µm)	Material grade	Minimum local metallic coating thickness (µm)
Internal	1	Electroplated zinc	4	Electroplated zinc	4

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Situation	Self drilling screws to AS 3566.2 Class	Threaded fasteners and anchors		Powder actuated fasteners	
		Material	Minimum local metallic coating thickness (µm)	Material grade	Minimum local metallic coating thickness (µm)
External	3	Electroplated zinc or Hot-dip galvanized	30	Stainless steel 316	

Corrosion-resistance table – Atmospheric corrosivity category C to AS/NZS 2312

Situation	Self drilling screws to AS 3566.2 Class	Threaded fasteners and anchors		Powder actuated fasteners	
		Material	Minimum local metallic coating thickness (µm)	Material grade	Minimum local metallic coating thickness (µm)
Internal	2	Electroplated zinc	12	Electroplated zinc	12
External	4	Hot-dip galvanized	50	Stainless steel 316	

Corrosion-resistance table – Atmospheric corrosivity categories D and F to AS/NZS 2312

Situation	Self drilling screws to AS 3566.2 Class	Threaded fasteners and anchors		Powder actuated fasteners	
		Material	Minimum local metallic coating thickness (µm)	Material grade	Minimum local metallic coating thickness (µm)
Internal	3	Electroplated zinc or Hot-dip galvanized	30	Stainless steel 316	
External	Stainless steel 316 [1]	Stainless steel 316		Stainless steel 316	

[1] Avoid organic coating in Category F zones.

Finishes

Electroplating:

- Metric thread: To AS 1897.
- Imperial thread: To AS 4397.

Galvanizing:

- Threaded fasteners: To AS 1214.
- Other fasteners: To AS/NZS 4680.

Mild steel fasteners: Galvanize if:

- Embedded in masonry.
- In external timbers.
- In contact with chemically treated timber, other than CCA treated timber.

Epoxy coated:

- CCA Treated timber.

Nuts

Hexagon chamfered thin nuts Grades A and B: To AS 1112.4.

Hexagon nuts Grade C: To AS 1112.3.

Hexagon nuts Style 1 Grades A and B: To AS 1112.1.

Hexagon nuts Style 2 Grades A and B: To AS 1112.2.

Screws

Coach screws: To AS/NZS 1393.

Hexagon screws Grades A and B: To AS 1110.2.

Hexagon screws: Grade C To AS 1111.2.

Hexagon socket screws: To AS ISO 1420 and AS/NZS 1421.

Machine screws: To AS/NZS 1427.

Self-drilling screws: To AS 3566.1 and AS 3566.2.

Self-tapping screws:

- Crossed recessed countersunk (flat – common head style): To AS/NZS 4407.
- Crossed recessed pan: To AS/NZS 4406.
- Crossed recessed raised countersunk (oval): To AS/NZS 4408.
- Hexagon: To AS/NZS 4402.
- Hexagon flange: To AS/NZS 4410.
- Hexagon washer: To AS/NZS 4409.
- Slotted countersunk (flat – common head style): To AS/NZS 4404.
- Slotted pan: To AS/NZS 4403.
- Slotted raised countersunk (oval – common head style): To AS/NZS 4405.

Blind rivets

Description: Expanding end type with snap mandril.

Type: Closed end for external application, open end for internal application.

End material:

- Aluminium base alloy for metallic coated or colourbond coated steel.
- Stainless steel for stainless steel sheet.
- Copper for copper sheet.

Size:

- For sheet metal to sheet metal: 3 mm.
- For sheet metal to supports, brackets and rolled steel angles: 4.8 mm.

2.4 METALS

Aluminium and aluminium alloys

Drawn pipe: To AS/NZS 1867.

Drawn rod, bar and strip: To AS/NZS 1865.

Extrusions: To AS/NZS 1866.

Plate and sheets: To AS/NZS 1734.

Coated steel

Electrogalvanizing ferrous hollow and open sections: To AS 4750.

Metallic-coated steel:

- Ferrous open sections zinc coated by an in-line process: To AS/NZS 4791.
- Ferrous hollow sections zinc coated by a continuous or specialised process: To AS/NZS 4792.

Metallic-coated steel sheet: To AS 1397. Metal thicknesses specified are base metal thicknesses.

Steel wire: To AS/NZS 4534.

Copper and copper alloys

Casting: To AS 1565.

Plate, sheet and strip: To AS 1566.

Rods, bars and sections: To AS/NZS 1567.

Stainless steel

Bars: To ASTM A276.

Plate, sheet and strip: To ASTM A240/A240M.

Welded pipe (round): To AS 1769.

Welded pipe (square): To ASTM A554.

Steel

Sheet: To AS/NZS 1595.

Structural bars and sections: To AS/NZS 3679.1.

Structural hollow section: To AS 1163.

Steel for prefinishes

Cold rolled bar: To AS 1443 'bright'.

Cold rolled sheet: To AS/NZS 1595.

- Designation: CA2S-E.

Electric resistance welded pipe: To AS 1450.

2.5 TIMBER

Durability

General: Provide timbers having natural durability appropriate to the conditions of use, or preservative-treated timber of equivalent durability.

Natural durability class of heartwood: To AS 5604.

Minimum requirements:

- Class 1: Timbers in contact with ground.
- Class 2: Timbers above ground, not in continuous contact with moisture, well ventilated, protected from moisture but exposed to the weather.
- Class 3: Timbers above ground, not in continuous contact with moisture, well ventilated, protected with a finish, and well maintained.
- Class 4: Timbers fully protected from moisture, indoors, above ground, and well ventilated.

Lyctus susceptible timbers

General: Do not provide timbers containing Lyctus susceptible sapwood.

Preservative treatment

Glued laminated timber products: To AS/NZS 1604.5.

- Hazard classification: To Table A1.

Laminated veneer lumber (LVL): To AS/NZS 1604.4.

- Hazard classification. To Table A1.

Plywood: To AS/NZS 1604.3.

- Hazard classification: To Table A1.

Reconstituted wood-based products: To AS/NZS 1604.2.

- Hazard classification: To Table A1.

Sawn and round timber: To AS 1604.1.

- Hazard classification: To Table D1.

Water-repellent treatment

Repellent: To APAS-0096.

Moisture content

Tolerance: Make milled and dressed products from timbers seasoned as follows:

- To within 3% of the equilibrium moisture content appropriate to the timber and its intended conditions of use.
- To 10 – 15% moisture content.
- With no more than 3% difference between any 2 pieces in any one group.

Test: To AS/NZS 1080.1.

Protection: Protect timber and timber products stored on site from moisture and weather. For milled, prefinished, prefabricated and similar elements which are protected in the final structure, provide temporary weather protection until the permanent covering is in place.

Finished sizes

General: Provide milled timbers with actual dimensions which are at least the stated dimensions, except for dimensions qualified by a term such as 'nominal' or 'out of' to which industry standards for finished sizes apply.

Unseasoned timber

General: If unseasoned timber is used, or if variations in moisture are likely, allow for shrinkage, swelling and differential movement.

Surface finish

Hardwood: To AS 2796.1 Table B1.

Softwood: To AS 4785.1 Table B1.

2.6 PVC

Best Practice

General: All PVC must have a production accreditation certificate from a GBCA accredited scheme. The scheme must reference the GBCA Best Practice guidelines for PVC.

3 EXECUTION AND WORKMANSHIP

3.1 ADHESIVES

Preparation

Substrates: Ensure substrates are:

- Clean and free of any deposit or finish which may impair adhesion.
- If framed or discontinuous, support members are in full lengths without splicing.
- If solid or continuous, excessive projections are removed.
- If previously painted, cracked or flaking paint is removed and the surface lightly sanded.

Contact adhesive

Precautions: Do not use if:

- A substrate is polystyrene foam.
- A PVC substrate may allow plasticiser migration.
- The adhesive solvent can discolour the finished surface.
- Dispersal of the adhesive solvent is impaired.

Two way method: Immediately after application press firmly to transfer adhesive and then pull both surfaces apart. Allow to tack off and then reposition and press firmly together. Tap areas in contact with a hammer and padded block.

One way method: Immediately after application bring substrates together and maintain maximum surface contact for 24 hours by clamps, nails or screws as appropriate. If highly stressed employ permanent mechanical fasteners.

High strength adhesive tape

Preparation:

- Non-porous surfaces: Clean with surface cleaning solvents such as isopropyl alcohol / water, wash down and allow to dry.
- Porous surfaces: Prime the surface with a contact adhesive compatible with the tape adhesive system.

Follow the recommendations of the manufacturer for application to the following: Copper, brass, plasticized vinyl and hydrophilic surfaces such as glass and ceramics in a high humidity environment.

Applied lamination pressure: Ensure the tape experiences 100 kPa.

Application temperature: Generally above 10°C, consult the manufacturer.

Completion: Do not apply loads to the assembly for 72 hours at 21°C.

3.2 SEALANT JOINTING

Preparation for jointing

Cleaning: Cut flush joint surface protrusions and make good. Mechanically clean joint surfaces free of any deposit or finish which may impair adhesion of the sealant. Immediately before jointing remove loose particles from the joint, using oil-free compressed air.

Bond breaking: Install bond breaking backing material.

Taping: Protect the surface on each side of the joint using 50 mm wide masking tape or equivalent means. On completion of pointing remove the tape and remove any stains or marks from the surface.

Primer: Apply the recommended primer to the surfaces in contact with sealant materials.

Sealant joint proportions

General weatherproofing joints (width:depth):

- 1:1 for joint widths < 12 mm.
- 2:1 for joint widths > 12 mm.

Sealant application

General: Apply the sealant to dry joint surfaces using a pneumatic applicator gun. Ensure the sealant completely fills the joint to the required depth; that it is in good contact with the full depth of the sides and that there is no air trapped in the joint. Do not apply the sealant outside the recommended working time for the material or the primer.

Weather conditions

Two pack polyurethanes: Do not apply the sealant if ambient conditions are outside the following:

- Temperature: < 5°C or > 40°C.
- Humidity: To the manufacturer's recommendations.

Joint finish

General: Force the sealant into the joint and finish with a smooth, slightly concave surface using a tool designed for the purpose.

Protection

General: Protect the joint from inclement weather during the setting or curing period of the material.

3.3 METALS

Metal separation

Incompatible sheet metals: Provide separation by one of the following:

- Apply an anti-corrosion low moisture transmission coating such as alkyd zinc phosphate primer or aluminium pigmented bituminous paint to contact surfaces.
- Insert a concealed separation layer such as polyethylene film, adhesive tape, or bituminous felt.

Incompatible fixings: Do not use.

Incompatible service pipes: Install lagging or grommets. Do not use absorbent, fibrous of paper products.

Brazing

General: Ensure brazed joints have sufficient lap to provide a mechanically sound joint.

Butt joints: Do not use butt jointing for joints subject to load. If butt joints are used, do not rely on the filler metal fillet only.

Filler metal: To AS/NZS 1167.1.

Finishing

Visible joints: Finish visible joints made by welding, brazing or soldering using methods appropriate to the class of work (including grinding or buffing) before further treatment such as painting, galvanizing or electroplating. Ensure self-finished metals are without surface colour variations after jointing.

Preparation
General: Before applying decorative or protective prefinishes to metal components, complete welding, cutting, drilling and other fabrication, and prepare the surface using a suitable method.

Standard: To AS 1627.

Priming steel surfaces: If site painting is specified to otherwise uncoated mild steel or similar surfaces:

- Prime after fabrication and before delivery to the works.
- After installation, repair damaged priming and complete the coverage to unprimed surfaces.

Welding
Aluminium: To AS 1665.

Stainless steel: To AS/NZS 1554.6.

Steel: To AS/NZS 1554.1.

3.4 SELF FINISHING

Mechanical finishes
Bright finished copper alloy surfaces: For indoor applications, apply a clear lacquer protecting coating.

3.5 ELECTROPLATING

Electroplated coatings
Chromium on metals: To AS 1192.

Nickel on metals: To AS 1192.

Service condition number: At least 2.

Zinc on iron or steel: To AS 1789.

3.6 ANODISING

Anodising
Standard: To AS 1231.

Thickness grade:

- Indoor applications: At least AA 20.
- Outdoor applications: At least AA 20.

3.7 METAL SPRAYING

Metal spray
Standard: To ISO 2063.

Minimum thicknesses:

- Indoor applications: 125 μm.
- Outdoor applications: 175 μm.

Process: Electric arc.

Seal coat: Cover the metal spray finish with two coats of vinyl seal to a total dry film thickness of 80 μm.

3.8 POWDER COATING

Preparation
General: Use chemical pretreatments. If recommended, provide conversion coatings.

Aluminium: Pretreat to AS 3715 Appendix G.

Galvanized steel: Clean by immersing in a suitable alkaline or acidic solution, apply a zinc phosphate chemical conversion coating, rinse and degas.

Unprotected steel: Remove rust to the recommendations of AS 1627.4 to grade Sa 2½ of AS 1627.9. Clean by immersing in trichloroethylene or an alkaline solution, and apply a coat of iron phosphate.

Thermoset powder coating
Standards: To AS 3715 or AS/NZS 4506 as appropriate.

External use: APAS-0155/2.

Finish: Full gloss.

Internal use: APAS-0155/1.

3.9 PREPAINTING

Air-drying enamel
Application: Spray or brush.

Finish: Full gloss.

General use:

- Primer: Two-pack epoxy primer to AS/NZS 3750.13.
- Top coats: 2 coats to AS 3730.6.

Oil resistant use:

- Primer: Two-pack epoxy primer to AS/NZS 3750.13.
- Top coats: 2 coats to AS/NZS 3750.22.

Prepainted metal products
Standard: To AS/NZS 2728.

Product type as noted in AS/NZS 2728: Not lower than the type appropriate to the field of application.

Two-pack liquid coating
Application: Spray.

Finish: Full gloss.

Primer: Two pack epoxy primer to AS/NZS 3750.13.

Topcoat:

- Internal use: Proprietary polyurethane or epoxy acrylic system.
- External use: Proprietary polyurethane system.

3.10 COMPLETION

Damage
General: If prefinishes are damaged, including damage caused by unauthorised site cutting or drilling, remove and replace the damaged item.

Repair
General: If a repair is required to metallic coated sheet or electrogalvanized on inline galvanized steel products, clean the affected area and apply a two-pack organic primer to AS/NZS 3750.9.

3.11 TIMBER WORKMANSHIP

Ploughing
General: Back plough boards liable to warp (e.g. if exposed externally on one face). Make the width, depth and distribution of ploughs appropriate to the dimensions of the board and degree of exposure.

Painting
Edges: Chamfer edges of work to receive paint or similar coatings.

Priming: For woodwork to be painted, prime hidden surfaces before assembly.

4 SELECTIONS & EXTENT OF WORK

4.1 ADHESIVES SEALANTS AND FASTENERS

This section refers to the minimum performance requirements and quality of adhesives, sealants and fasteners to be used in this project. Refer to the various worksections for specific information regarding adhesives, sealants and fasteners to be used for the respective materials, components etc.

In the absence of this information refer to the Manufacturer's / Supplier's recommendations for specific details. If there is conflict between that specified and the Manufacturer's recommendations refer the matter to the Superintendent for clarification.

4.2 METALS AND PREFNISHES

This section refers to the minimum performance requirements and quality of metals and prefinishes to be used in this project. Refer to the various worksections for specific information regarding metals and prefinishes to be used for the respective materials, components etc.

In the absence of this information refer to the Manufacturer's / Supplier's recommendations for specific details. If there is conflict between that specified and the Manufacturer's recommendations refer the matter to the Superintendent for clarification.

4.3 TIMBER FINISHES AND TREATMENT

This section refers to the minimum performance requirements and quality of timber finishes and treatment to be used in this project. Refer to the various worksections for specific information regarding timber finishes and treatment to be used for the respective materials, components etc.

In the absence of this information refer to the Manufacturer's / Supplier's recommendations for specific details. If there is conflict between that specified and the Manufacturer's recommendations refer the matter to the Superintendent for clarification.

END OF SECTION 131 COMMON REQUIREMENTS

141 FIRE STOPPING

1 GENERAL

1.1 STANDARDS

General

Service penetration fire-stopping systems: To BCA clause C3.15.

Control joint fire-stopping systems: To AS 4072.1.

1.2 INSPECTION

Notice

Inspection: Give sufficient notice so that inspection may be made of the following:

- Service penetrations completed and ready for fire-stopping.
- Finished fire-stopping, before being concealed.

Size: 500 mm run for junction seals and 500 x 500 mm area for penetration seals.

1.3 SUBMISSIONS

Manufacturers' information

Type tests: Submit type test certificates for each combination of fire-stopping system, application, type of service, substrate and penetration orientation. Include drawings of tested details.

- Physical performance: Submit report to AS 4072.1 Appendix C.

Product data: Submit evidence that systems specified without reference to brand conform to specified requirements.

Instructions: Submit copies of relevant manufacturers' instructions, for systems specified without reference to brand.

Material safety data sheets (MSDS): Submit MSDS for systems specified without reference to brand.

Sample panels

General: Supply a sample panel of each fire-stopping assembly, on representative substrates. If built into the works, mark them.

Notice

General: Give notice if substrates or penetrants or both are not suitable for fire-stopping.

2 PRODUCTS

2.1 MATERIALS

General

Shelf life: Ensure materials used have not exceeded their shelf life.

Toxic materials: Free of asbestos and lead and free of, nor requiring the use of, toxic solvents.

Toxicity in fire: Non-toxic.

Fire-stop mortars

Type: Re-enterable cement-based compound, mixed with water. Non-shrinking, moisture resistant. Insoluble in water after setting.

Formulated compound of incombustible fibres

Material: Formulated compound mixed with mineral fibres, non-shrinking, moisture resistant. Insoluble in water after setting.

Fibre stuffing
Material: Mineral fibre stuffing insulation, dry and free of other contaminants.

Fire-stop sealants
Material: Elastomeric sealant. Soft, permanently flexible, non-sag, non-shrinking, moisture resistant. Capable of providing a smoke-tight, gas-tight and waterproof seal when properly installed. Insoluble in water after setting.

Fire-stop foams
Material: Single component compound of reactive foam ingredients, non-shrinking, moisture resistant. Insoluble in water after setting.

Fire-stop putty
Material: Single component, mouldable, permanently flexible, non-shrinking, moisture resistant, intumescent compound which expands on exposure to surface heat gain, forming a high-volume thermally insulating char that closes gaps and voids, resists the turbulence of a severe fire. Capable of being placed by hand to form an immediate fire seal. Insoluble in water after setting.

2.2 COMPONENTS

Fire-stop collars
Material: Mechanical device with incombustible intumescent fillers covered with sheet steel jacket. Airtight and watertight.

Fire-stop pillows
Material: Formed self-contained compressible flexible mineral fibre in cloth bags, rated to permit frequent changes in service.

Accessories
Permanent dam material: Non-combustible.

Installation accessories: Provide clips, collars, fasteners, temporary stops and dams, and other devices required to position, support and contain fire-stopping and accessories.

2.3 TESTS

Service penetration fire-stopping systems
Insulation measurements: Required.

Control joint fire-stopping systems
Physical performance: In accordance with the recommendations of AS 4072.1 Appendix C.

Multiple penetration fire-stopping systems
Insulation measurements: Required.

3 EXECUTION

3.1 EXECUTION GENERALLY

General
Extent: Fire-stop and smoke-stop interruptions to fire-rated assemblies, materials and components, including penetrations through fire-rated elements, breaks within fire-rated elements (e.g. expansion joints), and junctions between fire-rated elements.

Sequence: Fire-stop after services have been installed through penetrations and properly spaced and supported, after sleeving where appropriate, and after removal of temporary lines, but before restricting access to the penetrations, including before dry lining.

Ventilation: Supply ventilation for non-aqueous solvent-cured materials.

Density: Apply fire-stopping material to uniform density.

Fire-stopping exposed to view: Finish surfaces to a uniform and level condition.

Cable separation: Maintain.

Protection: Protect adjacent surfaces from damage arising through installation of fire-stopping. Protect completed fire-stopping from damage arising from other work.

Loose or damaged fire-stopping material: Remove and replace.

Penetrations by pipes and ducts: Allow for thermal movement of the pipes and ducts.

Preventing displacement: Reinforce or support fire-stopping materials with non-combustible materials when:

- The unsupported span of the fire-stopping materials > 100 mm.
- The fire-stopping materials are non-rigid (unless shown to be satisfactory by test).

Large openings: Provide fire-stopping capable of supporting the same loads as the surrounding element or provide similar structural support around the opening.

Preparation

Cleaning: Clean substrates of dirt, dust, grease, oil, loose material, and other matter which may affect bond of fire-stop material.

Primer: Clean and dry substrates for primers and sealants.

Restraint: Install backing and/or damming materials to arrest liquid material leakage. Remove temporary dams after material has cured.

3.2 SYSTEMS

Fire-stop mortars

Ambient conditions: Do not install below 5°C.

Fibre stuffing

Installation: Compress to 40% of its uncompressed volume.

Fire-stop sealants

Ambient conditions: Do not store above 32°C. Do not install outside the temperature range recommended by the sealant manufacturer. Do not install when humidity exceeds that recommended by the sealant manufacturer for safe installation.

Fire-stop foams

Ambient conditions: Do not store above 32°C. Do not install below 15°C or above 32°C. Do not apply when temperature of substrate and air is below 15°C. Maintain this minimum temperature before, during and for 3 days after installation.

Installation: Test substrates for adhesion and prime if necessary. Place in layers to ensure homogenous density, filling cavities and spaces. Place sealant to completely seal junctions with adjacent dissimilar materials.

Fire-stop putty

Ambient conditions: Do not install below 5°C. Do not allow the material to freeze.

Fire-stop pillows

Ambient conditions: Do not install in conditions outside of the manufacturer's recommendations.

Labelling

Label each fire-stopping installation with a permanently fixed tag or sticker containing the following information:

- Manufacturer's name.
- Name and address of installer.
- Date of installation.

3.3 COMPLETION SUBMISSIONS

Certification

General: Submit evidence of compliance, in accordance with the recommendations of AS 4072.1 Appendix B.

Certification: Submit a completed certification document for installed fire-stopped penetrations and control joints.

- Form: To Figure B1 of AS 4072.1.

Schedule: Submit a schedule of installed fire-stopped penetrations and control joints.

- Form: To Figure B2 of AS 4072.1.

User manual
For fire-stopping systems which are intended to be modified in service, submit user manual.

3.4 MAINTENANCE

Cleaning
Remove spilled and excess fire-stopping materials without damaging other work.

4 EXTENT OF WORK

4.1 GENERAL

This section refers to the minimum performance requirements and quality of fire stopping materials and systems to be used in this project. Refer to the various worksections for specific information regarding fire stopping materials and systems to be used for the respective materials, components etc.

In the absence of this information refer to the BCA and Manufacturer's / Supplier's recommendations for specific details. If there is conflict between that specified and the Manufacturer's recommendations refer the matter to the Superintendent for clarification.

END OF SECTION 141 FIRE STOPPING

142 FIRE STOPPING SELECTIONS

SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

FS01 – FIRE AND SMOKE STOPPING - SEALANT

Property	Description
Drawing Code:	**FS01**
Manufacturer / Supplier:	**PROMAT (or approved equal)**
Product Name:	Promaseal® - A sealant (or approved equal).
Application:	Water based, low VOC intumescent based sealer.
Location:	As required to create a fire resistant seal around pipes, conduits, busways, cable trays and ducts which penetrate walls, floors and ceilings.
Installation:	Install strictly in accordance with the manufacturer's recommendations in tested and certified systems.

FS02 – FIRE AND SMOKE STOPPING - PILLOW

Property	Description
Drawing Code:	**FS02**
Manufacturer / Supplier:	**PROMAT (or approved equal)**
Product Name:	Promaseal® pillows (or approved equal).
Location:	To seal fire services penetrations through fire rated walls and floors, and fire rated smoke walls. For use in floors and walls in accordance with the requirements of BS 476: Part 20, BS EN 1366: Part 3 and/or AS1530: Part 4.
Installation:	Install strictly in accordance with the manufacturer's recommendations and instructions.

FS03 – FIRE SEAL INSULATION - WALL BATT

Property	Description
Drawing Code:	**FS03**
Manufacturer / Supplier:	**CSR BRADFORD**
Product Name:	Fireseal Party Wall Batt

Property	Description
Location:	At the tops of fire rated walls and fire rated smoke walls, between wall and underside of roof sheeting.
Installation:	Install compressed by min 15% as per manufacturer's recommendations.

FS04 – FIRE SEAL INSULATION - CURTAIN WALL BATT

Property	Description
Drawing Code:	**FS04**
Manufacturer / Supplier:	**BRADFORD**
Product Name:	Fireseal Curtain Wall Batt
Location:	To fill the cavity behind lightweight wall cladding, and window walls, and the supporting structure, where the cladding or window wall bridges from one level to another.
Installation:	Install compressed by min 15% as per manufacturer's recommendations.

FS06 – FIRE STOPPING - COLLAR

Property	Description
Drawing Code:	**FS06**
Manufacturer / Supplier:	**PROMAT / TRAFALGA (or approved equal)**
Product Name:	PROMASEAL / PROMASTOP intumescent fire collars (or approved equal)
Location:	Apply to all service penetrations, wherever a fire-rated wall, ceiling or floor is being penetrated.
Installation:	Products and installation to comply with AS 4072 and tested to AS 1530: Part 4. Install strictly in accordance with the manufacturer's recommendations and instructions.
Reference:	Refer Hydraulic and Electrical Engineer's specification for further information.
Rating:	The rating of the collar is to be the same fire rating as the building element penetrated by the service.

FS07 – FIRE STOPPING - DAMPER

Property	Description
Drawing Code:	**FS07**
Manufacturer / Supplier:	**LORIENT (or approved equal)**
Product Name:	LVH44 Intumescent Fire Dampers (or approved equal)
Location:	Apply to all mechanical services ductwork, wherever a fire-rated wall, ceiling, floor or other fire rated building element is being penetrated.

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Property	Description
Installation:	Selection, installation and commissioning to be in accordance with AS1682.2 and as recommended by manufacturer for each specific penetration type / location.
Reference:	Refer Mechanical Services Engineer's drawings and specification for additional details.
Rating:	The rating of the damper is to be the same fire rating as the building element penetrated by the duct.

GENERAL

Provide certificates indicating compliance to AS1530.1 for any item that is part of an external wall to satisfy BCA and SSDA requirements..

END OF SECTION 142 FIRE STOPPING SELECTIONS

151 TERMITE MANAGEMENT

5 GENERAL

5.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 351 Light Steel Framing and 352 Light Steel Framing Selections
- 361 Timber Framing and 362 Timber Framing Selections

5.2 STANDARD

General
Termite management systems: To AS 3660.1.

5.3 INSPECTION

Notice
Inspection: Give sufficient notice so that inspection may be made of the completed termite management system.

Records
If work is to be covered up prior to the inspection of the completed system, take photographs of those areas to be covered.

5.4 SUBMISSIONS

Tests
Woven stainless steel management systems: Provide certification that 725 Grade stainless steel has been used to the manufacturer's specification.

Chemical soil management systems: Submit a Registered testing authority laboratory analysis certificate to AS 3660.1 Appendix E.

Warranty
Terms: 10 years on all components and workmanship.

Certificate of installation
General: To AS 3660.1 Appendix A.

Completion inspection
At the end of the defects liability period, inspect the termite control systems and submit a report on their efficacy and status.

Provide details of future inspections/work necessary for the proprietor to maintain an effective termite barrier.

6 PRODUCTS AND MATERIALS

6.1 NON-CHEMICAL BARRIERS

Concrete slab barrier
Standard: To AS 3660.1 Section 4.

The slab shall be constructed in accordance with AS 3600 and AS2870. Subsequent rendering and/or repair shall not be permitted without the consent of the termite mesh applicator. No conduits, penetrations or pipes shall be installed in the slab after pouring without prior notification to the termite mesh applicator. Where such penetrations are unavoidable they shall be protected by retro-fitted stainless steel mesh collars.

Termite cap and strip shields
Standard: To AS 3660.1 Section 5.

Woven stainless steel mesh
Standard: To AS 3660.1 Section 6.

Grade: 725 stainless steel.

Graded stone particles
Standard: To AS 3660.1 Section 7.

6.2 CHEMICAL SOIL MANAGEMENT SYSTEMS

General
Standard: To AS 3660.1 Section 8.

Type testing: To AS 3660.1 Appendix E.

6.3 NON-SOIL MATRIX MANAGEMENT SYSTEMS

Concrete slab
Description: Composite membrane incorporating a termiticide.

Brickwork
Description: Bedding mortar incorporating a termiticide.

Application: Brick bed and perpends as follows:

- Cavity walls built off a concrete slab on ground.
- Buildings with typical raft infill (footing) or formed void slab construction.
- Permanent management system in sub-floor brickwork and brick piers.

Assessment criteria
Standard: To AS 3660.3.

7 EXECUTION AND WORKMANSHIP

7.1 NON-CHEMICAL BARRIERS

Concrete slab barrier
Standard: To AS 3660.1 Section 4.

Termite cap and strip shields
Standard: To AS 3660.1 Section 5.

Woven stainless steel mesh
Standard: To AS 3660.1 Section 6.

Graded stone particles
Standard: To AS 3660.1 Section 7.

7.2 CHEMICAL SOIL MANAGEMENT SYSTEMS

General
Standard: To AS 3660.1 Section 8.

Non-soil matrix management systems
Installation: In conformance with the manufacturer's recommendations.

7.3 COMPLETION

Termite barrier notice
Provide a durable notice permanently fixed in a prominent location to BCA B1.4 (i) (ii) or clause 3.1.3.2(b) and AS 3660.1 Appendix A.

Waste materials
Progressively cleaning: Ensure that no waste materials which could attract termites remain on the site.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **152 TERMITE MANAGEMENT SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 151 TERMITE MANAGEMENT

152 TERMITE MANAGEMENT SELECTIONS

5 SELECTIONS AND SCHEDULES

5.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

TM01 – TERMITE BARRIER - STAINLESS STEEL SYSTEM

Property	**Description**
Drawing Code:	**TM01**
Manufacturer / Supplier:	**TERMIMESH**
Product Name:	Stainless steel termite physical barrier
Location	**Barrier Code/Type**
Under slabs	n/a GENERALLY. Yes For penetrations.
Slab penetrations	Code Spec 2.1
Slab control joints and footing/slab joints	Code Spec 9.2
Building perimeters	Code Spec 1.1, 7.1, 7.4, 7.9 as well as visual where 100mm exposed face of slab can be achieved.
Framing	All framing and finishing timbers shall be termite and decay resistant treated before delivery to the site to the levels of H2 where concealed with walls or roof framing. H3 where exposed externally clear of the ground. H4 where in contact with the ground or moisture. CCA treated timber shall NOT be acceptable. The treated members shall be clearly marked showing the level of treatment

6 EXTENT OF WORK

6.1 GENERAL

Termite barriers

The extent of work comprises the **design** and **installation** of the complete termite protection system for new work to supplement the current system and to upgrade existing buildings where extensions are being made. The Sub Contractor / applicator is to peruse the documents and allow for the installation of all necessary barriers.

Subsequent rendering or repair after installation shall not be permitted without the consent of the Sub Contractor / applicator. No conduits, penetrations or pipes shall be installed in the slabs after pouring without prior notification to the Sub Contractor / applicator. If unavoidable, penetrations to have retro fitted proprietary collars.

END OF SECTION 152 TERMITE MANAGEMENT SELECTIONS

161 ACCESS & SAFETY SYSTEMS

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 421 Metal Roofing & Cladding and 422 Metal Roofing & Cladding Selections

1.2 STANDARDS AND PERFORMANCE

General
Industrial fall-arrest systems and devices – Selection, use and maintenance: To AS/NZS 1891.4

Industrial fall-arrest systems and devices – Safety belts and harnesses: to AS/NZS 1891.1

Industrial fall-arrest systems and devices – Horizontal lifeline and rail systems: to AS/NZS 1891.2

Industrial fall-arrest systems and devices – Fall-arrest devices: to AS/NZS 1891.3

Industrial safety belts and harnesses – Selection, use and maintenance: to AS 2626 (for anchorages only)

Minimum requirements
Provide a complete fall-arrest roof safety system that:

- has minimal visual impact on the completed roof, and is compatible with the roofing materials, construction, loading constraints and colours;
- is structurally sufficient in respect of all loads reasonably expected to be imposed on it, and has no adverse structural or other effect on the completed roof;
- may include a number of fully-compatible subsystems, all from one manufacturer/supplier, that allow users to work safely at any point on the roof at all times without the need to disconnect harnesses or restraint lines and lanyards completely, or to carry components of other systems with them;
- prevents free falls wherever possible, and limits possible free falls to the absolute minimum consistent with the user's anticipated work tasks (600mm or less wherever possible, but in no case exceeding 2000 mm);
- allows restrained falls on non-fragile roofed areas only, and includes additional diversionary anchorages near roof edges to prevent a pendulum effect in the event of a fall;
- includes removable means of protecting sharp edges that any line or lanyard may come in contact with, in the event of a free fall;
- exerts a force not exceeding 6kN on any user who is secured to it, and falls;
- distributes fall-arrest forces over the body so that injury is minimised after a fall, and that holds a user in a suitable attitude for rescue after a fall;
- includes anchorages complying with AS 2626;
- has all anchorages positioned so that line and lanyard attachment hardware is kept clear of sharp edges;
- does not include the use of slings, or backhooking of lanyards, as part of an anchorage;
- may include single point, one-person anchorages that have a minimum ultimate strength in the direction of loading of not less than 15kN;

- includes heavy duty, easily operated attachment hardware, other than snaphooks, that is appropriately sized for all lines and lanyards provided as part of the systems;
- includes carrying bags for each complete set of personal fall-arrest equipment;
- includes all necessary labels and signs with an expected life equal to the item referred to;
- remains intact, usable and water-resistant under the local and regional ambient climatic conditions with a minimum amount of maintenance;
- includes at least four ladder securing access points to the roof edge or gutter, including a level concrete slab at ground level, unless specified elsewhere in the documents;
- includes at least one removable Type 3 fall-arrest device, that may be attached anywhere a free fall is possible, to assist in the immediate recovery of a user who has fallen;
- includes at least two fully adjustable harnesses, each with an attachment point to front and back. Restraint belts will not be allowed;
- includes the appropriate number (but not less than two) of lanyards, restraint lines, and pole lines as appropriate: each with energy-absorbing fall-arrest characteristics or devices fitted; and
- is certified by a Registered Professional Engineer specialising in structural design and certification.

1.3 INSPECTION

The supplier and installer shall provide a list of inspections required to ensure the system is installed in accordance with their requirements.

1.4 SUBMISSIONS

Structural sufficiency
Provide Form 16 structural certification and include within the Building Manual, as required by Regulation, from a Registered Professional Engineer specialising in structural design and certification for:

- the structural sufficiency of the design of the complete roof safety system, including fixings and connections, prior to installation;
- shop drawings showing the proposed layout of the complete roof safety system, and all fixings and connections, prior to installation; and
- the complete roof safety system as installed.

The certification shall contain clear statements that the Registered Engineer is experienced in the design of roof safety systems, and that the roof safety system complies with the specified performance criteria, AS/NZS 1170, AS/NZS 1891.4, and other Standards relevant to particular components of the system.

The Registered Engineer shall also visit the site at appropriate stages to permit final certification that the complete roof safety system, as installed, complies with the certified design.

Records of manufacturers, suppliers and installers
Prior to installation of roof safety system, submit the names and contact details of proposed manufacturers and suppliers, and the installers of roof safety system.

Shop drawings
Prior to installation, submit shop drawings showing the proposed locations and arrangements of ladder securers, eyebolts, rail and lifeline systems, and other required components prior to installation. Include a complete schedule of all necessary components, including their number, part number and manufacturer/supplier. Coordinate shop drawings with structural and other shop drawings, and as-built items as applicable before submitting.

Manufacturers' data
Prior to installation of roof safety system, submit the manufacturers' published information relating to:

- full product descriptions, selections and properties of materials for roof safety systems and associated components, finishes and fixings provided to the Works, including product identification, grades, profiles, finishes, coloured prefinishes as necessary, laying pattern, fastener types and sizes, sealant types and applications, and other relevant information.

Installers' data
Prior to installation of roof safety system, submit written confirmation of:

- manufacturers' approval of firm(s) carrying out the various installations (where warranties are conditional on approval of installers); and
- installers' acceptance of substrates as satisfactory for receiving the installations.

2 MATERIALS AND COMPONENTS

2.1 OVERVIEW

General description
This worksection includes, but is not necessarily limited to, requirements for the design and provision of a complete, permanent fall-arrest roof safety system that includes:

- a combination of fully-compatible harnesses, lanyards, fall-arrest devices, restraint lines, lifelines, rails, anchorages, labels and signs, and all other necessary components, finishes, fixings and connections to facilitate occasional safe general access in accordance with the Workplace Health and Safety Act by the Principal and its agents ("users") after Practical Completion from the finished ground surface to all roofed areas for roof maintenance and cleaning purposes, including safe access to the following nominated items:
- skylights, vents, grilles, mechanical equipment and enclosures, ladders, antennae, signs, lightning protection systems, flashings, gutters and other stormwater drainage systems described and shown in the documents.

Miscellaneous items normally associated with or necessary for provision of fully-functioning roof safety systems, and associated work, shall be deemed to be included in the Contract Sum, whether or not such items and work are specifically described or shown in the documents.

2.2 MATERIALS AND COMPONENTS GENERALLY

Proprietary items
The schedule below describes minimum acceptable performance standards for some of the components that may be necessary. Provide additional or alternative components, of a similar standard to those described, as necessary.

Minimise the visual impact of all components.

Proprietary roof safety system schedule

Location	Product type (or products of approved equivalent manufacture)	Other description / requirements
Roofed areas generally	Eye Bolt Anchorage system using stainless steel eyebolts	
Narrow parts of roof, only as required	Rail-type anchorage system	Rails powder-coated to match colour of adjacent roof sheeting
Ladder location points (4 minimum)	Fascia Gutter ladder fall injury prevention system	Ladder securers powder-coated to match colour of adjacent gutter
Concrete slabs	Nominal 1200x1200xmin. 75mm thick level broom finished reinforced concrete slab	Located to coincide with ladder base positions (determined by the ladder securer locations, and safe ladder angle)
Equipment provided to Principal (2 minimum)	Personal fall-arrest equipment in bags (to suit installed subsystems)	
Position approved by Superintendent	Labels and signs to AS/NZS 1891.4, supplied and installed with proprietary subsystems	Permanent signage stipulating system type, loading, and other requirements – material compatible with roofing material and finish

3 COMPLETION

3.1 COMPLETION

Demonstration
Demonstrate in a satisfactory manner, that safe access to all roofed areas and nominated items has been provided, by using all components of the installed roof safety system. Provide additional items, at no additional cost, as necessary. Repair or replace any damaged items, as required.

Cleaning and repair
Leave the complete roof safety system, the roof, all nominated items, and stormwater drainage system free of debris and loose material. Provide any necessary pre-treatment, including lubrication, to components of the roof safety system. Repair all damage to match the condition existing before commencing installation.

Manufacturers'/suppliers' and installers' warranties
Manufacturers'/suppliers' and installers' guarantees and/or warranties shall apply to roof safety systems and associated components, finishes and fixings as specified or otherwise approved for use in the Works.

Contractor's warranty
Provide written certification at Practical Completion that all components of the complete installed roof safety system comply with certification, and recommendations, guarantees and/or warranties provided by manufacturers/suppliers and installers.

Operating and maintenance manuals
On completion, submit the following information where applicable, bound together as described in the PRELIMINARIES worksection:

- names and addresses of the manufacturers or suppliers, and installers of each component type;
- copies of the manufacturers'/suppliers' and installers' data as described above;
- independent testing authority reports of factory or type tests showing product compliance with the specified performance criteria;
- engineering certification of roof safety systems design and installation;
- manufacturers' / suppliers', installers' and Contractor's warranties certifying that roof safety systems and associated components, finishes and fixings comply with the requirements and are suitable for the specified applications; and
- recommendations for storage, maintenance, inspection and care of roof safety system components, finishes and fixings, in accordance with Section 9 of AS/NZS 1891.4. Provide record cards for each component of the roof safety system. Incorporate maintenance frequency and procedures into the overall maintenance plan for the facility.

Training
Provide at least one structured training session, to the Principal and its agents as nominated by the Superintendent, and conducted by a competent person familiar with all components, in the correct and safe use, inspection and maintenance of each component of the roof safety system, and which includes elements of demonstration, instruction and practice by the trainees. Continue training as necessary to ensure that at least two persons are "competent persons" as defined by the Workplace Health and Safety Act, at the conclusion of the training.

Provide printed training manual that repeats the training instruction and demonstration, and provide one clear, captioned, labelled video-and audio recording of the training session, in DVD format, to the Superintendent.

4 SELECTIONS

4.1 SPECIALIST SUPPLY AND INSTALLATION

Approved manufacturers / suppliers and experienced Subcontractors
Roof safety systems and associated components, finishes and fixings shall be supplied by approved manufacturers or suppliers and installed by Subcontractors experienced in work of this nature. Only installers accredited and/or recommended by the product manufacturer(s) shall be used for proprietary roof safety subsystems and components.

END OF SECTION 161 ACCESS & SAFETY SYSTEMS

162 ACCESS & SAFETY SYSTEMS SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

Safetylyne Harness Kits

- Harness kits to be designed to suit site specific need. Kit bags and/ or lockable storage boxes may be required for site conditions.

AS01 – SAFETY SYSTEM – ROOF ANCHOR POINT

Property	Description
Drawing code:	**AS01**
Manufacturer / Supplier:	**SAFETYLYNE or approved equal**
Product name / code:	ST707-C – Universal Top Mount Anchor Point
Finish:	Electro polished stainless steel
Fixing:	In accordance with manufacturer's recommendations
Fall Arrest Capacity:	15/22kN

AS03 – SAFETY SYSTEM – LADDER ACCESS POINT

Property	Description
Drawing code:	**AS03**
Manufacturer / Supplier:	**SAFETYLYNE or approved equal**
Product name / code:	RL402 Ladder Support Bracket
Finish:	Electro polished stainless steel
Fixing:	In accordance with manufacturer's recommendations
Notes:	Contractor to provide shop drawings for approval showing proposed locations and system.

AS04 – SAFETY SYSTEM - ROOF ACCESS HATCH

Property	Description
Drawing code:	**AS04**
Manufacturer / Supplier:	**AHSS or equal**

Property	Description
Product name / code:	SKYDORE hinged access hatch
Size:	1200mm x 900mm approx
Finish:	To match adjacent roof sheeting
Colour:	To match adjacent roof sheeting
Fixing:	Installed in accordance with manufacturer's recommendations and instructions
Accessories:	Installation to include all access ladders and safety rails to comply with safety requirements and to be compatible with safe roof access system.
Notes:	Contractor to provide shop drawings for approval showing proposed locations and system.

AS05 – SAFETY SYSTEM – ACCESS LADDER

Property	Description
Drawing code:	**AS05**
Manufacturer / Supplier:	**AHSS or equal**
Product name / code:	KATT roof ladder with guardrails and landing (LD21)
Material:	Aluminium
Size:	605mm wide
Fixing:	Installed in accordance with manufacturer's recommendations and instructions
Accessories:	Installation to include all necessary accessories to comply with safety requirements and to be compatible with safe roof access system.
Requirement:	To AS1657 and BCA D2.18
Notes:	Contractor to provide shop drawings for approval showing proposed locations and system.

2 EXTENT OF WORK

2.1 SPECIALIST SUPPLY AND INSTALLATION

Approved manufacturers / suppliers and experienced Subcontractors
Roof safety systems and associated components, finishes and fixings shall be supplied by approved manufacturers or suppliers and installed by Subcontractors experienced in work of this nature. Only installers accredited and/or recommended by the product manufacturer(s) shall be used for proprietary roof safety subsystems and components.

2.2 GENERAL

Existing system
The Contractor is to provide a new system to new and existing roofs of Buildings B and C.

2.3 ROOF CLEANING

The Contractor is to provide a safe manner of cleaning windows for the building in accordance with BCA 2019 Amendment 1 NSW G1.101.

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Provision is to be made for the cleaning of windows by a method complying with the Work Health and Safety Act 2011 and regulations made under that act.

This may include but not be limited to façade cleaning via water fed pole from ground level.

END OF SECTION 152 TERMITE MANAGEMENT SELECTIONS

211 DEMOLITION

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 221 Groundworks

1.2 INTERPRETATION

Additional definitions
For the purposes of this worksection, the following definitions apply:

- Demolition: The complete or partial dismantling of a building or structure, by pre-planned and controlled methods or procedures.
- Dilapidation record: The photographic or video and written record made before commencement of demolition work of the condition of the portion of the existing building being retained, adjacent buildings, and other relevant structures or facilities.
- Dismantle: The reduction of an item to its components in a manner to allow re-assembly.
- Recover: The disconnection and removal of an item in a manner to allow re-installation.

1.3 STANDARD

General
Demolition: To AS 2601.

1.4 INSPECTION

Notice
Inspection: Give notice so that inspection may be made of the following:

- Adjacent structures before commencement of demolition.
- Services before disconnection or diversion.
- Trees as documented to be retained, before commencement of demolition.
- Structure after stripping and removal of roof coverings and external cladding.
- Underground structures after demolition above them.
- Excavations remaining after removal of underground work.
- Site after removal of demolished materials.
- Services after reconnection or diversion.

1.5 SUBMISSIONS

Authorities
Evidence of compliance: Before commencing demolition, submit evidence of the following:

- Requirements of authorities relating to the work under the contract have been ascertained.
- A permit to demolish has been obtained from the appropriate authority.
- A scaffold permit has been obtained from the appropriate authority (if scaffolding is proposed to be used).

- Certification that each person having access to the construction site has completed an OHS induction training procedure which is site-specific.
- Precautions necessary for protection of persons and property have been taken and suitable protective and safety devices have been provided to the approval of the relevant authority.
- Fees and other costs have been paid.

Investigation and work plan

Work plan: Submit the work plan before demolition or stripping work. Include the check list items appropriate to the project from AS 2601 Appendix A, and the following information:

- The method of protection and support for adjacent property.
- Locations and details of necessary service deviations and terminations.
- Confirmation of the sequence of work.
- Requirements of AS 2601 Section 2 Planning and execution.
- If the demolition program results in components temporarily cantilevered, provide a certificate from a professional engineer.
- Proposals for the safe use of mobile plant on suspended structural members including provisions for the protection of lower floors in the event of structural failure.
- If implosion methods are proposed, provide a separate report of methods and safeguards.
- Wheel loads of tipping or loading vehicles.

Hazardous materials

Audit: Prepare a Hazardous substances management plan to AS 2601 clause 1.6. Include the following:

- Asbestos or material containing asbestos.
- Flammable or explosive liquids or gases.
- Toxic, infective or contaminated materials.
- Radiation or radioactive materials.
- Noxious or explosive chemicals.
- Tanks or other containers which have been used for storage of explosive, toxic, infective or contaminated substances.

Records

Dilapidation record: Submit a copy of the dilapidation record for inspection. Submit to each owner of each adjacent property a copy of the part of the record relating to that property, and obtain their written agreement to the contents of the record, prior to commencement of demolition.

Stockpiles

Location: Submit the locations for on-site stockpiles to be used for demolished materials for recycling in the works. Coordinate with the locations of storage for other waste streams and prevent mixing or pollution.

Off-site disposal

Disposal location: Submit the locations and evidence of compliance with the relevant authorities for the disposal of material required to be removed from the site.

Recycling

Delivery location: Submit the name and address of the proposed recycling facility.

Certification: Provide evidence of delivery to the nominated recycling facility.

2 PRODUCTS AND MATERIALS

2.1 DEMOLISHED MATERIALS

Demolished materials classes

Ownership and implementation: Comply with the **Demolished materials classes table.**

Demolished materials classes table

Code	Class	Requirement	Ownership
A	Recovered items for re-use in the works	Recover without damage items identified in the **Recovered items for re-use in the works schedule.** Store as necessary and reuse as specified.	Principal
B	Recovered items for delivery to the principal	Recover without damage items identified in the **Recovered items for delivery to the principal schedule.** Deliver to the Principal.	Principal
C	Demolished material for recycling in the works	Stockpile material identified in the **Demolished material for recycling in the works schedule.** Recycle and reuse as specified.	Contractor
D	Demolished material for recycling off site	Demolish and deliver for recycling material identified in the **Demolished material for recycling off-site schedule.**	Contractor
E	Dismantle for relocation as part of the works	Dismantle without damage and store items identified in the **Dismantle for relocation schedule.**	Principal
F	Demolished for removal	Remove from the site demolished materials identified in the **Demolish for removal schedule.** Do not burn or bury on site. Transit: Prevent spillage of demolishing materials in transit	Contractor
G	Salvaged items	Loose and fixed Items to be removed by Principal prior to construction identified in the **Salvaged items schedule.**	Principal
H	Fixed items to be protected	Fixed items to be protected during demolition work as identified in the **Fixed items to be protected schedule.**	Principal

3 EXECUTION AND WORKMANSHIP

3.1 SUPPORT

Temporary support

General: If temporary support is required, certification for its design and installation is required from a professional engineer engaged by the contractor.

Existing buildings: Until permanent support is provided, provide temporary support for sections of existing buildings which are to be altered and which normally rely for support on work to be demolished.

Ground support: Support excavations for demolition of underground structures.

Adjacent structures: Provide supports to adjacent structures where necessary, sufficient to prevent damage resulting from the works.

- Lateral supports: Provide lateral support equal to that given by the structure to be demolished.
- Vertical supports: Provide vertical support equal to that given by the structure to be demolished.

Permanent supports

General: If permanent supports for adjacent structures are necessary and are not documented, give notice and obtain instructions.

3.2 PROTECTION

Health and Safety
General: People walking or driving past any demolition work shall be protected from falling objects, projections, dust, noise, mechanical plant, including trucks entering and leaving the site, and welding and cutting sparks, at all times while work is in progress. Undue noise during extended working hours shall be avoided.

Throughout the demolition operations, safety shall be maintained in public places adjoining the site.

Encroachment
General: Prevent the encroachment of demolished materials onto adjoining property, including public places.

Weather protection
General: If walls or roofs are opened for alterations and additions or the surfaces of adjoining buildings are exposed, provide temporary covers to prevent water penetration. Provide covers to protect existing plant, equipment and materials intended for re-use.

Dust protection
General: Provide dust-proof screens, bulkheads and covers to protect existing finishes and the immediate environment from dust and debris.

Security
General: If a wall or roof is opened for alterations and additions, provide security against unauthorised entry to the building.

Temporary screens
General: Fill the whole of designated temporary openings or other spaces using dust and weatherproof temporary screens, fixed securely to the existing structure, and install to ensure appropriate shedding of water to avoid damage to retained existing elements or adjacent structures and contents.

Type: Timber framed screens sheeted with 12 mm plywood and painted. Seal the junctions between the screens and the openings.

Temporary access
General: Provide a substantial temporary doorset fitted with a rim deadlock, and remove on completion of demolition.

Exposed surfaces
General: Where necessary protect and weatherproof the surfaces of adjacent structures exposed by demolition.

Existing services
Location: Before commencing demolition, locate and mark existing underground services in the areas which will be affected by the demolition operations.

Utility services: Contact DIAL BEFORE YOU DIG to identify location of underground utility services pipes and cables.

Excavation: Do not excavate by machine within 1 m of existing underground services.

Fixed items
Individual protection: Protect the following items in their existing positions:

- Refer 212 DEMOLITION SELECTIONS.

Recovered items
General: Recover all components associated with the listed items that are essential for their re-use. Minimise damage during removal. Refer 212 DEMOLITION SELECTIONS.

3.3 DEMOLITION – BUILDING WORKS

Dilapidation record
Purpose: Use the dilapidation record to assess the damage and making good arising out of demolition work.

Availability: Keep the records of the investigations on site and available for inspection until practical completion of the contract.

Encroachment
General: If encroachments from adjacent structures are encountered and are not documented, give notice and obtain instructions.

Concrete slabs
General: Using a diamond saw, neatly cut back or trim to new alignment with a clean true face existing concrete slabs to be partially demolished or penetrated.

Recycling: If concrete crushing is proposed on site, submit details of plant and environmental controls.

Material below grade
Remaining voids: Stabilise and provide barriers.

Explosives
General: Do not use explosives.

3.4 DEMOLITION – BUILDING SERVICES

General
General: Decommission, isolate, demolish and remove from the site all existing redundant equipment including associated components that become redundant as a result of the demolition.

Breaking down: Disassemble or cut up equipment where necessary to allow removal.

Recovered materials: Recover all components associated with the listed items. Minimise damage during removal and deliver to the locations scheduled.

Refrigeration systems
General: Undertake demolition work on refrigeration systems in conformance with:

- AS/NZS 1677.2 Appendix F.
- The recommendations of SAA HB 40.1 and SAA HB 40.2.

Re-used components
General: Clean re-used components and test for compliance with current Australian Standards before returning to service. Provide results of compliance tests.

3.5 HAZARDOUS MATERIALS

Hazardous materials removal
If hazardous materials have been identified as present on site (refer Section 4 PROJECT SPECIFIC REQUIREMENTS below) remove in accordance with AS 2601 clause 1.6.2.

3.6 COMPLETION

Notice of completion
General: Give at least 7 working days' notice of completion of demolition so that adjacent structures may be inspected following completion of demolition.

Making good: Make good any damage arising out of demolition work. Obtain written acceptance from the owner of each adjoining property of completeness and standard of making good.

Temporary support
General: Clear away at completion of demolition.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **212 DEMOLITION SELECTIONS** for details of the project specific requirements associated with demolition for this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 211 DEMOLITION

212 DEMOLITION SELECTIONS

1 PROJECT SPECIFIC REQUIREMENTS

1.1 GENERAL

Timing of demolition
To maintain necessary services to the existing buildings and access for students and visitors to the site, it will be necessary to stage the demolition works. The Contractor shall allow for this staging and make allowances for buildings to remain occupied during the construction of others.

1.2 HAZARDOUS MATERIALS

Pending.

2 EXTENT OF WORK

2.1 GENERAL

General
Refer drawings for locations and details of demolition required for the various components of this project. These generally include but are not limited to the items nominated in the following schedules:

2.2 FIXED ITEMS TO BE PROTECTED DURING DEMOLITION WORK

- Adjacent surfaces, materials, finishes, fixtures of the existing school.

2.3 RECOVERED ITEMS FOR REUSE IN THE WORKS

- Nil

2.4 RECOVERED ITEMS FOR DELIVERY TO THE PRINCIPAL

- To be determined

2.5 DEMOLISHED MATERIAL FOR RECYCLING IN THE WORKS

- Nil

2.6 DEMOLISHED MATERIAL FOR RECYCLING OFFSITE

- Wherever Possible

2.7 DISMANTLE FOR RELOCATION AS PART OF THE WORKS

- Nil

2.8 DEMOLISHED FOR REMOVAL

- As outlined on the Architectural Drawings and as required to complete the works.
- Take particular care with removal of demountable buildings including in and out of ground services. Make good disturbed areas to match existing adjacent.

END OF SECTION 212 DEMOLITION SELECTIONS

221 GROUNDWORKS

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements

1.2 INTERPRETATION

Additional definitions
General: For the purposes of this worksection the definitions given below apply.

- Standard: To AS 1348.
- Description and classification of soils: To AS 1726.
- Site classification: To BCA clause 3.2.4.
- Bad ground: Ground unsuitable for the purposes of the works, including fill liable to subsidence, ground containing cavities, faults or fissures, ground contaminated by harmful substances and ground which is or becomes soft, wet or unstable.
- Base: One or more layers of material usually constituting the uppermost structural element of a pavement and on which the surfacing may be placed, which may be composed of fine crushed rock, natural gravel, broken stone, stabilised material, asphalt or Portland cement concrete.
- Discrepancy: A difference between contract information about the site and conditions encountered on the site, including but not limited to discrepancies concerning the following:
  . The nature or quantity of the material to be excavated or placed.
  . Existing site levels.
  . Services or other obstructions beneath the site surface.
- Line of influence: A line extending downward and outward from the bottom edge of a footing, slab or pavement and defining the extent of foundation material having influence on the stability or support of the footings, slab or pavement.
- Pipe surround: Includes pipe overlay, pipe side support, side zone and haunch zone.
- Rock: Monolithic material with volume greater than 0.5 m^3 which cannot be removed until broken up either by explosives or by rippers or percussion tools.
- Site topsoil: Soil excavated from the site which contains organic matter, supports plant life, conforms generally to the fine to medium texture classification of AS 4419 (loam, silt, clay loam) and is free from:
  . Stones > 25 mm diameter.
  . Clay lumps > 75 mm diameter.
  . Weeds and tree roots > 75 mm.
  . Sticks and rubbish.
  . Material toxic to plants.

- Subbase: The material laid on the subgrade below the base either for the purpose of making up additional pavement thickness required, to prevent intrusion of the subgrade into the base, or to provide a working platform.
- Subgrade: The trimmed or prepared portion of the formation on which the pavement or slab is constructed. Generally taken to relate to the upper line of the formation.

1.3 STANDARDS

Stormwater drainage
Standard: To AS/NZS 3500.3.

Shoring and lining systems
Steel shoring and trench lining systems: To AS 4744.1.

Hydraulic shoring and trench lining equipment: To AS 5047.

1.4 INSPECTION

Notice - earthworks
Inspection: Give notice so that inspection may be made of the following:
- Items to be measured as listed in *Records of measurement*.
- Areas to be cleared and/or stripped of topsoil.
- Excavation completed to contract levels or founding material.
- Proof roll subgrade prior to placing fill.
- Proof roll subbase prior to placing base.
- Proof roll base prior to installing surfacing.
- Filling completed to contract levels.
- Stockpiled topsoil before spreading.

Notice – service trenches
Inspection: Give notice so that inspection may be made of the following:
- Service trenches excavated before laying the service.
- Services laid in trenches and ready for backfilling.

Notice - stormwater
Inspection: Give notice so that inspection may be made of the following:
- Excavated surfaces prior to placing pipe bedding material.
- Formwork and reinforcement prior to placing cast in situ concrete.
- Pipe joints prior to covering.
- Placing of cast in situ concrete.
- Upon completion.

1.5 SUBMISSIONS

Temporary Work
Design Certification: Submit certifications by an RPEQ to show that temporary excavations and proposed temporary supports, including where applicable supports for adjacent structures, will be stable and safe.

Tests
Imported fill: Submit certification or test results which establish the compliance of imported fill with the contract.

Compaction: Submit certification and/or test results in accordance with the specified level of responsibility to AS 3798.

Certification
All earthworks shall be carried out in accordance with AS3798 and supervision to level 1 shall be supplied by the Contractor. The Contractor shall employ the nominated Geotechnical Engineer who is

a registered professional engineer of Queensland to undertake level 1 supervision of the earthworks and who shall certify in writing the following:

- Satisfactory stability for the works short and long term.
- That all general earthworks operations, ie. Stripping, subgrade treatment, treatment of existing fill, treatment of acid sulphate soils, etc. have been undertaken satisfactorily and in accordance with AS3798 and the groundworks specification.
- That fill material has been placed and compacted to the required minimum density.

Materials

General: Submit details of materials proposed, including but not limited to the following:

- Sources of imported fill.
- Sources of pavement materials

Execution

General: Submit a Work Method Statement which includes but is not limited to the following:

- Installation and maintenance of erosion and sediment controls;
- Excavation methods, stages, clearances, batters and temporary supports;
- Management of haul routes, stockpiles and borrow pits;
- Placing and compaction methods and stages;

Products and Materials

Documentation: Produce documentary evidence that all products and materials incorporated into the works conform to the requirements of this specification or if not specified the applicable Australian Standard.

1.6 GEOTECHNICAL AND ENVIRONMENTAL SITE INVESTIGATION

Report

General: The geotechnical and environmental site investigation report provided is for information only. The geotechnical information and information on contaminants given is information on the nature of the ground at each tested part. It is not a complete description of conditions existing at or below ground level.

1.7 NOTICE

As found site conditions

General: If the following are encountered and their presence is likely to result in a variation to contract, give notice immediately and obtain instructions before carrying out any further work in the affected area:

- Bad ground.
- Discrepancies.
- Rock.
- Springs, seepages.
- Topsoil > 100 mm deep.
- A geotechnical engineer shall inspect any adverse soil conditions not identified in their report and provide appropriate confirmation of presence.

1.8 RECORDS OF MEASUREMENT

Excavation and backfilling

Agreed quantities: If a schedule of rates applies, provisional quantities are specified where there are variations to the contract levels or dimensions of excavations, do not commence backfilling or place permanent works in the excavation until the following have been agreed and recorded:

- Depths of excavations related to the datum.
- Final plan dimensions of excavations.
- Quantities of excavations in rock.

Method of measurement: To be by registered surveyor unless otherwise agreed.

Rock

Level and class: If rock is to be measured for payment purposes, whether as extra over excavation of material other than rock or for adjustment of provisional measurements, do not remove the rock until the commencing levels and the classes of rock have been determined and verified by Soil Surveys.

1.9 EXPLOSIVES

General

General: Do not use explosives.

1.10 TESTS

Geotechnical testing authority

General: Use a NATA registered geotechnical testing authority.

Level of responsibility to AS 3798 Section 8: Level 1 under building platforms

Compaction control tests

Compaction control tests: To AS 1289.5.4.1 or AS 1289.5.7.1.

Compaction control test frequency

Standard: To AS 3798 Table 8.1.

Site area > 1500 m^2: At least (whichever requires the most tests):

- 1 test per layer per material type per 2500 m^2.
- 1 test per 500 m^3 distributed evenly throughout full depth and area.
- 3 tests per lot.

Site area greater that 500 m^2: At least (whichever requires the most tests):

- 1 test per layer per 1000 m^2.
- 1 test per 200 m^3 distributed evenly throughout full depth and area.
- 1 test per residential lot per layer.

Site area < 500 m^2: At least (whichever requires the most tests):

- 1 test per layer per 500 m^2.
- 1 test per 100 m^3 distributed evenly throughout full depth and area.
- 3 tests per visit.

Confined operations: 1 test per 2 layers per 50 m^2.

- Subgrade to roadworks and building platforms require 1 density test (by sand cone) and plasticity test per 500sqm (min 2 no.).
- Pavement materials require 1 density test (by sand cone) per 1000sqm (min 2 no.), and submission to the engineer of the pavement material suppliers sample testing results for grading, plasticity and soaked CBR. Other material properties may be specified for testing by the superintendent at their discretion.
- Pavement sealing by asphalt shall be core tested and marshall properties, grading, stability and density tested. Pavement sealing by spray seal requires submission of suppliers sample testing results including soluble sulphate tests.
- Submission of sample test results from suppliers for other materials including bedding gravel's, drainage gravel's, geofabrics, cast iron works, water supply fittings, precast concrete and all pipe supplies.

Imported fill tests

Imported fill: Provide test results to show that it complies with the specifications on the civil drawings.

Density tests

Testing authority: Have density tests carried out by a Registered testing authority.

Test methods:

- Field dry density: AS 1289.5.3.2 or AS 1289.5.3.5.

- Standard maximum dry density: AS 1289.5.1.1.
- Dry density ratio: AS 1289.5.4.1.
- Density index: AS 1289.5.6.1.

Proof rolling

Extent: Proof roll excavations for pavements, filling and non-spanning slabs on ground to determine the extent of any bad ground.

Proof rolling method:

- Roller type and size: Static vehicle with an axle load of at least 10 tonnes.
- Number of passes: 3

1.11 TOLERANCES

Surfaces

Finish: Finish the surface to the required level, grade and shape within the following tolerances:

- Under building slabs and loadbearing elements: + 0, - 25 mm.
- Pavement subgrades: + 0, - 40 mm.
- Pavement Layers:

  Sub-base: +0, -15 mm

  Base: +/- 5 mm
- Surfacing Layer:

  In addition, the deviation from a 3m long straight edge placed anywhere on the finished surfacing shall not exceed 5mm.
- Batters: No steeper than the slope shown on the drawings. Ensure flatter slopes do not impact on boundaries or required clearances to buildings, pavements or landscaping.
- Other ground surfaces: ± 50 mm, provided the area remains free draining and matches adjacent construction where required. Provide smoothness as normally produced by a scraper blade.

Pipelines

General: Conform to the **Pipeline tolerances table**. These tolerances are conditional on falls to outlets being maintained and no part of a pipeline being at less than the designated gradient.

Pipeline tolerances table

	Permissible angular deviation from alignment	**Permissible displacement from alignment**
Horizontal	1 in 300	15 mm
Vertical	1 in 500	5 mm

2 PRODUCTS & MATERIALS

2.1 FILL MATERIALS

Fill material generally

General: Well graded, inorganic, non-perishable material.

Sulphur content: Do not provide filling with sulphur content exceeding 0.5 % within 500 mm of cement bound elements (for example concrete structures or masonry).

In reactive clay: In sites classified M, M-D, H, H-D or E to AS 2870, re-use excavated site material at a moisture content within ± 1% of that of the adjoining in situ clay.

Excluded materials:

- Organic soils.
- Materials contaminated through past site usage.
- Materials which contain substances which can be dissolved or leached out, or which undergo volume change or loss of strength when disturbed and exposed to moisture.

- Silts or silt-like materials.
- Fill containing wood, metal, plastic, boulders or other deleterious material.

Site based material

Re-use of excavated material: Selected re-use allowed with approval from supervising Geotechnical Engineer.

Imported fill

Granular fill: CBR 15 Material, source and material to be approved by supervising geotechnical engineer prior to importation.

Cohesive fill: To meet general specification above. Source and material to be approved by supervising geotechnical engineer prior to importation.

Services Backfill material

General: No stones greater than 25 mm to be placed within 150 mm of the pipe, service, or other materials as required for particular services or locations. Maximum particle size 75 mm, plasticity index ≤ 55 %.

Under roads and paved areas and within 4 m of structures: Coarse sand, controlled low strength material or fine crushed rock.

In topsoil areas: Complete the backfilling with topsoil for at least the top 100 mm.

2.2 GEOTEXTILE FILTER FABRIC

General: Polymeric fabric formed from a plastic yarn composed of at least 85% by weight of propylene, ethylene, amide or vinyledenechloride and containing stabilisers or inhibitors to make the filaments resistant to deterioration due to ultraviolet light.

Identification and marking: To AS 3705.

Product: Geofabrics Bidim A49 unless shown otherwise on the detail drawings

Filter socks

General: Provide polyester permeable socks capable of retaining particles of 0.25 mm size. Securely fit or join the sock at each joint.

2.3 STORMWATER MATERIALS

Concrete and mortar

Concrete: To AS 1379.

- Grade: N20.

Cement: To AS 3972.

- Type: GP or GB.

Steel reinforcement:

- Bars and machine welded mesh: To AS/NZS 4671.

Joints

Solvent cement and priming fluid: To AS/NZS 3879.

Pipe and fittings

Fibre reinforced cement (FRC): To AS 4139.

- < 450 mm diameter: Pre-socketed at one end with a factory fitted *Adcol* coupling.
- > 450 mm diameter: To have a purpose machined internal spigot and socket system within the pipe wall.

Glass-reinforced polyester (GRP): To AS 3571.

Cast iron manhole covers and frames: To AS 1830 and AS 1831, as appropriate.

Polyvinyl chloride (PVC): To AS 1254, AS/NZS 1260, AS 1273.

Polyethylene (PE): To AS/NZS 4129, AS/NZS 4130, ISO 8770, or AS/NZS 2033.

Precast concrete: To AS/NZS 4058.

Rubber ring joints/elastomeric seals: To AS 1646.

Subsoil: To AS 2439.1.

Vitrified clay or ceramic: To AS 1741.

Bedding material

Bedding material for the bed and haunch zones: A granular material having a grading, determined by AS 1141.

Conformance: Comply with the **Bedding material grading table**.

Bedding material grading table

Sieve size (mm)	Weight passing %	
	Bed and haunch	Side zones
75.0	-	100
19.0	100	-
9.5	-	50-100
2.36	50-100	30-100
0.60	20-90	15-50
0.30	10-60	-
0.15	0-25	-
0.075	0-10	0-25

3 EXECUTION

3.1 REMOVAL OF TOPSOIL

General

Extent: Areas to be cut and areas to be filled and areas to be occupied by structures, pavements, and embankments.

Maximum depth: 200 mm.

Re-use of removed topsoil

General: Re-use of removed topsoil: Allowed

Topsoil stockpiles

General: Stockpile site topsoil intended for re-use and imported topsoil where necessary. Establish stockpiles to heights not exceeding 1.5 m. Identify stockpiles of different soil types. Provide adequate drainage and erosion protection. Do not burn off or remove plant growth which may occur during storage. Do not allow traffic on stockpiles. If a stockpile is to remain for more than four weeks, sow with temporary grass. Protect the topsoil stockpiles from contamination by other excavated material, weeds and building debris.

3.2 EXCAVATION

Extent

Site surface: Excavate over the site to give correct levels and profiles as the basis for structures, pavements, filling and landscaping. Make allowance for temporary battering, compaction or settlement.

Safety: Contractor to ensure all excavations are safe and where necessary to provide temporary shoring, benching or other methods of stabilisation.

Footings: Excavate for footings, pits, wells and shafts, to the required sizes and depths. Confirm that the foundation conditions meet the design bearing capacity.

Crawl space: Provide clear space under timber floor bearers.

- Minimum clearance: 400 mm.

Existing footings
Requirement: If excavation is required below the line of influence of an existing footing, use methods including (temporary) shoring or underpinning all designed by an RPEQ, which maintain the support of the footing and ensure that the structure and finishes supported by the footing are not damaged.

Existing services
Location: Identify existing underground services and give notice. Do not excavate by machine within 1 m of underground services.

Disposal of excess excavated material
General: Remove excess excavated material from the site and dispose of legally. Haul routes to be defined and subject to council approval.

3.3 SUPPORTING EXCAVATIONS

Removal of supports
General: Remove temporary supports progressively as backfilling proceeds.

Voids
General: Guard against the formation of voids outside sheeting or sheet piling if used. Fill and compact voids to a dry density equal to that of the surrounding material.

3.4 SERVICE TRENCHING

Existing surfaces
General: Before excavating trenches, saw-cut existing concrete and bituminous surfaces on each side of the trench to provide a straight even joint. Lift and store unit paving for later reinstatement.

Excavation
General: Excavate for underground services:

- To required lines and levels, with uniform grades.
- Straight between personnel access ways, inspection points and junctions.
- With stable sides.

Safety: Contractor to ensure all excavations are safe and where necessary to provide temporary shoring, benching or other methods of stabilisation.

Trench widths
General: Keep trench widths to the minimum consistent with the laying and bedding of the relevant service and construction of personnel access ways and pits.

Trench depths
General: As required by the relevant service and its bedding method.

Adjacent to footings: If excavation is necessary below the zone of influence of the underside of adjacent footings, give notice, and provide support for the footings as instructed.

Obstructions
General: Clear trenches of sharp projections. Cut back roots (after endorsement from landscape architect) encountered in trenches to at least 600 mm clear of services. Remove other obstructions including stumps and boulders which may interfere with services or bedding.

Dewatering
General: Keep trenches free of water. Place bedding material, services and backfilling on firm ground free of surface water.

Excess excavation
General: If trench excavation exceeds the correct depth, reinstate to the correct depth and bearing value using compacted bedding material or sand stabilised with 1 part of cement to 20 parts of sand by volume.

3.5 BORING

Subcontractor
General: If under road boring is required in lieu of trenches, engage a suitably qualified subcontractor to do the work.

Process
General: Ensure a tight fit to the service pipes. If voids are encountered, fill by pressure grouting.

3.6 BACKFILLING SERVICE TRENCHES

General
General: Backfill service trenches as soon as possible after the service has been laid and bedded, if possible on the same working day. Backfill material in accordance with materials specification for fill. Place the backfill in layers ≤ 150 mm thick and compact to the nominated density which applies to the location of the trenches as shown on the drawings.

Marking services
Underground marking tape: To AS/NZS 2648.1.

3.7 SUBGRADES AFFECTED BY MOISTURE

General
General: If the subgrade is unable to support construction equipment, or it is not possible to compact the overlying pavement only because of a high moisture content, perform one or more of the following:

- Seek instruction from the supervising Geotechnical Engineer.
- Allow the subgrade to dry until it will support equipment and allow compaction.
- Scarify the subgrade to a depth of 150 mm, work as necessary to accelerate drying, and recompact when the moisture content is satisfactory.
- Excavate the wet material and remove to spoil, and backfill excavated areas.
- Import a 150mm CBR 15 material layer to form a working platform

3.8 BEARING SURFACES

General
General: Provide even plane bearing surfaces for loadbearing elements including footings. Step to accommodate level changes. Make the steps to the appropriate courses if supporting masonry.

Deterioration
General: If the bearing surface deteriorates because of water or other cause, excavate further to a sound surface before placing the loadbearing element.

3.9 REINSTATEMENT OF EXCAVATION

General
Requirement: If the excavation exceeds the required depth, or deteriorates, reinstate to the correct depth, level and bearing value.

Line of influence: Below or within the ‘line of influence’ of footings, beams, or other structural elements, use concrete of strength equal to the structural element, minimum 15 MPa.

Below slabs or pavements: Provide selected CBR 15 filling compacted to the specified density. In cut subgrades if the over excavation is less than 100 mm, do not backfill, but make good by increasing the thickness of the layer above. Backfill rock depressions and over excavation of subsoil drains using coarse subsoil filter media.

3.10 REINSTATEMENT OF SURFACES

General
General: Reinstate existing surfaces removed or disturbed by trench excavations to match existing and adjacent work.

Lawn areas
General: Provide 150 mm of loam and resow the lawn over the trench and other disturbed areas.

Concrete surfaces
General: Provide crushed rock base and subbase to match the existing pavement. Prime coat the cut edges of the existing surfaces with cement slurry. Lay and compact concrete so that the edges are flush and the centre is cambered 10 mm above the adjoining existing surfaces.

Minimum thickness: 75 mm or the adjacent pavement thickness, whichever is thicker.

Reinforcement and dowels: If required, provide steel reinforcement with dowels into the adjacent concrete.

Joints: Provide joints in locations to coincide with and detail to match joints in existing pavements.

Concrete strength: 25 MPa.

Curing: Cure by keeping continuously wet for 7 days.

Bituminous surfaces
General: Provide crushed rock base and subbase to match the existing pavement. Existing pavement to be cut back as indicated on the works drawings. Prime coat the edges of the existing surfacing with bitumen. Lay and compact hot-mix asphalt so that the edges are flush and the centre is cambered 10 mm above the existing pavement.

Minimum asphalt thickness: 40mm or the adjacent pavement thickness, whichever is thicker.

Segmental paving
General: Provide sand bedding and compacted crushed rock base, if required to match the existing construction. Reinstate the paving units.

3.11 ADJACENT STRUCTURES

Temporary supports
General: Provide supports to adjacent structures where necessary, sufficient to prevent damage arising from the works, all designed by an RPEQ.

Lateral supports: Provide lateral support using shoring.

Vertical supports: Provide vertical support where necessary using piling or underpinning or both.

Permanent supports
General: If permanent supports for adjacent structures are necessary and are not described, give notice and obtain instructions.

Encroachments
General: If encroachments from adjacent structures are encountered and are not shown on the drawings, give notice and obtain instructions.

Line of influence
Angle from horizontal: 45 degrees

3.12 ROCK BOLTING

General
General: Provide proprietary high strength steel bars or tubes anchored into holes drilled in the rock and tensioned against plates bearing on the rock face to provide temporary or permanent support for the rock face.

Reference: AS 4678.

Protection
General: Protect permanent rock bolts by grouting the drilled hole with cement grout after tensioning the rock bolt. Protect the bearing plate and the exposed portion of rock bolt and anchorage with a protective coating or by embedment in concrete.

3.13 PREPARATION FOR FILLING

General

General: Prepare the ground surface before placing fill (including topsoil fill), ground slabs or load bearing elements. Shape to assist drainage. Remove materials which will inhibit or prevent satisfactory placement of fill layers, loose material, debris and organic matter. Compact the ground exposed after stripping or excavation in conformance with the **Compaction Table**.

Benching

General: If fill is to be placed on a surface which slopes more than 1:4, bench the surface to form a key for the fill. As each layer of fill is placed, cut the existing ground surface progressively to form a series of horizontal steps > 1 m in width and > 100 mm deep or as recommended in the geotechnical report. Recompact the excavated material as part of the filling. Shape to provide free drainage.

Under earth mounds

General: Cultivate the ground to a depth of 200 mm before mound formation.

Under slabs, paving and embankments

General: Compact the ground to achieve the densities specified in the **Compaction Table**. If necessary loosen the ground to a depth of > 200 mm and adjust the moisture content before compaction to a density consistent with subsequent filling.

Rock ledges

General: Remove overhanging rock ledges.

3.14 GEOTEXTILE FILTER FABRIC

Preparation: Prior to placement trim the ground to a smooth surface free from cavities and projecting rocks.

Placing: Lay the fabric flat, but not stretched tight, and secure it with anchor pins. Overlap joints 300 mm minimum.

3.15 PLACING FILL

General

Layers: Place fill in near-horizontal layers of uniform thickness, deposited systematically across the fill area.

Extent: Place and compact fill to the designated dimensions, levels, grades, and cross sections so that the surface is always self draining.

Edges: At junctions of fill and existing surfaces, do not feather the edges.

Mix: Place fill in a uniform mixture.

Previous fill: Before placing subsequent fill layers, ensure that previously accepted layers still conform to requirements, including moisture content.

Protection: Protect the works from damage due to compaction operations. Where necessary, limit the size of compaction equipment or compact by hand. Commence compacting each layer at the structure and proceed away from it.

Protective covering: Do not disturb or damage the protective covering of membranes during backfilling.

Placing at structures

General: Place and compact fill in layers simultaneously on both sides of structures, culverts and pipelines to avoid differential loading. Carefully place first layers of fill over the top of structures.

Concrete: Do not place fill against concrete retaining walls until the concrete has been in place for 28 days unless the structure is appropriately supported by struts.

3.16 PLACING TOPSOIL

Stockpiled topsoil

Cultivation: Rip to a depth of 100 mm or to the depth of rippable subgrade if less. Cultivate around services and tree roots by hand. Trim to allow for the required topsoil depth.

Herbicide: Apply before placing topsoil.

Herbicide product: Refer landscape architect.

Placing: Spread and grade evenly.

Disposal of excess topsoil

On site: Dispose of surplus topsoil remaining on site by spreading evenly over the areas already placed.

Off site: Remove excess topsoil from the site and dispose of legally, haul routes to be defined and subject to council approval.

Compaction: Lightly compact topsoil so that the finished surface is smooth, free from lumps of soil, at the required level, ready for cultivation and planting.

Edges: Finish topsoil flush with abutting kerbs, mowing strips and paved surfaces. Feather edges into adjoining undisturbed ground.

3.17 COMPACTION REQUIREMENTS FOR FILL AND SUBGRADE

Density

General: Other than rolled fill to AS 2870 clause 6.4.2(b). Compact the subgrade and each layer of fill to the required depth and density, as a systematic construction operation and to conform to the **Compaction table**. Shape surfaces to provide drainage and prevent ponding.

Compaction table

Location	Cohesive soils. Minimum dry density ratio (standard compaction) to AS 1289.5.4.1 and AS 3798 Table 5.1	Cohesionless soils. Minimum density index to AS 1289.5.6.1
Residential: - Lot fill, house sites.	95	70
Commercial: - Fills to support minor loadings incl. floor loadings < 20 kPa and isolated pad or strip footings < 100 kPa.	98	75
Pavements: - Fill to support pavements - Subgrade to 300 mm deep - Subase course - Base course	95 98 98 Modified Compaction 98 Modified Compaction	70 75

Excavated and stripped ground surface: After excavation and/or stripping, compact these surfaces in conformance with the **Compaction table** to a minium depth of 150 mm.

Maximum rock and lump size in layer after compaction: 2/3 compacted layer thickness.

Fill batter faces: Either compact separately, or overfill and cut back. Form roughened surfaces to the faces.

Moisture content

General: Adjust the moisture content of fill during compaction within the range of 85 – 115% of the optimum moisture content determined by AS 1289.5.1.1 or AS 1289.5.2.1 as appropriate, in order to achieve the required density.

3.18 GRADING

External areas

General: Grade to provide fall away from buildings, minimum 1:100.

Subfloor areas
General: Grade the ground surface under suspended floors to drain ground or surface water away from buildings without ponding.

3.19 STORMWATER DRAINS

Location
General: Provide stormwater drains to connect downpipes, surface drains, subsoil drains and drainage pits to the outlet point or point of connection. Make sure that location of piping will not interfere with other services and building elements not yet installed or built. Subject to the preceding and documented layouts, follow the most direct route with the least number of changes in direction.

Downpipe connections: Turn up branch pipelines with bends to meet the downpipe, finishing 50 mm (nominal) above finished ground or pavement level. Seal joints between downpipes and drains.

Laying
General: Lay in straight lines between changes in direction or grade with socket end placed upstream. If other pipes are adjacent, set each pipe true to line and complete each joint before laying the next pipe. If work is not continuous cap open ends to prevent entry of foreign matter.

Bedding
General: Grade the underlay evenly to the gradient of the pipeline.

Standard: In accordance with AS/NZS 3725 and AS/NZS 3725 Supplement 1.

Layers: Compact all material in layers not exceeding 150 mm compacted thickness.

Lifting holes
General: Seal lifting holes in all pipes with plastic preformed plugs or 3:1 sand: cement mortar, before the commencement of backfilling.

Trench backfill
General: Backfill the remainder of the trench to the underside of the subgrade with fill material.

Anchor blocks
General: If necessary to restrain lateral and axial movement of the stormwater pipes provide concrete anchor blocks at junctions and changes of grade or direction.

Encasement
General: Conform to the civil drawing.

Location: At locations indicated on the drawings or where otherwise instructed, encase the pipeline in concrete at least 150 mm above and below the pipe, and 150 mm each side or the width of the trench, whichever is the greater.

3.20 SUBSOIL DRAINS

General
General: Provide subsoil drains to intercept groundwater seepage and prevent water build-up behind walls under floors and boxed pavements. Connect subsoil drains to surface drains or to the stormwater drainage system as applicable. Conform to the civil drawing.

Trench width: ≥ 450 mm.

Pipe depth: Provide the following minimum clear depths, measured to the crown of the pipe, where the pipe passes below the following elements:

- 100 mm below subgrade level of the pavement, kerb or channel.
- 100 mm below the average gradient of the bottom of footings.
- 450 mm below the finished surface of unpaved ground.

Jointing
General: At junctions of subsoil pipes provide tees, couplings or adaptors to AS 2439.1.

Pipe underlay
General: Grade the trench floor evenly to the gradient of the pipeline. If the trench floor is rock, correct any irregularities with compacted bedding material. Bed piping on a continuous underlay of bedding

material, at least 75 mm thick after compaction. Lay the pipe with one line of perforations at the bottom.

Chases: If necessary, form chases to prevent projections such as sockets and flanges from bearing on the trench bottom or underlay.

Pipe surrounds

General: Place the material in the pipe surround in layers ≤ 200 mm loose thickness, and compact without damaging or displacing the piping.

Depth of overlay:

- To the underside of the bases of overlying structures such as pavements, slabs and channels.
- To within 150 mm of the finished surface of unpaved or landscaped areas.

Filter fabric

General: Provide filter fabric and/or filter socks as indicated in the drawings. Store material clear of the ground and out of direct sunlight. During installation do not expose the filter fabric to sunlight for more than 14 days.

3.21 PITS

Finish to exposed surfaces

General: All new pits, including access covers, gully grates and frames complying with AS 3996, shall be constructed to the details shown on the Drawings. Modification of existing pits is only to be carried out if such is shown on the Drawings.

Finish: Provide a smooth, seamless finish, using steel trowelled render or concrete cast in steel forms. Cove or splay internal corners.

Inlet and Outlet pipes: shall be integrally cast into the pit at the time of pouring the concrete for the pit walls.

Cover levels: Top of cover or grate, including frame:

- In paved areas: Flush with the paving surface.
- In landscaped areas: 25 mm above finished surface.
- Gratings taking surface water runoff: Locate to receive runoff without ponding.

Type: In all paved areas and other areas accessed by pedestrian's use Heelguard™ Anitslip grates as manufactured by ACO Polycrete Pty Ltd.

3.22 TESTING

Pre-completion tests

General: Before backfilling or concealing, carry out the following tests:

- Site stormwater drains and main internal drains: Air or water pressure test to AS 3500.3 Section 10.

Leaks: If leaks are found, rectify and re-test.

3.23 COMPLETION

Cleaning

General: Clean and flush the whole stormwater installation.

- Provide CCTV survey footage of installation inspections in accordance with the latest version the WSA 05 Sewer Inspection Reporting Code.

Temporary works

Tree enclosures: Remove temporary tree enclosures at completion.

Tree marking: Remove temporary marks and tags at completion.

Temporary supports: Remove temporary supports to adjacent structures at completion.

Records

Certified records of measurement: Submit a certified copy of the agreed records of measurement.

Construction records

General: Submit the following:

- Geotechnical site visit record; and
- Earthworks summary report, or daily geotechnical reports; and
- Level 1 Supervision certification by the nominated Geotechnical Engineer.

Content: At least the following:

- The areas in which fill is placed.
- Levels after stripping.
- Location of any trees or large shrubs that may have been removed.
- Materials exposed after stripping and the criteria upon which the decision to cease stripping was made.
- Levels after completion of the filling.
- Types of fill materials in various zones.
- Location and level of each compliance test, together with test results. State if a test is a retest of an area which was previously rejected.
- Action taken where testing indicated that the specified criteria had not been met.
- Any areas where fill material or compaction was to be of a greater or lesser standard than elsewhere on site.

Format: To AS 3798 Appendix B.

3.24 SITE RESTORATION

Requirement
General: Where existing ground surfaces are not required to be varied as part of the works, restore them to the condition existing at the commencement of the contract.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **222 GROUNDWORKS SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 221 GROUNDWORKS

222 GROUNDWORKS SELECTIONS

1 SELECTIONS AND SCHEDULES

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

2 ENGAGEMENT OF A GEOTECHNICAL ENGINEER

2.1 GENERAL

The Contractor shall include in their tender to engage the geotechnical engineer nominated below to carry out all works specified to be carried out by a geotechnical engineer in 221 GROUNDWORKS and/or any accompanying Civil Engineering Works and/or Roadworks (or similar) specifications.

3 EXTENT OF WORK

General
This section applies to groundworks generally as required for the completed work. Also included in this section is the provision of service trenching and stormwater reticulation.

3.1 EARTHWORKS

General
Refer drawings for extent of earthwork required for the various components of this project.

This includes but is not limited to:

- excavations and constructions of embankments
- construction of pavements
- preparation of building platforms.

In addition to this make provision for the following items:

- Location, protection and relocation where necessary of existing underground services on site. Underground services shown on existing survey drawing are indicative only, the Contractor is to verify the locations of all underground services prior to commencing works.
- Set out of the works. This is to be undertaken by a licensed surveyor.
- Installation and maintenance of erosion and sediment control devices as detailed on the drawings.

3.2 SERVICE TRENCHING

Refer drawings for extent of service trenching required for the various components of this project.

Refer also to Electrical Services and Hydraulic Services specifications for specific details regarding service trenching.

3.3 SITE STORMWATER

Refer drawings for extent of stormwater reticulation required.

END OF SECTION 222 GROUNDWORKS SELECTIONS

321 CONCRETE

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 331 Masonry and 322 Masonry Selections

1.2 INTERPRETATION

Additional definitions
General: For the purposes of this worksection the following definitions apply:

- Ambient temperature: The air temperature at the time of mixing and placing of concrete.
- Average ambient temperature: Average value of the daily maximum and minimum ambient temperatures over the relevant period at a site.
- Concrete class:
  - . Normal: Concrete which is specified primarily by a standard compressive strength grade and otherwise in accordance with AS 1379 clause 1.5.3.
  - . Special: Concrete which is specified to have certain properties or characteristics different from, or additional to, those of normal-class concrete and otherwise in accordance with AS 1379 clause 1.5.4.
- Early age: A mean compressive strength at 7 days exceeding the values shown in AS 1379 Table 1.2.
- Green concrete: Concrete which has set but not appreciably hardened.
- Weather:
  - . Cold: Ambient shade temperature < 10°C.
  - . Hot: Ambient shade temperature > 30°C.

1.3 STANDARDS

General
Formwork design and construction, formed surfaces: To AS 3610 and AS 3610.1.

Plywood formwork: To AS 6669.

Profiled steel sheeting, including shear connectors: To AS 2327.1.

Specification and supply of concrete: To AS 1379.

Concrete materials and construction: To AS 3600.

Residential ground slabs and footings: To AS 2870.

Concrete structures for retaining liquids: To AS 3735.

Cement: To AS 3972.

Admixtures (each type used): To AS 1478.1.

Strand, bar and wire: To AS/NZS 4672.1.

Structural design: To AS 3600.

1.4 INSPECTION

Notice

Inspection: Give notice so that inspection may be made of the following:

- Base or subgrade before covering.
- Completed formwork and reinforcement, tendons, cores, fixings and embedded items fixed in place.
- Surfaces or elements to be concealed in the final work before covering.

1.5 SUBMISSIONS

Design

Loading: Submit details of proposed construction systems, loads and procedures, including propping and re-shoring.

Certification: Submit certification by a professional engineer experienced in formwork design and construction verifying conformance of the completed formwork, including the suitability of the formwork for the documented surface finish class.

Drawings

Cores, fixings and embedded items: If the locations of these items are not shown or are shown diagrammatically, submit shop drawings showing the proposed locations, clearances and cover. Indicate proposed repositioning of reinforcement.

Products

Product conformity: Submit current assessments of conformity, as follows:

- Declaration of conformity by an AS/NZS ISO 9001 quality management system certified supplier.

Execution details

Concrete: Submit proposals for mixing, placing, finishing and curing concrete including the following:

- Curing and protection methods.
- Cutting or displacing reinforcement.
- Handling, placing, compaction and finishing methods and equipment, including pumping.
- Placing under water.
- Sequence and times for concrete placement, and construction joint locations and relocations.
- Site storage, mixing and transport methods and equipment, if applicable.
- Temperature control methods.

Cutting or coring: If cutting or coring of hardened concrete is proposed, provide details.

Sequence of concrete placement: If sequential placement of slab segments is proposed, provide details.

Sawn joints: Submit proposed methods, timing and sequence of sawing joints.

Props: If props above a floor do not coincide with the props below, submit details.

Reshoring: If reshoring is intended, submit proposals.

Stripping single storey suspended work: If the requirements of AS 3610 cannot be met, give notice.

Surface repair method: If required, submit details of the proposed method before commencing repairs.

Reinforcement: If changes are proposed to reinforcement shown on the drawings, submit details.

Damaged galvanizing: If repair is required, submit proposals to AS/NZS 4680 Section 8.

Provision for concrete placement: If spacing or cover of reinforcement does not conform, give notice.

Splicing: If undocumented splicing is proposed, submit details.

Welding: Give notice before welding reinforcement.

Pre-mixed supply: For each batch, submit a docket listing the information required by AS 1379, and the following information:

- For special class performance concrete: Specified performance and type of cement binder.
- For special class prescription concrete: Details of mix, additives, and type of cement binder.
- Method of placement and climate conditions during pour.

- Name of concrete delivery supervisor.
- Project assessment carried out each day.
- The concrete element or part of the works for which the concrete was ordered, and where it was placed.
- The total amount of water added at the plant and the maximum amount permitted to be added at the site.

2 PRODUCTS AND MATERIALS

2.1 MATERIALS

General
Stockpile: If uniform, consistent colour is required, stockpile sand, cement and aggregates for the project.

Cement
Standard: To AS 3972.

Age: Less than 6 months old.

Storage: Store cement bags under cover and above ground.

Aggregates
Standard: To AS 2758.1.

Special aggregates: Stockpile special aggregates at the beginning of the project to minimise colour and other variations.

Water
Standard: To AS 1379.

Quality: Provide clean water, free from oil, acid, alkali, organic or vegetable matter and including not more than 500 mg/l of chloride ions.

Polymeric film underlay
Vapour barriers and damp-proofing membranes: To AS 2870 clause 5.3.3.

Chemical admixtures
Chemical admixtures: To AS 1478.1.

Chemical admixture content: Free of chlorides, fluorides and nitrates.

Curing compounds
Curing compounds: To AS 3799.

2.2 CONCRETE

Properties
Concrete mix and supply: Conform to the following:

- Normal-class: To AS 1379 clause 1.5.3.
- Special-class: To AS 1379 clause 1.5.4.

Cover
Concrete cover generally: To AS 3600.

Concrete cover for residential ground slabs and footings: To AS 2870.

Testing
Sampling, identification and testing of specimens: Sample the concrete on site, at the point of discharge from the agitator to AS 1012.

Type and frequency: Conform to AS 1379. For each property test at least two specimens from each sample. To the **Project assessment strength grade sampling table**.

Slump: Test at least one sample from each batch before placing concrete from that batch in the work.

Strength grade/Characteristic compressive strength: Spread the site sampling evenly throughout the pour.

Project assessment strength grade sampling table

Number of batches for each type and grade of concrete per day	Minimum number of samples	
	Columns, loadbearing wall and post-tensioned slab/beam elements per batch	Other elements per day
1	1	1
2-5	1	2
6-10	1	3
11-20	1	4
each additional 10	1	1 additional

Embedded pressure pipes: If leak tests have not been successfully completed, do not embed pipes.

Test authority: Concrete supplier or NATA registered laboratory.

Testing: Site cure all test cylinders for early age testing. Cure by the same method as the construction element. Leave test cylinders on site until the morning of the test.

Sampling locations: Distribute the sampling locations randomly, include the anchorage area and the last concrete placement area. Make reference to a structural element on the drawings.

2.3 FORMWORK

General

Linings, facings and release agents: Form for compatibility with applied finishes.

Lost formwork: Provide lost formwork which is without chlorides, and without impairment to the structural performance of the concrete members.

Void formers: Material capable of maintaining rigidity and shape until the concrete has set, withstanding construction loads and non-collapsible on absorption of moisture.

Steel decking

Material: Hot-dipped zinc-coated sheet steel to AS 1397, minimum G500-Z350.

Profiled steel sheeting composite formwork: Minimum steel grade G550.

Accessories: Adopt material and corrosion protection to match the profiled steel sheeting.

Plywood formwork

Material: Plywood sheeting to AS 6669.

Grade: To meet the design dimensions, loading and surface quality specified to AS 3610 and AS 3610.1.

Joints: Seal the joints consistent with the surface finish class.

2.4 REINFORCEMENT

Fibre reinforcement

Standard: To CIA CPN35.

Steel reinforcement

Standard: To AS/NZS 4671.

Surface condition: Free of loose mill scale, rust, oil, grease, mud or other material which would reduce the bond between the reinforcement and concrete.

Protective coating

Corrosion: Protect from corrosion in accordance with AS 3600.

Epoxy coating: High build, high solids chemically resistant coating.

- Thickness: 200 µm minimum.

Galvanizing: To AS/NZS 4680:

- Sequence: If fabrication is to occur after galvanizing, submit proposals for galvanizing repair and coating of cut ends.

- Zinc-coating (minimum): 600 g/m^2.

Tie wire
General: Annealed steel 1.25 mm diameter (minimum).

2.5 MISCELLANEOUS

Coloured concrete
Standard: To AS 3610.1.

Manufacture: Using the same mix and method used in the works, supply sample blocks of concrete before colouring with mineral oxides.

- Number: 4.
- Size (nominal): 300 x 300 x 50 mm.

Surface hardeners, sealants and protectors
Material supply: If required by the project documentation, provide proprietary products as nominated in SELECTIONS in accordance with the manufacturer's written requirements.

Proprietary expansion / movement joints
Material supply: If required by the project documentation, provide proprietary products as nominated in SELECTIONS in accordance with the manufacturer's written requirements.

3 EXECUTION AND WORKMANSHIP

3.1 RESPONSIBILITIES

General
General: Provide cast concrete as follows:

- In conformance with the design details.
- Satisfies quality and inspection requirements.
- Compatible with finishes.

Design
Formwork: The design of the formwork and all associated propping, other than profiled steel sheeting composite formwork, is the contractor's responsibility.

3.2 TOLERANCES

General
Position: Construct formwork so that finished concrete conforms to AS 3600 clause 17.5 and the **Formwork dimensional deviation schedule**.

Reinforcement and tendon position: To AS 3600 clause 17.5.3.

Formed surfaces: Confirm conformance with the surface finish requirements of AS 3610.1 Table 3.3.2 for the surface class nominated.

Unformed surfaces: Confirm conformance with the **Flatness tolerance classes table** for the class of finish nominated using a straight edge placed anywhere on the surface in any direction.

Flatness tolerance class table

Class	Measurement	Maximum deviation (mm)
A	3 m straight edge	3
B	3 m straight edge	6
C	600 mm straight edge	6

3.3 POLYMERIC FILM UNDERLAY

Location
General: Under slabs on ground including integral ground beams and footings, provide a vapour barrier or, in areas prone to rising damp or salt attack, a damp-proofing membrane.

Installation
General: Lay over the base, lap joints at least 200 mm and seal the laps and penetrations with waterproof adhesive tape. Face the laps away from the direction of concrete pour. Take the underlay up vertical faces past the damp proof course where applicable, and tape fix at the top. Patch or seal punctures or tears before placing concrete. Cut back as required after concrete has gained strength and forms have been removed.

Base preparation
General: According to base type, as follows:

- Concrete working base: Remove projections above the plane surface, and loose material.
- Graded prepared subgrade: Blind with sufficient sand to create a smooth surface free from hard projections. Wet the sand just before laying the underlay.

3.4 FORMWORK

General
General: Conform to the **Integral surface finishes schedule.**

Bolt hole filling
Cover: Position formwork tie bolts left in the concrete so that the tie does not project to within 50 mm of finished surface.

Durability: Provide material with durability and colour matching the concrete.

Recessed filling: Fill or plug the hole to 6 mm below the surface.

Preparation
Cleaning: Before placing concrete, remove free water, dust, debris and stains from the forms and the formed space.

Corners
Work above ground: Fillet at re-entrant angles, and chamfer at corners.

- Face of bevel 25 mm.

Embedments
General: Fix embedments through formwork to prevent movement, or loss of slurry or concrete, during concrete placement.

Openings
General: In vertical forms provide form openings or removable panels for inspection and cleaning, at the base of columns, walls and deep beams.

Access: For thin walls and columns, provide access panels for placing concrete.

Release agents
Application: Before placing reinforcement, apply a release agent to form linings and facings. Apply form release in accordance with manufacturer's recommendations using clean applicators.

Slip formwork: Provide access below the moving formwork for surface treatment and inspection.

Profiled steel sheeting composite formwork
Fixing: If sheeting cannot be fixed to structural steel supports with puddle welds, or with welded shear studs in composite construction, provide details.

Steel linings
Rust: Clean off any rust and apply rust inhibiting agent prior to reuse.

Visually important surfaces
General: For concrete of surface finish classes 1, 2 or 3, set out the formwork to give a regular arrangement of panels, joints, bolt holes, and similar visible elements in the formed surface.

Void formers
Use: Cast designated suspended ground floor slabs and beams on void formers.

Protection: Keep void formers dry until use, place them on a firm level surface and place reinforcement and concrete with minimum delay.

3.5 REINFORCEMENT

Tolerances
Fabrication and fixing: To AS 3600 clause 17.2.

Dowels
Fixing: If a dowel has an unpainted half, embed this in the concrete placed first.

Tolerances:

- Alignment: 2 mm in 300 mm.
- Location: ± half the diameter of the dowel.

Grade: 250 N.

Supports
General: Provide proprietary concrete, metal or plastic supports to reinforcement in the form of chairs, spacers, stools, hangers and ties, as follows:

- Adequate to withstand construction and traffic loads.
- With a protective coating if they are ferrous metal extending to the surface of the concrete, or are used with galvanized or zinc-coated reinforcement.

Minimum spacing:

- Bars: ≤ 60 diameters.
- Mesh: ≤ 800 mm.

Supports over membranes: Prevent damage to waterproofing membranes or vapour barriers. If appropriate, place a metal or plastic plate under each support.

Projecting reinforcement
General: If 'starter' or other bars project beyond reinforcement mats or cages, through formwork or from cast concrete, provide a plastic protective cap to each bar until it is incorporated into subsequent work.

Tying
General: Secure the reinforcement against displacement by tying at intersections with either wire ties, or clips. Bend the ends of wire ties away from nearby faces of forms or unformed faces so that the ties do not project into the concrete cover.

Beams: Tie stirrups to bars in each corner of each stirrup. Fix other longitudinal bars to stirrups at 1 m maximum intervals.

Bundled bars: Tie bundled bars in closest possible contact. Provide tie wire of at least 2.5 mm and spaced not more than 24 times the diameter of the smallest bar in the bundle.

Columns: Secure longitudinal column reinforcement to all ties at every intersection.

Mats: For bar reinforcement in the form of a mat, secure each bar at alternate intersections.

Cleaning
General: Remove all debris from the formed space.

Welding
General: If welding of reinforcement is proposed, provide details.

3.6 CONCRETE

General
General: Provide concrete in conformance with the requirements indicated on the Structural Engineer's drawings.

Elapsed delivery time
General: Ensure that the elapsed time between the wetting of the mix and the discharge of the mix at the site is in conformance with the **Elapsed delivery time table**. Do not discharge at ambient temperature below 10°C or above 30°C unless approved measures are taken by heating or cooling so that the delivered concrete is within the range 5°C to 35°C.

Elapsed delivery time table

Concrete temperature at time of discharge (°C)	Maximum elapsed time (minutes)
10 – 24	120
24 – 27	90
27 – 30	60
30 – 32	45

Pre-mixed supply

Addition of water: If water is to be added, comply with AS 1379 Section 4.2.3.

Transport: Mode must prevent segregation, loss of material and contamination of the environment, and must not adversely affect placing or compaction.

Site mixed supply

Emergencies: If mixing by hand is carried out, provide details.

Plant: Mix concrete in a plant located on the construction site.

3.7 CORES, FIXINGS AND EMBEDDED ITEMS

Adjoining elements

Fixings: Provide fixings for adjoining elements including any temporary fixings that are required.

Protection

General: Grease threads. Protect embedded items against damage.

Compatibility: Ensure inserts, fixings and embedded items are compatible with each other, with the reinforcement, with the concrete mix used and surface finish requirements.

Corrosion: If in external or exposed locations, galvanize anchor bolts and embedded fixings, or propose alternative materials such as stainless steel.

Structural integrity

Position: Fix cores and embedded items to prevent movement during concrete placing. In locating cores, fixings and embedded items, reposition but do not cut reinforcement, and maintain cover to reinforcement.

Isolation: Isolate embedded items so that water cannot track to concrete providing minimum cover to reinforcement.

3.8 PLACING AND COMPACTION

Placing

Horizontal transport: Use suitable conveyors, clean chutes, troughs or pipes.

General: Use placing methods which avoid segregation and loss of concrete, and which minimise plastic settlement. Maintain a generally vertical and plastic concrete edge during placement.

Layers: Place concrete in layers ≤ 300 mm thick, such that each succeeding layer is compacted before previous layer has taken initial set. Compact into previous layer.

Compaction

Methods: Use immersion and screed vibrators accompanied by hand methods as appropriate to remove entrapped air and to fully compact the mix.

Vibrators: Do not allow vibrators to come into contact with set concrete, reinforcement or items including pipes and conduits embedded in concrete. Do not use vibrators to move concrete along the forms. Avoid over-vibration that may cause segregation.

Placing records

General: Keep on site and make available for inspection a log book recording each placement of concrete, including the following:

- Date.
- Specified grade and source of concrete.
- Slump measurements.

- The portion of work.
- Volume placed.

Rain

General: During placement and before setting, protect the surface from damage, to achieve the desired finish.

Time between adjacent placements

General: Conform to the **Minimum time delay schedule.**

Vertical elements

General: In vertical elements, limit the free fall of concrete to maximum of 2000 mm.

Placing in cold weather

Cement: Do not use high alumina cement.

Placing concrete: Maintain the temperature of the freshly mixed concrete at ≥ 5°C.

Formwork and reinforcement: Before and during placing maintain temperature at ≥ 5°C.

Severe weather: If severe weather conditions are predicted, use high early strength cement.

Temperature control: Heat the concrete materials, other than cement, to the minimum temperature necessary to ensure that the temperature of the placed concrete is within the limits specified.

Admixtures: Do not use calcium chloride, salts, chemicals or other material in the mix to lower the freezing point of the concrete.

Frozen materials: Do not allow frozen materials or materials containing ice to enter the mixer, and keep free of frost and ice any forms, materials, and equipment coming in contact with the concrete.

Maximum temperature of water: 60°C when it is placed in the mixer.

Plastic concrete: Prevent plastic concrete from freezing, without using salts or chemicals.

Placing in hot weather

Handling: Prevent premature stiffening of the fresh mix and reduce water absorption and evaporation losses. Mix, transport, place and compact the concrete in conformance with the **Elapsed delivery time table**.

Placing concrete: Maintain the temperature of the freshly mixed concrete in conformance with the **Hot weather placing table**.

Formwork and reinforcement: Before and during placing, maintain temperature at ≤ 35°C.

Temperature control: Select one or more of the following methods of maintaining the specified temperature of the placed concrete at < 35°C:

- Cool the concrete using liquid nitrogen injection before placing.
- Cover the container in which the concrete is transported to the forms.
- Spray the coarse aggregate using cold water before mixing.
- Use chilled mixing water.

Hot weather placing table

Concrete element	Temperature limit
Normal concrete in footings, beams, columns, walls and slabs	35°C
Concrete in sections ≥ 1 m in all dimensions except for concrete of strength 40 MPa or greater, in sections exceeding 600 mm in thickness	27°C

Evaporation control barriers: Erect barriers to protect freshly placed concrete from drying winds.

Placing under water

Condition: If placing in the dry is practicable by pumping or other means of dewatering, do not place under water.

Minimum cement content for the mix: Increase by 25%.

Method: If required, submit proposals.

3.9 CURING

General

Requirements: Taking into account the average ambient temperature at site over the relevant period affecting the curing, adopt procedures to ensure the following:

- Curing: Cure continuously from completion of finishing until the total cumulative number of days or fractions of days, during which the air temperature in contact with the concrete is above 10°C, is at least the following, unless accelerated curing is adopted:
  - . Fully enclosed internal surfaces/Early age concrete: 3 days.
  - . Other concrete surfaces: 7 days.
- End of curing period: Prevent rapid drying out at the end of the curing period.
- Protection: Maintain at a reasonably constant temperature with minimum moisture loss, during the curing period.

Curing compounds

Application: Provide a uniform continuous flexible coating without visible breaks or pinholes, which remains unbroken at least for the required curing period after application.

Substrates: Do not use wax-based or chlorinated rubber-based curing compounds on surfaces forming substrates to applied finishes, concrete toppings and cement-based render.

Self-levelling toppings: If used also as curing compounds, confirm compliance with AS 3799.

Visually important surfaces: Apply curing compounds to produce uniform colour on adjacent surfaces.

Hot weather curing

Curing compounds: If it is proposed to use curing compounds, provide details.

Protection: Select a protection method as applicable.

- If the concrete temperature > 25°C or if not protected against drying winds, protect the concrete using a fog spray application of aliphatic alcohol evaporation retardant.
- If ambient shade temperature is > 35°C, protect from wind and sun using an evaporative retarder until curing is commenced.
- Immediately after finishing, either cover exposed surfaces using an impervious membrane or hessian kept wet until curing begins, or apply a curing compound.

Water curing

General: If water is used, pond or continuously sprinkle in such a way as to not cause damage to the concrete surface, for the required curing period.

Note: Water curing is not recommended where water conservation is required and/or water on the adjacent soils should be kept to a minimum. (Refer to Geotechnical Site Investigation Report).

3.10 JOINTS

Construction joints

Location: Do not relocate or eliminate construction joints, or make construction joints not documented. If emergency construction joints are made necessary by unforeseen interruptions to the concrete pour, submit a report on the action taken.

Finish: Butt join the surfaces of adjoining pours. In visually important surfaces make the joint straight and true, and free from blemishes impermissible for its surface finish class.

Preparation: Roughen and clean the hardened concrete joint surface. Remove loose or soft material, free water, foreign matter and laitance. Dampen the surface just before placing the fresh concrete and coat with a neat cement slurry.

Expansion joints

Joint filling: Fill with jointing materials as documented. Finish visible jointing material neatly flush with adjoining surfaces.

Preparation: Before filling, dry and clean the joint surfaces, and prime.

Watertightness: Apply the jointing material so that joints subject to ingress of water are made watertight.

Jointing materials: Provide jointing materials compatible when used together, and non-staining to concrete in visible locations.

Bond breaking: Provide back-up materials for sealants, including backing rods, which do not adhere to the sealant. They may be faced with a non-adhering material.

Foamed materials (in compressible fillers): Closed-cell or impregnated types which do not absorb water.

Slip joints

Requirement: If concrete slabs are supported on masonry, provide proprietary slip joints.

3.11 FORMED SURFACES

General

General: Provide formed concrete finishes in conformance with the **Integral surface finishes schedule.**

Damage: Do not damage concrete works through premature removal of formwork.

Curing

General: If forms are stripped when concrete is at an age less than the minimum curing period, commence curing exposed faces as soon as the stripping is completed.

Evaluation of formed surfaces

General: If evaluation of formed surface tolerance or colour is required, complete the evaluation before surface treatment.

Finishing methods

General: If soffits of concrete elements or faces of concrete columns are to have a finish other than off the form, provide details of proposed procedures.

Blasted finishes:

- Abrasive: Blast the cured surface using hard, sharp graded abrasive particles until the coarse aggregate is in uniform relief.
- Light abrasive: Blast the cured surface using hard, sharp graded abrasive particles to provide a uniform matt finish without exposing the coarse aggregate.

Bush hammered finish: Remove the minimum matrix using bush hammering to expose the coarse aggregate, recessing the matrix no deeper than half the aggregate size, to give a uniform texture.

Exposed aggregate finish: Remove the vertical face forms while the concrete is green. Wet the surface and scrub using stiff fibre or wire brushes, using clean water freely, until the surface film of mortar is mechanically removed, and the aggregate uniformly exposed. Do not use acid etching. Rinse the surface with clean water.

Floated finishes:

- Sand floated finish: Remove the vertical face forms while the concrete is green. Wet the surface and rub using a wood float. Rub fine sand into the surface until a uniform colour and texture are produced.
- Grout floated finish: Remove the forms while the concrete is green. Dampen the surface and spread a slurry, using hessian pads or sponge rubber floats. Remove surplus slurry and work until a uniform colour and texture are produced.

Smooth rubbed finish: Remove the vertical face forms while the concrete is green. Wet the surface and rub using a carborundum or similar abrasive brick until a uniform colour and texture are produced.

Surface repairs

Surface repair method: If surface repairs are required, submit proposals.

3.12 UNFORMED SURFACES

General

General: Strike off, screed and level slab surfaces to finished levels, to the tolerance class noted in the **Integral surface finishes schedule.**

Surface finishes

General: Provide surface finishes in conformance with the **Integral surface finishes schedule**.

Surface repairs

Surface repair method: If surface repairs are required, submit proposals.

Finishing methods – primary finish

Machine float finish:

- After levelling, consolidate the surface using a machine float.
- Cut and fill and refloat immediately to a uniform, smooth, granular texture.
- Hand float in locations inaccessible to the machine float.

Steel trowel finish: After machine floating finish as follows:

- Use power or hand steel trowels to produce a smooth surface relatively free from defects.
- When the surface has hardened sufficiently, re-trowel to produce the final consolidated finish free of trowel marks and uniform in texture and appearance.

Burnished finish: Continue steel trowelling until the concrete surface attains a polished or glossy appearance, uniform in texture, appearance and free of trowel marks and defects.

Wood float finish: After machine floating, use wood or plastic hand floats to produce the final consolidated finish free of float marks and uniform in texture and appearance.

Broom finish: After machine floating and steel trowelling, draw a broom or hessian belt across the surface to produce a coarse even-textured transverse-scored surface.

Scored or scratch finish: After screeding, give the surface a coarse scored texture using a stiff brush or rake drawn across the surface before final set.

Sponge finish: After machine floating and steel trowelling, obtain an even textured sand finish by wiping the surface using a damp sponge.

Finishing methods – supplementary finish

Abrasive blast: After steel trowelling, abrasive blast the cured surface to provide texture or to form patterns without exposing the coarse aggregate using hard, sharp graded abrasive particles.

Coloured applied finish: To a machine float finished surface, apply a proprietary liquid or dry shake material in accordance with the manufacturer's written requirements and trowel to achieve the required appearance.

Exposed aggregate: After steel trowelling, grind the cured surface of the concrete to expose the coarse aggregate.

3.13 COMPLETION

Formwork removal

Extent: Remove formwork, other than profiled steel reinforcement decking, including formwork in concealed locations, but excepting lost formwork.

Timing: Do not disturb forms until concrete is hardened enough to withstand formwork movements and removal without damage.

Stripping:

- General: To AS 3600 where it is more stringent than AS 3610.1.
- Post-tensioned concrete: Remove formwork supporting post-tensioned concrete members to AS 3600 clause 17.6.2.7.

Loading

General: Do not erect masonry walls or other brittle elements on beams and slabs while they are still supported by formwork.

Protection

Protection: Protect the concrete from damage due to construction load overstresses, physical and thermal shocks, and excessive vibrations, particularly during the curing period.

Surface protection: Protect finished concrete surfaces and applied finishes from damage.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **322 CONCRETE SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 321 CONCRETE

322 CONCRETE SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

1.2 CONCRETE FINISHES

Integral finishes schedule

Element	Finish	Tolerance Class	Formwork Class
Footings	Refer Engineer's drawings	C	5
Footings and slab edges (where exposed)	Form as indicated on architectural and structural engineer's drawings	A	2
Floor Slabs Generally	Machine float finish to vinyl and carpet areas. Recess slab for wet areas with fall to waste as shown. Provide steps and ramps as shown on drawings.	A	2
Exposed slab edge	Form slabs as indicated on architectural and structural engineer's drawings	A	2
Concrete Soffits and Beams	Form soffits and beams as indicated on architectural and structural engineer's drawings, complete with filets and drip grooves.	A	2
Concrete Columns and Walls	Form columns and walls as indicated on architectural and structural engineer's drawings complete with edge fillets.	A	2
Wet Areas	Recess for graded topping slab. Keyed finish. Steel trowel finish to topping slab to suit applied finish. Fall to floor wastes.	A – topping B - recess	2
External ramps, pathways and paving	Refer drawings. Generally coved finish unless noted otherwise.	A	2
External cast in-situ stairs and landings	Refer drawings for setout, finish & nosing detail. Generally coved finish with fixed aluminium with coloured insert nosing unless noted otherwise. Form such that water does not pond on steps. Refer to BCA section D2.13 for requirements. Achieve no more than 2mm variance in riser height and no more than 5mm variance in tread depth from step to step within a single flight.	A	2

1.3 FINISHES CODES

Code	Finish
CC01	Trowelled and finished to EFSG requirements
CC02	Coved non-slip finish

CN01 - CONCRETE - INSITU NATURAL GREY

Property	Description
Drawing code:	**CN01**
Manufacturer / Supplier:	**VARIOUS**
Product name:	Insitu concrete as noted on structural engineer's drawings
Colour:	Natural grey concrete
Curing:	Refer structural engineer's specification and notes
Location:	Slabs, except coloured concrete, columns, stairs, ramps and external paving.
Curing Compound:	Concrete Colour Systems, Slab Clad R. Spray applicator as recommended by manufacturer. Prior to sealing concrete slabs, or applying finishes, remove compound by cleaning with CCS HD Degreaser as recommended by manufacturer.
Sealing:	Required
Note:	Coordinate all steps, falls in level and recesses in floor slabs for TGSIs, grated drains etc to be as shown on drawings. All external suspended concrete floor slabs (walkways and the like) not including directly above ground shall include a waterproofing additive CN17 as specified below. Refer to the special requirements.

CN07 - CONCRETE - POST TENSIONED NATURAL GREY

Property	Description
Drawing code:	**CN07**
Manufacturer / Supplier:	**VARIOUS**
Product name:	Post tensioned concrete as noted on structural engineer's drawings
Colour:	Natural grey concrete
Curing:	Refer structural engineer's specification and notes
Location:	Slabs, except coloured concrete, columns, stairs, ramps and external paving.
Curing Compound:	Concrete Colour Systems, Slab Clad R. Spray applicator as recommended by manufacturer. Prior to sealing concrete slabs, or applying finishes, remove compound by cleaning with CCS HD Degreaser as recommended by manufacturer.
Sealing:	Required

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Property	Description
Note:	All external suspended concrete floor slabs (walkways and the like) not including directly above ground shall include a waterproofing additive CN17 as specified below. Refer to the special requirements.

CN15 - CONCRETE JOINT - EXPANSION

Property	Description
Drawing code:	**CN15**
Manufacturer / Supplier:	Refer structural engineer's drawings and details in relation to concrete. Provide aluminium expansion joint cover strips to all joints.

CN16 – CONCRETE ACCESSORY - MAT RECESS

Property	Description
Drawing code:	**CN16**
Manufacturer / Supplier:	**CUSTOM**
Product Name / Code:	Entry Mat Recess
Installation:	Concrete slab to be finished approx. 6mm below surface of adjoining concrete to allow new mats to finish flush with adjoining vinyl floor finishes. Trim edges of mat recess with aluminium tile trim angle. Concrete slab to be finished approx. 10mm below surface of adjoining finished concrete. Trim edges of mat recess with aluminium tile trim angle.
Colour:	Clear anodised aluminium angle.

CN17 – CONCRETE WATERPROOFING ADDITIVE

Property	Description
Drawing code:	**CN17**
Manufacturer / Supplier:	**XYPEX**
Product Name / Code:	ADMIX C-5000
Contact Details:	Justin McCulla M: 02 9896 4999 E: justinm@xypex.com.au
Supply:	The contractor shall organise for the additive to be mixed in at the concrete supply. Provide certification from the concrete batching plant to confirm. Arrange for the admixture supplier to attend site to confirm that each delivery truck and pour contains the waterproofing additive. Provide certification from the admixture supplier that the concrete slab has been tested includes an appropriate amount of waterproofing additive to the finished concrete.
Standards:	Concrete slabs to be installed and poured to AS3800 requirements.
Locations:	To external veranda slabs

2 EXTENT OF WORK

2.1 GENERAL

General

Refer drawings for locations and details of concrete elements required for this project.

Slip Resistance Requirements

Slip Resistance of paths, stairs and ramps are to achieve compliance with the BCA D2.14 for Wet and Dry applications - P5 or R12 (Wet) or P4 or R11 (Dry) and EFSG testing requirements.

Provide as constructed test report to certify compliance of ramp and pathway surfaces to achieve P5 or R12 (Wet) or P4 or R11 (Dry).

Provide aluminium stair nosing strips with min 50mm wide contrasting colour single insert and maximum 10mm front face downturn to achieve compliance with AS1428.1 (Design for Accessibility) and to comply with AS4586.1 (Slip Resistance) with P4 or R11.

END OF SECTION 322 CONCRETE SELECTIONS

331 MASONRY

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 321 Concrete and 322 Concrete Selections
- 411 Waterproofing – External and 412 Waterproofing – External Selections

1.2 INTERPRETATION

Additional definitions
General: For the purposes of this worksection the definitions in AS 3700 clause 1.5.2 and those given below apply:

- Brick: A masonry unit that does not exceed 338 mm long x 225 mm wide x 113 mm high, of a size that allows it to be picked up with one hand while the other is used to apply mortar with a trowel.
- Block: A masonry unit exceeding the size of a brick.
- Brickwork and blockwork types:
  - Common or Ordinary: Brickwork and blockwork which is not tested for specified strength values, is not especially treated for texture and colour and can include reject face units.
  - Face units: Bricks or blocks used in facework, including purpose-made units such as squints, sills and thresholds.
- Facework: Brickwork or blockwork in which the form, or form and colour, of the face units and joints is visible in the completed works.

1.3 STANDARD

General
Materials and construction: To AS 3700.

Manufacturer's recommendations
Comply with block Manufacturer's recommendations particularly in relation to the specific requirements for the construction of elements containing coloured blockwork including but not limited to:

- Mortar mixes and additives
- Protection
- Core filling
- Cleaning

1.4 INSPECTION

Notice
Inspection: Give notice so that inspection may be made of the following:

- Set out.
- Unit type, colour and texture.
- Bottoms of cavities, after cleaning out.

- Bottoms of core holes, before grouting.
- Reinforcement type and diameter.
- Positioning of reinforcing before grouting.
- Control joints, ready for insertion of joint filler.
- Damp-proof courses, in position.
- Flashings, in position.
- Lintels, in position.
- Structural steelwork, including bolts and shelf angles, in position.

1.5 SUBMISSIONS

Facework sample panels
General: Provide, in a suitable position, a sample panel of each type of facework including pigmented face or pointing mortar.

- Minimum size (face of panel): 1200 mm high x 1190 mm long or closest unit module.

2 PRODUCTS AND MATERIALS

2.1 MATERIALS

Bricks
Standard: To AS/NZS 4455

Minimum age of clay bricks: 7 days.

Blocks
Standard: To AS/NZS 4455

Strength Grade: Strength Grade 15 (unless nominated otherwise)

Other Requirements: Blocks shall be:

- Machine made concrete units with sharp arrises, free from distortion and cracks.
- Uniform in colour and texture.
- H Blocks notched to suit laying of horizontal reinforcing bars where required to be core filled.
- Pre-made jamb, lintel, cleanout, sill and part size blocks where required.

Masonry units
Refer 332 MASONRY SELECTIONS for details of masonry units.

Core Filling Concrete (Grout)
Materials: Materials for core filling concrete (grout) shall conform with the requirements of :

- Clause 11.7.2 of AS3700

- 321 CONCRETE section of the specification

Properties: Properties of core filling concrete shall be as set out in Structural Engineer's drawing notes.

Reinforcement
Requirements : Conform with the requirements of the 321 CONCRETE section of this Specification.

Connectors and accessories

Standard: To AS/NZS 2699.2.

Flashings and damp-proof courses
Standard: To AS/NZS 2904.

Mortar mixing
Measure volumes using buckets or boxes. Machine mix for at least six minutes.

Mortar materials
Admixtures:

- Admixtures: To AS 3700 clause 11.4.2.4.

Lime: To AS 1672.1.

Portland cement: To AS 3972.

- Type: GP.

Masonry cement: To AS 1316.

Proportions: Conform to the **Mortar mix table**.

Sand: To be fine aggregate with a low clay content and free from efflorescing salts, selected for colour and grading.

Water: To be clean and free from any deleterious matter.

White cement: To have iron salts content ≤ 1%.

Pigment: To BS EN 12878, and as follows:

- Quantity: Less than 10% of the mass of cement in the mix.

For light colours: Use off white cement in the mix.

Ensure mortar for coloured blocks is prepared and applied in accordance with manufacturer's requirements and recommendations to minimise efflorescence and staining.

Mortar mix table

Location	Mortar proportions (cement:lime:sand)	Mortar type to AS 3700
Concrete or calcium silicate masonry	1:0:5 + water thickener	M3
Grouted and reinforced masonry	1:0:4 + water thickener	M4
Underpinning, high strength masonry	1:0 - 0.25:3	M4
Coloured masonry	Manufacturer's requirements	Refer note above
Other masonry	1:1:6	M3

2.2 COMPONENTS

Steel lintels

Angles and flats: To AS/NZS 3679.1.

Cold formed proprietary lintels: Designed to AS/NZS 4600.

Corrosion protection: To AS/NZS 2699.3.

Galvanizing: Do not cut after galvanizing.

Wall ties

Standard: To AS/NZS 2699.1.

- Type: A

Corrosive resistance and durability: In conformance with the **Corrosion resistance and durability table**.

Strength classification:

- Masonry veneer: Light duty.
- Normal cavity construction and at abutments: Medium duty.
- Cavities > 60 and < 200 mm wide: Heavy duty.

Corrosion resistance and durability

Compliance: Conform to the **Corrosion resistance and durability table(s)**, or provide proprietary products with metallic and/or organic coatings of equivalent corrosion resistance and as follows:

- Galvanize: To AS/NZS 4680.
- Built-in products: Below damp proof course to be stainless steel 316 or engineered polymer.
- Bricks and blocks: Below damp-proof course, and in external leaves in the High corrosivity category, use 'Exposure' grade to AS/NZS 4455.1 Table 2.3 or AS/NZS 4455.3 Table 2.4 (Salt attack resistance grade).

- Mortar: Below damp-proof course use mortar grade M4 to the **Mortar mix table**.

Corrosion resistance and durability table – Atmospheric corrosivity category – C to AS/NZS 2312

Situation	Steel lintels (each surface)	Wall ties, connectors and other structural steel accessories above damp proof course(each surface)	Minimum cement content (mortar grade) above damp proof course
Internal	Galvanize after fabrication 300 g/m^2	-Galvanize after fabrication 300 g/m^2 -Galvanized wire 300 g/m^2 -Metallic-coated sheet Z275/AZ150	M2
External	Galvanize after fabrication 600 g/m^2	-Galvanize after fabrication 600 g/m^2 -Galvanized wire 470 g/m^2	M3

Connectors and accessories
Standard: To AS/NZS 2699.2.

Flexible masonry ties: If accommodation of movement is required at control joints and where masonry abuts structural elements such as column faces and slab soffits, provide details.

Flashings and damp-proof courses
Standard: To AS/NZS 2904.

3 EXECUTION AND WORKMANSHIP

3.1 TOLERANCES

Masonry construction
Conformance: Conform to AS 3700 Table 12.1.

3.2 GENERAL

Mortar mixing
General: Measure volumes accurately to achieve the specified proportions. Machine mix for at least six minutes.

Protection from contamination
General: Protect masonry materials and components from ground moisture and contamination.

Bond
Type: Stretcher bond unless shown otherwise. Refer architectural drawings and 332 MASONRY SELECTIONS.

Building in
Embedded items: Build in wall ties and accessories as the construction proceeds. If it is not practicable to obtain the required embedment wholly in the mortar joint in hollow unit blockwork, fill appropriate cores with grout or mortar.

Steel door frames: Fill the backs of jambs and heads solid with mortar as the work proceeds.

Construction at different rates or times
Monolithic structural action: If two or more adjoining sections of masonry, including intersecting walls, are constructed at different rates or times, rake back or tie the intersections between those sections so that monolithic structural action is obtained in the completed work.

Joining to existing
General: If jointing to existing work is required, provide a straight joint. Do not tooth new masonry into existing work.

Joints
Solid and cored units: Lay on a full bed of mortar. Fill perpends solid. Cut mortar flush.

Face-shell bedded hollow units: Fill perpends solid. Cut mortar flush.

Finish:

- Externally: Tool to give a dense water-shedding finish.
- Thickness: 10 mm.

Cutting: Set out blocks with joints of uniform width and the minimum of cutting.

Rate of construction
Regulate the rate of construction to eliminate joint deformation, slumping or instability.

Set out
Rod: 3 courses to 600 mm for 190 mm high units. 7 courses to 600mm for 76mm high units.

Protection
General: Keep the top surface of blockwork covered to prevent the entry of rainwater and contaminants.

Temporary support
General: If the final stability of the blockwork is dependent on (structural) elements to be constructed after the blockwork, provide proposals for temporary support or bracing.

3.3 FACEWORK

Cleaning
General: Clean progressively as the work proceeds to remove mortar smears, stains and discolouration. Do not use an acid solution. Do not erode joints if using pressure spraying.

Colour mixing
Distribution: In facework, distribute the colour range of units evenly to prevent colour concentrations and ‘banding’.

Commencement
General: Commence at least 1 full course below adjacent finished surface level.

Double face walls
Selection: Select face units for uniform width and double-face qualities in single-leaf masonry with facework both sides.

Preferred face: Before starting, obtain a ruling as to which is the preferred wall face, and favour that face should a compromise be unavoidable.

Perpends
General: If it is proposed to use other than vertically aligned perpends in alternate courses, provide details.

Set out: Set out so that no unit is cut smaller than three quarters full width.

3.4 CAVITY WORK

Cavity clearance
General: Keep cavities clear at all times.

Cavity fill
General: Fill the cavity with mortar to 1 course above adjacent finished (ground) level. Fall the top surface towards the outer leaf.

Cavity width
General: Provide minimum cavity widths in conformance with the following:

- Masonry walls: 50 mm.
- Masonry veneer walls: 40 mm between the masonry leaf and the load bearing frame and 25 mm minimum between the masonry leaf and sheet bracing.

Openings
Care: Do not close the cavity at the jambs of external openings.

Wall ties connectors and accessories
Protection: Install to prevent water passing across the cavity.

3.5 DAMP-PROOF COURSES

Location

General: Provide damp-proof courses as follows:

- Cavity walls built off slabs on ground: In the bottom course of the outer leaf, continuous horizontally across the cavity and up the inner face bedded in mortar, turned 30 mm into the inner leaf 1 course above.
- Masonry veneer construction: In the bottom course of the outer leaf, continuous horizontally across the cavity. Fasten to the inner frame 75 mm above floor level.
- Walls adjoining infill floor slabs on membranes: In the course above the underside of the slab in internal walls and inner leaves of cavity walls. Project 40 mm and dress down over the membrane turned up against the wall.

Height: Not less than:

- 150 mm above the adjacent finished ground level.
- 75 mm above the finished paved or concrete area.
- 50 mm above the finished paved or concreted area and protected from the direct effect of the weather.

Installation

General: Lay in long lengths. Lap full width at angles and intersections and at least 150 mm at joints. Step as necessary, but not exceeding 2 courses per step for brickwork and 1 course per step for blockwork. Sandwich damp-proof courses between mortar.

- Junctions: Preserve continuity of damp-proofing at junctions of damp-proof courses and waterproof membranes.

Lap sealing: Seal with a bituminous adhesive and sealing compound.

3.6 FLASHINGS

Location

General: Provide flashings as follows:

- Floors: Full width of outer leaf immediately above slab or shelf angle, continuous across cavity and up the inner face bedded in mortar, turned 30 mm into the inner leaf 2 courses above for brick and 1 course above for block. Where the slab supports the outer skin and is not rebated, bed the flashing in a suitable sealant.
- Under sills: 30 mm into the outer leaf bed joint 1 course below the sill, extending up across the cavity and under the sill in the inner leaf or the frame. Extend at least 150 mm beyond the reveals or each side of the opening.
- Over lintels to openings: Full width of outer leaf immediately above the lintel, continuous across cavity, turned 30 mm into the inner leaf 2 courses above for brick and 1 course above for block or turned up against the inner frame and fasten to it. Extend at least 150 mm beyond the lintels.
- At abutments with structural frames or supports: Vertical flash in the cavity using 150 mm wide material, wedged and grouted into a groove in the frame opposite the cavity.
- At jambs: Full height flash extending 75 mm beyond the closure into the cavity, interleaved with the sill and head flashing at each end. Fix to jambs.
- At roof abutments with cavity walls: Cavity flash immediately above the roof and over-flash the roof apron flashing.

Installation

General: Sandwich flashings between mortar except where on lintels or shelf angles. Bed flashings, sills and copings in one operation to maximise adhesion.

Laps: If required, lap full width at angles and intersections and at least 150 mm at joints. Step as necessary, but not exceeding 2 courses per step for brickwork and 1 course per step for blockwork.

Lap sealing: Seal with a bituminous adhesive and sealing compound.

Pointing: Point up joints around flashings, filling voids.

Weepholes
Location: Provide weepholes to external leaves of cavity walls in the course immediately above flashings, and cavity fill, and at the bottoms of unfilled cavities.

Form: Open perpends.

Maximum spacing: 1200 mm.

3.7 WALL TIES

Classification
Conformance; Provide ties in conformance with the **Wall ties category table**.

Wall ties category table

Classification to AS/NZS 2699.1 (Type A)	Service conditions
Light duty	Normal cavity construction
Medium duty	Tie bonding at abutments
Heavy duty	Cavities > 60 mm wide

Corrosion protection: To BCA Table 3.3.3.1.

Location
Provide wall ties spacing in conformance with AS 3700 clause 4.10 *Wall ties* or BCA Figure 3.3.3.1 as follows:

- Not more than 600 mm in each direction.
- Adjacent to vertical lateral supports.
- Adjacent to Control joints.
- Around openings.

Installation
Embedment: At least 50 mm into mortar ensuring that mortar cover is 15 mm minimum to the outside face of the mortar.

3.8 CONTROL OF MOVEMENT

Joints
General: Provide joints as follows:

- Contraction joints for concrete and calcium silicate masonry:
  - . Maximum length of continuous wall: 6 m.
  - . Minimum width of control joint: 10 mm.

3.9 BRICK BED JOINT REINFORCEMENT

Location
General: Locate as follows:

- In 2 bed joints below and above head and sill flashings to openings.
- In 2 bed joints below and above openings.
- In third bed joint above bottom of wall.
- In second bed joint below top of wall.

Maximum vertical intervals: 500 mm.

Installation
General: Lap 450 mm at splices. Fold and bend at corners so that the longitudinal wires are continuous. Stop 50 mm short of control joints.

- In brickwork: Extend 450 mm beyond each side of openings.

Reinforcement
Material: Galvanized welded wire mesh.

Width: Equal to the width of the leaf, less 15 mm cover from each exposed surface of the mortar joint.

3.10 REINFORCED AND GROUTED BLOCKWORK

Cleaning core holes

General: Provide purpose-made cleanout blocks or machine cut a cleaning hole at the base of each grouted core.

Location: Locate on the side of the wall which is to be rendered or otherwise concealed.

Cleaning: Rod cores to dislodge mortar fins protruding from the blocks and mortar droppings from reinforcement. Remove through the clean-out blocks.

Grouting

Commencement: Do not commence until grout spaces have been cleaned out and the mortar joints have attained sufficient strength to resist blow-outs.

Height of lift: Limit the height of individual lifts in any pour to ensure that the grout can be thoroughly compacted to fill all voids and ensure bond between grout and masonry.

Compaction: Compact by vibration or by rodding.

Topping up: On the completion of the last lift, top up the grout after 10 min to 30 min, and vibrate or rod to mix with the previous pour.

3.11 LINTELS

Installation

General: Do not cut on site. Keep lintels 10 mm clear of heads of frames.

Steel lintels: Pack mortar between any vertical component and supported masonry units. For angles install the long leg vertical.

Minimum bearing each end:

- Span ≤ 1000 mm: 100 mm.
- Span > 1000 mm ≤ 3000 mm: 150 mm.
- Span > 3000 mm: 200 mm.

Propping: To prevent deflection or excessive rotation, temporarily prop lintels until the masonry reaches its required strength.

- Minimum propping period: 7 days.

Protection

Steel lintels: Hot-dip galvanize after fabrication.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **332 MASONRY SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 331 MASONRY

332 MASONRY SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 PROPRIETARY ITEMS

The identification of a proprietary item shall imply exclusive preference for the item so identified and these items must be included in the tender for it to be 'conforming'.

The only acceptable exclusions to this are:

- If noted otherwise (ie by specifically referring to a product followed by 'or equal' or 'or equal approved') alternative products or systems will be considered however these **must be identified at the time of tendering** accompanied by reasons for consideration including costs.
- If more than one proprietary item is included in the product selection then all alternatives noted are acceptable and are deemed to be 'conforming'.

Trim and accessories

Where a proprietary item is identified the intention is for all fixings, brackets, trim and accessories etc necessary for the installation of the nominated product in the positions indicated are supplied and installed.

Manufacturer's instructions and recommendations

Use manufactured items in accordance with the most recently published recommendations of the manufacturer, relevant to such use. The use of these items includes but is not limited to, provision, selection, transportation, delivery, storage, handling, protection, finishing, adjusting and preparation for use. Advise of any activities that supplement, or are contrary to, manufacturer's or supplier's written recommendation and instructions.

Lead times

Ensure manufacturers and suppliers of products specified are contacted for up to date information regarding availability of products and any specific lead times for ordering. Any difficulty in obtaining the products in time to suit the construction program **must be identified at the time of tendering.**

1.2 MATERIALS AND MATERIAL CODES

Drawings and specifications

Our drawings contain material/system codes which are identified on the drawings and within material legends included on drawing sheets. These same codes are used for products specified within this trade section.

Finishes and colours

Products which require a particular finish and/or colour will have an additional code to define these properties. For additional information on finishes/colours refer the relevant **MATERIALS, FINISHES AND COLOUR LEGENDS ON DRAWINGS**

1.3 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

Samples and Sample Panels

The contractor is to provide samples of each type of brickwork and blockwork for approval by the Superintendent.

In a suitable position, construct sample panels of each type of facework, including pigmented face or pointing mortar. Sample panels must be completely separate from permanent work and the face of the panels must be north facing. Sample panels are to remain for the duration of the contract.

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Adequate time is to be allowed to enable the sample panel to be approved in person by the superintendent. Sample panels are to incorporate examples of all of the specified bonds, mortar colours and face patterns.

Face brickwork typical - 1200 mm high x approx. 1190 mm long.
Face brick and block samples should show colour range and variation of selected face brick.

MA01 – BRICKS – FACEWORK, TYPE 1

Property	Description
Drawing Code:	**MA01**
Supplier:	**PGH BRICKS**
Product Name:	Dry Pressed Architectural Clay Brick
Colour / Code:	Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS
Nominal size(mm):	230 x 110 x 76
Bond:	Stretcher bond – unless otherwise noted
Joints:	Exposed faces – ironed Hidden faces – struck flush

MA02 – BRICKS – FACEWORK – TYPE 2

Property	Description
Drawing Code:	**MA02**
Supplier:	**AUSTRAL BRICKS**
Product Name:	Dry Pressed Architectural Clay Brick
Colour / Code:	Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS
Nominal size(mm):	230 x 110 x 76
Bond:	Stretcher bond – unless otherwise noted
Joints:	Exposed faces – ironed Hidden faces – struck flush

MA03 – BRICKS – FACEWORK – TYPE 3

Property	Description
Drawing Code:	**MA03**
Supplier:	**BOWRAL 76 BRICKS**
Product Name:	Dry Pressed Architectural Clay Brick
Colour / Code:	Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS
Nominal size(mm):	230 x 110 x 76
Bond:	Stretcher bond – unless otherwise noted

Property	Description
Joints:	Exposed faces – ironed Hidden faces – struck flush

MA06 – BRICKS – COMMON

Property	Description
Drawing Code:	**MA06**
Manufacturer / Supplier:	**PGH / Austral / Bowral Bricks**
Product Name:	Paint Grade Common or similar
Colour / Code:	N/A
Face / surface finish:	Rendered and Painted
Nominal size(mm):	230 x 110 x 76
Bond:	Stretcher
Mortar colour:	TBC
Joints:	Flush Joint

MA32 - BLOCKWORK - 100 SERIES – COLOURED / SMOOTH

Property	Description
Drawing Code:	**MA32**
Manufacturer / Supplier:	**AUSTRAL**
Product Name:	Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS
Colour / Code:	Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS
Face / surface finish:	Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS
Nominal size(mm):	390 x 190 x190
Bond:	Stretcher bond
Mortar colour:	To match block, uno
Joints:	Exposed faces – ironed Hidden faces – struck flush

MA41 – BLOCKWORK - 150 SERIES - STANDARD

Property	Description		
Drawing Code:			**MA41**
Manufacturer / Supplier:	**BORAL**	**ADBRI**	**AUSTRAL**
Product Name:	Grey Block range	Grey Block range (NSW) Besser® Block (QLD)	Alphalite range
Colour / Code:	Standard Grey	Standard Grey	Standard Grey
Face / surface finish:	Smooth face	Smooth face	Smooth face

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Property	Description		
Nominal size(mm):	390 x 190 x140	390 x 190 x140	390 x 190 x140
Bond:	Stretcher bond	Stretcher bond	Stretcher bond
Mortar colour:	Standard grey	Standard grey	Standard grey
Joints:	Exposed faces – ironed Hidden faces – struck flush	Exposed faces – ironed Hidden faces – struck flush	Exposed faces – ironed Hidden faces – struck flush
	An option to use reinforced and core filled 150mm blockwork for fire rated spandrel panels and internal load bearing wall to the Canteen.		

MA51 – BLOCKWORK - 200 SERIES - STANDARD

Property	Description		
Drawing Code:			**MA51**
Manufacturer / Supplier:	**BORAL**	**ADBRI**	**AUSTRAL**
Product Name:	Grey Block range	Grey Block range (NSW) Besser® Block (QLD)	Alphalite range
Colour / Code:	Standard Grey	Standard Grey	Standard Grey
Face / surface finish:	Smooth face	Smooth face	Smooth face
Nominal size(mm):	390 x 190 x190	390 x 190 x190	390 x 190 x190
Bond:	Stretcher bond	Stretcher bond	Stretcher bond
Mortar colour:	Standard grey	Standard grey	Standard grey
Joints:	Exposed faces – ironed Hidden faces – struck flush	Exposed faces – ironed Hidden faces – struck flush	Exposed faces – ironed Hidden faces – struck flush

MA52 - BLOCKWORK - 200 SERIES – COLOURED / SMOOTH

Property	Description
Drawing Code:	**MA52**
Manufacturer / Supplier:	**AUSTRAL**
Product Name:	Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS
Colour / Code:	Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS
Face / surface finish:	Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS
Nominal size(mm):	390 x 190 x190
Bond:	Stretcher bond
Mortar colour:	To match block, uno
Joints:	Exposed faces – ironed

Property	Description
	Hidden faces – struck flush

MA56 - BLOCKWORK - 200 SERIES – COLOURED / SPLIT FACE

Property	Description
Drawing Code:	**MA56**
Manufacturer / Supplier:	**AUSTRAL**
Product Name:	Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS
Colour / Code:	Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS
Face / surface finish:	Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS
Nominal size(mm):	390 x 190 x190
Bond:	Stretcher bond
Mortar colour:	To match block, uno
Joints:	Exposed faces – ironed Hidden faces – struck flush

MA57 – BLOCKWORK - 200 SERIES – CAPPING BLOCK

Property	Description		
Drawing Code:			**MA57**
Manufacturer / Supplier:	**BORAL**	**ADBRI**	**AUSTRAL**
Product Name:	Grey Block range	Grey Block range (NSW) Besser® Block (QLD)	Alphalite range
Colour / Code:	Standard Grey	Standard Grey	Standard Grey
Face / surface finish:	Smooth face	Smooth face	Smooth face
Nominal size(mm):	390 x 190 x 40	390 x 190 x 40	390 x 190 x 40
Bond:	Stretcher bond	Stretcher bond	Stretcher bond
Mortar colour:	Standard grey	Standard grey	Standard grey
Joints:	Exposed faces – ironed	Exposed faces – ironed	Exposed faces – ironed

MA81 – WEEPHOLE PROTECTION – BUSHFIRE PRONE AREAS

Property	Description
Drawing Code:	**MA81**
Manufacturer / Supplier:	**WEEPA**
Product Name:	High Performance Bushfire Weepa - 11-HPBW
Nominal size (mm):	104 x 76 x 10

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Property	Description
Installation:	Install to perpends in external leaves cavity and brick veneer walls to manufacturers recommendations.
Location:	Install to all masonry perpends of buildings located with a Bushfire zone up to the level of BAL 19.

2 EXTENT OF WORK

2.1 GENERAL

General
Refer drawings for locations and details of brick and block work required for the various components of this project.

END OF SECTION 332 MASONRY SELECTIONS

341 STRUCTURAL STEEL

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 351 Light Steel Framing and 352 Light Steel Framing Selections
- 361 Timber Framing and 362 Timber Framing Selections
- 421 Metal Roofing & Cladding and 422 Metal Roofing & Cladding Selections
- 441 Cladding and 442 Cladding Selections
- 531 Metalwork & Misc Furniture and 532 Metalwork and Misc Furniture Selections

1.2 STANDARDS

General
Materials, construction, fabrication and erection: To AS 4100. The structural steel fabricator is to provide to the superintendent, Australian Standard compliance certificates for all structural steelwork prior to commencing fabrication.

Overseas sourced structural steel is not permitted unless Australian Standard compliance certificates are provided. The contractor shall obtain independent RPEQ certification that the overseas structural steel if fully compliant with all relevant Australian Standards and specifications, including AS4100, and AS3679.1

Cold-formed steel: AS/NZS 4600.

1.3 INSPECTION

Notice – off site
Inspection: Give notice so that inspection may be made of the following:

- Materials including welding consumables before fabrication.
- Submission of the proposed welding procedure to prevent distortion and non-ductile welds in tension zones.
- Testing of welding procedures and welder qualification tests.
- Commencement of shop fabrication.
- Commencement of welding.
- Before placement of root runs of complete penetration butt welds.
- Completion of fabrication before surface preparation.
- Surface preparation before shop painting.
- Completion of protective coating before delivery to site.

Notice – on site
Inspection: Give notice so that inspection may be made of the following:

- Steelwork on site before erection.
- Anchor bolts in position before casting in.
- Steelwork and column bases erected on site, before grouting, encasing, site painting or cladding.

- Tensioning of bolts in categories 8.8/TB and 8.8/TF.
- Reinforcement and formwork in place prior to any encasement.
- After any grouting, encasement, fire protection or site painting is completed.

1.4 SUBMISSIONS

Origin of steel
Use steel including steel fixings made in Australia and that complies with Australian Standards.

Bolts
Compliance: Submit a manufacturer's compliance/test certificate from an accredited testing organization confirming compliance with AS/NZS 1252.

Independent certification: If bolts manufactured from outside Australia, provide a local NATA-accredited laboratory independent compliance certificate based on appropriate testing and verification.

Subcontractors
General: Submit names and contact details of proposed fabricator and installer.

Shop drawings
General: Submit shop drawings showing the following information:

- Relevant details of each assembly, component and connection.
- Information relative to fabrication, surface treatment, transport and erection.
- Submit 3 dimensional shop drawings including reference grids in XYZ coordinates.
- Shop drawings submission medium: IFC2x3, DWG(3D) & PDF

Particular: Include the following information:

- Marking plans.
- Identification.
- Steel type and grade.
- Dimensions of items.
- Required camber, where applicable.
- Fabrication methods including, where applicable, hot or cold forming and post weld heat treatment.
- Location, type and size of welds and/or bolts and bolt holes.
- Weld categories and bolting categories.
- Orientation of members.
- Surface preparation methods and coating system if shop applied.
- Best practice details in relation to application of protective coatings.
- Breather holes for hollow sections (with seal plates) being hot-dip galvanized.
- Procedures necessary for shop and site assembly, and erection.
- Location of and preparation for site welds.
- Temporary works such as lifting lugs, support points, temporary cleats and bracing which are required for transport and erection of the structural steelwork, and the procedure for final removal.
- Required fixings for adjoining building elements.

Substitution: If alternative sections or connections are proposed, provide details.

Purlins and girts: If it is proposed to support other than cladding on or from purlins and girts, provide details.

Splices: If variations to documented splice locations or if additional splices are proposed, submit details.

Tests
Steel: Submit evidence that the steel used in the work complies with the cited material standards.

Acceptable evidence: Certified mill test reports, or test certificates issued by the mill.

Alternative: Have the steel tested by an independent testing authority for compliance with the chemical composition and mechanical test requirements of the cited material standard.

Materials and components

Concrete or masonry anchors: If masonry anchors other than as shown on the drawings are required or proposed for the support or fixing of structural steel, submit evidence of the anchor capacity to carry the load.

Execution

Anchor bolts: If anchor bolts do not meet specified location tolerances, submit proposals that will allow steel erection to proceed.

Splicing: If splicing of structural members is intended, submit proposals.

Welding procedures: Submit details of proposed welding procedures, using the WPS form in Appendix C of AS/NZS 1554.1.

Identification marks: If members and/or connections are to be exposed to view submit details of proposed marking.

Distortions: Submit proposals for preventing or minimising distortion or galvanized components, welded components or welded and galvanized components; and proposals for restoration to design shape.

Non-destructive weld examination

Standard: To AS/NZS 1554.1.

Methods: Inspect welds in conformance with the **Non-destructive weld examination (NDE) table**.

Radiographic and ultrasonic inspection: Have the examination performed by an independent testing authority.

Repairs: Repair welds revealed as faulty by non-destructive examination and repeat the examination.

Non-destructive weld examination (NDE) table

Type of weld and category	Examination method	Extent (% of total length of weld type)
Shop fillet welds	Visual means	100
Site fillet welds	Visual means	100
Butt welds, GP	Visual means	100
Butt welds, SP	Visual means	100
Fillet and butt welds, SP	Radiographic or ultrasonic inspection	10

Structural Sufficiency

General: On completion of construction submit a certificate from a registered engineer that the competed work is in accordance with the design of the contract documents.

2 PRODUCTS AND MATERIALS

2.1 STEEL TYPE AND GRADE

Material

Steel members and sections: Unless shown otherwise on the drawings conform to the **Steel grade (minimum) table**.

Steel grade (minimum) table

Type of steel	Grade
Universal beams and columns, parallel flange channels, large angles to AS/NZS 3679.1	300 Plus
Flat, small angles, taper flange beams and columns to AS/NZS 3679.1	300 Plus
Welded sections to AS/NZS 3679.2	300 Plus
Hot rolled plates, floor plates and slabs to AS/NZS 3678	300 Plus
Hollow sections to AS 1163:	

Type of steel	Grade
-Circular sections less than 165 mm nominal outside diameter -Sections other than the above	C350 C350
Cold formed purlins and girts to AS 1397	Z350 minimum

2.2 BOLTS

Bolts, nuts and washers
Finish: Hot-dip galvanized, corrosion-free and in serviceable condition.

3 EXECUTION AND WORKMANSHIP

3.1 ADJOINING ELEMENTS

General
Fixing: Provide for the fixing of adjoining building elements that are to be connected to or supported on the structural steel.

3.2 FABRICATION AND ERECTION

General
Care: Shop detail and fabricate members so that they can be properly erected.

Beam camber
General: If beam members have a natural camber within the straightness tolerance, fabricate and erect them with the camber up.

Straightening
Care: If correcting distorted members, conform to the submitted procedures and avoid damage.

Work exposed to view
Welds: Grind smooth but do not reduce the weld below its nominal size.

Corners and edges: Grind fair those corners and edges, which are sharp, marred, or roughened.

Site work
General: Other than work shown on the shop drawings as site work, do not fabricate, modify or weld structural steel on site.

Identification marks
General: Provide marks or other means of identifying each member compatible with the finish, for the setting out, location, erection and connection of the steelwork in accordance with the marking plans.

High strength bolting: If the work includes more than one bolting category, mark high-strength structural bolted connections with a 75 mm wide flash of colour, clear of holes.

Cold formed members: Clearly mark material thickness.

Monorail beams: Identify and mark rated capacity in accordance with AS 1418.18 clause 5.12.6.

Tolerances
Measurement: Tolerances are to be checked by measurement after fabrication when corrosion protection has been applied.

Conformance: To AS 4100 clause 14.4.

3.3 WELDING

General
Standard: To AS/NZS 1554.1.

Weld category
Weld categories not shown on the drawings: Category SP.

Weld type
Weld type not shown on the drawings: Submit proposals for weld type and electrodes.

3.4 BOLTING

General
Standards: To AS 1111.1 and AS/NZS 1252.

Bolting category: Conform to the structural drawings.

Connections
Connection type: For connections not documented, submit proposals.

Bolting category 8.8/TF:

- Contact surfaces: Clean, as rolled and free from applied finishes.

Anchor bolts
General: Provide each anchor bolt with 2 nuts and 2 oversize washers and provide sufficient thread to permit the levelling nut and washer to be set below the base plate.

Galvanizing: Galvanize all components.

Hexagonal bolts: To AS 1111.1.

Hexagonal nuts: To AS 1112.3.

Plain washers: To AS 1237.1.

Set out: Set out bolt groups using templates and subjected to survey check.

Lock nuts
General: Provide lock nuts for bolts in moving parts or parts subject to vibration and for vertical bolts in tension.

Tensioning of bolting categories 8.8/TB and 8.8/TF
Method: Use part-turn-of-nut or load indicating washers.

Permanent bolting
Completion: Bolt only when correct alignment and preset or camber has been achieved.

3.5 ERECTION

General
Standard: To AS 3828.

Execution: Ensure that every part of the structure has sufficient design capacity and is stable under construction loads produced by the construction procedure or as a result of construction loads, which are applied.

Calculations: If required to justify the adequacy of the structure to sustain any loads and/or procedures, which may be imposed, provide calculations.

Temporary work
General: Provide all necessary temporary bracing or propping.

Temporary connections: If required cleats are not shown on shop drawings, submit details.

Temporary members: If temporary members are required, fix so as not to weaken or deface permanent steelwork.

Hand flame cutting
General: If hand flame cutting of bolt holes appears to be necessary, submit a report and proposed alternative options.

Movements
General: Allow for thermal movements during erection.

Site welds
Completion: Weld only when correct alignment and preset or camber have been achieved.

Clearances
End clearances at connections (mm): min 2.0d.

Anchor bolts
General: For each group of anchor bolts provide a template with setting out lines clearly marked for positioning the bolts when casting in.

Grouting at supports
Preparation: Before grouting steelwork to be supported by concrete or masonry, set steelwork on packing or wedges.

- Permanent packing or wedges: Form with solid steel or grout of similar strength to the permanent grout.
- Temporary packing or wedges: Remove before completion of grouting.

Timing: Grout at supports before the construction of any supported floors, walls, roofing, wall cladding or precast.

Temperature: Do not grout if the temperature of the base plate or the footing surface exceeds 35°C.

Method: Dry packed

Type: Fosroc Conbextra 5 Star (or similar approved)

Minimum compressive strength (MPa): 50 MPa

Minimum thickness (mm): 30mm

Maximum thickness (mm): 75mm

Handling
Care: Handle members or components without overstressing or deforming them.

Protection: Wrap or otherwise protect members or components to prevent damage to surface finishes during handling and erection.

Drifting
Limitation: Use drifting only to bring members into position, without enlarging holes or distorting components.

3.6 REPAIRS

General
General: Repair finishes ensuring the full integrity of each phase and each coating.

3.7 COMPLETION

Tolerances
Compliance: After erection is complete confirm compliance with AS 4100 clause 15.3.

Temporary connections
General: Remove temporary cleats on completion and restore the surface.

Record drawings
General: Supply ‘as-built’ structural and shop drawings.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **342 STRUCTURAL STEEL SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 341 STRUCTURAL STEEL

342 STRUCTURAL STEEL SELECTIONS

1 SELECTIONS

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

SS01 – STRUCTURAL STEEL - FRAMING

Property	Description	
Drawing Code:	**SS01**	
Manufacturer / Supplier:	**CUSTOM**	
Product Name:	General structural steel framing.	
Finish:	External exposed steelwork:	SS02 – hot dipped galvanised coating
	Encased steelwork:	SS03 – paint coating
Notes:	Refer structural engineer's drawings and specification for steel sizes grades and connections.	

SS02 – STRUCTURAL STEEL - HOT DIPPED GALVANISED COATING

Property	Description	
Drawing Code:	**SS02**	
References:	AS/NZS 4680: Hot-dip galvanised (Zinc) coatings on fabricated fibrous articles AS/NZS 2312: Guide to the protection of steel against atmospheric corrosion by use of protective coatings	
Preparation:	On completion of shop fabrication, and prior to erection of site and irrespective of any prior application of paint to the steelwork, clean steelwork as follows:- Clean by suitable preliminary treatment and subsequent acid cleaning or pickling to produce a clean metallic surface suitable for galvanizing.	
Coating thickness and mass:	Minimum coating thickness: Minimum coating mass: System designation:	85µm 600 grams/sq. metre HDG 600
Process:	The galvanising process shall be carried out strictly in accordance with Clauses 4, 5, 6 and 7 of AS 4680.	
Quality Assurance:	The company applying the galvanised coating shall have a current certification of a registered quality management systems complying with AS/NZS ISO 9000:1 and AS/NZS 9004:1.	

Property	Description
	The Contractor shall supply evidence of this certification to the Architect prior to the commencement of the galvanising process.
Certification:	The Contractor shall provide certification from the company applying the galvanised coating that the coating thickness conforms with the specified requirements.
Transport and storage:	Conform with the requirements of Appendix F of AS 4680 to adequately protect galvanised members from damage of the formation of while rust during transport and storage.
Repair of damaged surfaces:	Surfaces that remain uncoated, or have been damaged, shall be repaired by the application of one of the following coatings: - Organic zinc-rich primer complying with AS/NZS 3750.9. Apply two coats each having a minimum dry film thickness of 50µm to the repaired areas. - Inorganic zinc silicate paint complying with AS/NZS 3750.15. - NOTE: For subsequent powder coating, these two coating systems should be capable of passing 1000 hour neutral salt spray performance when tested in accordance with AS 2331.3.1 and should be stable under powder coating curing conditions. - Zinc metal spray. - All coatings shall be applied in accordance with the manufacturers' recommendations, and in the case of the coatings given in Items (b) and (c), shall be at least 30µm greater that the local zinc coating thickness.
Drainage holes:	Drainage holes in hollow section members that are not on the underside of the member in its final position shall be adequately plugged to the approval of the Architect.
Distortions:	If any member is distorted during the galvanizing process, submit the proposed method of straightening to the Superintendent.
Contact with concrete:	Passivate galvanized surfaces to be cast into or in contact with concrete by dipping in 0.2% sodium dichromate solution.
Embedded or encased:	The galvanized surface of that part of external steelwork which is embedded in the ground, surrounded by paving or encased in concrete is to be painted with 2 coats of approved bitumen paint.
Extent:	External exposed steelwork and steel work not easily accessible for maintenance as per EFSG requirements. Fully galvanise any structural steel member that is partially exposed.

SS03 – STRUCTURAL STEEL – PAINT FINISH – INTERNAL EXPOSED STEELWORK

Property	Description
Drawing Code:	**SS03**
Manufacturer / Supplier:	**DULUX**
Project Name	Dulux Protective Coatings Luxathane SPX Satin / or Luxathane MPX Matt / for Moderate Environments on New Mild steel - commercial, structural [Exterior]
Finish Coats:	Refer to 682 PAINTING SELECTIONS

Property	Description
After erection:	On completion of bolting or site welding, clean with a wire brush or other acceptable methods, bolts, damaged areas of paint and areas previously specified to remain unpainted, to an equivalent standard specified, then treat as follows:- For prime painted steelwork – feather any existing paint to a fine edge. Repaint cleaned areas with primer specified above, overlapping existing paint by 25 mm minimum.
Column bases:	Where steel columns have encased bases, extend the priming of the shaft 25 mm below the top of the encasing.
Approved paints:	Use paints made by a Manufacturer approved by the APAS to manufacture the paint. Use the same brand of paint for subsequent touch-up and additional coats.
Paint gauge:	Upon request provide the Superintendent with an approved thickness gauge such as an 'Elcometer' for use in testing paint thickness.
Extent:	All internal exposed steel. Where any steel member is partially exposed internally this coating system must be utilised. Apply the paint coating systems (including both decorative and protective coatings) shown on the Drawings or specified in other sections of this specification.

SS04 – STRUCTURAL STEEL – PAINT FINISH – EXTERNAL EXPOSED STEELWORK

Property	Description
Drawing Code:	**SS04**
Manufacturer / Supplier:	**DULUX**
Project Name	Dulux Protective Coatings Luxathane SPX Satin / or Luxathane MPX Matt / for Moderate Environments on New Mild steel - commercial, structural [Exterior]
Finish Coats:	Refer to 682 PAINTING SELECTIONS
After erection:	On completion of bolting or site welding, clean with a wire brush or other acceptable methods, bolts, damaged areas of paint and areas previously specified to remain unpainted, to an equivalent standard specified, then treat as follows:- For prime painted steelwork – feather any existing paint to a fine edge. Repaint cleaned areas with primer specified above, overlapping existing paint by 25 mm minimum.
Column bases:	Where steel columns have encased bases, extend the priming of the shaft 25 mm below the top of the encasing.
Approved paints:	Use paints made by a Manufacturer approved by the APAS to manufacture the paint. Use the same brand of paint for subsequent touch-up and additional coats.
Paint gauge:	Upon request provide the Superintendent with an approved thickness gauge such as an 'Elcometer' for use in testing paint thickness.
Extent:	All externally exposed steel. Where any steel member is partially exposed externally this coating system must be utilised. Typical PF07 to externally exposed steel.

Property	Description
	Apply the paint coating systems (including both decorative and protective coatings) shown on the Drawings or specified in other sections of this specification.

SS05 – STRUCTURAL STEEL – INTUMESCENT STEEL COATING

Property	Description
Drawing Code:	**SS05**
Manufacturer:	**NULLIFIRE AUSTRALIA**
Product:	Nullifire S707
Minimum FRL required:	60/60/60
Minimum clearances around structural steel:	Maintain 50mm clearance to SHS posts for any material (window frames, stud walls) other than plasterboard to allow the paint to work under fire conditions.
Preparation:	In accordance with manufacturer's recommendations and instructions.
Application:	In accordance with manufacturer's recommendations and instructions.
Extent:	As an option if required as part of framing external walls in conjunction with spandrel fire rating.

2 EXTENT OF WORK

2.1 GENERAL

Structural steelwork
Refer to the drawings for the full extent of structural steelwork. The work generally comprises structural steel frames and purlins, struts, columns etc including all necessary fixings, brackets, cleats etc to fully complete the work.

Ancillary items
Ensure ALL drawings including architectural drawings and details are reviewed and ensure all non-structural elements (eg fascias, screens etc) fabricated from structural sections (eg channels, angles etc) are included in the structural steel shop drawings and are provided and installed to fully complete the works.

Other steelwork
Refer 531 METALWORK and 532 METALWORK SELECTIONS for details of other steel/metal work contained in the project.

END OF SECTION 342 STRUCTURAL STEEL SELECTIONS

351 LIGHT STEEL FRAMING

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 341 Structural Steel and 342 Structural Steel Selections
- 361 Timber Framing and 362 Timber Framing Selections
- 421 Metal Roofing & Cladding and 422 Metal Roofing & Cladding Selections
- 441 Cladding and 442 Cladding Selections
- 471 Insulation & Sarking and 472 Insulation & Sarking Selections
- 511 Linings & Ceilings and 512 Linings & Ceilings Selections
- 531 Metalwork and 532 Metalwork Selections

1.2 STANDARDS

General
Design, materials and protection: To AS/NZS 4600.

Residential and low-rise steel framing: To NASH (National Association of Steel Housing) Standard.

1.3 INSPECTIONS

Notice
Inspection: Give notice so that inspection may be made of the following:

- Steel framing erected on site before lining or cladding.

1.4 SUBMISSIONS

Design
General: Where the structural drawings define performance criteria, submit independent design, documentation and certification from a professional engineer including for the erected work.

Reactions: Provide location and magnitude of reactions to be accommodated by the support structure.

Floor and wall frame member sizes: Submit a schedule of proposed member sizes, certified as meeting stated project and AS/NZS 4600 requirements for span, spacings and loadings.

Shop drawings
General: Submit shop detail drawings certified by a professional engineer stating that the design has been carried out in accordance with documented project and AS/NZS 4600 requirements for the configurations and loadings.

Roof trusses: Prepare drawings to show:

- On a plan, the truss layout.
- On elevations, the arrangement of members allowing for the accommodation of in-roof services and the size and section type of each member.
- The method of assembly, connection, holding down and bracing.

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Structural Sufficiency
- On completion of construction submit a certificate from a registered engineer that the completed work is in accordance with design of the contract documents.

2 PRODUCTS AND MATERIALS

2.1 COMPONENTS

Cold-formed steel framing
Cold-form sections from metallic-coated steel to AS 1397.

Corrosion protection: To BCA clause 3.4.2.2.

Product name: [complete/delete]

Framing members
Cold-formed steel framing: For a proprietary system, comply with *NASH-1 Standard: Residential and low-rise steel framing Part 1: Design criteria.*

3 EXECUTION AND WORKMANSHIP

3.1 TOLERANCES

General
Manufacturing and assembly tolerances: To NASH-1 Standard, Appendix D.

Installation tolerances for attachments to supporting structures, walls, trusses, rafters, ceiling joists and floor members: To NASH-1 Standard, Appendix D.

3.2 CONSTRUCTION GENERALLY

Fabrication
Length: Cut members accurately to length so that they fit firmly against abutting members.

Service holes: Form holes by drilling or punching.

Bushes: Provide plastic bushes or grommets to site cut holes.

- Swarf: Remove swarf and other debris from cold-formed steel framing immediately.

Site work: Do not fabricate on site where welded connections are required.

Fastening
Type: Select from the following:
- Bolting.
- Self-drilling, self-tapping screws.
- Blind rivets.
- Proprietary clinching system.
- Structural adhesives.
- Welding.

Welding
Burning: Avoid procedures that result in greater than localised ‘burning’ of the sheets or framing members.

Prefabricated frames
General: Protect frames from damage or distortion during storage, transport and erection.

Metal separation
General: Install lagging to separate non-ferrous service pipes and accessories from the framing.

Unseasoned or CCA treated timber
General: Do not fix in contact with framing without fully painting the timber and/or the steel.

Earthing
Permanent earthing: Required.

Temporary earthing: Provide temporary earthing during erection until the permanent earthing is installed.

Protection
General: Restore coatings which have been damaged by welding or other causes. Thoroughly clean affected areas to base metal and coat with zinc rich organic primer .

Grommets: Provide grommets to isolate piping and wiring from cold-formed steel framing.

Swarf: Remove swarf and other debris from cold-formed steel framing immediately.

Certification
General: For components for which independent design certification has been required, provide independent certification for the erected components confirming compliance with the design intent.

3.3 FLOOR FRAMING

General
General: Construct framing in conformance with the sizes scheduled on the drawings.

Tolerance: Construct floors to a tolerance of 5 mm maximum deviation in 3 m measured under a straight edge placed anywhere on the surface in any direction.

Protection: If floor framing is for ground floor construction, ensure that it is protected from moisture.

Construction loads: If construction loading exceeds design loading, provide additional support so as to avoid overstressing of members.

3.4 WALL FRAMING

Wall studs
General: Provide studs in single lengths without splices. Place a stud under, or within 40 mm from, each structural load point from roof or ceiling (except for openings). Provide multiple studs at points of concentrated load.

Maximum stud spacing: 600 mm.

Heads to openings
General: Provide lintels appropriate to load and span.

Additional support
General: Provide additional support in the form of noggings, trimmers and studs for support and fixing of lining, cladding, hardware, accessories, fixtures and fittings.

Vermin barriers
General: Provide vermin barriers as follows:

- Brick veneer barrier: Close nail 10 mm steel wire mesh to the underside of the bottom plate of external stud walls, extending across the cavity for building into brickwork.

Damp-proof course
General: Provide damp-proof courses under the bottom plate of stud walls built off slabs or masonry dwarf walls, as follows:

- External walls (not masonry veneer): Turn up at least 75 mm on the inside and tack. Project 10 mm beyond the external slab edge or dwarf wall and turn down at 45°.
- Walls of bathrooms, shower rooms and laundries: Turn up at least 150 mm on the ‘wet’ side and tack to studs.

Installation: Lay in long lengths. Lap full width at angles and intersections and at least 150 mm at joints.

Junctions: Preserve continuity of damp-proofing at junctions of damp-proof courses, sarkings and waterproof membranes.

Flashings
Location: Provide flashings to external openings sufficient to prevent the entry of moisture. Form trays at the ends of sill flashings.

Masonry veneer construction: Extend across cavities and build into brickwork.

3.5 ROOF FRAMING

Beam framing
General: Construct framing for 'flat' or pitched roofs where the ceiling follows the roof line, consisting of rafters or purlins supporting both ceiling and roof covering.

Antiponding
Requirement: Fix appropriate members to the tops of framing at the rear of fascias, to prevent sagging of and ponding on the sarking.

Additional support
Provide a frame member behind every joint in fibre cement or plasterboard sheeting or lining.

Battens
Requirement: Supply and fix battens suitable for span, spacing and roofing.

3.6 TRUSSES

Fabrication
Assembly: Factory assemble trusses.

Supports for in roof services
General: If walkways, mechanical plant or other services are to be supported within the roof space, provide support.

Marking
General: Permanently mark each truss to show:

- Project identification.
- Manufacturer.
- Tag or number.
- Location.
- Support points.

Installation
General: Fix to support structures, plumb to within H/200, where H is the height at the apex.

Support: Support trusses on bottom chord at two points only, unless designed for additional support.

Vertical movement: Over internal walls provide at least 10 mm vertical clearance and use bracing methods which allow for vertical movements.

Holding down and bracing: Provide details demonstrating capability to resist lateral and uplift forces.

Certification: Obtain certification from a professional engineer for the erected trusses.

3.7 ROOF TRIM

Fascia, valley gutter and barge boards
Requirement: Supply and fix fascia, valley gutter and barge boards in accordance with the manufacturer's requirements. Refer 421 METAL ROOFING & CLADDING and 422 METAL ROOFING & CLADDING SELECTIONS.

3.8 COMPLETION

Cleaning
On completion of framing remove debris from any gaps between members and make sure void between bottom chord of roof trusses and top of any non-supporting internal wall is clear.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **352 LIGHT STEEL FRAMING SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 351 LIGHT STEEL FRAMING

352 LIGHT STEEL FRAMING SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

SF01–STEEL FRAMING – 92mm GENERAL

Property	Description
Drawing Code:	**SF01**
Manufacturer / Supplier:	**Structural Girts**
Product Name:	To structural engineer's requirements. Note spacing of internal row of girts is to suit span of top hats for internal wall lining. Max spacing 600mm.

SF02– STEEL WALL FRAMING - 92MM WITH THERMAL INSULATION

Property	Description
Drawing Code:	**SF02**
Manufacturer / Supplier:	**RONDO**
Product Name:	Drywall Steel Stud Wall System
Surface finish:	Minimum Z275 coating class
Nominal size(mm):	92mm
Thickness / BMT (mm):	Refer STRUCTURAL ENGINEER'S drawings for BMT of studs for various walls. Generally min 1.15mm BMT for external walls.
Fixings:	To manufacturer's specification.
Insulation:	Refer INSULATION & SARKING and drawings for External and internal Wall Type details

SF04 – STEEL WALL FRAMING - 92MM WITH ACOUSTIC INSULATION

Property	Description
Drawing Code:	**SF03**
Manufacturer / Supplier:	**RONDO**
Product Name:	Drywall Steel Stud Wall System
Surface finish:	Minimum Z275 coating class
Nominal size(mm):	92mm

Property	Description
Thickness / BMT (mm):	Refer STRUCTURAL ENGINEER'S drawings for BMT of studs for various walls.
Fixings:	To manufacturer's specification.
Insulation:	Refer INSULATION & SARKING and drawings for External and internal Wall Type details

SF03– STEEL WALL FRAMING - 92MM WITH ACOUSTIC INSULATION

Property	Description
Drawing Code:	**SF03**
Manufacturer / Supplier:	**RONDO**
Product Name:	Drywall Steel Stud Wall System
Surface finish:	Minimum Z275 coating class
Nominal size(mm):	92mm
Thickness / BMT (mm):	Refer STRUCTURAL ENGINEER'S drawings for BMT of studs for various walls.
Fixings:	To manufacturer's specification.
Insulation:	Refer INSULATION & SARKING and drawings for External and internal Wall Type details

SF11 – STEEL WALL FRAMING – 76MMM

Property	Description
Drawing Code:	**SF11**
Manufacturer / Supplier:	**RONDO**
Product Name:	Drywall Steel Stud Wall System
Surface finish:	Minimum Z275 coating class
Nominal size(mm):	76mm
Thickness / BMT (mm):	Refer STRUCTURAL ENGINEER'S drawings for BMT of studs for various walls. Generally min 1.15mm BMT.
Fixings:	To manufacturer's specification.
Insulation:	Nil

SF12 – STEEL WALL FRAMING – 76MMM WITH THERMAL INSULATION

Property	Description
Drawing Code:	**SF12**
Manufacturer / Supplier:	**RONDO**
Product Name:	Drywall Steel Stud Wall System
Surface finish:	Minimum Z275 coating class

Property	Description
Nominal size(mm):	76mm
Thickness / BMT (mm):	Refer STRUCTURAL ENGINEER'S drawings for BMT of studs for various walls. Generally min 1.15mm BMT.
Fixings:	To manufacturer's specification.
Insulation:	Refer INSULATION & SARKING and drawings for External and internal Wall Type details

SF13– STEEL WALL FRAMING - 76MM WITH ACOUSTIC INSULATION

Property	Description
Drawing Code:	**SF13**
Manufacturer / Supplier:	**RONDO**
Product Name:	Drywall Steel Stud Wall System
Surface finish:	Minimum Z275 coating class
Nominal size(mm):	76mm
Thickness / BMT (mm):	Refer STRUCTURAL ENGINEER'S drawings for BMT of studs for various walls. Generally min 1.15mm BMT.
Fixings:	To manufacturer's specification.
Insulation:	Refer INSULATION & SARKING and drawings for External and internal Wall Type details

SF15– STEEL WALL FRAMING – 150MM GENERAL

Property	Description
Drawing Code:	**SF15**
Manufacturer / Supplier:	**RONDO**
Product Name:	Drywall Steel Stud Wall System
Surface finish:	Minimum Z275 coating class
Nominal size(mm):	150mm
Thickness / BMT (mm):	Generally 1.15mm BMT unless noted otherwise.
Fixings:	To manufacturer's specification.
Insulation:	Nil

SF16 - STEEL WALL FRAMING - 150MM WITH THERMAL INSULATION

Property	Description
Drawing Code:	**SF16**
Manufacturer / Supplier:	**RONDO**
Product Name:	Drywall Steel Stud Wall System
Surface finish:	Minimum Z275 coating class

Property	Description
Nominal size(mm):	150mm
Thickness / BMT (mm):	Refer STRUCTURAL ENGINEER'S drawings for BMT of studs for various walls. Generally 1.15mm BMT unless noted otherwise.
Fixings:	To manufacturer's specification.
Insulation:	Refer INSULATION & SARKING and drawings for External and internal Wall Type details

SF17 - STEEL WALL FRAMING -150MM WITH ACOUSTIC INSULATION

Property	Description
Drawing Code:	**SF17**
Manufacturer / Supplier:	**RONDO**
Product Name:	Drywall Steel Stud Wall System
Surface finish:	Minimum Z275 coating class
Nominal size(mm):	150mm
Thickness / BMT (mm):	Refer STRUCTURAL ENGINEER'S drawings for BMT of studs for various walls. Generally 1.15mm BMT unless noted otherwise.
Fixings:	To manufacturer's specification.
Insulation:	Refer INSULATION & SARKING and drawings for External and internal Wall Type details

SF21–STEEL FURRING CHANNEL 15MM

Property	Description
Drawing Code:	**SF21**
Manufacturer / Supplier:	**SINIAT OR EQUIVALENT**
Product Name:	SINIAT FACADE SYSTEM EXPRESS JOINT SYSTEMS
Surface finish:	Aluminium/ zinc alloy coated - min 125g / sq m.
Nominal size(mm):	124mm wide x 35mm to external CFC walls. Ceiling and wall: 38mm wide x 28mm deep or 75mm wide x 35mm deep or 38mm wide x 16mm deep . Refer Wall Type for location.
Thickness / BMT (mm):	1.15mm gauge.
Insulation:	To manufacturer's specification. Provide additional approx. 15mm thick horizontal inert packer (TF03) over steel stud framed walls for thermal bridging.

SF22–STEEL TOPHAT PROFILES 35MM

Property	Description
Drawing Code:	**SF22**
Manufacturer / Supplier:	**RONDO OR EQUAL**

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Property	Description
Product Name:	Rolled metal top hat sections.
Surface finish:	Aluminium/ zinc alloy coated – min 125g / sq m.
Nominal size(mm):	Various. Minimum 35mm to suit 600mm max girt spacing. Provide additional top hat framing to ensure all CFC joints are fully and continuously supported. Refer wall type details.
Thickness / BMT (mm):	1.15mm gauge.
Fixings:	To manufacturer's specification.
Insulation:	Refer wall type details.

SF23 –STEEL TOPHAT PROFILES 61MM

Property	Description
Drawing Code:	**SF23**
Manufacturer / Supplier:	**LYSAGHT OR EQUAL**
Product Name:	Topspan® 61
Surface finish:	Aluminium / zinc / magnesium alloy coated steel – min 125g / sq m.
Nominal size(mm):	Various. Minimum 61mm to suit 600mm max girt spacing. Provide additional top hat framing to ensure all Kliplok joints are fully and continuously supported. Refer wall type details.
Thickness / BMT (mm):	1.15mm gauge.
Fixings:	To manufacturer's specification.
Insulation:	Refer architectural wall type details.

SF42 – STEEL CEILING FRAMING WITH THERMAL INSULATION

Property	Description
Drawing Code:	**SF42**
Manufacturer / Supplier:	**Generic Code used for ceiling framing in general.**
	To manufacturer's specification.

SF44 – STEEL CEILING FRAMING WITH ACOUSTIC INSULATION

Property	Description
Drawing Code:	**SF44**
Manufacturer / Supplier:	**RONDO**
Product Name:	CSR Redbook Ceiling System
Surface finish:	Minimum Z275 coating class
Thickness / BMT (mm):	Refer STRUCTURAL ENGINEER'S drawings for BMT of framing members
Fixings:	To manufacturer's specification.

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Property	Description
Insulation:	Refer INSULATION & SARKING and drawings for External and internal Wall Type details

2 EXTENT OF WORK

2.1 GENERAL

Refer to the drawings and schedules for the full extent of light steel framing. The work generally comprises:

- 90mm and 150mm steel studs to new internal and external walls. (Some 76mm where required)
- Lights steel framed roofs consisting of rafters and purlins to raked areas
- Other light steel framing necessary to frame out bulkheads and similar elements to complete the work as shown.
- Provide additional structural support as required to support items cantilevered from stud framed walls. This may take the form of additional steel stud wall framing or SHS posts.

Refer to the STRUCTURAL DRAWINGS for details of structural purlins and rafters.

END OF SECTION 352 LIGHT STEEL FRAMING SELECTIONS

361 TIMBER FRAMING

1 GENERAL

1.1 GENERALLY

Drawings have generally allowed for steel framing sections to be used for roofs and wall framing. Timber framing shall be allowed as an alternative. Sizing of members shall be verified by a qualified registered structural engineer.

1.2 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 151 Termite Management and 152 Termite Management Selections
- 371 Flooring & Decking and 372 Flooring & Decking Selections
- 471 Insulation & Sarking and 472 Insulation & Sarking Selections
- 511 Linings & Ceilings and 512 Linings & Ceilings Selections

1.3 STANDARDS

General
Framing: To AS 1684.2, AS 1684.3 or AS 1684.4, as appropriate.
Design: To AS 1720.1.

1.4 INTERPRETATION

Additional definitions
General: For the purposes of this worksection the definitions given below apply.

- Substrate: The surface to which a material or product is applied.
- Moisture content: The percentage by mass of water present in the timber.
- Equilibrium moisture content (EMC): For given conditions of humidity and temperature, the moisture content which timber approaches at which it neither gains nor loses moisture while the conditions of its environment are maintained.
- Flooring:
  . Fitted: Flooring fitted between the walls of each room. i.e. not platform floors.
  . Intermittently-supported: Flooring which is supported by, and spans across, beams, joists or battens.
- Continuously-supported: Flooring which is supported by, and directly fixed to, a continuous supporting surface.
- Platform: Flooring laid over the whole of the joisted floor structure before the erection of external and internal wall frames.
- Decking: Intermittently-supported external flooring with drainage gaps between boards.
- Joints:
  . Butt: Floor boards cross cut square with plain ends for joining over supports.
  . End-matched: Floor boards tongue and grooved at the ends to allow joining between supports.

1.5 INSPECTION

Notice

Inspection: Give notice so that inspection may be made of the following:

- Prefabricated units before installation.
- Fabricated items before priming or water-repellent treatment.
- Bolts after final tightening.
- Timber work after erection but before it is covered.

1.6 SUBMISSIONS

Subcontractors

Prefabricated items: Submit the name and contact details of the proposed manufacturer.

Certification

Local legislation or regulations may require non-prefabricated timber framing to be certified by a professional engineer. Amend to suit by adding certification requirements.

General: Submit certification by a professional engineer of the design, documentation and erected work to AS 1684 and AS 1720.1. Include the following:

- Reactions: Provide location and magnitude of reactions to be accommodated by the support structure.
- Floor and wall and roof frame member sizes: A schedule of proposed member sizes, certified as meeting stated project, AS 1684 and AS 1720.1 requirements for span, spacings, loadings and deflections.
- Species and stress grade.
- Moisture content at time of manufacture.
- Preservative treatment, if any.

Materials

Identification:

- Certification: Submit a supplier's certificate (which may be included on an invoice or delivery docket) verifying that the timber complies with the specification, including moisture content.
- Inspection: Submit the inspection authority's certificate verifying that the timber complies with the specification.

Moisture content: Submit records of moisture content.

Preservative treatment

Certificate: Submit a test certificate from an independent testing authority confirming that the required preservative retention has been achieved.

Structural Sufficiency

General: On completion of construction submit a certificate from a registered engineer that the completed work is in accordance with the design of the contract documents.

2 PRODUCTS

2.1 TIMBER

Identification

Method: Identify timber using branding, certification or both.

Branding: Brand structural timber, under the authority of a recognised product certification program applicable to the product. Locate the brand mark on faces or edges which will be concealed in the works. Include the following data for timbers not covered by branding provisions Australian standards or regulations for which branding is required.

- Stress grade.
- Method of grading.

- 'Seasoned' or 's'.
- The certification mark of the product certification program.
- The applicable standard.

Certification: Forest certification, chain of custody and product labelling to the 131 COMMON REQUIREMENTS worksection.

Fascias and barge boards

Hardwood: To AS 2796.1.

Softwood: To AS 4785.1.

- Preservation treatment: To the 131 COMMON REQUIREMENTS worksection.

Fascia dimensions:

- Refer SELECTIONS.

Barge board dimensions:

- Refer SELECTIONS.

2.2 LAMINATED VENEER LUMBER TIMBER

Laminated veneer lumber

Standard: To AS/NZS 4357.0.

2.3 SHEET PRODUCTS

Structural plywood

Standard: To AS/NZS 2269.0.

Bond: Type A to AS/NZS 2754.1 (Int).

Veneer

Veneer quality to visible surfaces: CD (minimum) to AS/NZS 2269.0.

Identification

Branding: To AS/NZS 2269.0.

Brand mark: Locate the brand mark on faces or edges which will be clearly visible for certification inspections and concealed in the works.

2.4 COMPONENTS

Mild steel post bases

Minimum dimensions:

- Conform to AS 1684.2 Table 9.20(p) and AS 1684.3 Table 9.20(p), as appropriate.

Location: To timber posts supported off concrete slabs or footings.

Finish: Galvanize after fabrication.

Fasteners

General: Conform to the 131 COMMON REQUIREMENTS worksection.

Installation: Do not split or otherwise damage the timber.

Coating: Before placing bolts in contact with CCA treated timber, coat the shank of the bolt in a grease or bituminous coating.

Damp-proof course

Material: To AS/NZS 2904.

- Type: ALCOR Super Grade 0.45mm thick

Flashings

Material: To AS/NZS 2904.

- Type: ALCOR Super Grade 0.45mm thick

3 EXECUTION

3.1 TOLERANCES

General
Walls: Conform to the **Walls tolerances table**.

Walls tolerances table

Property	Permitted deviation (mm)
Generally: Verticality in 2000 mm	4
Generally: Flatness[1] in 2000 mm	3
Features[2]: Verticality in 2000 mm	2
Features: Horizontality in 2000 mm	2
1. Flatness: Measured under a 2m straightedge laid in any direction on a plane surface.	
2. Features: Conspicuous horizontal or vertical lines including external corners, parapets, reveals, heads, sills.	

Floor tolerances
General: Maximum deviation of the finished floor surface under a 3 m straight edge laid in any direction: 3 mm.

3.2 TRANSPORT AND DELIVERY

General
Handling and protection: Do not distort or damage timber or timber products.

Moisture content: Maintain the equilibrium moisture content of seasoned timber.

Protection from weather
General: Provide temporary protection for members until permanent covering is in place.

3.3 FLOOR FRAMING

Bearers and joists
Levelling: Level bearers and joists by checking or by packing for the full width of the member with dense corrosion resistant material which is secured in place:

- Maximum thickness of packing: 3 mm.

Spring: Lay bearers and joists to allow for straightening under loading.

Joints: Locate joints only over supports:

- Minimum bearing of bearers: 50 mm.
- Minimum bearing of joists: 30 mm.

Fixing: Secure bearers and joists to supports to provide restraint against lateral movement.

Joist restraint:

- Unseasoned timber: If joist timber is unseasoned, the span ≥ 3000 mm, and there is no ceiling lining, provide solid blocking between each joist in rows at 1800 mm centres.
- Deep joists: If the joist depth:width ratio is ≥ 4, restrain joists at the ends of the joists over supports and at ≤ 1800 mm centres using either of following as appropriate:
  - Continuous trimming joists.
  - Solid blocking or herringbone strutting.
- Trimmers or blocking dimensions:
  - Depth: Joist depth less 25 mm.
  - Width: ≥ 25 mm.
- Herringbone strutting dimensions: ≥ 38 x 38 mm.

Tolerance
Floors: 5 mm maximum deviation in 3 m measured under a straight edge placed anywhere on the surface in any direction.

3.4 WALL FRAMING

Additional support

General: Provide additional support in the form of noggings, trimmers and studs for fixing lining, cladding, hardware, accessories, fixtures and fittings as required.

Maximum spacing of noggings: 1350 mm centres.

Vermin barriers

General: Provide vermin barriers as follows:

- Brick veneer barrier: Close nail 10 mm galvanized steel wire mesh to the underside of the bottom plate of external stud walls, extending across the cavity for building into brickwork.

Stud wall barrier: Metallic coated steel sheet, 600 mm wide x 0.6 mm thick, fixed to each side of the external stud wall frame at the base. Lap joints 25 mm.

Damp-proof course

General: Provide damp-proof courses under the bottom plate of stud walls built off slabs or masonry dwarf walls, as follows to AS/NZS 4200.1:

- External walls (not masonry veneer): Turn up at least 75 mm on the inside and tack. Project 10 mm beyond the external slab edge or dwarf wall and turn down at 45°.
- Walls of bathrooms, shower rooms and laundries: Turn up at least 150 mm on the 'wet' side and tack to studs.

Installation: Lay in long lengths. Lap full width at angles and intersections and at least 150 mm at joints.

Junctions: Preserve continuity of damp-proofing at junctions of damp-proof courses, sarkings and waterproof membranes.

Flashings

Location: Provide flashings to external openings to prevent the entry of moisture. Form trays at the ends of sill flashings.

Masonry veneer construction: Extend across cavities and build into brickwork.

3.5 COMPLETION

Tightening

General: Tighten bolts, screws and other fixings so that joints and anchorages are secure at the date of practical completion.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **362 TIMBER FRAMING SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 361 TIMBER FRAMING

362 TIMBER FRAMING SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

TF31 TIMBER FLOOR FRAMING

Property	Description
Drawing Code:	**TF31**
Manufacturer / Supplier:	**CUSTOM**
Product Name:	General structural timber floor framing
Size / grade:	Refer structural engineer's drawings and specification for timber sizes and grades. Refer AS1684 for general framing requirements, but close joist spacing for stage framing to max 300mm centres.
Fixings:	Refer structural engineer's drawings and notes
Treatment:	LOSP treated
Insulation:	Not required

2 EXTENT OF WORK

2.1 GENERAL

General
Refer to the drawings and schedules for the full extent of timber framing. The work generally comprises:

- Timber framing to stage and stage access ramp and stairs.
- Infill framing where new walls are introduced to existing timber framed flooring.

END OF SECTION 362 TIMBER FRAMING SELECTIONS

371 FLOORING

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 151 Termite Management and 152 Termite Management Selections
- 361 Timber Framing and 362 Timber Framing Selections
- 471 Insulation & Sarking and 472 Insulation & Sarking Selections
- 671 Floor Sanding & Finishing and 672 Floor sanding & Finishing Selections
- 681 Painting and 682 Painting Selections

1.2 STANDARDS

General
Flooring and decking: To AS 1684.2, AS 1684.3 or AS 1684.4, as appropriate.

1.3 INTERPRETATION

Additional definitions
General: For the purposes of this worksection the following definitions apply:

- Acoustic underlay: A resilient underlay providing acoustic isolation.
- Butt joints (flooring): Floor boards cross cut square with plain ends for joining over supports.
- Decking: Intermittently-supported external flooring with drainage gaps between boards.
- End-matched joints (flooring): Floor boards tongue and grooved at the ends to allow joining between supports.
- Equilibrium moisture content (EMC): For given conditions of humidity and temperature, the moisture content which timber approaches at which it neither gains nor loses moisture while the conditions of its environment are maintained.
- Feature: Any natural variation or similar which affects timber appearance, including gum/resin veins, borer marks, checks and knots. The grade will determine the level of feature present.
- Flooring - Continuously-supported: Flooring which is supported by, and directly fixed to, continuous supporting surfaces, including concrete slabs and sheet flooring or underlay subfloors.
- Flooring - Engineered : Manufactured flooring with wearing and decorative surfaces of timber or plastic laminated to supporting layers of plywood usually with tongues and grooves along the lengths of the boards.
- Flooring - Fitted: Flooring fitted between the walls of each room i.e. not platform floors.
- Flooring - Floating: Any manufactured flooring panel system not fixed to the substrate.
- Flooring - Intermittently-supported: Flooring which is supported by, and spans across, beams, joists or battens.
- Flooring - Strip flooring: Flooring made from machined timber with tongues and grooves along the length of the strips.
- Moisture content (timber): The percentage by mass of water present in the timber.

- Parquet: Timber mosaic parquet panels or wood block parquet bonded to a subfloor either directly or over an underlay.
  - . Wood block parquet: Rectangular blocks of timber with length a multiple of width (e.g. 260 x 65 mm) laid individually to produce a pattern.
  - . Mosaic parquet panels: Pre assembled timber finger modules held together to form tiles or panels.
- Platform: Flooring laid over the whole of the joisted floor structure before the erection of external and internal wall frames.
- Subfloor: The structure that supports the flooring (e.g. concrete slabs, timber joists or battens, sheet flooring or underlay and light steel joists).
- Underlay: A non-structural layer of sheet material or an in situ levelling material on the subfloor to provide a smooth and level surface.

1.4 INSPECTION

Notice
Inspection: Give notice so that inspection may be made of the following:
- Subfloor before laying sheet flooring, fibre cement flooring or decking.
- Subfloor and any subfloor space before the floor laying.
- Trial set out: Before execution.
- Control joints: Before fitting skirting.
- Completed installation before the application of coated finishes.

1.5 SUBMISSIONS

Certification
Certificate: Submit a supplier's certificate (which may be included on an invoice or delivery docket) verifying conformance to grading, species and board size and noting the moisture content.

Inspection: If neither branding nor certification is adopted, submit a report by an independent inspecting authority verifying conformance.

Samples
General: Submit samples of each timber flooring type and timber or synthetic decking type illustrating the range of variation in colour and figure

Subcontractors
General: Submit names and contact details of proposed suppliers and installers.

Product moisture content
General: Confirm that the moisture content of the timber decking as delivered matches the ambient moisture content of the site. If there is a mismatch allow for acclimatisation.

Preservative treatment
Certificate: Submit a test certificate from an independent testing authority confirming that the required preservative retention has been achieved.

2 PRODUCTS AND MATERIALS

2.1 GENERAL

Storage
Timber decking: Deliver to site and store on dry ground on level bearers 150 mm high, block stacked, banded and protected against the weather.

Wood Composite Plastic decking: Deliver to site and store on dry ground on level bearers 150 mm high, block stacked, banded and protected against the weather. Loose boards should be stored on edge. Failure to keep dry can lead to growth of mould spores and in this instance all affected boards

are to be replaced at the Contractor's cost. When moving the product boards should be carried on edge.

Plywood and particleboard sheet flooring: Deliver to site and store on dry ground on level bearers 150 mm high, stacked on flat and protected against the weather.

Timber flooring: Deliver timber flooring to site in unbroken wrapping or containers and store so that its moisture content is not adversely affected. Do not store on the substrate until the moisture content of the substrate is suitable for the installation of the floor. Do not store in areas of wet plaster.

Adhesive

General: Provide adhesives, as documented and as follows:

- Compatible with the subfloor and flooring to be adhered.
- Alkali resisting.
- Solvent and water content: ≤ 40%.
- Shear strength when cured (average): ≥ 1.47 MPa.
- Elasticity: Sufficient to withstand continuous expansion and contraction of boards.

Ventilation: Provide adequate ventilation appropriate for moisture curing.

Acoustic underlay

General: Resilient underlay fixed with compatible adhesive.

Critical radiant flux

Standard: to AS ISO 9239.1.

Flooring system: Conform to the values of critical radiant flux, as documented.

Smoke development rate

Standard: To AS ISO 9239.1.

Floor finishes in non-sprinklered buildings: 750 percent-minutes maximum.

2.2 STRIP FLOORING

New hardwood

Standard:

- Generally: To AS 2796.1.
- Grading: To AS 2796.2 clause 1.5.

2.3 SHEET FLOORING

Plywood

Standard: To AS/NZS 2269.0.

Plywood certified formaldehyde emission level to AS/NZS 2098.11: Class E1.

- Structural to AS/NZS 2269.2.
- Veneer: CD.
- Grade: Bond Type A.

Particleboard

Particleboard: To AS/NZS 1860.1, Class 1.

Particleboard certified formaldehyde emission level to AS/NZS 2098.11: Class E1.

Compressed fibre cement

Standard: To AS/NZS 2908.2.

Category: 5.

- Type: B.

2.4 IDENTIFICATION

General: Identify timber using branding or certification.

- Branding: Brand timber, plywood and particleboard under the authority of a recognised product certification or accreditation program applicable to the product. Locate the brand mark on faces or edges which will be concealed in the works.
- Provide certification from the recognised product certification or accreditation programs as appropriate:
  . Flooring: The Australia Timber Flooring Association's (ATFA) Accredited Timber Flooring Manufacturers Program.
  . Milled radiata pine products: Plantation Timber Certification.
  . Plywood and particleboard: Engineered Wood Products Association of Australia Quality Control and Product Certification Scheme.
  . Sawn radiata pine boards: Plantation Timber Certification.

3 EXECUTION AND WORKMANSHIP

3.1 TRANSPORT AND DELIVERY

General
Handling and protection: Do not distort or damage timber or timber products.

Moisture content: Maintain the equilibrium moisture content of seasoned timber.

Protection from weather
General: Provide temporary protection for members until permanent covering is in place.

3.2 TOLERANCES

Floor tolerances
General: Maximum deviation of the finished floor surface under a 3 m straight edge laid in any direction: 3 mm.

3.3 PREPARATION – FLOORING

Storage
General: Deliver timber flooring to site in unbroken wrapping or containers and store so that its moisture content is not adversely affected. Do not store on the background until the moisture content of the background is suitable for the installation of the floor. Do not store in areas of wet plaster.

Substrates
General: Ensure substrates are as follows:

- Clean and free of any deposit or finish which may impair adhesion or location and functioning of movement joints.
- If solid or continuous:
  . Excessive projections are removed.
  . Voids and hollows > 10 mm with abrupt edges are filled with a cement:sand mix not stronger than the substrate nor weaker than the bedding.
  . Depressions < 10 mm are filled with a latex modified cementitious product with feathering eliminated by scabbling the edges.

Flatness: < 3 mm. deviation of the surface under a 3 m straight edge laid in any direction with no abrupt variations greater than 1 mm over 250 mm.

Moisture content
General: Do not commence installation of flooring unless:

- Concrete substrate: The moisture content of the concrete has been tested to AS/NZS 2455.1 Appendix B and values obtained as follows:
  . ≤ 5.5% when tested by the electrical resistance test.
  . ≤ 70% when tested by the hygrometer test.

- Plywood underlays or timber flooring products: The moisture content has been tested to AS/NZS 1080.1 and values obtained as follows:
  . Airconditioned buildings: 8 to 10%.
  . Intermittently heated buildings: 10 to 12.5%.
  . Unheated buildings: 12 to 15%.

Conformance: Confirm that the moisture content of the timber flooring products, as delivered, matches the moisture content of the subfloor as measured on site. If not allow for acclimatisation.

Acclimatisation

General: After the following construction operations are complete, acclimatise the flooring by stacking it in the in-service conditions for a minimum period of two weeks with air circulation to all surfaces as follows:

- Airconditioning operational.
- Lighting operational.
- Site drainage and stormwater works are complete.
- Space fully enclosed and secure.
- Wet work complete and dry.

3.4 SUPPORT FIXING - UNDERLAY

Battens for sheet underlay on concrete slabs

Framing fixed direct: Fix seasoned battens to the concrete slab in conformance with the **Sheet underlay battens table** so that their top surfaces are aligned.

- Battens: 70 x 35 mm seasoned timber.
- Spacing of fasteners: < 900 mm.

Framing fixed on resilient pads: Fix seasoned battens on resilient pads to the concrete slab in conformance with the **Sheet underlay battens table** so that their top surfaces are aligned.

- Pad spacing: 400 mm centres.

Vapour barrier under battens: 200 µm high-impact resistant polyethylene film. Lap 300 mm, seal the laps with pressure-sensitive tape and return up the vertical surfaces and trim at the level of the flooring.

Sheet underlay battens table

Plywood stress grade	Plywood thickness mm	Batten spacing mm
F14	12.5	450
F11	18.5	600
F14	17	600

3.5 FIXING UNDERLAY

Underlay batten fixed on concrete slabs

Type: Refer INSULATION & SARKING

General: Fix underlay to the battens so that their top surfaces are aligned.

Installation: Lay the length of the sheets at right angles to the supports. Stagger the end joints and locate them centrally over supports. If sheets are not tongue and grooved provide noggings or trimmers to support the edges.

Orientation for parquet flooring: Fix at 45° to the direction of the flooring pattern.

Fixing to battens:

- Nailed only: 150 mm along ends, 300 mm on intermediate battens.
- Glued/nailed: Continuous 10 mm glue bead and nails at 300 mm.
- Glued only: To the adhesive manufacturer’s recommendations with downward pressure during curing.

Underlay control joints: Provide joint widths as follows:

- Against vertical building elements: 10 mm.
- Between underlay sheets: 6 mm.
- Between tongue and groove sheets: Hand pressure assembly.

Underlay adhesive fixed on concrete slabs

Vapour barrier: A liquid applied membrane compatible with the adhesive system.

Plywood: Apply a sealant to the underside compatible with the adhesive.

Orientation for parquet flooring: Fix at 45° to the direction of the flooring pattern.

Orientation for strip flooring: Fix sheets in a stretcher bond or at 45° to the floor board direction.

Glue and nail fixing:

- Nail centres: 300 mm from edges and at 600 x 600 mm.
- Glue beads: 10 mm diameter and at 500 x 500 mm.

Glued only fixing: Apply adhesive with a notched trowel to the manufacturer's recommendations. Provide downward pressure during curing.

Underlay control joints: Provide joint widths as follows:

- Against vertical building elements: 10 mm.
- Between underlay sheets: 6 mm.
- Between tongue and groove sheets: Hand pressure assembly.

Underlay mechanically fixed on concrete slabs

Type: Refer INSULATION & SARKING

Orientation for parquet flooring: Fix at 45° to the direction of the flooring pattern.

Orientation for strip flooring: Fix sheets in a stretcher bond or at 45 degrees to the floor board direction.

Nail fixing: 100 mm from edges and 550 mm centres along grain and 500 mm centres across grain.

Underlay control joints: Provide joint widths as follows:

- Against vertical building elements: 10 mm.
- Between underlay sheets: 6 mm.
- Between tongue and groove sheets: Hand pressure assembly.

Underlay fixed on joists

Installation: Lay the length of the sheets at right angles to the supports so that their top surfaces are aligned. Stagger the end joints and locate them centrally over joists. If sheets are not tongue and grooved provide noggings or trimmer joists to support the edges.

Fixing centres: Maximum 300 mm on each support.

Particleboard and plywood underlay:

- Timber joists: Adhesive and nail fix.
- Steel joists: Fix with countersunk screws.

3.6 FIXING SHEET FLOORING

Sheet flooring fixed on joists

Installation: Lay the length of the sheets at right angles to the supports. Stagger the end joints and locate them centrally over joists. If panels are not tongue and grooved provide noggings or trimmer joists to support the edges.

Fixing centres: Maximum 300 mm on each support.

- Fibre-cement flooring: Fix sheeting to the supports with adhesive and non-corrosive countersunk screws. Fill the screw holes with sealant before fixing. After fixing, stop the screw heads with the same sealant, finished slightly below the sheet surface.
- Particleboard and plywood flooring: Fix sheeting to the supports with adhesive and nail.

Membranes: If sheet flooring is the substrate for a wet area membrane or an external roofing membrane, fix with stainless steel countersunk head screws.

3.7 STRIP FLOOR FIXING

Room environment

General: During fixing and stabilising, operate the heating system of radiant heated or airconditioned rooms at 1.5°C above normal maximum temperature.

Strip flooring

General: Blend floor boards from more than one pack to distribute the colour range and grade features throughout the floor.

Installation: Lay in straight and parallel lines with each board firmly butted to the next and firmly in contact with the subfloor. Cramp sufficient only to bring the boards together and no more than 800 mm of flooring at any one time.

Fixing to softwood joists, battens or underlay: Apply adhesive in addition to nailing.

Strip flooring on sheet underlay:

- On joists or battens: Nail through underlay to joists or battens.
- Direct fix to concrete slab: Secret nail only.

Set-out: Locate joints in boards so that they are evenly and symmetrically distributed and as follows:

- General: Staggered and at least 450 mm apart.
- Butt joints: Centrally on supports.
- End-matched joints: Not in adjacent boards.
- Minimum number of spans across supports: 2.

3.8 COMPLETION

Tightening

General: Tighten bolts, screws and other fixings so that joints and anchorages are secure at the date of practical completion.

Protection

General: Provide protection as follows:

- Floors: With hardboard taped at all butt joints. Do not cover with sheet plastic.
- Stair treads: Full timber or plywood casing.

Spare flooring products

General: Supply an extra 5% of flooring products, to be stored on site as spares.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **372 FLOORING SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 371 FLOORING & DECKING

372 FLOORING SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 SELECTIONS (MERGED WITH FINISHES SCHEDULE)

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

FD51 – TIMBER SPORTS FLOOR – STAGE FLOOR

Property	Description
Drawing Code:	**FD51**
Manufacturer / Supplier:	**SHORELINE**
Product Description:	ASF Horner PR2 System Sprung Timber Flooring
Face/Surface Finish:	TB01 Australian Blackbutt – Clear Finish
Thickness:	20mm on ply layer on battens for total 76mm thick system
Fixings:	To manufacturers recommended details
Expansion Joints:	To manufacturers recommended details. Not less than 1200mm centres.
Coating system:	One coat penetration wood sealer and 3 coats final clear finish. All to manufacturers recommendations and instructions
Skirting:	ASF Vented skirting Matching timber vented skirting to all perimeter walls to be constructed with the same material as selected flooring Provide Suretread ST-100 aluminium or similar thresholds to all abutting floor finishes All skirting to be timber and be easily removable for service maintenance. No fixings are to be placed directly onto the timber sports floor. Vinyl or rubber skirting will not be considered for this application
Locations:	Refer to drawings

2 EXTENT OF WORK

2.1 GENERAL

General

Refer drawings for locations and details of flooring and decking required for the various components of this project.

Under floor setdown: Provide a concrete slab setdown to suit the selcted sprung timber floor system. Provide minimum 1:200 falls in the slab setdown that falls to floor wastes.

Under floor vapour barrier: Provide a full vapour barrier on top of slab (between slab and resilient pads). Vapour barrier to be of 0.15mm high impact resistant polythene. Lap 150 mm and seal the laps

with pressure sensitive tape. Do not commence fixing until the moisture content of the concrete slab is less than 6% when tested to AS 1884,

Turn up vapour barrier at the perimeter of the flooring system. Cut and tape to drainage outlets.

END OF SECTION 372 FLOORING & DECKING SELECTIONS

411 WATERPROOFING – EXTERNAL

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 321 Concrete and 322 Concrete Selections
- 331 Masonry and 332 Masonry Selections
- 621 Cementitious Toppings and 622 Cementitious Toppings Selections

1.2 INTERPRETATION

Additional definitions
General: For the purposes of this worksection the definitions given in AS 4654.1 and AS 4654.2 and the following apply:

- Acrylic - liquid applied: Water based formulations which air dry to form plastic membranes.
- Bitumen: A viscous material from the distillation of crude oil comprising complex hydrocarbons, which is soluble in carbon disulphide, softens when it is heated, is waterproof and has good powers of adhesion. It is produced as a refined by-product of oil.
  - . SBS bitumen: Bitumen modified with Styrene Butadiene Styrene, a thermoplastic rubber that undergoes a phase inversion at elevated temperature and converts to an elastomeric material. The membrane is reinforced with fibreglass or non-woven polyester (NWP).
  - . APP bitumen: Bitumen modified with Atactic (meaning non-crystalline or amorphous) polypropylene wax to form a plastomeric sheet. The membrane is reinforced with fibreglass or non-woven polyester (NWP).
- Bond breakers: A system preventing a membrane bonding to the substrate, bedding or lining.
- Double detail joint: A joint formed by turning up and bonding the horizontal membrane to a vertical substrate and adding an overflashing of membrane material bonded to the vertical substrate and folded over and bonded to the horizontal membrane. In certain situations the double detail can be achieved by bonding an angle profile of membrane material to the junction prior to laying the membrane.
- Elastomer: A polymer having elastic properties similar to rubber.
- PVC membrane: Flexible plastic sheet membrane (vinyl).
- Polyurethane - liquid applied: Water or solvent based formulations which moisture cure to form an elastic rubber membrane.
- Seamless membranes: Membranes applied in liquid or gel form and air cured to form a seamless film.
- Slip sheet: A sheet used to isolate the membrane system from the supporting substrate or from the topping or mortar bedding. The most common material is polyethylene sheeting.
- Substrate: The surface to which a material or product is applied.

1.3 STANDARDS

Membrane materials
Standard: To AS 4654.1

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Membrane design and installation
Standard: To AS 4654.2.

Stormwater drainage
Standard: To AS/NZS 3500.3.

1.4 INSPECTION

Notice
Inspection: Give notice so that inspection may be made as follows:
- Substrate preparation completed.
- Secondary layers preparation completed.
- Before membranes are covered up or concealed.
- Underflashings complete prior to installation of overflashings.
- After flood testing.

1.5 SUBMISSIONS

Execution records
Placing records: Photographically record the application of membranes and information as follows:
- Date.
- Portion of work.
- Substrate preparation.
- Weather during application and curing.
- Protection provided from traffic and weather.

Products documentation
General: Submit copies of product manufacturer's:
- Product technical data sheets.
- Material safety data sheets (MSDS).
- Preventative maintenance procedures.
- Instructions and procedures for the repair of the membrane.

Prototypes
General: Apply waterproofing to 10 m^2 of deck to demonstrate surface preparation, crack and joint treatment, corner treatment, and execution quality. Install final surface finish to demonstrate aesthetic affects and quality of materials and execution.

Samples
Requirement: Submit 300 x 300 mm samples of each type of membrane including the finish of the visible surface.

Shop drawings
Requirement: Submit shop drawings showing the following:
- Junctions with vertical surfaces.
- Drainage details.
- Control joints.
- Flashings.
- Penetrations.
- Corners.
- Terminations and connections.
- Membrane layers.
- Insulation and protection.

2 PRODUCTS AND MATERIALS

2.1 MEMBRANES

Membrane systems
To be proprietary membrane systems having one of the following certifying that the system is suitable for the intended external waterproofing, as follows:

- A current appraisal report issued by CSIRO Building Products and Systems Appraisals.
- A current BRANZ Appraisal Certificate.

2.2 ACCESSORIES

Internal roof outlets
General: Proprietary funnel shaped sump cast into the roof slab, set flush with membrane, with a flat removable grating and provision (e.g. clamp ring) for sealing the membrane into the base of the outlet.

3 EXECUTION AND WORKMANSHIP

3.1 PREPARATION

General
Prepare substrates as follows:

- Fill all cracks in substrates wider than 1.5 mm with a filler compatible with the membrane system.
- Fill voids and hollows in concrete substrates with a concrete mix not stronger than the substrate.
- Remove projections.
- Remove deleterious and loose materials including oils, greases and flaking paint.
- Remove all traces of a concrete curing compound if used.
- Leave the surface free of contaminates, clean and dust free.

Moisture content
Concrete substrates: Cure for min 28 days.

Moisture content: Verify that the moisture content of the substrate is compatible with the water vapour transmission rate of the membrane system by testing to AS 1884 Appendix A.

Test type: select from the following:

- Hygrometer test: Seal a hygrometer to the substrate for more than 16 hours and measure the relative humidity of the air between the instrument and the slab.

Joints and fillets
Internal corners: Provide 45° fillets 50 x 50 mm.

External corners: Round or arris edges.

Movement control joints: Prepare all substrate joints to suit the membrane system.

Priming
Prime the substrates with compatible primers to ensure adhesion of membrane systems.

3.2 APPLICATION

Protection
Damage: Protect membrane from damage during installation and for the period after installation until the membrane achieves its service characteristics that resist damage.

Drains
General: Prevent moisture from tracking under the membranes at drainage locations.

Drains and cages: Provide grates or cages, to prevent blockage from debris. If the finished surface is above the level of the membrane provide a slotted extension piece to bring the grate up to the level of the finished surface.

Overflows: Turn the membranes into the overflow to prevent moisture from tracking behind the membrane.

Sheet joints

Orientation of laps: Lap sheets on the upslope side of the roof fall over sheets on the downslope side.

End laps generally: Stagger end lap joints.

Bituminous sheet membranes:

- Side laps: 75 mm.
- End laps: 100 mm.
- Method: Heat welded.

Synthetic rubber membranes:

- Factory–vulcanized laps more than 40 mm.
- Field side laps more than 50 mm for side laps.
- Field end-laps more than 100 mm for end laps.

PVC membranes:

- Factory welded laps more than 30 mm.
- Field-welded laps:
  - . If used over insulation boards more than 100 mm.
  - . Other instances more than 75 mm overlaps.

Curing of liquid applied systems

General: To the manufacturers' instructions.

Control of movement

General: Provide control joints located over control joints in the substructure.

Fillets and bond breakers: Size to allow the membrane to accommodate movement.

Control joint covers: Install after fixing hobs and membranes.

Bonded membranes: Carry control joints in the substrate through to and into the surface finish.

Membrane terminations

Membrane upturns: Provide upturns above the maximum water level expected from the exposure conditions of rainfall intensity and wind.

- Height: To AS 4654.2 Appendix A.
- Anchoring: Secure sheet membranes along the top edge.
- Edge protection: Protect edges of the membrane.
- Waterproofing above terminations: Waterproof the structure above the termination to prevent moisture entry behind the membrane using cavity flashings, capping, waterproof membranes or waterproof coatings.

Horizontal terminations: Do not provide. Use vertical terminations.

Membrane vertical penetrations

Pipes, balustrades, ducts, and vents: Provide separate sleeves for all pipes, ducts, and vents and have them fixed to the substrate.

Membrane horizontal penetrations

Sleeves: Protect rigid PVC-U conduits and pipes with a sleeve of SBS bitumen in order to seal to the membrane without burning the PVC-U. Do not use high density polyethylene (HDPE), polypropylene (PP) pipes or flexible PVC conduit.

Membrane at balcony doors and windows

Requirement: Install membrane before the fixing of door or window frames.

Membrane upturn:

- Sheltered areas: 40 mm above the finished external floor surface or overflow level, whichever is the higher.

- Exposed areas: 150 mm upturn from the finished external floor level or overflow level, whichever is the higher.

Hobless and flush thresholds: Install membrane before the fixing of door or window frames with a continuous grated drain abutting the external face of the door or window sill.

Membrane around skylights and hatches

Requirement: Install membranes to upstands before the installation of the skylight or hatch.

Membrane at parapets

Requirement: Terminate membrane upstands under parapet flashing or capping giving 75 mm overlap. Do not top fix parapet cappings. Seal heads of fasteners against capping.

Membrane at gutters

Requirement: Terminate membrane over a corrosion resistant metal angle fixed to the gutter support substrate with the vertical leg of the angle turned down into the gutter at least 35 mm.

Membrane to planter boxes

Membrane: Extend root-resistant membrane at least 100 mm vertically above the soil fill level and secure.

Drainage: Grade the base of the planter to adequately sized drainage outlets and terminate the membrane in the outlets.

Drainage riser: Install a riser with drainage slots that extend from the membrane level to the top of the drainage cell. Extend the riser above the soil fill level and finish with a screw cap to provide access for drain clearing.

Protection board: Provide protection board to the full extent of the membrane including areas between soil level and the underside of flashings and cappings.

Drainage cell: Provide geo-filter fabric wrapped drainage cell to the base of the planter and turn geo-filter fabric up drainage riser at least 100 mm above drainage slots.

Cappings and flashings: Provide capping to the tops of planter walls to protect the membrane. Extend the capping to overlap the top of the protection board on the inside face of the planter wall. Where planter walls abut other walls, provide a flashing over the top of the membrane.

Overlaying finishes on membranes

Compatibility: If a membrane is to be overlaid with another system such as tiles, pavers, ballast, insulation or soil, provide an overlaying system that is compatible with and will not cause damage to the membrane.

Bonded or partially bonded systems: If the topping or bedding mortar is to be bonded to the membrane, provide sufficient control joints in the topping or bedding mortar to reduce the movement over the membrane.

Slip sheet: If the topping or bedding mortar is structurally sufficient not to require bonding to the substrate, lay a double slip sheet over the membrane to separate it from the topping or bedding mortar.

Paint coatings: If maintenance pathways are indicated by a paving paint, use a paving paint which is compatible with the membrane.

3.3 FLOOD TEST

General

Application: Perform a flood test before the installation of surface finishes.

Set-up:

- Measure for dryness the wall/floor junction of adjacent spaces and of the slab soffit below using electrical resistance testing to AS 1884 Appendix A.
- Record the result for each area.
- Dam the access openings and seal drainage outlets to allow 50 mm water level but no higher than 25 mm below the weir level of the perimeter flashings.
- Provide temporary overflows of the same capacity as the roof outlets to maintain the flood level.
- Fill space with clean water and leave overnight.

Evaluation:

- Make a visual inspection of the wall/floor junction of adjacent spaces and of the slab soffit below for obvious water or moisture.
- Test the same areas for dryness using a moisture meter, and compare the results to the measurements taken before flooding.

Conformance:

- Evidence of water from the visual test: Failure.
- No visual evidence of water: Proceed with the moisture meter test.
- Increase in test results before and after flooding: Failure.

Records: Submit records of all flood tests.

3.4 COMPLETION

Protection

General: Keep traffic off membrane surfaces until bonding has set or for 24 hours after laying, whichever period is the longer.

Reinstatement: Repair or replace faulty or damaged work. If the work cannot be repaired satisfactorily, replace the whole area affected.

Warranties

Waterproofing: Cover materials and workmanship in the terms of the warranty in the form of interlocking warranties from the supplier and the applicator.

- Form: Against failure of materials and execution under normal environment and use conditions.
- Period: As offered by the supplier.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **412 WATERPROOFING – EXTERNAL SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 411 WATERPROOFING – EXTERNAL

412 WATERPROOFING – EXTERNAL SELECTIONS

4 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

WE01 - WATERPROOF MEMBRANE – LIQUID TYPE 1

Property	Description
Drawing code:	**WE01**
Manufacturer / Supplier:	**ARDEX**
Product Name:	WPM310 Shelterguard semi-permeable façade membrane.
No of layers / coats:	Two (2) minimum – DFT 0.3 mm minimum.
Internal corners and joins in substrate (ie between wall and floor):	Cold joints and mobile joints must incorporate a bond breaker and be reinforced using Ardex Deckweb.
Primer:	Ardex WPM 300 Hydrepoxy waterstop, minimum one (1) coat
Protective finish / cover:	n/a
Method of application:	Nap or textured roller.
	Option:
Manufacturer / Supplier:	**TREMCO**
Product Name:	TREMproof 250GC polyurethane waterproofing membrane
No of layers / coats:	Two (2) minimum – DFT 1.2-1.5 mm not more than 18 hours apart.
Internal corners and joins in substrate (ie between wall and floor):	Apply an adequate flexible polyurethane sealant and tool off to form a solid 45^{o} fillet extending at least 15mm on to adjacent surfaces. Apply membrane (2 coats) over all surfaces to achieve greater than 1.2mm DFT.
Primer:	TREMCO TREMproof 200EC Primer, two (2) coat not more than 3m^{2}per litre, as per manufacturer recommendations.
Protective finish / cover:	Protection board on retaining walls, double layer plastic sheeting as slip sheet under paving, as per manufacturer recommendations.
Method of application:	Brush or roller as recommended by manufacturer.

WE02 - WATERPROOF MEMBRANE – LIQUID TYPE 2

Property	Description
Drawing code:	**WE02**

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Property	Description
Manufacturer / Supplier:	**ARDEX**
Product Name:	WPM179 Single component rubber waterproofing membrane for retaining walls, lift pit walls and planter boxes..
No of layers / coats:	Two (2) minimum – DFT 1.0 mm minimum.
Internal corners and joins in substrate (ie between wall and floor):	Expansion joints and corners should be covered using Ardex waterproofing detail tape.
Primer:	Self priming. Wet concrete should be treated with WPM300.
Protective finish / cover:	Ardex Protection board.
Method of application:	Brush or trowel.
Note:	To lift pit and walls. Install to top blinding layer below concrete footings and continue up to and lap (150mm min) with ground floor waterproof membrane. Allow to fillet transitions between horizontal and vertical junctions. Install bentinite seal centrally along the bottom of the first course joint between the concrete footing and blockwork. Blockwork concrete to have waterproof additive.

5 EXTENT OF WORK

2.1 GENERAL

General
Refer drawings for locations and details of external waterproofing required for the various components of this project. Provide drainage behind retaining walls.

All External retaining walls are to have waterproofing applied and sub soil drainage connected to the stormwater system.

END OF SECTION 412 WATERPROOFING – EXTERNAL SELECTIONS

421 METAL ROOFING & CLADDING

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 341 Structural Steel and 342 Structural Steel Selections
- 351 Light Steel Framing and 352 Light Steel Framing Selections
- 361 Timber Framing and 362 Timber Framing Selections
- 441 Cladding and 442 Cladding Selections
- 471 Insulation & Sarking and 472 Insulation & Sarking Selections

1.2 PERFORMANCE CRITERIA

Ambient climatic conditions
Design rainfall intensity (mm/h) to AS/NZS 3500.3: Refer to DESIGN CRITERIA on SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS

Roof access
Type: Refer 161 ACCESS SAFETY SYSTEMS and 162 ACCESS SAFETY SYSTEMS SELECTIONS.

1.3 INSPECTION

Notice
Inspection: Give notice so that inspection may be made of:

- Roof supports.
- Those parts of the roofing, sarking, vapour barrier, insulation and roof plumbing installation which will be covered up or concealed.

1.4 SUBMISSIONS

Samples
Submit samples of:

- Custom profiled flashings and cappings.

2 PRODUCTS AND MATERIALS

2.1 COMPONENTS

Fasteners
Self-drilling screws:

- Corrosion resistance class to AS 3566.2: As recommended by manufacturer.

Finish: Prefinish exposed fasteners with an oven baked polymer coating to match the roofing material.

Fastenings to timber battens: Provide fastenings just long enough to penetrate the thickness of the batten without piercing the underside.

Profiled fillers
Provide: Purpose-made closed cell polyethylene foam profiled to match the roofing profile.
Locate profiled fillers under flashings to:
- Ridges.
- Eaves.
- Lapped joints in roof sheeting.
- Gutter edges

2.2 SHEET METAL ROOFING & CLADDING

Standards
Design and installation: To AS 1562.1.
Stainless steel: To ASTM A240/A240M.
Prepainted and organic film/metal laminate products: To AS/NZS 2728.

2.3 ROOF PLUMBING

General
Standard: To AS/NZS 3500.3.
Requirement: Provide the flashings, cappings, gutters, rainwater heads, outlets and downpipes necessary to complete the roof system.

Materials
Metal rainwater goods: To AS/NZS 2179.1.
PVC rainwater goods and accessories: To AS/NZS 3500.3.

Flashings and cappings
Standard: To AS/NZS 2904.
Material and colour: Match roof sheeting.
Rib notching: Match roof sheeting.

Proprietary ridge and barge cappings
Material and colour: Match roof sheeting.

2.4 ROOF VENTILATORS

Description
General: A proprietary roof ventilator system including framing, fixing, trim, seals, accessories and flashings.
Finish: Match adjacent roofing.

2.5 ROOF PLANT ACCESS

Walkways
Description: A proprietary roof walkway system including fixings.

3 EXECUTION AND WORKMANSHIP

3.1 STORAGE AND HANDLING

Sheet metal roofing
Storage: Store metal roofing materials away from uncured concrete and masonry, on a level base. Do not store materials in contact with other materials which may cause staining, denting or other surface damage.
Handling: Handle roofing materials as follows:
- Use gloves when handling precoated metal roofing material.
- Use soft soled shoes when fixing or working on roofs.

- Protect edges and surfaces from damage. Do not drag sheets across each other or over other materials.

3.2 INSTALLATION

Protection

General: Keep the roofing and rainwater system free of debris and loose material during construction, and leave them clean and unobstructed on completion. Repair damage to the roofing and rainwater system.

Touch up: If it is necessary to touch up minor damage to prepainted metal roofing, do not overspray onto undamaged surfaces.

Thermal movement

Provide for thermal movement in the roof installation and the structure, including movement in joints and fastenings.

Tolerances

Conform to the following:

Property	Tolerance criteria: Permitted deviation (mm)
Spacing of supporting members	± 5 mm on the nominated support member spacing
Vertical or horizontal misalignment at the abutting ends of sheets	≤ 2 mm
Tops of supporting members in a plane parallel to the nominated roof slope	≤ 7 mm smooth deviation per metre length of supporting member

3.3 COMPATIBILITY OF METALS AND ALLOYS

Metal separation

Prevent direct contact between incompatible metals, and between green hardwood or chemically treated timber and aluminium or coated steel, by either:

- Applying an anti-corrosion, low moisture transmission coating to contact surfaces.
- Inserting a separation layer.

Fixings and fasteners

Ensure all fixings and fasteners are compatible with the roofing and/or cladding materials used.

Compatibility and acceptability

For convenience the following tables contain details of the compatibility and acceptability of various metals and alloys most commonly used in roofing and cladding situations. Specific manufacturers' recommendations and/or instructions should take precedence over these recommendations. If that is the case, provide written confirmation from the manufacturer that the materials used are compatible or acceptable in the final installation.

Compatibility of direct contact between metals or alloys

	ACCESSORIES OR FASTENERS OR UPPER SURFACE								
ROOF DRAINAGE SYSTEM COMPONENTS AND ANY METAL CLADDING	ZINCALUME	GALVANISED (ZINC COATED STEEL)	ZINC	COLORBOND, COLORBOND ULTRA, COLORBOND METALLIC	COLORBOND STAINLESS	STAINLESS STEEL	ALUMINIUM ALLOYS	COPPER & COPPER ALLOYS*	LEAD
ZINCALUME	YES	YES	YES	YES	NO	NO	YES	NO	NO

GALVANISED (ZINC COATED STEEL)	YES	YES	YES	YES	NO	NO	YES	NO	NO
ZINC	YES	YES	YES	YES	NO	NO	YES	NO	NO
COLORBOND, COLORBOND ULTRA, COLORBOND METALLIC	YES	YES	YES	YES	NO	NO	YES	NO	NO
COLORBOND STAINLESS STEEL	NO	NO	NO	NO	YES	YES	NO	NO	NO
STAINLESS STEEL	NO	NO	NO	NO	YES	YES	NO	NO	NO
ALUMINIUM ALLOYS	YES	YES	YES	YES	NO	NO	YES	NO	NO
COPPER & COPPER ALLOYS*	NO	NO	NO	NO	NO	NO	NO	YES	NO
LEAD	NO	NO	NO	NO	NO	NO	NO	YES	YES

Acceptability of drainage from an upper surface to a lower metal surface

LOWER ROOF DRAINAGE SYSTEM MATERIAL	UPPER CLADDING OR ROOF DRAINAGE SYSTEM MATERIAL									
	ZINCALUME	GALVANISED (ZINC COATED STEEL)	ZINC	COLORBOND, COLORBOND ULTRA, COLORBOND METALLIC	COLORBOND STAINLESS	STAINLESS STEEL	ALUMINIUM ALLOYS	COPPER & COPPER ALLOYS*	LEAD	GLAZED ROOF TILES, GLASS AND PLASTIC
ZINCALUME	YES	YES	YES	YES	YES	YES	YES	NO	NO	YES
GALVANISED (ZINC COATED STEEL)	NO	YES	YES	NO	NO	NO	NO	NO	YES	NO
ZINC	NO	YES	YES	NO	NO	NO	NO	NO	YES	NO
COLORBOND, COLORBOND ULTRA, COLORBOND METALLIC	YES	YES	YES	YES	YES	NO	YES	NO	NO	YES
COLORBOND STAINLESS STEEL	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
STAINLESS STEEL	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
ALUMINIUM ALLOYS	YES	YES	YES	YES	YES	YES	YES	NO	NO	YES
COPPER & COPPER ALLOYS*	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
LEAD	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

3.4 SAFETY MESH

Standard
General: To AS/NZS 4389.

3.5 SHEET METAL ROOFING & CLADDING

Roof sheet installation
Laying start location: As recommended by Manufacturer

Accessories: Provide material with the same finish as roofing sheets.

Expansion joints: As recommended by Manufacturer – if required, advise Superintendent and seek approval for locations and types.

3.6 BUILDING ELEMENTS

Ridges and eaves

Treat ends of sheets as follows:

- Project sheets 50 mm into gutters.
- Close off ribs at bottom of sheets using mechanical means or with purpose-made fillers or end caps.
- Turn pans of sheets up at tops and down into gutters by mechanical means.
- Provide pre-cut notched eaves flashing and bird proofing where necessary.
- Close off ridges with purpose-made ridge fillers of closed cell polyethylene.

Ridge and barge

Capping: Finish off along ridge and verge lines with purpose-made ridge capping or barge rolls.

Fold and cut ridge

General: Cut ribs and fold sheet over wall.

Capping: Install and seal mansard cover flashings to ribs. Cover flashings to match roof sheeting. Refer details.

End laps

General: Where end laps are unavoidable, and the sheet profile is not suitable for interlocking or contact end laps, construct a stepped type lap.

Length of lap (mm): As recommended by Manufacturer.

3.7 ROOF PLUMBING

Jointing sheet metal rainwater goods

Butt joints: Make joints over a backing strip of the same material.

Soldered joints: Do not solder COLORBOND® or ZINCALUME®.

Sealing: Seal fasteners and mechanically fastened joints. Fill the holes of blind rivets with silicone sealant.

Flashings

Installation: Flash roof junctions, upstands, abutments and projections through the roof. Preform to required shapes where possible. Notch, scribe, flute or dress down as necessary to follow the profile of adjacent surfaces. Mitre angles and lap joints 150 mm in running lengths. Provide matching expansion joints at 6 m maximum intervals.

Upstands: Flash projections above or through the roof with two part flashings, consisting of a base flashing and a cover flashing, with at least 100 mm vertical overlap. Provide for independent movement between the roof and the projection.

Wall abutments: Provide overflashings where roofs abut walls, stepped to the roof slope in masonry and planked cladding, otherwise raking.

- In masonry: Build into the full width of the outer leaf. Turn up within cavity, sloping inward across the cavity and fixed to or built in to the inner leaf at least 75 mm above.
- In concrete: Turn 25 mm into joints or grooves, wedge at 200 mm centres with compatible material and point up.

Fixing to masonry or concrete: Step in courses to the roof slope. Interleave with damp proof course, if any.

Fixing to pipes: Solder, or seal with neutral cured silicone rubber and either of the following:

- Secure with a clamping ring.
- Provide a proprietary flexible clamping shoe with attached metal surround flashing.

Gutters

General: Prefabricate box gutters. Form stop ends, downpipe nozzles, bends and returns. Dress downpipe nozzles into outlets. Provide overflows to prevent back-flooding.

Gutter and sump support: Provide framing and lining to support valley gutters, box gutters and sumps. Line the whole area under the gutters and sumps.

Valley gutters: Profile to suit the valley boarding. Turn back both edges 180° x 6 mm radius. Nail or screw to the valley boarding at the top end to prevent the gutter creeping downwards.

Soaker gutters: Profile to suit – refer details.

Expansion joints: Provide expansion joints in guttering longer than 30 m:

Downpipes

General: Prefabricate downpipes to the required section and shape where possible. Connect heads to gutter outlets and, if applicable, connect feet to rainwater drains.

Access cover: Provide a removable watertight access cover at the foot of each downpipe stack.

Downpipe support: Provide supports and fixings for downpipes to architectural detail.

Internal downpipes

Access: Provide access openings as follows:

- At each junction and bend.
- At the foot of each stack.
- At every second floor level.

Acoustic insulation: Mineral fibre pipe insulation 50 mm thick, spirally bound on with 1.5 mm wire at 150 mm pitch.

Building in: If pipes are built into masonry or concrete, spiral wrap the pipe (and insulation, if any) with building paper.

Rainwater disposal

System: Refer HYDRAULIC SERVICES drawings for details of connection to stormwater systems

3.8 TESTING

Site tests

Internal downpipes: Test each stack hydrostatically in stages, each test to run over two storeys high for two hours. Remedy defects and retest if necessary.

3.9 COMPLETION

Cleaning

Remove: Excess debris, metal swarf, solder, sealants and unused materials.

Clean off: Exposed metal surfaces that interfere with uniform weathering or oxidisation.

Replace: Materials that have been damaged or deteriorated.

Roof plumbing: Clean out spoutings, gutters and rainwater pipes after completion of roof installation.

Warranties

Roofing and cladding materials: Submit the manufacturer's published product warranties.

Building manual

On completion submit a manual of recommendations from the manufacturer or supplier for the maintenance of the roofing & cladding systems including, frequency of inspection and recommended methods of access, inspection, cleaning, repair and replacement.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **422 METAL ROOFING & CLADDING SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 421 METAL ROOFING & CLADDING

422 METAL ROOFING & CLADDING SELECTIONS

6 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

MR02 - METAL ROOF SHEETING - RIBBED

Property	**Description (2 alternatives acceptable)**	
Drawing code (v1.01):	**MR02**	
Manufacturer / Supplier:	**BLUESCOPE LYSAGHT**	**STRAMIT**
Product Name:	Trimdek	Monoclad
Profile / Code:	Ribbed roof sheeting	Ribbed roof sheeting
Surface finish:	Colorbond	Colorbond
Thickness / BMT (mm):	0.48mm	0.48mm
Width / cover:	762mm	762mm
Minimum roof pitch:	4°	4°
Colour:	Refer FINISHES SELECTION SCHEDULE	
Fixings:	Crest fixed with screws in accordance with manufacturer's recommendations	

MR06 - METAL WALL & SOFFIT CLADDING - CORRUGATED

Property	**Description (2 alternatives acceptable)**	
Drawing code (v1.01):	**MR06**	
Manufacturer / Supplier:	**BLUESCOPE LYSAGHT**	**STRAMIT**
Product Name:	Custom Orb	Corrugated
Profile / Code:	Corrugated roof sheeting	Corrugated roof sheeting
Surface finish:	Colorbond	Colorbond
Thickness / BMT (mm):	0.42mm	0.42mm
Width / cover:	762mm	762mm
Colour:	Refer FINISHES SELECTION SCHEDULE	
Fixings:	Valley fixed with screws in accordance with manufacturer's recommendations	

MR08 - METAL WALL CLADDING - RIBBED

Property	Description (2 alternatives acceptable)
Drawing code:	**MR08**
Manufacturer / Supplier:	**BLUESCOPE LYSAGHT**
Product Name:	Kliplok
Profile / Code:	Ribbed wall cladding
Surface finish:	Colorbond
Thickness / BMT (mm):	0.48mm BMT
Width / cover:	700mm
Colour:	Refer FINISHES SELECTION SCHEDULE
Fixings:	Fixed in accordance with manufacturer's recommendations specifically for this site.

MR41 – GUTTER EAVES – TYPE 1 - 150MM HALF ROUND

Property	Description
Drawing Code:	**MR41**
Manufacturer / Supplier:	**EZIFORM**
Product Name:	Eziform ™ Half round gutter
Material:	0.55mm BMT colorbond steel
Surface finish:	Colorbond ®
Size (mm):	150mm diameter
Colour:	Refer FINISHES SELECTION SCHEDULE and DRAWINGS
Fixings:	Heavy duty A4 aluminium external brackets spaced and fixed in accordance with manufacturer's recommendations.

MR42 – GUTTER EAVES – TYPE 2 - 200MM HALF ROUND

Property	Description
Drawing Code:	**MR42**
Manufacturer / Supplier:	**EZIFORM**
Product Name:	Eziform ™ Half round gutter
Material:	0.55mm BMT colorbond steel
Surface finish:	Colorbond ®
Size (mm):	200mm diameter
Colour:	Refer FINISHES SELECTION SCHEDULE and DRAWINGS
Fixings:	Heavy duty A4 aluminium external brackets spaced and fixed in accordance with manufacturer's recommendations.

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MR43 – GUTTER EAVES – TYPE 3 - 300MM HALF ROUND

Property	Description
Drawing Code:	**MR43**
Manufacturer / Supplier:	**EZIFORM**
Product Name:	Eziform ™ Half round gutter
Profile / Code:	0.55mm BMT colorbond steel
Surface finish:	Colorbond ®
Size (mm):	300mm diameter
Colour:	Refer ARCHITECTURAL DRAWINGS
Fixings:	Heavy duty A4 aluminium external brackets spaced and fixed in accordance with manufacturer's recommendations.

MR46 – GUTTER – BOX TYPE 1

Property	Description
Drawing Code:	**MR45**
Manufacturer / Supplier:	**CUSTOM**
Product Name:	Folded flat sheet with fillets at bottom to reduce folded stress on metal sheet.
Profile / Code:	Rectangular Refer to details.
Surface finish:	Colorbond.
Size (mm):	Refer to detail.
Thickness / BMT (mm):	0.55 BMT Gutter dimensions - refer to drawings Sump above each downpipe, soffit lining bulkhead conceal sump. Splitter overflows required at each sump.
Colour:	Colorbond (match adjacent roof colour).
Support and Fixings:	Corrugated colorbond sheeting supported on adjustable gutter straps.

MR51– DOWNPIPE – 100MM DIA ZINCALUME

Property	Description	
Drawing Code:	**MR51**	
Manufacturer / Supplier:	**LYSAGHT**	**STRAMIT**
Surface finish:	Colorbond	
Colour:	Refer ARCHITECTURAL DRAWINGS, FINISHES SELECTION WORKSECTIONS and FINISHES BOARD SCHEDULE	
Fixings:	Astragals of similar material at max 1800mm centres fixed to downpipe and support	
	Provide min 1.6mm galvanised steel DP protection or first 2100mm above ground	

MR52 – DOWNPIPE – 150MM DIA ZINCALUME

Property	Description	
Drawing Code:	**MR52**	
Manufacturer / Supplier:	**LYSAGHT**	**STRAMIT**
Surface finish:	Colorbond	
Colour:	Refer ARCHITECTURAL DRAWINGS, FINISHES SELECTION WORKSECTIONS and FINISHES BOARD SCHEDULE	
Fixings:	Astragals of similar material at max 1800mm centres fixed to downpipe and support	
	Provide min 1.6mm galvanised steel DP protection or first 2100mm above ground	

MR53 – DOWNPIPE – 225MM DIA ZINCALUME

Property	Description	
Drawing Code:	**MR53**	
Manufacturer / Supplier:	**LYSAGHT**	**STRAMIT**
Surface finish:	Colorbond	
Colour:	Refer to ARCHITECTURAL DRAWINGS, FINISHES SELECTION WORKSECTIONS and FINISHES BOARD SCHEDULE	
Fixings:	Astragals of similar material at max 1800mm centres fixed to downpipe and support	
	Provide min 1.6mm galvanised steel DP protection or first 2100mm above ground	

MR61 - DP PROTECTION – SMALL

Property	Description
Drawing Code:	**MR61**
	Provide min 1.6mm galvanised steel DP protection for first 2100mm above ground

MR62 - DP PROTECTION – LARGE

Property	Description
Drawing Code:	**MR62**
	Provide min 1.6mm galvanised steel DP protection for first 2100mm above ground

MR71 – FASCIA – METAL FACED CFC

Property	Description
Drawing Code:	**MR71**
Manufacturer / Supplier:	**CUSTOM**

Property	Description
Product Name:	Compressed fibre cement fascia approx. 18mm thick or as shown on detail, clad with folded Colorbond to full face, bottom edge and 20mm return to back of fascia. Provide additional folds if necessary to avoid oil canning.
Profile / Code:	Rectangular
Surface finish:	Colorbond®
Size (mm):	Depth as noted on drawings.
Colour:	Refer FINISHES SELECTION SCHEDULE and DRAWINGS
Fixings:	Fix fascia as detailed. Fit Colorbond facing over fascia and fix so fixings are not visible when gutter/ flashing is fitted.

MR91 – FLASHINGS AND TRIMS

Property	Description
Drawing Code:	**MR91**
Manufacturer / Supplier:	To match roofing and / or cladding manufacturer
Profile / Code:	Profiles to suit relevant locations and requirements
Surface finish:	To match adjacent roofing / cladding
Size (mm):	0.7mm BMT. Size of flashings and trims to be in accordance with manufacturer's recommendations
Colour:	To match adjacent roofing / cladding
Fixings:	In accordance with manufacturer's recommendations and instructions.

MR92 – GUTTER GUARD

Property	Description
Drawing Code:	**MR92**
Manufacturer / Supplier:	**BLUE MOUNTAIN Co**
Product Name:	Custom made. Leaf gutter guards to all gutters.
Colour:	Colour to match adjacent roof sheeting.
Profile / Code / Size:	2mm aluminium
Location:	All eaves gutters & box gutters

MR94 – ROOF VENTILATOR

Property	Description
Drawing Code:	**MR94**
Details:	Refer Mechanical Services drawings and specification. Generally, powered ventilators for the Hall and to evacuate heat from ceiling spaces where required by mechanical assessment and EFSG requirements.

Property	Description
Coordination:	Coordinate roof ventilators, roof mounted PV cells and roof safety anchor points.
Note:	Provide tray flashing up to new and existing roof ridge for roof penetrations to new and existing roofs.

MR96 – ROOF ACCESSORY - FLEXIBLE FLASHINGS TO PIPE PENTRATING ROOF

Property	Description
Drawing Code:	**MR96**
Product Name:	**DEKTITE**
Profile:	DEKS Industries
Finish:	Colour EPDM to suit roof sheeting. Lap and seal as per the manufacturer's recommendations.
Joints:	Seal to roof as per the manufacturer's recommendations.

2 EXTENT OF WORK

2.1 GENERAL

General
Refer drawings for locations and details of roofing and cladding required for the various components of this project.

END OF SECTION 422 METAL ROOFING & CLADDING SELECTIONS

441 CLADDING

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 341 Structural Steel and 342 Structural Steel Selections
- 351 Light Steel Framing and 352 Light Steel Framing Selections
- 361 Timber Framing and 362 Timber Framing Selections
- 421 Metal Roofing & Cladding and 422 Metal Roofing & Cladding Selections
- 471 Insulation & Sarking and 472 Insulation & Sarking Selections

1.2 INTERPRETATION

Additional abbreviations
General: For the purposes of this worksection the following abbreviations apply:

- AAC: Autoclaved aerated concrete.
- CFC: Compressed fibre cement.
- EIFS: External insulated finishing system.

1.3 PERFORMANCE CRITERIA

Bushfire prone areas
Level of construction to AS 3959-1999

1.4 RESPONSIBILITIES

General
Requirement: Provide lightweight external wall cladding and associated work, as documented.

1.5 INSPECTION

Notice
Inspection: Give notice so that inspection may be made of the following:

- Framing, sarking, vapour barrier and insulation before they are covered up or concealed.

1.6 SUBMISSIONS

Building manual
General: Submit manufacturer's published use, care and maintenance requirements.

Samples
Finish: Submit samples of the cladding material showing the range of variation available.

Subcontractors
Seamed sheet metal cladding: Submit evidence of experience with non-ferrous cladding installation.

Tests
Type tests: Submit results as follows:

- Metal cladding general tests: Cladding and fastenings to AS 1562.1 for resistance to wind pressure.

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- Metal cladding in cyclonic regions to AS/NZS 1170.2: Cladding and fastenings to AS 1562.1 clause 5.6.
- Fibre cement cladding: Sheeting and fastenings to AS/NZS 1562.2 for resistance to wind forces.

Warranties
Requirement: Submit the following:
Cladding materials: Submit the manufacturer's published product warranties.

2 PRODUCTS AND MATERIALS

2.1 SHEET METAL CLADDING

General
Refer 421 METAL ROOFING & CLADDING

2.2 FIBRE CEMENT CLADDING & CLADDING SYSTEMS

Fibre cement
Standard: To AS/NZS 2908.2.
Cladding, eaves and soffit linings: Type A Category 3 (modulus of rupture ≥ 7 MPa).
Compressed cladding: Type A Category 5 (modulus of rupture ≤ 18 MPa).
- Edges: Square.

2.3 COMPONENTS

Flashings
Standard: To AS/NZS 2904.
Material: Zincalume
Finish: Colorbond
Colour: Refer **EXTERNAL FINISHES AND COLOURS SCHEDULE**

2.4 TOLERANCES

Tolerances
Conform to the following to the **Tolerances table**:

Tolerances table

Property	Tolerance criteria: Permitted deviation (mm)
Spacing of supporting members	± 5 mm on the nominated support member spacing
Vertical or horizontal misalignment at the abutting ends of cladding	≤ 2 mm

3 EXECUTION AND WORKMANSHIP

3.1 CONSTRUCTION GENERALLY

Substrates or framing
Before fixing cladding check and, if necessary, adjust the alignment of substrates or framing.

Fixing
Nail to timber framing, screw to steel framing.

Accessories and trim
Provide accessories and trim necessary to complete the installation.

Fixing eaves and soffit lining
Nailing: 150 mm centres to bearers at maximum 450 mm centres.

Metal separation
Prevent direct contact between incompatible metals, and between green hardwood or chemically treated timber and aluminium or coated steel, by either:

- Applying an anti-corrosion, low moisture transmission coating to contact surfaces.
- Inserting a separation layer.

3.2 PROPRIETARY SYSTEMS OR PRODUCTS

Product fixing
Fix proprietary systems to the manufacturer's recommendations.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **442 CLADDING SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 441 CLADDING

442 CLADDING SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 SELECTIONS (MERGED WITH FINISHES SCHEDULE)

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

1.2 METAL WALL CLADDING

Refer METAL ROOFING & CLADDING for details regarding metal wall cladding

CL41 – PREFINISHED SHEETS - FC TYPE 1

Property	Description	
Drawing code:	**CL41**	
Supplier:	**CEMITEL**	
Product Name:	Barestone	Surround
Profile / Code:	Flat sheets	
Surface finish:	Prefinished	
Thickness (mm):	9mm	
Panel size:	900/1200mm x 2400mm nom TBC	
Joints:	10mm expressed joints between panels. Refer drawings for set out.	
Colour:	Refer to SPECIFICATIONS SCHEDULE & MATERIAL SELECTIONS	
Fixings:	Countersunk screws in accordance with Manufacturer's directions (Option 3).	

CL42 – PREFINISHED SHEETS - FC TYPE 2

Property	Description	
Drawing code:	**CL42**	
Supplier:	**EQUITONE**	
Product Name:	Natura	Tectiva
Profile / Code:	Flat sheets	
Surface finish:	Prefinished	
Thickness (mm):	8mm	
Panel size:	900/1200mm x 2400mm nom TBC	
Joints:	10mm expressed joints between panels. Refer drawings for set out.	
Colour:	Refer to SPECIFICATIONS SCHEDULE & MATERIAL SELECTIONS	
Fixings:	Countersunk screws in accordance with Manufacturer's directions (Option 3).	

CL43 - PREFINISHED SHEETS - FC TYPE 3

Property	Description
Drawing code:	**CL43**
Supplier:	**FAIRVIEW**
Product Name:	Genesis Signature Range
Profile / Code:	Flat sheets
Surface finish:	Prefinished
Thickness (mm):	8mm
Panel size:	900/1200mm x 2400mm nom TBC
Joints:	10mm expressed joints between panels. Refer drawings for set out.
Colour:	Refer to SPECIFICATIONS SCHEDULE & MATERIAL SELECTIONS
Fixings:	Countersunk screws in accordance with Manufacturer's directions (Option 3).

CL44 - PREFINISHED SHEETS - FC TYPE 4

Property	Description
Drawing code:	**CL44**
Supplier:	**FAIRVIEW**
Product Name:	Genesis Range
Profile / Code:	Flat sheets
Surface finish:	Prefinished
Thickness (mm):	8mm
Panel size:	900/1200mm x 2400mm nom TBC
Joints:	10mm expressed joints between panels. Refer drawings for set out.
Colour:	Refer to SPECIFICATIONS SCHEDULE & MATERIAL SELECTIONS
Fixings:	Countersunk screws in accordance with Manufacturer's directions (Option 3).

CL51 - FC SOFFIT SHEET – V JOINTS

Property	Description (2 alternatives acceptable)	
Drawing code:	**CL51**	
Supplier:	**JAMES HARDIE PTY LTD**	**CEMINTEL**
Product Name:	Hardiflex	Cemintel cladding sheets
Profile / Code:	Flat sheets	
Surface finish:	Paint finish as specified	
Thickness (mm):	6.0mm	

Property	Description (2 alternatives acceptable)
Drawing code:	**CL51**
Panel size:	Generally 900 wide flat sheets in sizes as shown. Refer drawings for layout of sheets and joins
Joints:	V joints
Fixings:	Self-embedding screws as recommended by the Manufacturer.

See 512 LC Linings & Ceiling Selections for all other FC Finishes

2 EXTENT OF WORK

2.1 GENERAL

General
Refer drawings for locations and details of cladding required for the various components of this project.

Provide non-conductive and fire rated thermal break strips between external steel stud walls and steel tops hats used for fixing CFC and metal wall cladding.

END OF SECTION 442 CLADDING SELECTIONS

451 GLAZING

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 341 Structural Steel and 342 Structural Steel Selections
- 351 Light Steel Framing and 352 Light Steel Framing Selections
- 361 Timber Framing and 362 Timber Framing Selections
- 461 Doors & Hardware and 462 Doors & Hardware Selections

Manufacturer's documents
Manufacturer's and supplier's documents related to this worksection are:

- Cleaning and handling of glass.
- Thermal safety.
- Heat soaking.
- Glass processing.
- Warranties.

1.2 INTERPRETATION

General
Refer to 121 GENERAL REQUIREMENTS for a comprehensive list of abbreviations and definitions used in this contract / specification.

Additional abbreviations
General: For the purposes of this worksection the abbreviations given in AS 4145.1 Appendix D and the following abbreviations apply:

- AWA: Australian Window Association.

Additional definitions
General: For the purposes of this worksection the definitions given in AS 4145.1 Section 2 and the following definitions apply:

- Louvres - Continuous: Louvres that run continuously past, and are supported by, concealed framing or brackets.
- Louvres - Horizontal: Louvres that span between frame stiles, mullions or vertical supports.
- Louvres - Vertical: Louvres that span between frame heads and sills, or horizontal supports.
- U-value: Total U-value as defined by BCA and determined in conformance with NFRC 100.
- SHGC: Solar heat gain coefficient as defined by BCA and determined in conformance with NFRC 200.

1.3 STANDARDS

General
Selection and installation: To AS 2047.

Building classification: Refer 112 PRELIMINARIES SCHEDULES

Glazing
Glass type and thickness: To AS 1288, where no glass type or thickness is nominated.

Materials and installation: To AS 1288.

Quality requirements for cut-to-size and processed glass: To AS/NZS 4667.

Terminology for work on glass: To AS/NZS 4668.

1.4 INSPECTION

Notice
Inspection: Give notice so that inspection may be made of the following:

- Glass products before they are installed.

1.5 SUBMISSIONS

Certification
Certification: Submit an engineers' certificate confirming compliance with AS 1288.

Samples
General: Submit samples of glazing materials, each at least 200 x 200 mm, showing the visual properties and range of variation, if any, for each of the following:

- Tinted or coloured glass or glazing plastics.
- Surface modified or surface coated glass.
- Patterned or obscured glass or glazing plastics.

Shop drawings
Requirement: Submit shop drawings showing the following:

- Method of glazing.
- Rebate depth.
- Edge restraint.
- Clearances and tolerances.
- Glazing gaskets and sealant beads.

Installation
Glazing: Provide certification from the fabricator that the method of glazing, the selection of sealant systems and the conditions next to the glass are:

- Compatible with the edge seal of insulating glass units (IGUs) and self-cleaning glass.
- Will not be detrimental to the long term structural performance, weathering capabilities and visual qualities of the glass.

Glazier's data: Submit the glazing subcontractor's statement certifying:

- A satisfactory thermal safety assessment.
- That the assembled frame provides for the required glazing clearances and tolerances and maximum and minimum joint configurations, having regard to the bow, or warp characteristics of the required glass types, and is ready for glazing.

Site glazing: If site glazing is intended, submit proposals.

Subcontractors
General: Submit names and contact details of proposed manufacturers and installers. Have windows and glazed doors installed by their manufacturer or by a subcontractor recommended by the manufacturer.

2 PRODUCTS AND MATERIALS

2.1 GENERAL

Standards
Flashings: To AS/NZS 2904.

Aluminium extrusions: To AS/NZS 1866.

Heat soaking
Requirement: All toughened glass products.

Storage and handling
Storage: Store glass and glazing materials in a clean, dry area unaffected by weather, to the manufacturer's recommendations. Protect from building materials and loose debris such as wet plaster, mortar, paint and welding splatter.

Handling: Handle glass to the manufacturer's recommendations.

2.2 GLASS AND GLAZING

Performance
Glass: Free from defects that detract from appearance or interfere with performance under normal conditions of use.

Glazing plastics: Free from surface abrasions and warranted by the manufacturer for 10 years against yellowing or other colour change, loss of strength and impact resistance, and general deterioration.

Heat soaking
Requirement: Heat soak the following:

- Toughened glass.
- Heat strengthened glass with a surface compression greater than 52 MPa tested to ASTM C1279 (2013).

Standard: To EN 14179-1 (2016).

Marking: To EN 14179-1 (2016) or certified by the manufacturer to AS 1288 (2021) clause 3.8.2.

Safety glazing materials
Standard: To AS/NZS 2208 (1996).

Type: Grade A to AS 1288 (2021).

Certification: Required.

- Certification provider: An organisation accredited by the Joint Accreditation System of Australia and New Zealand (JAS-ANZ).

Marking: To AS 1288 (2021) clause 5.23.

Heat strengthened glass
Requirement: Heat strengthened annealed glass that requires extra strength and thermal resistance.

Standard: To ASTM C1048 (2018).

Noise reducing glazed assemblies
Identification: Label each panel with a legible non-permanent mark, self-destroying when removed, stating and certifying the R_w rating, and identifying the testing authority. Remove when directed.

2.3 GLAZING MATERIALS

General
Glazing materials (including putty, glazing compounds, sealants, gaskets, glazing tapes, spacing strips, spacing tapes, spacers, setting blocks and compression wedges): Appropriate for the conditions of application and the required performance.

Primer
Compatibility: Apply the manufacturer's recommended primer to the surfaces in contact with sealant materials.

2.4 ANCILLARY COMPONENTS AND FITTINGS

Extruded gaskets and seals

General: Provide seals, as documented.

Materials: Non-cellular (solid) elastomeric seals as follows:

- Rubber products: Neoprene, ethylene propylene diene monomer (EPDM) or silicone rubber.
- Flexible polyvinyl chloride (PVC): E type compounds, colourfastness grade B.

Pile weatherstrips

Standard: To AAMA 701/702 (2011).

Material: Polypropylene or equivalent pile and backing, low friction silicone treated, ultraviolet stabilised.

Finned type: A pile weatherseal with a central polypropylene fin bonded into the centre of the backing rod and raised above the pile level.

Jointing materials

Compatibility: Provide recommended jointing and pointing materials which are compatible with each other and with the contact surfaces and non staining to finished surfaces. Do not provide bituminous materials on absorbent surfaces. It is the glazier's responsibility to consult with the sealant supplier to ensure the sealant used is compatible with the glass supplied, especially laminated glass.

Glazing tapes

Standards: To AAMA 800, Products coded 804.3, 806.3, 807.3, as applicable.

Elastomeric sealants

General: Provide elastomeric sealants in conformance with the **manufacturer's requirements.**

Sealing compound (polyurethane, polysulphide, acrylic):

- Single component: Type II, Class A.
- Multi component: To ASTM C920.

Sealing compound (silicone):

- Single component: Class A.
- Multi component: To ASTM C920.

Sealing compound (butyl): To ASTM C1311.

Glazing compounds: To AAMA 802.3 (Types I or II), or 805.2, as applicable.

Narrow joint seam sealer: To AAMA 800, Products coded 803.3.

Exterior perimeter sealing compound: To AAMA 800.

Non drying sealant: To AAMA 800.

Expanded cellular glazing tape: To AAMA 800.

Very high bond pressure sensitive tapes: To ASTM D897, ASTM D1002, ASTM D3330M, ASTM D3652M, ASTM D3654M, and ASTM D3715M.

Control joints

Depth of elastomeric sealant: One half the joint width, or 6 mm, whichever is the greater.

Foamed materials (in compressible fillers and backing rods): Closed-cell or impregnated types which do not absorb water.

Bond breaking: Provide backing rods, and other back-up materials for sealants, which do not adhere to the sealant.

2.5 GLASS IDENTIFICATION

Safety glazing materials

Identification: Identify each piece or panel, to AS 1288.

Noise reducing glazed assemblies

Identification: Label each panel with a legible non-permanent mark, self-destroying when removed, stating and certifying the R_w rating, and identifying the testing authority. Remove when directed.

3 EXECUTION AND WORKMANSHIP

3.1 GLASS PROCESSING

General

Processing: Perform required processes on glass, including cutting, obscuring, silvering and bending. Form necessary holes, including for fixings, equipment, access holes and speaking holes. Process exposed glass edges to a finish not inferior to ground arrised.

3.2 INSTALLATION

Glazing

General: Install the glass so that:

- Each piece is held firmly in place by permanent means which enable it to withstand the normal loadings and ambient conditions at its location without distortion or damage to glass and glazing materials.
- Building movements are not transferred to the glass.
- External glazing is watertight and airtight.

Temporary marking: Use a method which does not harm the glass. Remove marking on completion.

Toughened glass: Do not cut, work, or permanently mark after toughening. Use installation methods which prevent the glass making direct contact with metals or other non-resilient materials.

Heat absorbing glass: In locations exposed to direct sunlight, provide wheel cut edges free from damage or blemishes, with minimum feather.

Preglazing

Window assemblies and glazed doors: Supply inclusive of glazing, shop preglazed.

Site glazing

Minimum dimensional requirements: Edge clearance, edge cover, front clearance and back clearance to AS 1288 (2021).

External timber framed glazing: Glaze with putty.

3.3 COMPLETION

Hardware

Adjustment: Leave the hardware with working parts in working order, and clean, undamaged, properly adjusted, and lubricated where appropriate.

Trade clean

Method: Clean with soft clean cloths and clean water, finishing with a clean squeegee. Do not use abrasive or alkaline materials.

Extent: All frames and glass surfaces inside and out.

Method: Conform to the Viridian cleaning advice – www.viridianglass.com.au.

Maintenance manual

General: Submit the window and glazed door manufacturer's published instructions for operation, care and maintenance.

Warranties

Window and door assemblies: Submit the manufacturer's published product warranties.

Cleaning

Replace damaged glass and leave the work clean, polished, free from defects, and in good condition.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **452 GLAZING SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 451 WINDOWS, GLAZED DOORS & GLAZING

452 GLAZING SELECTIONS

2 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

GL03 – LAMINATED GLASS – CLEAR

Property	Description
Drawing code:	**GL03**
Manufacturer / Supplier:	**VIRIDIAN**
General location:	**INTERNAL**
Product Name:	VLam™
Thickness (mm):	As required by AS1288 as a minimum. Thicknesses vary to suit acoustic and thermal requirements. refer schedule.
Specific locations, sizes:	Refer Door and Window Schedules
Colour:	Clear
	Min 10.38mm thick for door glazing to EFSG requirements

GL04 – LAMINATED GLASS – TINTED

Property	Description
Drawing code:	**GL04**
Manufacturer / Supplier:	**VIRIDIAN**
General location:	**EXTERNAL**
Product Name:	ComfortPlus™
Thickness (mm):	As required by AS1288 as a minimum. Thicknesses vary to suit acoustic and thermal requirements. refer schedule.
Specific locations, sizes:	Refer Door and Window Schedules
Colour:	Neutral
	Min 10.38mm thick for door glazing to EFSG requirements

GL06 – TOUGHENED GLASS – CLEAR

Property	Description
Drawing code:	**GL06**
Manufacturer / Supplier:	**VIRIDIAN**

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Property	Description	
General location:	**EXTERNAL**	**INTERNAL**
Product Name:	VTough™	VTough™
Thickness (mm):	As required by AS1288	As required by AS1288
Specific locations and sizes:	Refer Door and Window Schedules	Refer Door and Window Schedules
Colour:	Clear	Clear

GL07 – TOUGHENED GLASS – BODY TINTED

Property	Description
Drawing code:	**GL07**
Manufacturer / Supplier:	**VIRIDIAN**
General location:	**EXTERNAL**
Product Name:	VTough™
Thickness (mm):	As required by AS1288
Specific locations and sizes:	Refer Door and Window Schedules
Colour:	Body tinted grey

GL11 – GLASS – OBSCURE

Property	Description
Drawing code:	**GL11**
Manufacturer / Supplier:	**VIRIDIAN**
General location:	**EXTERNAL ADJUSTABLE WINDOW LOUVRES - KOGARAH PS ONLY**
Product Name:	VLam™ Translucent
Thickness (mm):	As required by AS1288 and to be compliant with DW33 Window System
Specific locations and sizes:	Refer Door and Window Schedules
Visible Light Transmission:	VLT is not allowed to be less than 68%. The contractor shall request direction from the superintendent if this is not the case.

GL21 – GLASS – COLOURBACK

Property	Description
Drawing code:	**GL21**
Manufacturer / Supplier:	**VIRIDIAN**
General location:	**EXTERNAL**
Product Name:	Colourback or two pack epoxy specific treatment

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Property	Description
Thickness (mm):	Minimum 10.38mm laminated and as required by AS1288. Thicknesses vary to suit acoustic and thermal requirements.
Specific locations, sizes:	Refer Door and Window Schedules
Colour:	Refer Door and Window Schedules
Notes:	Acoustic seals to perimeter

GL22 – GLASS – TRANSLUCENT

Property	Description	
Drawing code:	**GL22**	
Manufacturer / Supplier:	**VIRIDIAN**	
General location:	**EXTERNAL**	**INTERNAL**
Product Name:	VLam™ Translucent	VLam™ Translucent
Thickness (mm):	As required by AS1288 as a minimum. Thicknesses vary to suit acoustic and thermal requirements. refer schedule.	As required by AS1288 as a minimum. Thicknesses vary to suit acoustic and thermal requirements. refer schedule.
Specific locations, sizes:	Refer Door and Window Schedules	Refer Door and Window Schedules
Colour:	Obscure	Obscure

GL31 – VINYL FILM – FROSTED

Property	Description
Drawing code:	**GL31**
Manufacturer / Supplier:	**3M**
Product Name:	Scotchal
Colour:	Dusted Crystal
Code:	7725-314
Extent:	Refer to WINDOW SCHEDULE. At least to Interview Office, Classrooms and as per DDA, BCA and EFSG requirements.
Installation:	As per manufacturer's specification and recommendations

GL32 – VINYL FILM – COLOURED

Property	Description
Drawing code:	**GL32**
Details:	Feature signage to Window and Signage Schedules

GL33 – VINYL FILM – PRINTED

Property	Description
Drawing code:	**GL33**

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Property	Description
Details:	Feature signage to Window and Signage Schedules

2 EXTENT OF WORK

2.1 WINDOWS AND GLAZED DOORS

Refer to the **WINDOW and DOOR SCHEDULE** and drawings for locations and details of each of the window / glazed door assemblies.

2.2 GLAZING

Refer to the **WINDOW and DOOR SCHEDULE** and drawings for the extent of glazing required to each of the windows and doors.

Mirrors
Refer to the drawings for the sizes and locations of mirrors.

POWDER COATING

All powder coating finishes on the project are to be Interpon D-2015 or an approved system of equal or greater quality.

END OF SECTION 452 WINDOWS, DOORS & GLAZING SELECTIONS

461 DOORS, WINDOWS & HARDWARE

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 341 Structural Steel and 342 Structural Steel Selections
- 351 Light Steel Framing and 352 Light Steel Framing Selections
- 361 Timber Framing and 362 Timber Framing Selections
- 451 Windows, Glazed Doors & Glazing and 452 Windows. Glazed Doors & Glazing Selections

1.2 INTERPRETATION

General
Refer to 121 GENERAL REQUIREMENTS for a comprehensive list of abbreviations and definitions used in this contract / specification.

Additional definitions
General: For the purposes of this worksection the definitions given below apply.

- Accordion doors: Double-walled dividers in which the walls comprise twin rows of paired folding door panels, or equivalent paired folding walls of flexible material attached to pantograph frames, the pairs linked together at the centre and suspended from the points of linkage.
- Balanced construction: A construction of flush doors in which the facings on one side of the core are essentially equal in thickness, grain direction, properties and arrangement to those on the other side of the core. It is such that uniformly distributed changes in moisture content will not cause warpage.
- Cycle: One complete operation from the closed position to fully open and back to closed.
- Door frame: Includes jamb linings.
- Doorset: An assembly comprising a door or doors and supporting frame, guides and tracks including the hardware and accessories necessary for operation.
  - . Fire-doorset: A doorset which retains its integrity, provides insulation and limits, if required, the transmittance of radiation in a fire.
  - . Smoke-doorset: A doorset which restricts the passage of smoke.
- Flush door: A door leaf having two plane faces which entirely cover and conceal its structure. It includes doors with intermediate rail, cellular, blockboard and particleboard cores.
  - . Solid core door: A flush door with a solid core continuous between stiles and rails or edge strips and fully bonded to the faces.
- Roller shutters: The general term referring to Roller doors, Fire resistant roller shutters (or Fire shutters) and Roller grilles which operate by means of rolling the curtain material over an overhead drum.
- Roller doors: Roller shutters with a continuous curtain material.
- Roller grilles: Roller shutters with a curtain material of articulated links.
- Operable walls: Partition panels independently suspended and stackable, with provision for linking together at the vertical edges and for preventing lateral movement at the bottom when closed.

1.3 STANDARDS

General
Garage doors and other large access doors: To AS/NZS 4505.

1.4 INSPECTION

Notice
Inspection: Give notice so that inspection may be made of the following:
- Door frames installed before fixing trim.
- Tracks and guides installed before doors or shutters are hung.
- Openings prepared to receive windows (where windows are to be installed in prepared openings).
- Fabricated window assemblies at the factory ready for delivery to the site.
- Fabricated window assemblies delivered to the site, before installation.
- Commencement of window installation.

1.5 SUBMISSIONS

Subcontractors
General: Submit names and contact details for proposed suppliers and installers.

Maintenance documentation
Recommendations: Submit manufacturer's published recommendations for service use.

Samples
Generic items: Submit samples of hardware items offered as meeting the description of items not specified as proprietary items.

Window and door framing: Submit the following:
- Colour samples of prefinished production materials showing the limits of the range of variation in the documented colour.
- Joints made by proposed techniques.
- Sections for frames, sashes, louvres and slats

Materials and components
Key control system: Submit details of the proprietary key control security system proposed by the lock manufacturer for locks required to accept a group key (master, grandmaster, etc.).

Shop drawings
General: Submit shop drawings to a scale that best describes the detail, showing the following:
- Full size sections of members.
- Hardware, fittings and accessories including fixing details.
- Junctions and trim to adjoining surfaces.
- Layout (sectional plan and elevation) of the window assembly.
- Lubrication requirements.
- Methods of assembly.
- Methods of installation, including fixing, caulking and flashing.
- Provision for vertical and horizontal expansion.
- Method of glazing, including the following:
  . Rebate depth.
  . Edge restraint.
  . Clearances and tolerances.
  . Glazing gaskets and sealant beads.

  Certification: Submit an engineers' certificate confirming compliance with AS 2047.

Design
Certification: Submit an engineers' certificate confirming compliance with AS 1288.

2 PRODUCTS AND MATERIALS

2.1 FRAMES

Aluminium frames
General: Assembled from aluminium sections, including necessary accessories such as buffers, pile strips, strike plates, fixing ties or brackets and cavity flashing, with suitable provision for fixing nominated hardware. Refer also 451 WINDOWS, GLAZED DOORS & GLAZING.

Steel frames
General: Continuously welded from metallic-coated steel sheet sections, including necessary accessories such as buffers, strike plates, spreaders, mortar guards, switch boxes, fixing ties or brackets, and cavity flashing with suitable provision for fixing hardware and electronic security assemblies, and prefinished with a protective coating.

Finish: Grind the welds smooth, cold galvanize the welded joints and shop prime.

Hardware and accessories: Provide for fixing hardware including hinges and closers, using 4 mm backplates and lugs. Screw fix the hinges into tapped holes in the back plates.

Base metal thickness:

- General: ≥ 1.1 mm.
- Fire rated doorsets: ≥ 1.6 mm.
- Security doorsets: ≥ 1.6 mm.

Metallic-coated steel sheet: To AS 1397.

- Coating class interior: Z275.
- Coating class exterior: Z450.

2.2 GLASS AND GLAZING

Refer 451 GLAZING
- Glass and Glazing and
- Glazing Materials.

2.3 SCREENS

Fixed screens
General: Fixed screens fitted to the window frames with a clipping device that allows for removal for cleaning.

Hinged screens
General: Screen hinged at the top to give access to opening sash.

Retractable screens
General: Proprietary retractable screen, comprising aluminium frame and fibreglass mesh, fitted between the guide channels incorporated in the frame, and a retraction system including tension spring, bearings, positive self-locking device and elastomeric sealing strip at sill.

Sliding screens
General: Screens that are not part of the window frame, with matching aluminium head guide, sill runner, and frame stile sections.

Hardware: Nylon slide runners and finger pull handle. Provide pile strip closers against sash where necessary to close gaps.

Aluminium framed screens
General: Aluminium extruded or folded box frame sections with mesh fixing channel, mitred, staked and screwed at corners. If necessary to adapt to window opening gear, provide an extended frame section.

Mesh: Bead the mesh into the frame channel with a continuous resilient gasket, so that the mesh is taut and free of distortion.

2.4 SECURITY WINDOW GRILLES

General

Requirement: Proprietary metal security grilles, or operable screen and frames, fixed to the building structure with tamper resistant fastenings.

Standard: To AS 5039 (2008).

2.5 HARDWARE

Hardware documented generically

General: Provide hardware of sufficient strength and quality to perform its function, appropriate to the intended conditions of use, compatible with associated hardware, and fabricated with fixed parts firmly joined.

2.6 DOORS

Standards

Materials: To the following:

- Decorative laminated sheets: To AS/NZS 2924.1.
- Wet processed fibreboard (including hardboard): To AS/NZS 1859.4.
- Dry processed fibreboard (including medium density fibreboard): To AS/NZS 1859.2.
- Particleboard: To AS/NZS 1859.1.
- Plywood and blockboard for interior use: To AS/NZS 2270.
- Plywood and blockboard for exterior use: To AS/NZS 2271.
- Seasoned cypress pine: To AS 1810.
- Timber – hardwood: To AS 2796.1.
- Timber – softwood: To AS 4785.1.

Certification

General: Brand panels under the authority of a recognised certification program applicable to the product. Locate the brand on faces or edges which will be concealed in the works.

Certification programs:

- Plywood and blockboard: Engineered Wood Products Association of Australia (EWPAA) Quality Control and Product Certification Scheme.
- Wet processed fibreboard, dry processed fibreboard, particleboard and decorative overlay wood panels: Australian Wood Panels Association AWPA JAS-ANZ Scheme.

General

Doors: Proprietary products manufactured for interior or exterior applications and for the finish required.

Flush doors

General: Of balanced construction.

Solid core: Solid flush doors as follows:

- Flush door with blockboard: Core plate of timber strips laid edge to edge, fully bonded to each other and to facings each side of no less than two sheets of timber veneer.
- Single thickness of moisture resistant general purpose medium density fibreboard.
- Edge strips: Fix to stiles. Minimum thickness 10 mm. Increase overall thickness to > 15 mm to accommodate the full depth of the rebate in rebated doors. Form rebates to suit standard rebated hardware. Bevel square edged doors as necessary to prevent binding between the leaves.
- Louvre grilles: Construct by inserting the louvre blades into a louvre frame, and fix the frame into the door.

Smoke doors: Solid core ≥ 35 mm thick.

Construction

Adhesives:

- Internal: To AS/NZS 2270.
- External: To AS/NZS 2271.

Door thickness:

- General: 35 mm.
- External doors and doors over 900 mm wide: 40 mm.

Edge strips: Fix to stiles. Minimum thickness 10 mm. Increase overall thickness to > 15 mm to accommodate the full depth of the rebate in rebated doors. Form rebates to suit standard rebated hardware. Bevel square edged doors as necessary to prevent binding between the leaves.

Louvre grilles: Construct by inserting the louvre blades into a louvre frame, and fix the frame into the door.

Double doors

Rebated meeting stiles: Provide rebated meeting stiles unless the doors are double acting.

Approved alternative: If approved prior to ordering doors, fix equivalent metal T stop to one leaf unless the doors are double acting.

Tolerance

Squareness: The difference between the lengths of diagonals of a door: ≤ 3 mm.

Twist: The difference between perpendicular measurements taken from diagonal corners: ≤ 3 mm.

Nominal size (mm):

- Height: + 0, - 2.
- Width: + 0, - 2.

Priming

General: Prime and paint timber door leaves on top and bottom edges before installation.

2.7 DOORSETS

Automatic sliding door assemblies

Standard: To AS 5007.

Duct hatches

General: Proprietary products comprising metal-faced doors side hung to steel door frames, inclusive of the necessary hardware and accessories including hinges and lock and lugs or other suitable means for installation.

Fire-resistant doorsets

Standard: To AS 1905.1 and BCA Spec C3.4.

2.8 OPERABLE WALLS AND ACCORDION DOORS

General

Proprietary system comprising an overhead track and carriages supporting doors or panels which are linked, or can be linked, to provide a complete partition-type enclosure within defined limits, and which may be opened by sliding and stacking to the side or sides of the opening, inclusive of the manufacturer's standard operating gear, hardware, and accessories necessary for satisfactory performance.

2.9 SECTIONAL OVERHEAD DOORS

Panels

Bottom panel: Adapted to follow the contour of sloping floors or threshold and fitted with a compressible PVC or neoprene seal strip.

Side tracks

Material: Roll formed galvanized steel.

Reinforcing: If required to carry door loads without distortion, reinforce horizontal track sections with a galvanized rolled steel channel.

Counterbalancing
General: Counterbalance the door by an adjustable torsion spring system connected to the door by cables of galvanized steel multi-strand wire rope, or by an equivalent system.

Operation method
General: Method of opening and closing the door:

- Manual: From inside and outside, by lockable handle attached to the door panel.
- Motorised: Connect the motor to the door through a shock absorbing connecting arm.

2.10 RIGID OVERHEAD DOORS

Tilting mechanism
Pivot and spring: Door pivots around jamb-mounted lever arms.

Pivot, spring and tracks: Door pivots around jamb-mounted lever arms. Rollers fixed to door head run in horizontal head tracks.

Door frame
Type: Rigid braced frame capable of resisting the structural design actions without distortion in both vertical and horizontal positions.

Steel frame material: Metallic-coated steel.

Timber frame: Ledged and braced timber sections.

Operation method
General: Method of opening and closing the door:

- Manual: From inside and outside, by lockable handle attached to the door panel.
- Motorised: Connect the motor to the door through a shock absorbing connecting arm.

2.11 ROLLING CURTAIN AND ROLLING SHUTTER DOORS

Types
Rolling curtain:

- Curtain material: Continuous roll formed profiled steel.

Rolling shutter:

Fire shutter:

- Curtain material: Roll formed galvanized interlocking steel slats, each slat fitted with steel end caps.
- Standard: To AS 1905.2.

Roller grille:

Bottom rail
Requirement: Provide a stiffening member as follows:

- Interlocking with the bottom edge or lowest part of the curtain.
- Extending between the inner faces of the vertical guides.
- Formed or adapted as required to follow the contour of a sloping floor or threshold.
- Adapted to house a locking device, if required.

Wind locks
General: Provide wind lock end clips and guides to retain the curtain in wide openings or under extreme wind conditions.

Drum
Maximum drum deflection: 1/360th of the span.

Springs: Helical torsion springs housed in the drum and arranged to counterbalance the curtain weight without exceeding the safe working stress of the spring material.

Wickets
General: Provide doors with metal frame and facings to match the curtain, and manufacturer's standard lockset and furniture.

Operation method
General: Method of opening and closing the door:

- Manual:
  - . Hand stick (for high openings): By a boat hook type pole supplied with the installation.
  - . Chain: By pulling on a chain passing over a sprocket on the drum, with reduction gears where necessary.
  - . Crank handle: By a removable crank handle inserted into a gearbox mounted above the opening.
- Motorised: If a wicket is fitted to the shutter, provide a limit switch device to prevent motor operation until wicket and the frame are hinged clear of the curtain

2.12 OPERATION

Manual operation
General: Install so that the force required to operate the door manually does not exceed 220 N.

Motorised operation
General: Provide a motorised door operating system incorporating the following:

- An electric motor with limit switches, and of adequate capacity to operate the specified door smoothly and without strain.
- Overload cutout.
- Automatic safety system to stop and reverse door if obstructed while closing, or stop door if obstructed while opening.
- Photocell or IR beam safety device.
- Manufacturer's standard light fixture, automatically switched on when opener is activated, and switched off by timer.
- Manual release handle to disengage door from drive mechanism in the event of a power failure.
- Operation by battery-powered radio remote controller, supplied as part of the system.
- Additional operation by push-button or key switch, located 1500 mm above floor level.

2.13 HINGES

Butt hinge sizes
General: Conform to **Hinge table A** and **Hinge table B** (not applicable to cupboard doors), in which length (l) is the dimension along the knuckles, not including hinge tips, if any, and width (w) is the dimension across both hinge leaves when opened flat.

- Stainless steel butt hinges for timber doors in timber or steel frames: To **Hinge table A**.
- Aluminium hinges for aluminium doors, or for doors of other materials in aluminium frames: To **Hinge table B**.

Hinge materials
Aluminium hinges: High tensile aluminium with fixed stainless steel pins in nylon bushes, and with nylon washers to each knuckle joint.

Doors fitted with closers: Provide low friction bearing hinges.

Hinge pins
Exterior or security doors opening out: Provide fixed pin hinges or security hinges.

Hinge table A

Nominal hinge size l x w x t (mm)	Door leaves not exceeding any of the following		
	Mass (kg)	Width (mm)	Thickness (mm)
70 x 50 x 1.6	16	620	30
85 x 60 x 1.6	20	820	35
100 x 75 x 1.6	30	920	40

Nominal hinge size l x w x t (mm)	Door leaves not exceeding any of the following		
	Mass (kg)	Width (mm)	Thickness (mm)
100 x 75 x 2.5	50	920	50
100 x 75 x 3.2	70	1020	50
125 x 100 x 3.2*	80	1220	50

* Non standard to special order only.

Hinge table B

Nominal hinge size l x w x t (mm)	Door leaf not exceeding mass (kg)	Minimum construction	
		Knuckles	Screws/hinge leaf
100 x 70 x 3	30	3	3
100 x 80 x 3.5	50	5	4
130 x 50* x 3.4	75	Interfold	3

* Interfold (Fast fix) surface mounted.

Number of hinges

Fire doors: To AS/NZS 1905.1.

Other door leaves (unless nominated otherwise): Provide 3 hinges for leaves between 2040 mm and 2340 mm high, and 4 for door leaves between 2340 mm and 3050 mm high. Provide at least 3 low friction bearing hinges for door leaves controlled by door closers.

Small door leaves: Door leaves not exceeding any of the following may have 2 hinges each:

- 2040 mm high.
- 820 mm wide.
- 30 kg mass.

Wide throw

General: If necessary, provide wide throw hinges to achieve the required door swings in the presence of obstacles such as nibs, deep reveals and architraves.

2.14 LOUVRE WINDOW ASSEMBLIES

General

Description: Provide louvre blades mounted in a metal surround frame or subframe and able to withstand the permissible-stress-design wind pressure for that location without failure or permanent distortion of members, and without blade flutter.

Adjustable louvres

Description: Provide louvre blades clipped into blade holders pivoted to stiles or coupling mullions, linked together in banks, each bank operated by an operating handle incorporating a latching device, or by a locking bar.

2.15 VENTILATING LOUVRE ASSEMBLIES

General

Description: Provide metal louvre blades mounted in a metal surround frame or subframe and able to withstand the permissible-stress-design wind pressure for that location without failure or permanent distortion of members, and without blade flutter.

Expansion joints

Provide for expansion and contraction in continuous sections (e.g. continuous louvres, interlocking mullions) at spacings not exceeding those recommended by the manufacturer, or 6 m, whichever is the lesser.

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Adjustable louvres
Description: Provide louvre blades pivoted to stiles or coupling mullions, linked together in banks, each bank operated by an electronic actuator activated from a central location.

Fixed metal louvres
- Provide metal louvre blades mounted in a metal surround frame or subframe, installed as for metal

2.16 ALUMINIUM FRAME FINISHES

Powder coatings
Standard: To AS 3715.

Grade: Architectural coating.

Anodised
Standard: To AS 1231.

Thickness: 25 microns.

2.17 LOCKS AND LATCHES

Bolts
General: Provide bolts including barrel bolts, flush bolts and tower bolts with keepers, including lock plates, staples, ferrules or floor sockets.

Furniture
General: Provide lock and latch furniture suitable for use with the lock or latch to which it is installed with the corresponding level of performance.

Mechanical locksets
Standard: To AS 4145.2.

Mortar guards
General: For steel door frame installations, provide mortar guards designed to enable the full extension of the lock tongue or similar devices and the correct operation of the locking mechanism.

Padlocks
Standard: To AS 4145.4.

Rebated doors
General: For mortice locks or latches to rebated doors, provide purpose-made rebated pattern items.

Strike plates
General: Use strike plates provided with the locks or latches. Do not provide ‘universal’ strike plates.

Window catches
Provide 2 catches per sash to manually latched awning or hopper sashes over 1000mm wide.

2.18 KEYING

Contractor’s keys
Master key systems: Do not use any key under a master key system.

Delivery of keys
Great grandmaster, grandmaster and master keys: Arrange for the manufacturer or supplier to deliver direct to the principal.

Number of keys: Conform to the **Number of keys table**.

Group keying
Keying system: Provide a group keying system in conformance with the **Key codes schedule**.

Existing system: Obtain the details of existing group or master key systems to which a new system is required to be an extension.

Future extensions: Provide master and grandmaster group keying systems which are capable of accommodating future extensions.

Keying control security system: If cylinder or pin-tumbler locks accept a group key (e.g. master key, maison key) provide to those locks a proprietary keying control security system.

Stamping: Stamp keys and lock cylinders to show the key codes and/or door number as scheduled.

Identification
General: Supply each key with a purpose-made plastic or stamped metal label legibly marked to identify the key, attached to the key by a metal ring.

Key material
Lever locks: Malleable cast iron or mild steel.

Pin tumbler locks: Nickel alloy, not brass.

Number of keys table

Code	Key type	Minimum number of keys
GGMK	Great grandmaster keys	2
GMK	Grandmaster keys	2
MK#	Master keys	2 per code group
KD	Locks keyed to differ	2 per lock
KA#	Locks keyed alike:	
	-2 locks in code group	4
	-3-10 locks in code group	6
	-11-40 locks in code group	10
	-41 and over locks in code group	1 per 4 locks or part thereof

2.19 ANCILLARY MATERIALS

Trims
Timber: Solid timber at least 19 mm thick, mitred at corners.

Extruded gaskets and seals
Materials: Non cellular (solid) elastopressive seals as follows:

- Flexible polyvinyl chloride (PVC): To BS 2571, 100% solids with high consistency, ultra-violet stabilised.
- Rubber products (neoprene, ethylene propylene diene monomer (EPDM) or silicone rubber): To BS 4255-1.

Flashings
General: Corrosion resistant, compatible with the other materials in the installation, and coated with a non-staining compound where necessary.

Standard: To AS/NZS 2904.

Jointing materials
General: Compatible with each other and with the contact surfaces and non staining to finished surfaces. Do not provide bituminous materials on absorbent surfaces.

Pile weather strips
General: Polypropylene or equivalent pile and backing, low friction silicone treated, ultra-violet stabilised.

Standard: To AAMA 701/702.

3 EXECUTION AND WORKMANSHIP

3.1 FRAMES

General
Frames: Install so that the frames are as follows:

- Plumb, level, straight and true.
- Fixed or anchored to the building structure.
- Will not carry any building loads, including loads caused by structural deflection or shortening.

Aluminium frames
Fixing to stud frame openings: Screw once to studs at each fixing.

Frame fixing
Brackets: Metallic-coated steel:

- Width: ≥ 25 mm.
- Thickness: ≥ 1.5 mm.

Heads of fasteners: Conceal where possible, otherwise sink the head below the surface and fill the sinking flush with a material compatible with the surface finish.

Jamb fixing centres: ≤ 600 mm.

Joints
General: Make accurately fitted joints so that no fasteners, pins, screws, adhesives and pressure indentations are visible on exposed surfaces.

Steel frames
Building in to masonry: Attach galvanized steel rods to jambs, build in and grout up.

Fixing to masonry openings: Build in hairpin anchors and install locking bars, or use proprietary expansion anchors and screw twice through jambs at each fixing.

Fixing to stud frame openings: Attach galvanized steel brackets to jambs and screw twice to studs at each fixing.

Timber frames
Building in to masonry: Screw galvanized steel brackets twice to jambs and build in.

Fixing to masonry openings: Build in seasoned timber plugs to masonry joints or use proprietary expansion anchors and screw twice through jambs at each fixing.

Fixing to stud frame openings: Back screw twice to jambs at each fixing.

Weatherproofing
Flashings and weatherings: Install flashings, weather bars, drips, storm moulds, caulking and pointing to prevent water from penetrating the building between the door frame and the building structure under the prevailing service conditions, including normal structural movement of the building.

Finishing
Trim: Provide mouldings, architraves, reveal linings, and other internal trim using materials and finishes matching the door frames. Install to make neat and clean junctions between the frame and the adjoining building surfaces as per Architectural details and specification.

3.2 DOORS

Door hardware
Mounting heights: Mount locks and latches so that the centreline of the door knob or lever spindle is 1000 mm above finished floor.

Proprietary doorsets: Provide the standard hardware.

Door stops
Fixing: Fix on the floor, skirting or wall, as appropriate, to prevent the door or door furniture striking the wall or other surface.

Fasteners
Materials: Provide materials compatible with the item being fixed, and of sufficient strength, size and quality to perform their function.

- Concealed fixings: Provide a corrosion resistant finish to concealed fixings.
- Exposed fixings: Match exposed fixings to the material being fixed.

Security: Locate exposed fixings to lock furniture on the inside faces of external doors and on the inside faces of internal doors to lockable rooms.

Support: Provide appropriate back support (for example lock stiles, blocking, wall noggings and backing plates) for hardware fixings.

- Hollow metal sections: Provide backing plates drilled and tapped for screw fixing, or provide rivet nuts with machine thread screws. Do not use self tapping screws or pop rivets.

Hinges

Metal frames: Fix hinges using metal thread screws.

Timber doorsets: Install butt hinges in housings equal in depth to the thickness of the hinge leaf (except for hinges designed for mounting without housing), and fix with countersunk screws.

3.3 WINDOWS AND GLAZED DOORS

Windows and glazed doors

General: Install windows and glazed doors so that the frames:

- Are plumb, level, straight and true within acceptable building tolerances.
- Are fixed or anchored to the building structure in conformance with the wind action loading requirements.
- Will not carry any building loads, including loads caused by structural deflection or shortening.
- Allow for thermal movement.

Weatherproofing

Flashing and weatherings: Install flashings, weather bars, drips, storm moulds, caulking and pointing so that water is prevented from penetrating the building between the window frame and the building structure under the prevailing service conditions, including normal structural movement of the building.

Fixing

Fasteners and fastener spacing: Conform to the recommendations of the manufacturer.

Fasteners: Conceal fasteners.

Packing: Pack behind fixing points with durable full width packing.

Prepared masonry openings: If fixing of timber windows to prepared anchorages needs fastening from the frame face, sink the fastener heads below the surface and fill the sinking flush with a material compatible with the surface finish.

Joints

General: Make accurately fitted tight joints so that neither fasteners nor fixing devices such as pins, screws, adhesives and pressure indentations are visible on exposed surfaces.

Sealants: If priming is recommended, prime surfaces in contact with jointing materials. If frames are powder coated apply a neutral cure sealant.

Operation

General: Ensure moving parts operate freely and smoothly, without binding or sticking, at correct tensions or operating forces and are lubricated.

Protection

Removal: Remove temporary protection measures from the following:

- Contact mating surfaces before joining up.
- Exposed surfaces.

Seals

General: Provide the fixings, rebates, grooves, and clearances required for installation and operation of the seals. Allow seals unwound from coils to settle before use. Install proprietary seals to manufacturer’s recommendations and adjust correctly.

Trim

General: Provide mouldings, architraves, reveal linings, and other internal trim using materials and finishes matching the window frames. Install to make neat and clean junctions between frames and the adjoining building surfaces

3.4 LOUVRE ASSEMBLIES

Installation
General: Screw fix stiles and mullions to the building structure. Provide weather strips to heads and sills.

Framed adjustable louvres
Installation: Screw fix the main frame to the building structure with monel or stainless steel screws or masonry anchors of the type recommended by the louvre manufacturer.

Metal louvres
General: Provide metal louvre blades mounted in a metal surround frame or subframe, installed as for metal window installations.

3.5 HARDWARE

Fasteners
Materials: Use materials compatible with the item being fixed and of sufficient strength, size and quality to perform their function.

- Concealed fixings: Provide a corrosion-resistant finish.
- Exposed fixings: Match exposed fixings to the material being fixed.

Support: Provide appropriate back support (for example lock stiles, blocking, wall noggings and backing plates) for hardware fixings.

- Hollow metal sections: Provide backing plates drilled and tapped for screw fixing, or provide rivet nuts with machine thread screws. Do not use self-tapping screws or pop rivets.

Proprietary window systems
Requirement: Provide the standard hardware and internal fixing points for personnel safety harness attachment, where required by and conforming with the governing regulations.

Operation
General: Make sure working parts are accurately fitted to smooth close bearings, without binding or sticking, free from rattle or excessive play, lubricated where appropriate.

Supply
Delivery: Deliver window hardware items, ready for installation, in individual complete sets for each window set, as follows:

- Clearly labelled with the intended location.
- In a separate dust and moisture proof package.
- Including the necessary templates, fixings and fixing instructions.

Window hardware
Proprietary window systems: Provide the standard hardware and internal fixing points for personnel safety harness attachment, where required by and complying with the governing regulations.

Operation
Ensure working parts are accurately fitted to smooth close bearings, without binding or sticking, free from rattle or excessive play, lubricated where appropriate.

Supply
Delivery: Deliver hardware items, ready for installation, in individual complete sets.

- Clearly labelled to show its intended location.
- In a separate dust and moisture proof package.
- Including the necessary templates, fixings and fixing instructions.

3.6 COMPLETION

Operation
General: Ensure moving parts operate freely and smoothly, without binding or sticking, at correct tensions or operating forces and that they are lubricated where appropriate.

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Protection
Temporary coating: On or before completion of the works, or before joining up to other surfaces, remove all traces of temporary coatings used as a means of protection.

Adjustment
General: Leave the hardware properly adjusted with working parts in working order, and clean, undamaged, properly adjusted, and lubricated where appropriate.

Automatic door operators: Maintain and adjust the system throughout the defects liability period.

Hardware
Adjustment: Leave the hardware with working parts in working order, and clean, undamaged, properly adjusted, and lubricated where appropriate.

Keys
Contractor's keys: Immediately before practical completion, replace cylinders to which the contractor has had key access during construction with new cylinders which exclude the contractor's keys.

Key codes: Submit the lock manufacturer's record of the key coding system showing each lock type, number and type of key supplied, key number for re-ordering, and name of supplier.

Keys: For locks keyed to differ and locks keyed alike, verify quantities against key records, and deliver to the Superintendent's Representative at practical completion.

Repair of finish
Polyester or fluoropolymer coatings: Contact supplier for approval to apply touch up products, otherwise replace damaged material.

Cleaning
Method: Clean with soft clean cloths and clean water, finishing with a clean squeegee. Do not use abrasive or alkaline materials.

Maintenance manual
Overhead doors: Submit the overhead door manufacturer's published instructions for operation, care and maintenance.

Automatic door operators: Submit the installer's proposal for continuing maintenance after completion on an annual renewal basis.

Hardware: Submit the manufacturer's published recommendations for use, care and maintenance of the hardware provided

Warranties
Overhead doors, roller shutters, operable walls and accordion doors: Submit the manufacturer's published product warranties.

Automatic door operators: Submit a warranty (or interlocking warranties) from the supplier and installer for the system and its installation, for a period of at least twelve months from the date of practical completion.

Hardware: Submit the warranties offered by the manufacturer for the hardware items provided in the works.

Record documents
Door hardware schedule: Submit an amended schedule, prepared by the door hardware supplier, showing changes to the contract door hardware schedule caused as follows:

- By the approval of a hardware sample.
- By the acceptance of an equivalent to a specified proprietary item.
- By a contract variation to a door hardware requirement.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **462 DOORS & HARDWARE SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 461 DOORS & HARDWARE

462 DOORS, WINDOWS & HARDWARE SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

DW01 – FRAME - ALUMINIUM 100MM POCKET GLAZED

Property	**Description (3 alternatives acceptable)**			
Drawing code:				**DW01**
Manufacturer / Supplier:	**AWS**	**CAPRAL**	**G JAMES**	**ALSPEC**
Product Name:	400 Series	400 Series	475 Series	MacArthur EVO (centre pocket) 100.6 Series
Frame material:	Aluminium			
Frame finish / colour:	Refer Window & Door Schedule			
Glazing type:	Refer Window & Door Schedule			
Sizes and configurations:	Refer Window & Door Schedule			
Trim:	Provide all trim necessary to ensure the window / glazing system is compete and fully watertight.			

DW03 – FRAME - ALUMINIUM 150MM POCKET GLAZED

Property	**Description (3 alternatives acceptable)**			
Drawing code:				**DW03**
Manufacturer / Supplier:	**AWS**	**CAPRAL**	**G JAMES**	**ALSPEC**
Product Name:	600 Series	600 Series	675 Series	MacArthur EVO (centre pocket) 150 Series
Frame Material:	Aluminium			
Frame finish / colour:	Refer Window & Door Schedule			
Glazing type:	Refer Window & Door Schedule			
Sizes and configurations:	Refer Window & Door Schedule			
Trim:	Provide all trim necessary to ensure the window / glazing system is compete and fully watertight.			

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DW07 – DOOR FRAME - ALUMINIUM

Property	**Description**		
Drawing code:			**DW07**
Manufacturer / Supplier:	**AWS**	**G. JAMES**	**ALSPEC**
Product Name:	Series 400 and Series 600 with stops for timber doors.	Series 450 and Series 650 with stops for timber doors.	Swan EVO centre pocket 100.6 Series
Frame material:	Aluminium		
Frame finish:	Powder coat		
Frame colour:	Refer finishes schedules on the drawings.		
Installation:	Stud tags to manufacturer's recommendations.		

DW11 – DOOR FRAME - STEEL

Property	**Description**	
Drawing code:		**DW11**
Manufacturer / Supplier:	**AUSTRALIAN ARCHITECTURAL FIRE DOORS**	**SPENCE DOORS**
Product Name:	Fully welded non-fire rated door frame. Profile B - Hinged doors. Profile M - Sliding doors.	Fully welded non-fire rated door frame. SD Profile -Hinged doors. SD/SL Profile -Sliding doors.
Frame material:	1.2mm galvabond steel	1.2mm galvabond steel
Frame finish:	Painted.	Painted.
Frame colour	To match adjacent wall colour. Refer finishes legends on the drawings.	To match adjacent wall colour. Refer finishes legends on the drawings.
Installation:	Welded stud tags to manufacturer's recommendations.	

DW14 – DOOR FRAME - FIRE DOOR

Property	**Description (2 alternatives acceptable)**	
Drawing code:		**DW14**
Manufacturer / Supplier:	**AUSTRALIAN ARCHITECTURAL FIRE DOORS**	**SPENCE DOORS**
Product Name:	Profile B - Fully welded 1 or 2 hour/s rated Fire Rated Door Frame	SDF Profile - Fully welded 1 or 2 hour/s rated Fire Rated Door Frame
Fire Rating:	For required hour rating refer to DOOR SCHEDULE	
Frame material:	1.6mm galvabond steel.	
Frame finish:	Paint Finish.	

Property	Description (2 alternatives acceptable)
Frame colour	To match adjacent wall colour. Refer finishes legends on the drawings.
Installation:	Mechanically fix to manufacturer's recommendations.

DW15 – DOOR FRAME - SMOKE DOOR

Property	Description (2 alternatives acceptable)	
Drawing code:	**DW15**	
Manufacturer / Supplier:	**AUSTRALIAN ARCHITECTURAL FIRE DOORS**	**SPENCE DOORS**
Product Name:	Profile N - Fully welded 2 hour rated double-action Fire-Rated Smoke Door Frame.	Fully welded double-action fire door frame.
Frame material:	1.6mm galvabond steel.	
Frame finish:	Paint Finish.	
Frame colour	To match adjacent wall colour. Refer finishes legends on the drawings.	
Installation:	Mechanically fix to manufacturer's recommendations.	

DW21 – WINDOW – SLIDING ALUMINIUM

Property	Description (3 alternatives acceptable)	
Drawing code:	**DW21**	
Manufacturer / Supplier:	**AWS**	**ALSPEC**
Product Name:	452 / 400 Series commercial frame with residential sash for 100mm frame	MacArthur EVO (centre pocket) with View Max sliding windows
Frame material:	Aluminium	Aluminium
Frame finish / colour:	Refer Window & Door Schedule	Refer Window & Door Schedule
Glazing type:	Refer Window & Door Schedule	Refer Window & Door Schedule
Sizes and configurations:	Refer Window & Door Schedule	Refer Window & Door Schedule
Trim:	Provide all trim necessary to ensure the window / glazing system is compete and fully watertight.	Provide all trim necessary to ensure the window / glazing system is compete and fully watertight.
Security Screen:	Provide a DW91 security screen to the open sash section.	Provide a DW91 security screen to the open sash section.

DW33 – LOUVRES – 150MM FRAMED – ALUMINIUM LOUVRES

Property	Description
Drawing code:	**DW33**

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Property	Description
Manufacturer / Supplier:	**SAFETYLINE JALOUSIE**
Product Name:	JX-003 aluminium louvre manual operated.
Frame Material:	63mm extruded Aluminium frame
Frame Finish:	Refer Window and Door Schedule
Colour:	Refer Window and Door Schedule
Screens:	Security screens as required by EFSG
Blades:	Aluminium with powder coat finish and to EFSG requirements
Trim:	Aluminium angle trim and cover plates to match window frames
Accessories:	As required to prevent fall at height and for security for EFSG required areas

DW33 – LOUVRES – 150MM FRAMED – GLASS LOUVRES

Property	Description
Drawing code:	**DW33**
Manufacturer / Supplier:	**SAFETYLINE JALOUSIE**
Product Name:	JX-001 glass louvre manual operated and remote winder when window sill is 1800mm above floor level JX-002 remote operated motor-controlled glass louvre where windows are 3000mm above floor level or higher
Frame Material:	63mm extruded Aluminium
Frame Finish:	Refer Window and Door Schedule
Colour:	Refer Window and Door Schedule
Screens:	Security screens as required by EFSG
Glazing:	Toughened glass to AS 1288 and EFSG requirements
Trim:	aluminium angle trim and cover plates to match window frames
Accessories:	As required to prevent fall at height and for security for EFSG required areas
Note:	For DW33 louvres to **Kogarah Public School** the lever handle settings shall be adjusted to restrict the opening to be a maximum of 48mm.

DW36 – LOUVRES - FIXED ALUMINIUM TYPE 1

Property	Description		
Drawing code:	**DW36**		
Manufacturer / Supplier:	**AWS**	**G JAMES**	**ALSPEC**
Product Name:	Fixed aluminium louvres within a Series 400 frame.	414 Series fixed louvre within a 475 series frame.	LV96 storm louvre fixed within a MacArther EVO 101.6 frame.

Property	Description
Frame Material:	Aluminium
Frame Finish and Colour:	Powder coat. Refer to SPECIFICATIONS SCHEDULE AND MATRIAL SELECTIONS
Screens:	metal ember guard mesh to full face internally
Glazing:	n/a
Trim:	aluminium angle trim and cover plates to match window frames
Accessories:	channel support to rear face of louvre blades at 1200 crs max Refer also mechanical requirements for mechanical intake and exhaust air fixed aluminium louvres

DW41 – DOOR - HINGED ALUMINIUM

Property	Description	
Drawing code:	**DW41**	
Manufacturer / Supplier:	**AWS or equal**	**ALSPEC**
Product Name:	Series 400 aluminium frame with Series 50 door	Swan EVO (centre pocket) 45mm
Frame material:	Aluminium	Aluminium
Frame finish / colour:	Refer Window & Door Schedule	Refer Window & Door Schedule
Door leaf material:	Aluminium framed and glazed	Aluminium framed and glazed
Door leaf finish / colour:	Refer Window & Door Schedule	Refer Window & Door Schedule
Glazing:	Refer Window & Door Schedule	Refer Window & Door Schedule
Trim:	Provide all trim necessary to ensure the window / glazing system is compete and fully watertight.	Provide all trim necessary to ensure the window / glazing system is compete and fully watertight.
Accessories:	Max 3mm gap around frame Threshold seal required to all external doors Raven RP4T weather seal with raven **RP77** or **RP98** to threshold to suit floor lining.	Max 3mm gap around frame Threshold seal required to all external doors Raven RP4T weather seal with raven **RP77** or **RP98** to threshold to suit floor lining.
Notes:	Door styles to be 110mm wide in accordance with EFSG	Door styles to be 110mm wide in accordance with EFSG

DW46 ALUMINIUM FRAMED AUTO SLIDING DOOR

Property	Description	
Drawing code:	**DW46**	
Manufacturer / Supplier:	**SPENCE / ASSA ABBLOY**	
Contact Name:	ASSA ABLOY Stefan Kostoski 0402 333 664 stefan.kostoski@recorddoors.com.au	
Product Name:	Door Leaf:	DW51

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Property	Description	
	Auto Door Operator:	ASSA ABLOY Record STA21, single sliding, maximum door leaf 140kg
Door Frame:	DW07	
Frame material:	Aluminium	
Frame finish / colour:	Refer Door & Window Schedule	
Opening size:	Refer Door & Window Schedule	
Locking:	Motor brake locking with battery backup and integrated failsafe per BCA D2.19.	
Activation:	Accessible privacy kit package with 2 button internal switch and external 1 button switch with LED indicator lights on engraved aluminium plates.	
Safety:	Safety sensors, face fixed to pelmet / transom framing.	
Fire Trip:	Doors to fail safe open via fire trip signal	
Soft Close:	Sliding doors to have soft close functionality for safety. Ensure sliders can be opened with 20N force	
General Technical Requirements:	Incorporated in the operator will be the following standard equipment: • D.C. (direct current) brush-less motor with monitoring electronics, generator brake and integrated, bevelled worm drive gearbox, in metal casing. Drive unit incorporates Power Transformer -AC rating 230V ~ 240V, 50-60Hz with reduction to 24vDC supply to all powered components. • Fully computerised micro-processor, which incorporates solid state switching of motor/gearbox and maintains full memory of all settings in case of power failure. • Super-torque timing belt drive, which indefinitely retains tension settings and provides continuous smooth operation and minimises wear to drive components. • Adjustable door hanger/dual roller assemblies with fully sealed precision bearings and anti-lift bearing type rollers. • Anti-shock dynamic braking, to provide smooth and effective braking, automatically set during calibration to suit size and weight of door leaf/s. • Safety reverse/stop with delay, in case of obstruction during either opening or closing cycle. Low speed, continuous retry after obstruction, prior to resuming normal operation. • Infinitely adjustable speed control, to 700mm per second (door leaf) in opening and closing cycle. • In-built closing power, to prevent doors from opening without activation. • Adjustable hold open time, (variable in both summer and winter modes) to suit site requirement for time door is held open between open and close cycles.	

Property	Description
	• Integrated selection for security, fire or smoke alarm interfacing and lock/door monitoring. • Failsafe operation with fully monitored back-up battery. Upon power failure in auto operation doors will operate normally for up to 1/2 hour and then fail open, normal operation resumes upon power supply re-instatement. In lock mode doors may be continuously activated by emergency exit facility for up to 200 continuous operations. Sensitivity/safety features are retained during battery operation. Door/s may be opened manually with a force of less than 110N upon total power failure/failsafe activation or in manual operation selection.
Compliance:	All sliding door operators and associated control devices and door panels must be designed and installed in accordance with the following: • AS5007 – Powered Doors for Pedestrian Access and Egress, including one million cycle tested by a NATA accredited testing authority • Building Code of Australia • AS1428.1 – Design for Access and Mobility.
Coordination:	The contractor shall allow to coordinate the following work with other trades onsite: • Suitable support structure for operator mounting. • 240V 10amp single phase power supply to left hand side of operator. • Fire trip and BMS remote cabling. • Completed floor finish for mounting of floor guides. • Suitable mounting position for control devices and cable run provisions.

DW51 – DOOR LEAF- EXTERNAL SOLID CORE PAINTED

Property	Description
Drawing code:	**DW51**
Manufacturer / Supplier:	**SPENCE DOORS**
Product Name:	Solid-core blockboard door
External surface finish:	Durocote hardboard 4.8mm thick with paint finish
Internal surface finish:	Redicote hardboard 4.8mm thick with paint finish
Door thickness:	40mm
Edge strips:	Hoop Pine with mitred corners
Opening size:	Refer DOOR SCHEDULE
Frame material/finish:	Refer DOOR SCHEDULE
Accessories:	Max 3mm gap around frame

Property	Description
	Threshold seal required to all external doors
Accessories:	Max 3mm gap around frame Threshold seal required to all external doors
Note:	Provide 25 x 25mm RHS to each stile to the 2400mm high doors (or where exceeds 2250mm high) for additional stability to suit EFSG requirements.

DW52 – DOOR LEAF - EXTERNAL SOLID CORE PAINTED w VISION PANEL

Property	Description
Drawing code:	**DW52**
Manufacturer / Supplier:	**SPENCE DOORS**
Product Name:	Solid-core blockboard door
External surface finish:	Durocote hardboard 4.8mm thick with paint finish
Internal surface finish:	Redicote hardboard 4.8mm thick with paint finish
Door thickness:	40mm
Edge strips:	Hoop Pine with mitred corners
Opening size:	Refer DOOR SCHEDULE
Frame material/finish:	Refer DOOR SCHEDULE
Vision panel:	Refer DOOR SCHEDULE
Accessories:	Max 3mm gap around frame Threshold seal required to all external doors
Note:	Provide 25 x 25mm RHS to each stile to the 2400mm high doors (or where exceeds 2250mm high) for additional stability to suit EFSG requirements.

DW53 – DOOR LEAF - INTERNAL SOLID CORE PAINTED

Property	Description
Drawing code:	**DW53**
Manufacturer / Supplier:	**SPENCE DOORS**
Product Name:	Solid-core blockboard door
Surface finish:	Redicote hardboard 4.8mm thick with paint finish
Door thickness:	40mm
Edge strips:	Hoop Pine with mitred corners
Opening size:	Refer DOOR SCHEDULE
Frame material/finish:	Refer DOOR SCHEDULE
Accessories:	max 3mm gap around frame
Note:	Provide 25 x 25mm RHS to each stile to the 2400mm high doors (or where exceeds 2250mm high) for additional stability to suit EFSG requirements.

DW54 – DOOR LEAF - INTERNAL SOLID CORE PAINTED w VISION PANEL

Property	Description
Drawing code:	**DW54**
Manufacturer / Supplier:	**SPENCE DOORS**
Product Name:	Solid-core blockboard door
Surface finish:	Redicote hardboard 4.8mm thick with paint finish
Door thickness:	40mm
Edge strips:	Hoop Pine with mitred corners
Opening size:	Refer DOOR SCHEDULE
Frame material/finish:	Refer DOOR SCHEDULE
Vision panel:	Safety glass min 12mm thick
Accessories:	max 3mm gap around frame
Note:	Provide 25 x 25mm RHS to each stile to the 2400mm high doors (or where exceeds 2250mm high) for additional stability to suit EFSG requirements.

DW71 – DOOR - FIRE

Property	Description
Drawing code:	**DW71**
Manufacturer / Supplier:	**SPENCE DOORS**
Product Name:	Internal hinged fire rated solid-core door
Rating:	1 or 2 hour/s rated For required hour rating refer to DOOR SCHEDULE
Door construction:	Commercial fire door with monolithic refractory vermiculite core
Door leaf material:	Durocote hardboard 4.8mm thick with paint finish both sides
Door thickness:	47mm
Accessories:	Self-closing door closers - refer hardware schedule Door seals - refer to hardware schedule

DW72 – DOOR - SMOKE

Property	Description
Drawing code:	**DW72**
Manufacturer / Supplier:	**SPENCE DOORS**
Product Name:	Internal hinged fire rated solid-core door
Rating:	2 hour rated
Door construction:	Commercial fire door with monolithic refractory vermiculite core
Door leaf material:	Durocote hardboard 4.8mm thick with paint finish both sides
Door thickness:	47mm

Property	Description
Accessories:	Self closing door closers - refer hardware schedule Door seals - refer to hardware schedule

DW73 – DOOR – SLIDING ACOUSTIC - MULTI

Property	Description
Drawing code:	**DW73**
Manufacturer / Supplier:	**LOTUS or equal**
Product Name:	CH-SG/39/FD-11
Door thickness:	80mm
Glazing Panel:	12mm clear laminated
Opening size:	Refer Door & Window Schedule
Frame material:	Aluminium
Frame finish / colour:	Refer Door & Window Schedule
Accessories:	Sabre 750mm SSS Bar Handles Lever Turn Snib on inside and keylock from outside Lotus 100-1 track finished in Pearl White Powder coat Lotus Type 1 Seal Configuration Door seals and hardware to complete installation
Soft Close:	Sliding doors to have soft close functionality for safety. Lotus SABS Motion adjustable resistance, velocity damping/braking device Ensure sliders can be opened with 20N force

DW74 – DOOR – SLIDING ACOUSTIC - CAVITY

Property	Description
Drawing code:	**DW74**
Manufacturer / Supplier:	**LOTUS or equal**
Product Name:	CH-SG/39/CS-1
Door thickness:	80mm
Glazing Panel:	12mm clear laminated
Opening size:	Refer Door & Window Schedule
Frame material:	Aluminium
Frame finish / colour:	Refer Door & Window Schedule
Accessories:	Sabre 750mm SSS Bar Handles Lever Turn Snib on inside and keylock from outside Lotus 100-1 track finished in Pearl White Powder coat Lotus Type 1 Seal Configuration

Property	Description
	Door seals and hardware to complete installation
Soft Close:	Sliding doors to have soft close functionality for safety. Lotus SABS Motion adjustable resistance, velocity damping/braking device Ensure sliders can be opened with 20N force

DW75 – DOOR – SLIDING ACOUSTIC – BI-PARTING

Property	Description
Drawing code:	**DW75**
Manufacturer / Supplier:	**LOTUS or equal**
Product Name:	CH-SG/39/FB-11
Door thickness:	80mm
Glazing Panel:	12mm clear laminated
Opening size:	Refer Door & Window Schedule
Frame material:	Aluminium
Frame finish / colour:	Refer Door & Window Schedule
Accessories:	Sabre 750mm SSS Bar Handles Lever Turn Snib on inside and keylock from outside Lotus 100-1 track finished in Pearl White Powder coat Lotus Type 1 Seal Configuration Door seals and hardware to complete installation
Soft Close:	Sliding doors to have soft close functionality for safety. Lotus SABS Motion adjustable resistance, velocity damping/braking device Ensure sliders can be opened with 20N force

DW82 – ROLLER DOOR – HEAVY DUTY

Property	Description
Drawing code:	**DW82**
Manufacturer / Supplier:	**B&D**
Product Name:	Roll-A-Door
Type:	Series 2
Opening size:	Refer Door & Window Schedule
Finish:	Colorbond
Colour:	Refer Door & Window Schedule
Location:	Refer Door & Window Schedule
Accessories	Centre lift lock with external key

DW83 – ROLLER SHUTTER – HEAVY DUTY

Property	Description
Drawing code:	**DW83**
Manufacturer / Supplier:	**MONARCH**
Product Name:	Series 2
Type:	Extruded aluminium shutter, hand operation

DW85 – OVERHEAD FOLDING DOOR – HEAVY DUTY

Property	Description
Drawing code:	**DW85**
Manufacturer / Supplier:	**MONARCH RENLITA**
Product Name:	Series 3000 – Foldaway Doors
Type:	Aluminium Framed, glazed counterweight balanced door
Opening size:	Refer DOOR SCHEDULE
Finish:	Clear Anodised Aluminium
Glazing:	GL03 – Safety Glass – Clear laminated
Keying:	Door to be MOTORISED.
Installation:	To manufacturer's recommendations and instructions.
Counterweight Covers	Refer to Details.

DW86 - OPERABLE WALL – HEAVY DUTY

Property	Description
Drawing code:	**DW86**
Manufacturer / Supplier:	**LOTUS or equal**
Product Name:	100 Series Operable Wall
Panel thickness:	100mm
Rating:	Rw47
Opening size:	Refer Door & Window Schedule
Panel frame type:	Overlay
Panel finish / colour:	Refer Door & Window Schedule
Configuration:	Centre stacker – refer drawings.
Accessories:	Door seals and hardware to complete installation
	Autex pinboard fabric finish

DW91 – INSECT AND FALL PREVENTION SCREEN - METAL MESH

Property	Description	
Drawing code:	**DW91**	
Manufacturer / Supplier:	**CRIMSAFE**	**ALSPEC**
Product Name:	Stainless steel mesh screens	Invisigard Security Screens (stainless steel)
Frame material:	Aluminium	
Frame finish / colour:	Refer WINDOW & DOOR SCHEDULE	
Screen mesh/infill:	Tensile-Tuff® stainless steel mesh (1.5mm x 1.5mm aperture)	
Trim:	Provide all trim necessary to ensure the window / glazing system is compete.	
Fixing:	Manufacture and installation to be in accordance with manufacturer's recommendations to ensure compliance with AS 3959-2009 bushfire protection guidelines.	
Locations:	Install to all open sashes of sliding windows	Install behind all adjustable louvre windows

DW85 – DOOR TRESHOLDS ALUMINIUM DOORS

Property	Description
Drawing code:	**DW95**
Manufacturer / Supplier:	**RAVEN**
Product Name:	RP98
Location:	Refer to door schedule for location.

2 EXTENT OF WORK

2.1 GENERAL

Refer to the **WINDOW SCHEDULE, DOOR SCHEDULE** and drawings for the details of each of the door assemblies.

2.2 DOOR HARDWARE

Door hardware selections to be in accordance with **DOOR HARDWARE SCHEDULE**.

2.3 KEYING SYSTEM

The current master key system for the school is held by SINSW. Arrange for all new locks to be integrated into this system.

2.4 WINDOW HARDWARE

Hardware to doors contained within window assemblies to be in accordance with **DOOR HARDWARE SCHEDULE**. Other window hardware to be as supplied by window manufacturer.

2.5 GENERAL

The contractor is to allow for the following –

- All operable walls are to achieve an acoustic rating of Rw45

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- Provide weather seals to all external doors (all edges)
- Allow for acoustic seals to all doors connecting to teaching spaces
- All glazed panels to doors to be 10.38mm laminated glass or greater thickness for acoustic separation.
- All external doors to have weather seal over BCA compliant non slip aluminium threshold strips.
- Sliding doors to have soft close functionality for safety.
- All external doors to have hold open device (parrot hook or similar) and to have either a 180-degree swing with wide hinges or to a 100-degree swing opening to an isolated bollard to satisfy EFSG requirements.
- All external door openings to be accessible with BCA compliant aluminium threshold strip of maximum 35mm height to suit difference in height between external floor or slab finish and internal floor finish (carpet, vinyl, concrete etc).

END OF SECTION 462 DOORS, WINDOWS & HARDWARE SELECTIONS

471 INSULATION & SARKING

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 351 Light Steel Framing and 352 Light Steel Framing Selections
- 361 Timber Framing and 362 Timber Framing Selections
- 421 Metal Roofing & Cladding and Metal Roofing & Cladding Selections
- 441 Cladding and 442 Cladding Selections
- 511 Linings & Ceilings and 512 Linings & Ceilings Selections

1.2 INTERPRETATION

Additional definitions
General: For the purposes of this worksection the definitions given below apply.

- Terminology: To AS/NZS 4859.1.
- Acoustic insulation: (a) Reduction of sound energy passing through building elements. (b) Materials or methods of construction to reduce the transmission of air-born and structure-born sound through walls, floors or other enclosing elements in buildings.
- Acoustic material: Building material with specific acoustic properties to achieve:
  . Sound transmission loss.
  . Sound absorption.
  . Damping of resonance.
  . Resilience against impact noise.
- Fire hazard properties: Means the average specific extinction area, critical radiant flux, Flammability index, Smoke-Developed Index, smoke growth rate index, smoke development rate or Spread-of-Flame Index of a material or assembly that indicate how they behave under specific fire test conditions.
- Sarking-type material: Flexible membrane material normally used for waterproofing, vapour proofing or thermal reflectance.
- Mineral wool (including glasswool and rockwool): Entangled mat of fibrous non-crystalline material derived from inorganic oxides or minerals, rock, slag or glass, processed at high temperatures from a molten state.
- Vapour barrier: A material or system that adequately impedes the transmission of water vapour under specified conditions'.

1.3 STANDARDS

Installation of mineral wool insulation
Comply with the ICANZ Industry Code of Practice for the Safe Use of Glass Wool and Rock Wool Insulation.

Marking: Deliver mineral wool products to site in packaging labelled FBS-1 BIO-SOLUBLE INSULATION.

1.4 INSPECTION

Notice
Inspection: Give sufficient notice so that inspection may be made of the sarking, vapour barrier and insulation before they are covered up or concealed.

1.5 SUBMISSIONS

Warranties
Manufacturer's published product warranties: Submit on completion.

2 PRODUCTS AND MATERIALS

2.1 AIMS

Responsibilities
General: Provide insulation systems:
- Complete for their function.
- Conforming to the requirements of the BCA for thermal and sound insulation.
- Conforming to the detail and location drawings.
- Firmly fixed in position.
- Maintain their performance for the life of the building.

2.2 MATERIALS AND COMPONENTS

Fire hazard properties
General: To AS/NZS 1530.3:
- Spread of flame index: ≤ 0.
- Smoke developed index: ≤ 3.
- Flammability index to AS 1530.2: ≤ 5.

Bulk insulation
Mineral wool blankets and cut pieces: To AS/NZS 4859.1 Section 8.

Polyester: To AS/NZS 4859.1 Section 7.

Reflective insulation: To AS/NZS 4859.1 Section 9.

Wool: To AS/NZS 4859.1 Section 6.

Standards Mark: Required.

Sarking-type material
Standard: To AS/NZS 4200.1.

Duty: Medium.

Vapour barrier classification: High to AS/NZS 4200.1.

Wall sarking: Vapour-permeable.

Fasteners and supports
General: Metallic-coated steel.

Mesh support to roof insulation
Metallic-coated wire netting: To AS 2423 Section 4.
- Size: 45 mm mesh x 1 mm diameter.

Welded safety mesh: To AS/NZS 4389.

Sealants
Acoustic sealant: Non-hardening sealant compatible with the materials to be sealed and rated to R_w 65.

Fire rated: Non-hardening sealant compatible with the materials to be sealed and having a fire rating equal to that of the partition it seals.

Sealant strips: Closed cell resilient foam.

3 EXECUTION AND WORKMANSHIP

3.1 GENERAL

Bulk insulation

Standard: To AS 3999.

Batts and rigid sheets: Fit tightly between framing members. If support is not otherwise provided, staple nylon twine to the framing and stretch tight.

Sarking-type material

Standard: To AS/NZS 4200.2.

Reflective foil laminate

To steel or aluminium: Double sided pressure sensitive tape.

Overlap (minimum): 150 mm and adhesive fix.

Wall sarking

Installation: Fix to the frame members with metallic-coated screws or pop rivets spaced at 300 mm maximum centres. Apply to the outer face of external stud walls from the bottom plate up, over the flashing. At the top, seal across the wall cavity.

Mesh support to roof insulation

Locations: Provide support to the following:

- Sarking, vapour barrier or reflective thermal insulation membranes laid over roof framing members which are spaced at more than 900 mm centres.
- Blanket type thermal insulation laid over roof framing members as sound insulation to metal roofing.

Installing wire netting: Lay over the roof framing providing sufficient slack or sag between members to suit the application.

Fixing wire netting: Staple to timber frame, wire to steel frame.

Insulation blanket fixing

Install in accordance with manufacturer's recommendations and directions to ensure blanket recovers its nominal thickness to ensure proper performance. **Either dish supporting mesh or supply and install spacers as required by manufacturer.**

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **472 INSULATION & SARKING SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 471 INSULATION & SARKING

472 INSULATION & SARKING SELECTIONS

1 SELECTIONS AND SCHEDULES

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1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

1.2 DESIGN REQUIREMENTS

Refer to SPECIFICATION SCHEDULE & MATERIAL SELECTIONS for Insulation Design requirements.

IS04 - SARKING – WALL HEAVY DUTY

Property	Description
Drawing Code:	**IS04**
Manufacturer / Supplier:	**CSR BRADFORD**
Product Name:	Thermoseal® Firespec
Type / Code:	Extra Heavy Duty, single-sided reflective aluminium foil and woven glass laminate; bonded using a laminating adhesive. This product is a Water Barrier and Class 2 Vapour Barrier.
Installation:	In accordance with the installation instructions in AS 4200.2, and those available on the Bradford website. For inclusion in BAL (Bushfire Attack Level) classified buildings, additionally adhere to the installation requirements of AS 3959.
Locations:	All external walls

IS11 – FOIL FACED BLANKET – R1.3 – ROOF SHEETING

Property	Description
Drawing Code:	**IS11**
Manufacturer / Supplier:	**CSR BRADFORD**
Product Name:	Anticon FC
Type / Code:	Foil faced glasswool blanket
Thickness (mm):	55mm
R-value:	R 1.3
Facing:	Light duty reflective foil laminate
Installation:	Under roof sheeting in accordance with manufacturer's recommendations. Lay foil face down on 2.0mm safety mesh

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Property	Description
Locations:	The whole of the new roof areas

IS27 – ACOUSTIC WALL BATTS – R2.0

Property	Description
Drawing Code:	**IS27**
Manufacturer / Supplier:	**CSR BRADFORD**
Product Name:	Soundscreen
Type / Code:	Rockwool wall batts
Thickness (mm):	70mm
R-value:	R 2.0
Fixing:	Fitted between wall studs
Locations:	Refer Wall Type Details

IS28 - ACOUSTIC WALL BATTS – R2.5

Property	Description
Drawing Code:	**IS28**
Manufacturer / Supplier:	**CSR BRADFORD**
Product Name:	Soundscreen
Type / Code:	Rockwool wall batts
Thickness (mm):	88mm
R-value:	R 2.5
Fixing:	Fitted between wall studs
Locations:	Refer Wall type Details

IS33 – THERMAL CEILING BATTS – R3.0 (CEILING)

Property	Description
Drawing Code:	**IS33**
Manufacturer / Supplier:	**CSR BRADFORD**
Product Name:	Gold ceiling batts
Type / Code:	Glasswool
Thickness (mm):	165mm
R-value	R 3.0
Fixing:	Fit between roof trusses / roof beams as directed by manufacturer.
Locations:	To all ceiling spaces to whole of building.

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IS39 – ACOUSTIC CEILING OVERLAY - BLACK

Property	Description
Drawing Code:	**IS39**
Locations:	Above acoustic panel ceilings with perforations. Equal to Supawood acoustic fabric with same NRC rating.

IS47 – CURTAIN WALL FIRESEAL INSULATION

Property	Description
Drawing code:	**IS47**
Product Name:	CSR Bradford Fireseal Curtain Wall Batt
Locations:	Spandrel Panels continuous between concrete slab edge and inside face of glazing or CFC cladding.

2 EXTENT OF WORK

2.1 GENERAL

General
Refer SCHEDULES above and drawings for locations and details of insulation required for the various components of this project.

All insulation products to be used in external walls are to have an AS1530 test certificate to indicate compliance to BCA requirements.

The contractor is to allow to provide insulation to comply with the following –

- BCA (Including Section J)
- AS4674
- EFSG requirements

END OF SECTION 472 INSULATION & SARKING SELECTIONS

511 LININGS & CEILINGS

3 GENERAL

3.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 351 Light Steel Framing and 352 Light Steel Framing Selections
- 361 Timber Framing and 362 Timber Framing Selections
- 441 Cladding and 442 Cladding Selections
- 471 Insulation & Sarking and 472 Insulation & Sarking Selections
- 631 Waterproofing - Wet Areas and 632 Waterproofing – Wet Areas Selections
- 671 Painting and 672 Painting Selections

3.2 STANDARDS

General
Suspended ceilings: To AS/NZS 2785.
Luminaire and air diffuser interface: To AS 2946.

3.3 INSPECTION

Notice
Inspection: Give notice so that inspection may be made of:

- The substrate or framing before installation of linings.
- The suspension system before the installation of ceiling tiles or panels.
- The ceiling assembly before the installation of fittings and site painting, if applicable.
- The completed ceiling.

3.4 SUBMISSIONS

None applicable.

4 PRODUCTS AND MATERIALS

4.1 MATERIALS AND COMPONENTS

Plasterboard
Standard: To AS/NZS 2588

Fibre cement

Standard:	To AS/NZS 2908.2.
Wall and ceiling linings:	Type B category 2.

Fasteners
As recommended by the manufacturer.

Insulation
Refer 471 INSULATION & SARKING and 472 INSULATION & SARKING SELECTIONS for details of insulation fixed behind linings.

Adhesives
For wallboards: Gunnable synthetic rubber/resin based mastic contact adhesive formulated for bonding flooring and wallboards to a variety of substrates.

Sealants
Fire rated sealant: Non-hardening sealant compatible with the materials to be sealed and having a fire rating equal to that of the partition it seals.

Acoustic sealant: Non-hardening sealant compatible with the materials to be sealed and having a specific gravity of not less than 1.5 gm/cubic centimetre and of 100% polyurethane mastic.

4.2 PROPRIETARY CEILING SYSTEMS

Proprietary systems
Consistency: Provide suspended ceilings as complete proprietary systems, each fabricated by one manufacturer and installed by a specialist installer of demonstrated capacity.

Support: Complete proprietary suspension system fixed to the structural soffit.

5 EXECUTION AND WORKMANSHIP

5.1 CONSTRUCTION GENERALLY

Conditions
Do not commence lining work until such time as the building or zone in question is enclosed and weathertight and all wet trades have been completed.

Substrates or framing
General: Before fixing linings check and, if necessary, adjust the alignment of substrates or framing.

Battens
General: Fix at each crossing with structural framing members, or direct to solid walls or ceilings. Provide wall plugs in solid backgrounds.

Accessories and trim
General: Provide accessories and trim necessary to complete the installation.

Adhesives
General: Provide adhesives of types appropriate to their purpose, and apply them so that they transmit the loads imposed, without causing discolouration of finished surfaces.

5.2 TOLERANCES

Surface
Flatness, twist, winding and bow: ≤ 1.5 mm deviation from a 1.5 m straightedge placed in any position.

5.3 PLASTERBOARD LINING

Supports
General: Install proprietary cold-formed galvanized steel furring channels as follows:

- Where framing member spacing exceeds the recommended spacing.
- Where direct fixing of the plasterboard is not possible due to the arrangement or alignment of the framing or substrate.
- Where the lining is the substrate for tiled finishes.

Transverse walls: Locate noggings as follows:

- At least 150 mm from the horizontal joint.
- Ensure that noggings do not protrude beyond the face of studs.

Installation
Gypsum plasterboard and fibre reinforced gypsum lining: To AS/NZS 2589.

Suspended flush ceilings: Fix using screw or screw and adhesive to ceiling members or support frame.

Wet areas: Do not use adhesive fixing alone.

Multiple sheet layers
Application: Fire rated and acoustic rated walls.

Joints: Fill and flush up all joints and fixings in each layer and caulk up perimeters and penetrations before commencing succeeding layers. Stagger all sheet joints by minimum 200 mm.

Joints
Flush joints: Provide recessed edge sheets and finish flush using perforated paper reinforcing tape.

External corner joints: Make joints over metallic-coated steel corner beads.

Control joints: Install purpose-made metallic-coated control joint beads at not more than 12 m centres in walls and ceilings and to coincide with structural movement joints.

Wet areas: Install additional supports, flashings, trim and sealants as required.

Joints in tiled areas: Do not apply a topping coat after bedding perforated paper tape in bedding compound.

5.4 FIBRE CEMENT LINING

Supports
General: Install proprietary cold-formed galvanized steel furring channels as follows:

- Where framing member spacing exceeds the recommended spacing.
- Where direct fixing of the fibre cement is not possible due to the arrangement or alignment of the framing or substrate.

Installation
General: Run sheets across the framing members. In flush jointed applications, stagger end joints in a brick pattern and locate them on framing members, away from the corners of large openings. Provide supports at edges and joints.

Steel framed construction: Screw only or combined with adhesive.

Wall framing:

- Do not fix to top and bottom plates or noggings.

Ceilings: Fix using screw or screw and adhesive to ceiling furring members. Do not fix sheets to the bottom chords of trusses.

Wet areas: Do not use adhesive fixing alone.

Joints
Flush joints: Provide recessed edge sheets and finish flush using perforated paper reinforcing tape.

- Movement joints in walls: Position a stud parallel to the joint on each side.
- Movement joints in ceilings and soffits: Provide movement joints to divide ceilings into bays not larger than 10.8 x 7.2 m and soffit linings into bays not larger than 4.2 x 4.2 m or 5.4 x 3.6 m. Provide framing parallel to the joint on each side. Do not fix the lining to abutting building surfaces.

External corner joints: Make joints over metallic-coated steel corner beads.

Control joints: Provide purpose-made metallic-coated control joint beads at ≤ 7.2 m centres in walls and ceilings and to coincide with structural movement joints.

Wet areas: Provide additional supports, flashings, trim and sealants as required.

5.5 SUSPENSION SYSTEM

Ceiling grid
General: Set out the ceiling grid so that tile or panel joints and centrelines of visible suspension members coincide with grid lines shown on the drawings. If not otherwise shown, set out so that opposite margins are equal.

Suspension system
Failure: Provide a ceiling system such that failure of any one suspension point does not cause a progressive failure of the ceiling.

Height adjustment: Provide height adjustment by means of a length adjustment device at each suspension point, permitting length variation of at least 50 mm.

Restriction: Do not attach the suspension system to the lip of purlins.

Services
Support: Space the support members as required by the loads on the system and the type of ceiling, and allow for the installation of services and accessories, including ductwork, light fittings and diffusers. Provide additional back support or suspension members for the fixing of such items to ensure that distortion, overloading or excessive vertical deflection is prevented. Do not fix suspension members to services (e.g. ductwork) unless the service has been designed to accept the ceiling load. In locations where services obstruct the ceiling supports, provide bridging and suspension on each side of the services. Do not support services terminals on ceiling tiles or panels.

Protection
General: Protect existing work from damage during the installation.

Stability
General: Install the ceilings level; and fix so that under normal conditions there is no looseness or rattling of ceiling components.

Structure-borne sound
General: Provide a ceiling system which does not amplify structure-borne sound. Provide suitable proprietary products or systems for reducing contact vibrations between structure and ceiling.

Bracing
General: Provide bracing to prevent lateral movement and to resist the imposed horizontal seismic force.

Bulkheads
General: Construct bulkheads and other similar ceiling formations as an integral part of the ceiling structure. Brace bulkheads to prevent lateral movement. If the ceiling is terminated at a bulkhead, provide for seismic requirements.

Fasteners
General: Install fasteners so that they are not visible in the finished ceiling. Do not use screw fasteners in materials supporting hangers less than 3 mm thick.

Movement joints
Abutments: Install the ceiling to allow for differential movement at abutting surfaces.

Alignment: Install the ceiling with control joints to correspond in location and direction to those in the structural frame. Do not bridge any control joint in the structural frame.

Prefinishes
General: Repair damaged prefinishes by recoating.

5.6 TILES

General
Fitting: Fit tiles accurately and neatly, free from air leakage and staining.

Lock clips: If tiles are exposed to loads from wind actions or if required for security, insert lock clips at the junction of carrier rails and tiles.

Pattern and texture: Set out patterned or heavily textured materials to give consistency in direction of pattern or texture.

Service penetrations
General: Provide openings for, and fit the ceiling up to, all services elements such as light fittings, ventilation outlets, detectors, sprinklers and loudspeakers.

Cut tile edges
General: Conceal, or finish to match prefinished edges.

5.7 ACCESS PANELS

Finish
General: Match the access panels to the ceiling in appearance and performance.

Identification
General: Provide each access panel with an identification mark.

Non-demountable ceilings
General: Provide access panels supported and anchored to permit ready removal and refixing.

Reinforcement
General: Reinforce the back of the access panel to prevent warping and facilitate handling.

5.8 PROPRIETARY CEILING SYSTEMS

General
Fitting: Fit ceiling lining units accurately, neatly and without distortion. Consult the system manufacturer if additional support and bracing is required to lining units which are required to carry loads from permanent actions other than their own weight.

Panel lock clips: If panels are exposed to loads from wind actions or if required for security, insert panel lock clips at the junction of carrier rails and panels.

Accessories
General: Provide accessories as part of the proprietary assembly necessary to complete the installation.

Service penetrations
General: Provide openings for, and fit the ceiling system up to, all services elements such as light fittings, ventilation outlets, detectors, sprinklers and loudspeakers.

5.9 TRIM

General
General: Provide trim such as beads, mouldings and stops to make neat junctions between lining components, finishes and adjacent surfaces.

Control joints
Location: Provide for control joints in sheet finishes where required. Where possible, position joints to intersect lighting fixtures, vents or air diffusers.

Type: Form movement joints with purpose-made control joint beads.

Timber trim
Hardwood: AS 2796.1.

Softwood: To AS 4785.1.

- Grade: To AS 4785.2.

5.10 COMPLETION

Maintenance manual
General: On completion, submit a manual of recommendations for the care and maintenance of the ceiling, and operating instructions for demounting if applicable.

Spares
General: Supply spare matching lining units and accessories of each type for future replacement purposes. Store the spare materials on site where directed.

Supporting system: One spare supporting member (hanger or framework member) for every 100 members (or part thereof) of the same type installed in the ceiling.

Lining units: One spare unit for every 50 units (or part thereof) installed in the ceiling.

6 SELECTIONS AND SCHEDULES

6.1 SELECTIONS

Refer to **512 LININGS & CEILINGS SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 511 LININGS & CEILINGS

512 LININGS & CEILINGS SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

LC02 – PLASTERBOARD - 13MM GENERAL

Property	Description (3 alternatives acceptable)		
Drawing Code:			LC02
Supplier:	CSR GYPROCK	BORAL	KNAUF
Product Name:	CD	Regular	MastaShield
Thickness (mm):	13mm	13mm	13mm
Edge finish:	Recessed edge, flush joints	Recessed edge, flush joints	Recessed edge, flush joints
Face finish:	Paint finish	Paint finish	Paint finish
Fixings:	In accordance with manufacturer's recommendations	In accordance with manufacturer's recommendations	In accordance with manufacturer's recommendations

LC04 - PLASTERBOARD – 13MM MOISTURE RESISTANT

Property	Description (3 alternatives acceptable)		
Drawing Code:			LC04
Supplier:	CSR GYPROCK	BORAL	KNAUF
Product Name:	Aquachek	Wet Area	WaterShield
Thickness (mm):	13mm		
Face finish:	Paint finish		
Edge finish:	Recessed edge, flush joints		
Fixings:	In accordance with manufacturer's recommendations		

LC05 - PLASTERBOARD – 13MM FIRE RATED

Property	Description (3 alternatives acceptable)		
Drawing Code:			LC05
Supplier:	CSR GYPROCK	BORAL	KNAUF
Product Name:	Fyrchek	Firestop	FireShield

Property	Description (3 alternatives acceptable)
Thickness (mm):	13mm
Face finish:	Paint finish
Edge finish:	Recessed edge, flush joints
Fixings:	In accordance with manufacturer's recommendations

LC06 - PLASTERBOARD – 16MM FIRE RATED

Property	Description (3 alternatives acceptable)		
Drawing Code:			**LC06**
Supplier:	**CSR GYPROCK**	**BORAL**	**KNAUF**
Product Name:	Fyrchek	Firestop	Fire Shield
Thickness (mm):	16mm		
Face finish:	Paint finish		
Edge finish:	Recessed edge, flush joints		
Fixings:	In accordance with manufacturer's recommendations		

LC07 - PLASTERBOARD – 13MM FIRE RATED MOISTURE RESISTANT GRADE

Property	Description (3 alternatives acceptable)		
Drawing Code:			**LC07**
Supplier:	**CSR GYPROCK**	**USG BORAL**	**KNAUF**
Product Name:	Fyrchek MR	Fire+Wetstop	Fire Wetstop
Thickness (mm):	13mm		
Face finish:	Paint finish		
Edge finish:	Recessed edge, flush joints		
Fixings:	In accordance with manufacturer's recommendations		

LC08 - PLASTERBOARD – 16MM FIRE RATED MOISTURE RESISTANT GRADE

Property	Description (3 alternatives acceptable)		
Drawing Code:			**LC08**
Supplier:	**CSR GYPROCK**	**USG BORAL**	**KNAUF**
Product Name:	Fyrchek MR	Fire+Wetstop	Fire Wetstop
Thickness (mm):	16mm		
Face finish:	Paint finish		
Edge finish:	Recessed edge, flush joints		
Fixings:	In accordance with manufacturer's recommendations		

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LC09 - PLASTERBOARD - 13MM IMPACT RESISTANT

Property	Description (3 alternatives acceptable)		
Drawing Code:			LC09
Supplier:	**CSR GYPROCK**	**BORAL**	**KNAUF**
Product Name:	Impactchek	Impactstop	ImpactShield
Thickness (mm):	13mm		
Face finish:	Paint finish		
Edge finish:	Recessed edge, flush joints		
Fixings:	In accordance with manufacturer's recommendations Install resilient mount fixings on the amenity / wet area side of the partition where fixing to concrete or blockwork walls.		

LC15 (PREVIOUSLY LC16) - PLASTERBOARD - 13MM ACOUSTIC

Property	Description (3 alternatives acceptable)		
Drawing Code:			LC15
Supplier:	**CSR GYPROCK**	**BORAL**	**KNAUF**
Product Name:	Soundchek	Soundstop	SoundShield
Thickness (mm):	13mm		
Face finish:	Paint finish		
Edge finish:	Recessed edge, flush joints		
Fixings:	In accordance with manufacturer's recommendations		

LC17 - PLASTERBOARD – 12.5MM PERFORATED

Property	Description
Drawing Code:	LC17
Manufacturer:	**CSR GYPROCK**
Product Name:	Rigitone™
Pattern:	Astral
Thickness (mm):	12.5mm
Face finish:	Paint finish
Edge finish:	Edges to be square cut and pre-primed for ready-mixed Rigitone™ Filler to create a continuous, seamless finish.
Fixings:	In accordance with manufacturer's recommendations
Access panels:	Where required, fit 500 x 500 Rigitone™ access panels (LC79)
Locations:	Refer Ceiling Plans
Fixings:	

LC21 – FC LINING – 6MM FOR WALLS

Property	Description (2 alternatives acceptable)	
Drawing Code:	**LC21**	
Supplier:	**JAMES HARDIE PTY LTD**	**CSR CEMINTEL**
Product Name:	Villaboard	Ceminseal
Thickness (mm):	6mm	
Face finish:	Paint finish	
Edge finish:	Recessed edge, flush joints	
Fixings:	In accordance with manufacturer's recommendations	

LC22 – FC LINING – 6MM FOR CEILINGS

Property	Description (2 alternatives acceptable)	
Drawing Code:	**LC22**	
Manufacturer / Supplier:	**JAMES HARDIE PTY LTD**	**CSR CEMINTEL**
Product Name:	Villaboard	Ceminseal
Thickness (mm):	6mm	
Face finish:	Paint finish	
Edge finish:	Recessed edge, flush joints	
Fixings:	In accordance with manufacturer's recommendations	

LC23 – FC LINING – 9MM FLUSH JOINTS

Property	Description (2 alternatives acceptable)	
Drawing Code:	**LC23**	
Manufacturer:	**JAMES HARDIE PTY LTD**	**CSR CEMINTEL**
Product Name:	Villaboard	Ceminseal
Thickness (mm):	9mm	
Face finish:	Paint finish	
Edge finish:	Recessed edge, flush joints	
Fixings:	In accordance with manufacturer's recommendations	
Locations:	Wet area wall lining.	

LC27 – PERFORATED METAL SHEETING – CORRUGATED

Property	Description
Drawing Code:	**LC27**
Manufacturer:	**STRAMIT**
Product Name:	Stramit® Acoustic Panel System

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Property	Description
Thickness (mm):	0.42mm BMT
Surface finish:	Prefinishes corrugated zincalume sheet
Edge finish:	Colorbond trim to all edges
Colour:	Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS
Fixings:	In accordance with manufacturer's recommendations. Fixed to deep top hat sections to suit insulation thickness.

LC41 – SUSPENDED CEILING SYSTEM TYPE 1 FLUSH PLASTERBOARD

Property	Description
Drawing code:	**LC41**
Manufacturer / Supplier:	**RONDO**
Product Name:	Key Lock Direct Fix Ceiling System
Surface finish:	Painted plasterboard
Thickness (mm):	10mm
Trim:	P50 shadowline trim or square set as shown on drawings.
Location:	Flush plasterboard ceilings

LC42 - EXPOSED GRID CEILING - ACOUSTIC

Property	Description
Drawing code:	**LC42**
Manufacturer / Supplier:	**ARMSTRONG CEILING SOLUTIONS**
Suspension system:	Prelude 24mm exposed grid suspension system
Grid colour:	White.
Inset tile:	Armstrong Fine Fissured High NRC / CAC ceiling tiles
Colour:	Standard White
Surface finish:	Mineral fibre.
Thickness (mm):	19 mm
Size:	1200mm x 600mm
Cornice:	Prepainted aluminium shadowline wall angle
Accessories:	Beam and retainer clips Hold down clips Shadowline Wall Angles Direct Fix Hangers

LC53 – CORNICE – P50 SHADOWLINE

Property	Description
Drawing Code:	**LC53**
Manufacturer:	**RONDO**

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Property	Description
Product Name:	P50 Shadowline stopping angle
Recess size (mm):	10mm x 10mm
Material:	G2 Galbabond Z200
Finish:	Paint finish to match ceilings
Fixings:	In accordance with manufacturer's recommendations

LC54 – CORNICE – SQUARESET

Property	Description
Drawing Code:	**LC54**
Manufacturer:	**RONDO**
Fixings:	In accordance with manufacturer's recommendations
Location:	Refer to drawings.

LC59 – TRIM – TIMBER

Property	Description
Drawing Code:	**LC59**
Manufacturer:	**VARIOUS**
Product Name:	Timber reveals to windows and doors
Material:	Clear pine (MDF not permitted)
Size (mm):	19mm thick by width to suit location
Finish:	Paint finish

LC58 – ARCHITRAVES – SHADOWLINE

Property	Description
Drawing Code:	**LC58**
Manufacturer:	**RONDO**
Product Name:	P50 Shadowline stopping angle
Recess size (mm):	10mm x 10mm
Material:	G2 Galvabiond Z200
Finish:	Paint finish to match ceilings
Fixings:	In accordance with manufacturer's recommendations

LC63 – SKIRTING – 100MM HIGH ALUMINIUM

Property	Description
Drawing Code:	**LC63**
Supplier:	**TBC**
Profile:	Aluminium Skirting

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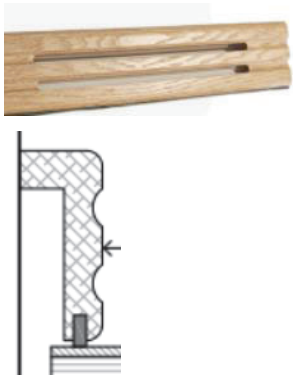
Property	Description
Material:	Aluminium
Size (mm):	100mm high
Finish:	Black Anodised

LC67 – SKIRTING – VENTILATED

Property	Description	
Drawing Code:	**LC67**	
Supplier:	**RMA SPORTS (AURA SPORTS)**	
Product Name:	Helsinki Base Board	
Species:	Oak *(EFSG Approval Required)*	
Size (mm):	60 H x 26mm D	
Finish:	Painted	
Installation:	Ensure board is installed and fixed according to manufacturer's specifications. Ensure rubber lip attached to the bottom is not damaged during install. Ensure all dust, dirt and items that may be caught in the ventilation opening as cleaned and `removed before handover.	
Notes:	The ventilation must be always open to guarantee proper ventilation of the sub-floor`. Chewing gum, paper etc must be `removed from time to time. Dust and dirt should be vacuumed away.	

LC76 - ACCESS PANEL – FLUSH CEILING

Property	Description
Drawing Code:	**LC76**
Supplier:	**RONDO**
Product Name:	PANTHER SRAPSB
Size (mm):	530mm x 530mm or 450mm x 450mm. Refer drawings for locations.
Material:	To match adjacent ceiling
Edge finish:	Set bead
Lock:	Square key budget lock
Fixings:	In accordance with manufacturer's recommendations

LC77 - ACCESS PANEL - WITH LADDER

Property	Description
Drawing Code:	**LC77**

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Property	Description
Supplier:	**VISTA COMPACT**
Product Name:	LD462 150kg industrial rated fold down access ladder system.
Size (mm):	Ceiling opening 1230 x 570. Refer drawings for locations.
Material:	Prefinished laminate door.
Edge finish:	Set bead
Lock:	Proprietary locking system.
Fixings:	In accordance with manufacturer's recommendations

LC81 – ACOUSTIC CEILING PANEL SYSTEM

Property	Description
Drawing code:	**LC81**
Supplier:	**WOVEN IMAGES**
Product Name:	EchoPanel
Material:	12mm 100% polyester fibre (PET)
Finish:	Pile direction to be consistent across all sheets
Acoustics:	NRC - 0.75 (provide 50mm air gap) SAA – 0.75 αw – 0.60 (MH)
Fire Rating:	Group 1 (*per BCA Specification C1.10 clause 4)*
Colour:	Refer to finishes specification within architectural drawings
Substrate:	18mm Fire Rated MDF
Joint:	Butted as per manufacturer's recommendations
Edging:	Square Edge; 10mm express joint
Size:	2800 *(+/- 10mm)* x 1200mm *(+/- 5mm)* x 12mm thick *(+/- 7%)*
Installation:	To be as per manufacturer's instructions and AS/NZS 2785 (*Installation to be done by an approved ceiling and partition contractor)*
Fixings:	In accordance with manufacturer's recommendations Adhesive fixed to wall surface in accordance with manufacturer's recommendations. Provide powder coated 12x12mm aluminium angle trim to all exposed edges
Warranty:	10 Years *(see manufacturer's warranty certificate for terms and conditions)*
Accessories:	Access Panel Integration as required
Performance:	Climate Active Carbon Neutral Product Green Tag Certified Level A Red List Free Product Declare Product Low VOC

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Property	Description
Notes:	Certificate to be supplied upon completion.
Location:	Where noted on the architectural drawings

LC83 – ACOUSTIC WALL PANEL – KOGARAH PS ONLY

Property	Description	Picture
Drawing code:	**LC83**	
Supplier:	**DÉCOR SYSTEMS**	
Product Name:	DecorTrend	
Perforation Pattern:	Trend AS26-25/60	
NRC:	0.70 / -0.80	
Fire Rating:	Group 1 (*per BCA Specification C1.10 clause 4)*	
Surface finish:	Prefinished	
Colour:	Refer to SPECIFICATIONS SCHEDULE & MATERIAL SELECTIONS	
Substrate:	Black Core Fire Rated MDF	
Joint:	Square Edge 10mm express joint	
Edging:	To match front face	
Size:	2400 x 1200mm x 12mm thick	
Installation:	To be as per manufacturer's instructions and AS/NZS 2785 (*Installation to be done by an approved ceiling and partition contractor)*	
Fixings:	Concealed DSB In accordance with manufacturer's recommendations	
Warranty:	10 Years *(see manufacturer's warranty certificate for terms and conditions)*	
Backing:	DecorTrend panels shall be supplied with DecorSorb Integrated Acoustic backing	
Acoustic Insulation:	DecorSorb behind panels	
Accessories:	Access Panel Integration as required	
Notes:	Panels should be allowed to acclimatise on site for at least five days before installation. Decor Systems certificate to be supplied upon completion.	
Location:	High level walls as shown on drawings.	

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LC84 –WALL PANEL – KOGARAH PS ONLY

Property	Description	Picture
Drawing code:	**LC84**	
Supplier:	**DÉCOR SYSTEMS**	
Product Name:	DécorStyle Solid	
Fire Rating:	Group 1 (*per BCA Specification C1.10 clause 4)*	
Surface finish:	Prefinished	
Colour:	Refer to SPECIFICATIONS SCHEDULE & MATERIAL SELECTIONS	
Substrate:	Black Core Fire Rated MDF	
Joint:	Square Edge 10mm express joint	
Edging:	To match front face	
Size:	2400 x 1200mm x 12mm thick	
Installation:	To be as per manufacturer's instructions and AS/NZS 2785 (*Installation to be done by an approved ceiling and partition contractor)*	
Fixings:	Concealed DSB In accordance with manufacturer's recommendations	
Warranty:	10 Years *(see manufacturer's warranty certificate for terms and conditions)*	
Accessories:	Access Panel Integration as required	
Notes:	Panels should be allowed to acclimatise on site for at least five days before installation. Decor Systems certificate to be supplied upon completion.	
Location:	Low level walls as shown on drawings.	

LC86 – ACOUSTIC WALL FABRIC, FELT

Property	Description	
Drawing Code:	**LC86**	
Details:	Depending on which colour is which brand below is to be used	
Supplier:	**AUTEX**	**INSTYLE**
Product Name:	Composition	Ecoustic Felt Panel
Material:	100% polyester fibre (PET)	100% polyester fibre (PET)
Size:	1220mm x 25m x 12mm 1680gsm weight	1210 x 2720 x 13.5mm 2750gsm weight

Property	Description	
Compliance:	Up to 60% recycled material Greentag Level A certified Declare Label (Red List Free) Low VOC and CDPH compliant Carbon neutral product	Up to 80% recycled PET and recyclable through Revive program Greentag Level A certified Declare Label (Red List Free) Low VOC
Performance:	NRC 0.4 / αw 0.63 MH	NRC 0.5 / αw 0.4 MH
Fire Rating:	AS / ISO 9705 Group 1 (AS 5637.1)	
Warranty:	10-year manufacturers guarantee	5 years conditional warranty against manufacturing defects
Install:	Joints butted as per manufacturer's recommendations. Not horizontal joins	
EFSG Install Requirements:	Commercial wall fabric facing bonded to resilient 100% polyester or resilient multiple foam pinning substrate adhered to a plywood backing. Facing fabric and pining substrate and must be able of hold pins/staples firmly and capable of maintaining its pin holding capacity over a prolonged period of constant use. *GUIDE NOTE: Select a standard substrate or an Impact-resistant substrate. Refer to the Educational Facilities Standards and Guidelines.*	
Substrate:	Description:	Plywood wall lining which has been treated to prevent attack by termites.
	Thickness:	7.5mm
	Ply:	5
	Stress grade:	F11
	Standards:	To AS 2270 AS 1604.3, Hazard class H2
	Identification:	Each sheet of ply to be stamped on the back to identify that it has been treated to prevent the attack of termites to the appropriate Australian Standard.
Fixing:	Adhesive fixed to wall surface in accordance with manufacturer's recommendations. Provide powder coated 12x12mm aluminium angle trim to all exposed edges	
Location:	Where noted on the architectural drawings	

LC87 – ACOUSTIC WALL PANELLING, SOLID

Property	Description
Drawing Code:	**LC87**
Details:	Depending on which colour is which brand below is to be used
Supplier:	**WOVEN IMAGE**
Product Name:	EchoPanel
Material:	12mm 100% polyester fibre (PET)
Finish:	Pile direction to be consistent across all sheets

Property	Description
Colour:	See acoustic finishes below
Install:	Joints butted as per manufacturer's recommendations. Not horizontal joins
Fixing:	Adhesive fixed to wall surface in accordance with manufacturer's recommendations. Provide powder coated 12x12mm aluminium angle trim to all exposed edges
Location:	Where noted on the architectural drawings

LC88 – ACOUSTIC WALL PANELLING, PATTERNED

Property	Description
Drawing Code:	**LC88**
Supplier:	**INSTYLE**
Product Name:	Ecoustic Yalgu Panel
Material:	100% polyester fibre (PET) + HP water-based latex digital print
Panel Size:	1200 x 2700 x 13.5mm
Finish:	Pile direction to be consistent across all sheets
Install:	Joints butted as per manufacturer's recommendations. Not horizontal joins
Fixing:	Adhesive fixed to wall surface in accordance with manufacturer's recommendations. Provide powder coated 12x12mm aluminium angle trim to all exposed edges
Performance:	NRC 0.3 – 0.85 / αw 0.34 – 0.8 *(depending on thickness)*
Fire Ratings:	AS / ISO 9705 Group 1 (AS 5637.1)
Compliance:	Up to 65% recycled PET and recyclable through Revive program Greentag Level A certified Declare Label Low VOC + Safe to Handle: non-toxic, non-irritant + non-allergenic
Warranty:	5 years conditional warranty against manufacturing defects
Location:	Where noted on the architectural drawings

2 GENERAL

2.1 GENERAL

Refer drawings for locations and details of linings and ceilings required for the various components of this project.

All Internal linings to teaching spaces are to be CSR Impactchek or equivalent
Internal partitions are to be designed to meet the acoustic performance requirements in tables 11.06.1 and 11.06.02 in the EFSG.
If there are any discrepancies between this specification and the requirements of these sections of the EFSG the higher level of performance will be required.

2.2 NON-STRUCTURAL EARTHQUAKE DESIGN STATEMENT

Provide certification for the design of non-structural elements including wall framing systems and ceiling framing systems by the supplier (for example Rondo) to achieve compliance with Section 8 of AS1170.4-2007 to satisfy the requirements of BCA B1.2.

END OF SECTION 512 LININGS & CEILINGS SELECTIONS

521 JOINERY

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:
- 121 General Requirements
- 131 Common Requirements
- 511 Linings & Ceilings and 512 Linings & Ceilings Selections
- 531 Metalwork & Misc Furniture and 532 Metalwork & Misc Furniture Selections

1.2 STANDARDS

Refer body of specification.

1.3 INSPECTION

Notice
Inspection: Give sufficient notice so that inspection may be made of the following:
- Shop fabricated or assembled items ready for delivery to the site.
- Openings prepared to receive assemblies.
- Site erected assemblies on completion of erection, before covering up by cladding and encasing.
- Surfaces prepared for, and immediately before, site applied finishes.
- Completion of installation.

1.4 SUBMISSIONS

Samples generally
General: Submit samples to the **Sample table.**

Sample table

Description	No. of samples
Samples of the selected timber veneer showing the maximum expected variation	2 x 3 variants

Shop drawings
General: Submit shop drawings to a scale not smaller than 1:50, showing:
- Overall dimensions.
- Materials, thicknesses and finishes of elements including doors, divisions, shelves and benches.
- Type of construction including mitre joints and junctions of members.
- Hardware type and location.
- Temporary bracing, if required.
- Procedures for shop and site assembly and fixing.
- Benchtop layout including joint arrangement and penetrations.
- Locations of sanitary fixtures, stoves, ovens, sinks, and other items to be installed in the units.
- Relationship of fixture to adjacent building elements.
- Proposals for the break-up of large items as required for delivery to the site.

- Proposed method of joining the modules of large items.

2 PRODUCTS AND MATERIALS

2.1 EMISSIONS

General
All boards, board associated products & adhesives shall be low emission material - Formaldehyde emissions: E1 to DIN EN 717.3

2.2 JOINERY MATERIALS AND COMPONENTS

Visible work
Clear finished timber and veneer: Ensure all visible surfaces are free of branding, crayon or chalk marks and of blemishes caused by handling.

Joinery timber
Hardwood: To AS 2796.3.

Seasoned cypress pine: To AS 1810.

Softwood: To AS 4785.3.

Finished sizes: For milled timbers actual dimensions which are at least the required dimensions, except for dimensions qualified by a term such as ‘nominal’ or ‘out of’ to which industry standards for finished sizes apply.

Plywood
Interior use generally: To AS/NZS 2270.

Interior use, exposed to moisture: To AS/NZS 2271.

Visible surface with a clear finish: Veneer quality A.

Other visible surfaces: Veneer quality C or D.

Non-structural glued laminated timber
Standard: AS 5067.

Wet processed fibreboard (including hardboard)
Standard: To AS/NZS 1859.4.

Particleboard
Standard: To AS/NZS 1859.1.

Melamine overlaid particleboard: Particleboard overlaid on both sides with low pressure melamine.

Dry-processed fibreboard (including medium density fibreboard)
Standard: To AS/NZS 1859.2.

Melamine overlaid medium density fibreboard: Medium density fibreboard (STD MDF) overlaid on both sides with low pressure melamine.

Decorative overlaid wood panels
Standard: To AS/NZS 1859.3.

High-pressure decorative laminate sheets
Standard: To AS/NZS 2924.1.

Class	Definition	Typical applications
CG (S or F)	Compact general purpose	High performance, self supporting vertical or horizontal surfaces
HD (S or F)	Horizontal heavy duty	High performance horizontal surfaces
HG (S, or P)	Horizontal general purpose	General horizontal surfaces and high performance vertical surfaces
VG (S, or P)	Vertical general purpose	General vertical surfaces and light duty horizontal surfaces

Class	Definition	Typical applications
VL (S)	Vertical light duty	Light duty vertical surfaces

Thickness (minimum):

- For horizontal surfaces fixed to a continuous background: 1.2 mm.
- For vertical surfaces fixed to a continuous background: 0.8 mm.
- For post formed laminate fixed to a continuous background: 0.8 mm.
- For vertical surfaces fixed intermittently (e.g. to studs): 3.0 mm.
- For edge strips: 0.4 mm.

2.3 VENEERS

Timber veneer

Veneer quality: To AS/NZS 2270.

Grades (minimum requirement):

- Select grade, veneer quality A, for visible surfaces to have clear finish or to have no coated finish.
- General purpose grade, veneer quality B, for other visible surfaces.

General: Provide veneers slip matched and flitch batched and falling within the visual range of the approved samples.

2.4 JOINERY ITEMS

General

Provide materials noted on drawings as follows:

- Joinery components and their location, indicative construction details, scribes and trims, materials, dimensions and thicknesses, and finishes.
- Confirm on site all dimensions noted on drawings after the completion of partitions.
- Finishes selections are noted in the Finishes schedule.
- Hardware and equipment: Include all hardware and equipment items as documented.

2.5 CUPBOARDS, SHELF AND DRAWER UNITS

Plinths

Material: Select from the following:

- Exterior general purpose plywood.

Thickness: 18 mm.

Fabrication: Form up with front and back members and full height cross members at not more than 900 mm centres.

Finish: High-pressure decorative laminated sheet.

- Fasteners: Conceal with finish.

Installation: Scribe to floor and secure to wall to provide level platform for carcasses.

Carcasses

Material: Select from the following:

- Melamine overlaid high moisture resistant medium density fibreboard.
- Exterior general purpose plywood to wet areas

Thickness: 16 mm.

Joints: Select from the following:

- Proprietary mechanical connections.
- Dowels and glue.
- Screws and glue.
- Proprietary joining plates and glue.

- Adjustable shelves: Unless noted otherwise ALL shelving is to be adjustable. Support on proprietary brass pins with brass ferrules in holes bored at equal centres vertically for full height of shelves.
- Spacing: 25 mm.

Finish: High-pressure decorative laminated sheet.

Fasteners: Conceal with finish.

Installation: Secure to walls at not more than 600 mm centres.

All Carcasses and surfaces that are not visible (i.e. when cupboards are closed) will be Laminex 16mm MR MDF Whiteboard, with all edging be Laminex 2mm ABS Edging in WHITE unless noted otherwise.

NOTE: All gable faces to be concealed by doors and drawing fonts.

Open shelving, drawer fronts and doors

Material: Select from the following:

- Melamine overlaid high moisture resistant medium density fibreboard.
- Exterior general purpose plywood to wet areas
- Thickness: 16 mm.
- Shelves: 25 mm U.N.O.

Maximum door size: 2400 mm high, 900 mm wide, 1.5 m^2 on face.

Drawer fronts: Rout for drawer bottoms.

Adjustable shelves: Unless noted otherwise ALL shelving is to be adjustable. Support on proprietary brass pins with brass ferrules in holes bored at equal centres vertically.

- Spacing: 25 mm.

Drawer backs, sides and bottoms

Material: White powder coated metal drawers

Drawer and door hardware

Hinge types: Concealed metal hinges with the following features:

- Adjustable for height, side and depth location of door.
- Self closing action.
- Hold open function.
- Nickel plated.
- Opening angle 110°.

Piano hinges: Chrome plates steel, extending full height of doors.

Slides: Metal runners and plastic rollers with the following features:

- 50 kg loading capacity.
- Closure retention.
- White thermoset powder coating or nickel plated.

2.6 WORKING SURFACES

Laminated benchtops

Finish: High-pressure decorative laminated sheet.

Exposed edges: Extend laminate over shaped nosing, finishing > 50 mm back on underside.

Balance underside: Extend laminate to the undersides of benchtops.

Installation: Scribe to walls. Fix to carcass at least twice per 600 mm length of benchtop.

Joint sealing: Fill joint with sealant matching finish and clamp with proprietary mechanical connectors.

Stainless steel benchtops

Material: Stainless steel sheet glued to plywood sheet.

Stainless steel thickness: 1.2 mm.

Finish: Surface finish 4 (general purpose polished).

Bench height: To top of dry bench and to top of perimeter bead to wet bench.

Bench lengths: Maximum, to minimise number of bench/bench junctions.

Exposed corners: Radius exposed corners at least 5 mm, including back vertical corners of upstands.

Internal back vertical corners: Fuse only from behind.

Wet bench perimeter: Except at wall flashing, provide a raised bead, with a fascia.

Dry bench perimeter: Except at wall flashing, provide a fascia.

Balance underside: Provide laminate to the undersides of benchtops.

Installation: Scribe to walls. Fix to carcass at least twice per 600 mm length of benchtop.

Joint sealing: Fill joint with sealant matching finish and clamp with proprietary mechanical connectors.

3 EXECUTION AND WORKMANSHIP

3.1 AIMS

Responsibilities

General: Fabricate and install joinery items to backgrounds undamaged, plumb, level, straight and free of distortion and to the **Tolerances table**.

Tolerances table

Property	Tolerance criteria
Plumb and level	1 mm in 800 mm
Offsets in flush adjoining surfaces	< 0.5 mm
Offsets in revealed adjoining surfaces	< 2 mm
Alignment of adjoining doors	< 0.5 mm
Difference in scribe thickness for joinery items centred between walls	< 2 mm
Doors centred in openings	zero
Joints in finished surfaces	zero

3.2 JOINERY

General

Joints: Provide materials in single lengths whenever possible. If joints are necessary make them over supports.

Framing: Frame and trim where necessary for openings, including those required by other trades.

Accessories and trim

General: Provide accessories and trim necessary to complete the installation.

Fasteners

Visibility: Do not provide visible fixings except in the following locations:

- Inside cupboards and drawer units.
- Inside open units in which case provide proprietary caps to conceal fixings.

Visible fixings: Where fastenings are unavoidable on visible joinery faces, sink the heads below the surface and fill the sinking flush with a material compatible with the surface finish. In surfaces which are to have clear or tinted finish provide matching wood plugs showing face (not end) grain. In surfaces which are to have melamine finish provide proprietary screws and caps finished to match.

Fix joinery units to backgrounds as follows:

- Floor mounted units: 600 mm centres max.
- Wall mounted units: To each nogging and/or stud stiffener.

Fixings: Screws with washers into timber or steel framing, or masonry anchors.

Adhesives
General: Provide adhesives to transmit the loads imposed and to ensure the rigidity of the assembly, without causing discolouration of finished surfaces.

Finishing
Junctions with structure: Scribe, plinths, benchtops, splashbacks, ends of cupboards, kickboards and returns to follow the line of structure.

Where an infill scribe is required the scribe finish is to match the adjoining finish.

Joints: Scribe internal and mitre external joints.

Edge strips: Finish exposed edges of sheets with edge strips which match sheet faces.

Matching: For surfaces which are to have clear or tinted finish, arrange adjacent pieces to match the grain and colour.

Hygiene requirements: To all food handling areas and voids at the backs of units to all areas, seal all carcass junctions with walls and floors, and to cable entries, with silicone beads for vermin proofing. Apply water resistant sealants around all plumbing fixtures and ensure the sealants are fit for purpose.

Benchtops
Installation: Fix to carcass at least twice per 600 mm length of benchtop.

Joint sealing: Fill joints with sealant matching the finish colour and clamp with proprietary mechanical connectors.

Edge sealing: Seal to walls and carcasses with a sealant, which matches the finish colour.

Labelling
General: Permanently mark each unit of furniture with the manufacturer's name, on an interior surface.

3.3 STAINLESS STEEL FABRICATION GENERALLY

Stainless steel welding
Process: Gas tungsten arc welding.

Weld type: Butt.

Internal weld category: Level 2.

External weld category: Class B.

Surface finish: Grade I, 120 grit.

Welding materials: Compatible with metal being welded.

Weld quality: Free from imperfections such as cracks and pits. Grind and polish to give required surface finish. Continuous exposed welds.

Joints: Strength at least that of parent metal. Free from crevices and folds.

Joint position: At corners and edges as far as possible. Minimise joints in flat panels.

Protection
General: Provide temporary self-adhesive plastic film to stainless steel surfaces.

Hardware fixing
General: Drill and tap, or weld fix.

Linishing grain direction
Benches and shelves: Lengthwise.

Bowls: Horizontal to sides, parallel to bench grain to bottom. Mitre at bottom corners.

Abutting surfaces: Parallel where possible.

3.4 DELIVERY AND STORAGE

General
General: Deliver joinery units to site in unbroken wrapping or containers and store so that its moisture content is not adversely affected. Do not store in areas of wet plaster. Keep storage to a minimum by delivering items only when required for installation.

Back prime surfaces concealed by backgrounds.

Examine joinery units for completeness and remedy deficiencies.

Acclimatisation

General: Acclimatise the joinery items by stacking it in the in-service conditions with air circulation to all surfaces after the following construction operations are complete:

- Airconditioning operational.
- Lighting operational.
- Site drainage and stormwater works are complete.
- Space fully enclosed and secure.
- Wet work complete and dry.

Background

General: Damp clean and vacuum background surfaces that will be permanently concealed.

3.5 COMPLETION

Maintenance manual

General: Submit manufacturer's published recommendations for service use.

Cleaning

Temporary coatings: On or before completion of the works, or before joining up to other surfaces, remove all traces of temporary coatings used as a means of protection.

General: Remove all dust, marks and rubbish from all surfaces and internal spaces. Clean and polish all self finished surfaces such as anodised and powder coated metals, sanitaryware, glass, tiles and laminates.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **522 JOINERY SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 521 JOINERY

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522 JOINERY SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

1.2 GREEN STAR REQUIREMENTS

Indoor Environment Quality
As per the Green Building Council of Australia, Greenstar Matrix Section 13. INDOOR POLLUTANTS 13.1.1/2 requires 95% of Paints, Adhesives, Sealants, and Carpets to be LOW VOC. Compliance must be achieved through one of the following, Product Certification, Lab Test or No paints, adhesives, or sealants/carpets. Proof of compliance must be provided by the Architect and / or Builder.

JY01 – 18MM HIGH PRESSURE LAMINATE - MR E0 MDF

Property	Description
Drawing Code:	**JY01**
Supplier:	**FOREST ONE (EGGER)**
Product Details:	High Pressure Laminate
Face Finish:	Double sided *(Same finish to both side)*
Substrate:	Moisture Resistant E0 MDF
Thickness:	18mm
Colour:	As specified in Architectural Drawings *(refer to laminate finishes below)*
Edge:	2mm matching ABS edge strip, unless noted otherwise
EFSG Details:	18mm board with 2mm ABS are EFSG standard. Not to be substituted unless approved by EFSG

JY02 – 18MM LOW PRESSURE MELAMINE - MR E0 MDF

Property	Description
Drawing Code:	**JY02**
Supplier:	**FOREST ONE (EGGER)**
Product Details:	EuroDekor
Face Finish:	Double sided *(Same finish to both side)*
Substrate:	Moisture Resistant E0 MDF
Thickness:	18mm
Edge:	2mm matching ABS edge strip, unless noted otherwise

Property	Description
EFSG Details:	18mm board with 2mm ABS are EFSG standard. Not to be substituted unless approved by EFSG

JY03 – 25MM HIGH PRESSURE LAMINATE - MR E0 MDF

Property	Description
Drawing Code:	**JY03**
Supplier:	**FOREST ONE (EGGER)**
Product Details:	High Pressure Laminate
Face Finish:	Double sided *(Same finish to both side)*
Substrate:	Moisture Resistant E0 MDF
Thickness:	25mm
Edge:	2mm matching ABS edge strip, unless noted otherwise

JY04 – 38MM HIGH PRESSURE LAMINATE - MR E0 MDF

Property	Description
Drawing Code:	**JY04**
Supplier:	**FOREST ONE (EGGER)**
Product Details:	High Pressure Laminate
Face Finish:	Double sided (Single sided if for benchtop)
Substrate:	Moisture Resistant E0 MDF
Thickness:	38mm
Edge:	2mm matching ABS edge strip, unless noted otherwise

JY05 – 38MM POSTFORM HIGH PRESSURE LAMINATE BENCHTOP - MR E0 MDF

Property	Description
Drawing Code:	**JY05**
Supplier:	**FOREST ONE (EGGER)**
Product Details:	38mm Postform with 3mm Radius Edge
Face Finish:	Single sided
Substrate:	Moisture Resistant E0 MDF

JY06 – 18MM EXTERNAL GRADE PLYWOOD

Property	Description
Drawing Code:	**JY06**
Supplier:	**FOREST ONE**
Product Details:	Trade Essentials Marine Plywood (pink species)
Face Finish:	A/C, one side to have laminated finish

Property	Description
Thickness:	18mm

JY07 – WRITABLE SURFACE

Property	Description
Drawing Code:	**JY07**
Supplier:	**FOREST ONE (EGGER)**
Product Details:	Laminate for Whiteboard
Face Finish:	Single sided to be material listed, reverse side to be lower grade finish of the same style and weight to avoid warping
Substrate:	38mm Eurolight
Edge Profile:	2mm Matching ABS edge tape

JY08 – CARCASS/ WHITEBOARD

Property	Description
Drawing Code:	**JY08**
Supplier:	**FOREST ONE (EGGER)**
Product Details:	18mm (25mm for adjustable and fixed shelves) unless noted otherwise
Face Finish:	Double sided *(Same finish to both side)*
Substrate:	Super E0 F**** 65% Recycled Chipboard
Edge Profile:	Matching 2mm ABS edge tape

JY09 – 18MM RAW MR E0 MDF BOARD

Property	Description
Drawing Code:	**JY09**
Supplier:	**FOREST ONE (EGGER)**
Product Details:	18mm unfinished joinery board
Face Finish:	Unfinished for painting
Substrate:	Super E0 F**** 65% Recycled Chipboard
Edge Profile:	Exposed

JY11 – 13MM COMPACT LAMINATE

Property	Description
Drawing Code:	**JY11**
Supplier:	**FOREST ONE (EGGER)**
Product Details:	Multipurpose Compact Laminate
Face Finish:	Décor to both sides
Thickness:	13mm

Property	Description
Edge Finish:	Black core
Fixing:	Install as per manufacturers specification to ensure warranty isn't voided

JY13 – 12MM ACRYLIC SOLID SURFACE

Property	Description
Drawing Code:	**JY13**
Supplier:	**CORIAN SOLID SURFACE**
Thickness (mm):	12mm
Sheet Size (mm):	3658 x 760mm
Colour:	As specified on Architectural Drawings *(see details below)*
Fire Rating:	Group 1
Note:	All exposed corners finished with 2mm rounded edge
Joins:	All joins to be treated seamlessly in accordance with manufacturer's specifications. Join between benchtop and splashback to have seamless 20mm radius cove, in accordance with manufacturer's specifications.
Fabrication / Install:	To be fabricated and installed in accordance with manufacturer's specifications.
Substrate:	Ensure material is supported by sufficient carcass/white board as per manufacturer's specification to ensure warranty is not voided and material does not bow or warp
Warranty:	10 years

JY23 – STAINLESS STEEL CUPBOARD

Property	Description	
Drawing Code:	**JY23**	
Supplier:	**STODDART *OR* CUSTOM FABRICATED**	
Manufacturer:	**SIMPLY STAINLESS**	
Details:	Stainless Steel screw fixings	
Warranty:	Lifetime Warranty	
Fixings:	Seal to adjacent finishes with clear silicone	

JY24 – STAINLESS STEEL STORAGE

Property	Description	
Drawing Code:	**JY24**	
Supplier:	**STODDART *OR* CUSTOM FABRICATED**	
Manufacturer:	**SIMPLY STAINLESS**	
Details:	Stainless Steel screw fixings	
Warranty:	Lifetime Warranty	
Fixings:	Seal to adjacent finishes with clear silicone	

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JY25 – STAINLESS STEEL CAPPING

Property	Description
Drawing Code:	**JY25**
Supplier:	**CUSTOM FABRICATED**
Product Details:	Stainless steel capping to tiled stud half height wall
Finish:	304 grade
Details:	Stainless Steel screw fixings
Substrate:	MR MDF with white melamine underneath fixed to stud Return stainless steel down wall, ensure edge is smooth
Edge Profile:	Square edge 5mm radius to exposed corners
Fixings:	Seal to adjacent finishes with clear silicone

JY26 – STAINLESS STEEL FRAME

Property	Description
Drawing Code:	**JY26**
Supplier:	**CUSTOM FABRICATED**
Product Details:	Stainless Steel Frame
Finish:	304 grade
Profile:	25 x 25 x 2.0mm SHS
Fixing:	Stainless Steel screw fixings

JY27 – STAINLESS STEEL BENCHTOP

Property	Description
Drawing Code:	**JY27**
Supplier:	**CUSTOM FABRICATED**
Product Details:	Stainless steel bench
Finish:	304 grade
Details:	Stainless Steel screw fixings
Substrate:	MR MDF with white melamine underneath Return stainless steel under bench
Edge Profile:	Square edge 5mm radius to exposed corners
Fixings:	Seal to adjacent finishes with clear silicone

JY28 – STAINLESS STEEL DISH CASSETTE

Property	Description	Picture
Drawing Code:	**JY28**	
Supplier:	**STODDART** *OR* **CUSTOM FABRICATED**	
Manufacturer:	**SIMPLY STAINLESS**	
Product Details:	Stainless Steel Gastronorm Dish Cassette	
Code:	SS35	
Size:	433 W x 525 D x 630mm H	
Finish:	304 grade Stainless Steel	
Details:	Stainless Steel screw fixings	
Warranty:	Lifetime Warranty	
Fixings:	Seal to adjacent finishes with clear silicone	

JY29 – STAINLESS STEEL SHELF

Property	Description
Drawing Code:	**JY29**
Supplier:	**CUSTOM FABRICATED**
Product Details:	Stainless steel shelf
Finish:	304 grade
Details:	Stainless Steel screw fixings
Substrate:	MR MDF with white melamine underneath Return stainless steel under substrate
Edge Profile:	Square edge 5mm radius to exposed corners
Fixings:	Seal to adjacent finishes with clear silicone

JY30 – STAINLESS STEEL DRAWERS (3X LOCKABLE)

Property	Description	Picture
Drawing Code:	**JY30**	
Supplier:	**STODDART** *OR* **CUSTOM FABRICATED**	
Manufacturer:	Simply Stainless	
Product Details:	Stainless Steel Drawers	
	2x lockable drawer option	
Code:	SS19.0200	
Size:	410 W x 450 D x 450mm H	
Finish:	304 grade Stainless Steel	
Details:	Stainless Steel screw fixings	

Property	Description	Picture
Warranty:	Lifetime Warranty	
Fixings:	Seal to adjacent finishes with clear silicone	

JY32 – CABINET HINGE – SOFT CLOSE

Property	Description	Picture
Drawing Code:	**JY32**	
Supplier:	**LINCOLN SENTRY**	
Product Details:	BLUM Cliptop 110° hinge, with integrated soft close	
Code:	1.308.71B359	
Notes:	*To be used on all joinery, unless noted otherwise*	
Group:	Group 1	

JY33 – CABINET HINGE - HEAVY DUTY

Property	Description	Picture
Drawing Code:	**JY33**	
Supplier:	**TBA**	
Product Name:		
Note:		

JY34 – CABINET LOCK - DOOR

Property	Description		Picture
Drawing Code:	**JY34**		
Supplier:	**LINCOLN SENTRY**		
Product Name:	Cyber Lock – Housings series two-way lock removable cylinder		
Code:	Left Hand Lock:	1.438.242	
	Right Hand Lock:	1.438.244	
	Removable Barrel:	1.438.002	
	Key:	1.438.210	
Note:	Universally keyed locks across project		

JY36 – CABINET HANDLE – TYPE 1

Property	Description	Picture
Drawing Code:	**JY36**	
Supplier:	**LINCOLN SENTRY**	
Product Name:	Modar Margo 96mm CTC	
Finish:	Dull Chrome	

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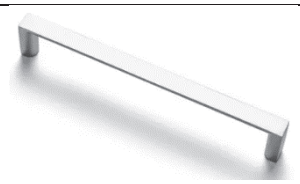
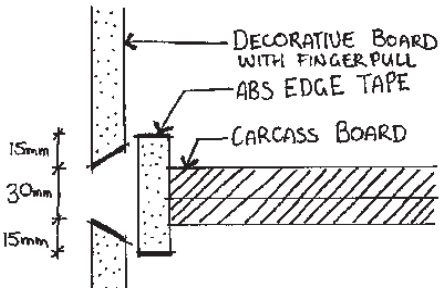
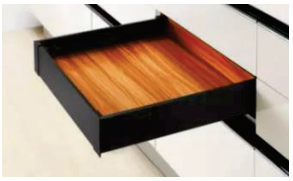
Property	Description	Picture
Code:	1534202	
Warranty:	1 year	

JY37 – CABINET HANDLE – SHADOWLINE FINGERPULL

Property	Description	Detail
Drawing Code:	**JY37**	
Supplier:	**BY JOINER**	
Details:	Where indicated cupboard doors and drawers to be cut and detailed according to the detail sketch to right	
Note:	Finish, colour & substrate according to the LAM00	
Edges:	2mm ABS edge tape to exposed edges. Edge to be sufficiently protected.	

JY41 – DRAWER RUNNER STANDARD

Property	Description	Picture
Drawing Code:	**JY41**	
Supplier:	**LINCOLN SENTRY**	
Product Details:	FINISTA SWIFT	
Size:	refer to architectural drawings	
Colour:	Matt black with black board	
Code:	Defers depending on size	
Details:	40kg load capacity	
Notes:	*To be used on all joinery drawers, unless noted otherwise*	

JY60 – CABLE MANAGEMENT HOLE/GROMMET

Property	Description	Picture
Drawing Code:	**JY60**	
Supplier:	**LINCOLN SENTRY**	
Product Name:	Plug Cable Outlet 80mm	
Finish A.:	White	
Code A.:	16528564	
Finish B.:	Light Grey	
Code B.:	16528561	
Size:	Drill hole: 85mmDIA	

Property	Description	Picture
Notes:	To be used on all joinery, unless noted otherwise. Colour of the outlet to match colour of benchtop as best as possible between the two colours	

JY62– CABLE MANAGEMENT TRAY

Property	Description	Picture
Drawing Code:	**JY62**	
Supplier:	**LINCOLN SENTRY**	
Product Name:	OE ELsafe - Desk Cable Basket	
Finish:	Black	
Size/Code:	Comes in two different lengths, use accordingly 950mm (7112195) 1550mm (7112196)	
Group:	Group 1	

JY63 – BENCHTOP POWER OUTLET

Property	Description	Picture
Drawing Code:	**JY63**	
Supplier:	**LINCOLN SENTRY** *(OR EQUAL)*	
Product Name:	Power Pixeltuf 1x charger 1x Plug white	
Code:	7112192	
Install:	As per manufacturers specifications	

JY80 – BENCH SUPPORT BRACKET

Property	Description	Picture
Drawing Code:	**JY80**	
Supplier:	**LINCOLN SENTRY**	
Product Name:	Stay Bracket Shelf	
Finish:	White Powder Coat	
Code:	Comes in different sizes (listed below) use according to the requirements of each unit 1-682-981 – 200 x 200mm 1-682-982 – 250 x 250mm 1-682-982A – 300 x 300mm 1-682-983 – 350 x 350mm 1-682-984 – 400 x 500mm	
Location:	Where required	

JY81 – BENCH SUPPORT LEG

Property	Description	Picture
Drawing Code:		**JY81**
Supplier:	**LINCOLN SENTRY**	
Product Name:	Furniture Support Legs Table legs – Cylinder	
Size:	Dia 60mm, min ht 710mm / max ht 740mm	
Finish:	Black	
Code:	1-616-113	
Location:	Where required	

2 EXTENT OF WORK

2.1 GENERAL

Refer drawings and SPECIFICATIONS SCHEDULES & MATERIAL SELECTIONS for details of the joinery items to be constructed and installed for this project.

To comply with EFSG requirements, shelves shall be no higher than 1800mm above floor level and shelves at 1800mm AFFL must be fixed to comply with WHS.

Provide stainless steel splashbacks to walls adjacent stainless steel benchtops as per EFSG requirements.

2.2 JOINERY FINISHES

Refer drawings and **FINISHES SELECTION SCHEDULE** for details of the selected materials and finishes for each joinery unit. Finishes and materials nominated in the Schedule take precedence over the minimum requirements specified in this section.

END OF SECTION 522 JOINERY SELECTIONS

531 METALWORK

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 341 Structural Steel and 342 Structural Steel Selections
- 351 Light Steel Framing and 352 Light Steel Framing Selections
- 361 Timber Framing and 362 Timber Framing Selections
- 461 Doors, Windows & Hardware and 462 Doors, Windows & Hardware Selections
- 521 Joinery and 522 Joinery Selections

1.2 INTERPRETATION

General
Refer to 121 GENERAL REQUIREMENTS for a comprehensive list of abbreviations and definitions used in this contract / specification.

1.3 STANDARD

Refer body of specification.

Access for maintenance: To AS 1657 (2018).

Structural design actions: To AS/NZS 1170.1 (2002).

1.4 TOLERANCES

General
Requirement: ±2 mm from design dimensions.

1.5 SUBMISSIONS

Execution details
Welding procedures: Submit details of proposed welding procedures before fabrication.

Welding dissimilar metals: Submit the following details:

- Type and thickness of materials to be welded.
- Proposed joint preparation and welding procedures.
- Proposed filler metal.
- Expected dilution (proportion of fused parent metal in the weld metal).

Fastenings to aluminium (including aluminium alloys): Stainless steel or aluminium.

Products and materials
Proprietary items: Submit the manufacturer's standard drawings and details showing:

- Methods of construction.
- Assembly and fixing, with dimensions and tolerances.

Stainless steel: For each batch of stainless steel supplied to the works, submit the certificate of compliance or test certificate specified in the applicable standard.

Shop drawings
General: Submit shop drawings to a scale that best describes the detail, showing the following information Details of fabrication and components.
- Overall and detail dimensions
- Details of fabrication and components.
- Details of fabrication involving other trades or components.
- Information necessary for site assembly.
- Proposals for the break-up of large items as required for delivery to the site.
- Proposed method of joining the modules of large items.

Subcontractors
General: Submit names and contact details of proposed suppliers and installers.

1.6 INSPECTION

Notice
Inspection: Give notice so that inspection may be made of the following:
- Shop fabricated or assembled items ready for delivery to the site.
- Commencement of shop or site welding.
- Site erected assemblies on completion of erection, before covering up by cladding and encasing.
- Steel surfaces prepared for, and immediately before, site applied finishes.

2 PRODUCTS AND MATERIALS

2.1 GENERAL

Storage and handling
Requirement: Store and handle fabricated metalwork, as follows:
- Deliver to site in unbroken wrapping or packing.
- Store on a level base, away from uncured concrete and masonry and areas of wet plaster.
- Do not store in contact with other materials that may cause staining, denting or other surface damage.
- Use gloves when handling precoated finishes.
- Keep storage time to minimum by delivering items only when required for installation.

Marking
General: Provide suitable and sufficient marks or other means for identifying each member of site-erected assemblies, and for their correct setting out, location, erection and connection. Mark bolted connections to show the bolting category. Do not mark stainless steel by notching.

2.2 MATERIALS AND COMPONENTS

Metals and components
Performance: Provide metals and components in quantity, lengths and cross-sections of strength and stiffness suited to their required function and as documented.

Stainless steel
Plate, sheet and strip: To ASTM A240/A240M (2022).

Bar: To ASTM A276/A276M (2017).

Tube: To ASTM A554 (2021).

Aluminium
Plate sheet and strip: To AS/NZS 1734 (1997).

Bar, rod and wire: To AS/NZS 1865 (1997).

Tube: To AS/NZS 1867 (1997).

Aluminium alloys, compositions and designations: To AS 2848.1 (1998).

Steel

Steel plate: To AS/NZS 3678 (2016).

Hot rolled bars and sections: AS/NZS 3679.1 (2016).

Welded sections: To AS/NZS 3679.2 (2016).

Copper alloys (brass, bronze)

Composition and designations: To AS 2738 (2000).

Fasteners

Performance: Provide fasteners to resist galvanic corrosion in materials of structural and mechanical strengths and corrosion resistance at least equal to that of the lowest resistant metal in the connection.

Materials: Provide fasteners as follows:

- To copper and copper alloys: Provide copper or copper-alloy fixing devices only.
- To aluminium and aluminium alloys: Provide aluminium alloy or non-magnetic stainless steel fixing devices only.
- To stainless steel: Provide appropriate stainless steel materials only.

Rivets

General: Blind rivets where available in the required metal.

Masonry anchors

General: Proprietary types comprising screws or bolts in self-expanding sockets.

2.3 HAZARDOUS MATERIALS

Fire hazard

General: Do not provide materials which, when subject to fire conditions, will emit excessive smoke or dangerous fumes.

2.4 METALWORK MATERIALS

Steel tube

Surface:

- For painted work: Semi-bright.
- For electroplated work: Bright.

Steel sheet

Surface finish:

- For electroplating: P (plating quality).
- For painting: B (bright) or M (matt).

Stainless steel

Grade: 304

Finish: Surface finish 4 (general purpose polished).

3 EXECUTION AND WORKMANSHIP

3.1 CONSTRUCTION GENERALLY

Aluminium structures

Standard: To AS/NZS 1664.1 (1997) or AS/NZS 1664.2 (1997).

Metals

Performance: Provide metals so that they transmit the loads imposed and ensure the rigidity of the assembly without causing deflection or distortion of finished surfaces.

Incompatible metals: Separate using concealed layers of suitable materials in appropriate thicknesses.

Fabrication

Workshop: Fabricate and pre-assemble items in the workshop wherever practicable.

Edges and surfaces: Keep clean, neat and free from burrs and indentations. Remove sharp edges without excessive radiusing.

Tube bends: Form bends in tube without visibly deforming the cross section.

Colour finished work: Match colours of sheets, extrusions and heads of fasteners.

Thermal movement: Accommodate thermal movement in joints and fastenings.

Joints

General: Fit joints to an accuracy appropriate to the class of work. Finish visible joints made by welding, brazing or soldering using grinding, buffing or other methods appropriate to the class of work, before further treatment.

Self-finished metals: Free of surface colour variations, after jointing.

Joints: Fit accurately to a fine hairline.

Splicing

General: Provide structural members in single lengths.

3.2 WELDING AND BRAZING

General

Quality: Provide finished welds which are free of surface and internal cracks, slag inclusion, and porosity.

Site welds: Avoid site welding wherever possible. If required locate site welds in positions for down hand welding.

Butt weld quality level: Not inferior to the appropriate level recommended in AS 1665 Appendix A.

Brazing

General: Ensure brazed joints have sufficient lap to provide a mechanically sound joint. Do not use butt joints relying on the filler metal fillet only.

3.3 STAINLESS STEEL FABRICATION

Welding stainless steel

Certification of welders: To AS 1796.

Riveting

General: Riveting may be used only to join stainless steel sheet or strip less than 1 mm thick. Drill (not punch) the rivet hole, and drive the rivet cold. On completion, clean and passivate the riveted assembly.

Soldering

General: Do not solder stainless steel.

3.4 METAL FIXTURES

General

General: Provide metal fixtures noted on drawings as follows:

- Components and their location, indicative construction details, scribes and trims, materials, dimensions and thicknesses, and finishes.
- Confirm on site all dimensions noted on drawings.
- Finishes selections as documented.
- Hardware and equipment.

3.5 CUSTOM-BUILT STEEL STAIRS

General

Materials, design and construction: To AS 1657 (2018).

Nosing strip: To BCA D2.13 and BCA D2.14.

Fabrication
Method: Welding.

Joints: Produce smooth unbroken surfaces at joints or as documented. Scribe the joints to all steel members. Make end-to-end joints over an internal sleeve.

Bends: Make changes of direction in rails by evenly curved pipe bends.

Free ends: Seal the free ends of pipes with fabricated or purpose-made end caps.

Fixing to structure
General: Provide fabricated predrilled or purpose-made brackets, anchors or post bases, and attach the steel member to the building structure with fixings, including bolts into masonry anchors, and coach screws or bolts into timber, of metal compatible with the steel member.

Galvanizing
General: If possible, complete fabrication before galvanizing; otherwise apply a zinc-rich primer to affected joint surfaces.

Other protective coatings
General: Apply other protective coatings as documented and to the manufacturer’s recommendations.

3.6 PROPRIETARY STAIR SYSTEMS

General
Materials, design and construction: To AS 1657.

Nosing strip: To BCA D2.13 and BCA D2.14.

Straight flight stair assembly: A proprietary system, pre-assembled and fixed in place, comprising the following:

- Stair flights with treads and risers.
- Top landing.
- Balustrade and handrail to stair flight and landings.

Circular stairs: A proprietary system, mechanically assembled and fixed in place, comprising the following:

- A central steel tube column.
- Prefabricated metal treads sleeved over and cantilevered from the column.
- Top landing.
- Balustrade and handrail to stair and landings.
- Spacers, fixings and accessories necessary to complete the system.

3.7 FIXED STEEL LADDERS

Assembly
Materials, design and construction: To AS 1657.

Fixing: Fix ladder stiles securely to the building structure at tops and bottoms of flights, and at intermediate points.

3.8 STEEL PLATFORMS AND WALKWAYS

General
Steel platforms and walkways: Rooftop mesh platform system for mounting of equipment, comprising the following:

- Frame: Proprietary or structural engineer designed, in aluminium or galvanized structural steel.
- Deck: Slip-resistant, expanded galvanized steel or aluminium mesh.
- Roof connectors: Proprietary or to structural engineer's details.
- Associated access stairs, handrails and balustrades, including toe boards.

3.9 BALUSTRADES

Fabrication

Method: Welding.

Joints: Produce smooth unbroken surfaces at joints. Scribe the joints between posts and rails. Make end-to-end joints over an internal sleeve.

Bends: Make changes of direction in rails by evenly curved pipe bends.

Free ends: Seal the free ends of pipes with fabricated or purpose-made end caps.

Fixing to structure

General: Provide fabricated predrilled or purpose-made brackets or post bases and attach the piping to the building structure with fixings, including bolts into masonry anchors, and coach screws or bolts into timber, of metal compatible with the piping.

Galvanizing

General: If possible, complete fabrication before galvanizing; otherwise apply a zinc-rich primer to affected joint surfaces.

Other protective coatings

General: Apply other protective coatings as documented and to the manufacturer's recommendations.

3.10 PROPRIETARY BALUSTRADES

General

Balustrades: A proprietary system, pre-assembled and fixed in place, comprising the following:

- Posts, rails and balusters.
- Infill frame and panels.
- Handrails, if required.

3.11 COMPLETION

Cleaning

Temporary coatings: On or before completion of the works, or before joining up to other surfaces, remove all traces of temporary coatings used as a means of protection.

Maintenance manual

General: Submit the manufacturers' data as follows:

- Recommendations for demounting and relocation.
- Recommendations for service use, care and maintenance.
- List of manufacturers and suppliers of replacement parts.
- Manufacturer's published recommendations for service use.

Warranties

General: Submit the installer's warranty against defective workmanship or incorrect installation.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **532 METALWORK SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 531 METALWORK & MISCELLANEOUS FIXTURES

532 METALWORK SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

FIRE EXTINGUISHERS AND BLANKETS

Supply and install
Arrange for certified supplier to review drawings and determine the number, types and locations of fire extinguishers and blankets including all statutory signage.

Provide details of proposed types and locations including signage for approval prior to supply and installation. Products to be compatible with those in existing buildings.

2 METALWORK SELECTIONS

MW01 - BALUSTRADE - GALV STEEL VERTICAL FLAT BAR BALUSTRADING

Property	Description
Drawing Code:	**MW01**
Manufacturer / Supplier:	**CUSTOM**
Rails:	REFER DETAILS
Support Posts:	To detail.
Rail Supports:	To detail.
Balusters:	Vertical mild steel bars at spacings to Pattern Book requirements. Slope top rail for self-cleaning.
Fixings:	To detail. Allow to fix single and dual handrails to masonry walls or to CHS posts with welded on rod brackets to achieved grab compliance with AS 1428. CHC posts shall be top capped and recessed into concrete slabs to stiffen handrail.
Fabrication / finish:	Fabricate in sections with sleeves to allow assembly without on-site welding. Refer to SPECIFICATIONS SCHEDULE AND MATERIAL SELECTIONS.
Finish:	Hot Dipped Galvanised Steel
Notes:	To Pattern Book and EFSG requirements

MW02 - BALUSTRADE - GALV STEEL FRAME WITH PERFORATED METAL BALUSTRADING

Property	Description
Drawing Code:	**MW02**
Manufacturer / Supplier:	**CUSTOM**
Rails:	REFER DETAILS
Support Posts:	To detail.
Rail Supports:	To detail.
Balustrading Panel:	Balustrading panel will be manufactured from 3mm thick aluminium sheet with Interpon powder coated finish - in colours referred to in the SPECIFICATIONS SCHEDULE AND MATERIAL SELECTIONS. Confirm thickness with structural engineering details of substructure. Webforge Locker R06451 (match MW49 perforated metal sheeting). 6.36mm holes with 51% open area.
Fixings:	To detail. Allow to fix single and dual handrails to masonry walls or to CHS posts with welded on rod brackets to achieved grab compliance with AS 1428. CHC posts shall be top capped and recessed into concrete slabs to stiffen handrail.
Fabrication / finish:	Fabricate in sections with sleeves to allow assembly without on-site welding. Refer to SPECIFICATIONS SCHEDULE AND MATERIAL SELECTIONS.
Finish:	Hot Dipped Galvanised Steel framing and powder coated aluminium balustrading panels. Provide separation of materials.
Notes:	To Pattern Book and EFSG requirements

MW15 - HANDRAIL - STAINLESS STEEL

Property	Description
Drawing Code:	**MW15**
Manufacturer / Supplier:	**CUSTOM**
Rails:	50 mm dia steel rail at 900mm above stair nosings and landings to both sides of stair. At the top of the stair the rails are to extend past the top riser as shown and terminate with a 90° turn back into the balustrade. At the bottom of the stair the rails are to extend past the last riser turn back 360° and terminate with a 90° turn back into the balustrade as shown. Rails to have a raised domed button 5mm in height and 12mm diameter on the top of the handrail 150 ± 10mm from the end of the handrail in accordance with AS/NZS 1428.4.1 - 2009

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Property	Description
Supports:	Rails welded to 10mm pins and weld pins to 50mm dia plates / or to 50mm dia baluster posts at centres shown on drawings - refer details.
Fixings:	Bolt plates to wall with 2 x M8 masonry anchors. Bolt spacers between balusters with 2 x M8 bolts.
Fabrication / finish:	Fabricate in sections with sleeves to allow assembly without on-site welding.
	To EFSG requirements

MW21 – FENCING- TYPE 1 - SECURE LINE (2100 HIGH)

Property	Description
Drawing Code:	**MW21**
Manufacturer / Supplier:	**OXWORKS**
Product:	Hercules Steel Security Fencing
Posts:	65 x 65 x 2.1mm
Horizontal rails:	40 x 40 x 1.6mm
Vertical pickets:	25 x 25 x 1.2mm at 140mm centres with crimped spear top
Height:	2100mm – to match existing
Frame / Finish:	Prepared galvanised steel for powder coat finish
Accessories:	Provide single, double and sliding gates as required. Refer Gate Schedules.
Installation:	In accordance with the manufacturer's recommendations and instructions for the relevant location and conditions.
Locations:	Refer ARCHITECTURAL DRAWINGS

MW22 – FENCING – TYPE 2 POOL (1500 HIGH)

Property	Description
Drawing Code:	**MW22**
Manufacturer / Supplier:	**OXWORKS**
Product:	Flat Top Aluminium Tubular Pool Fencing
Posts:	50 x 50mm
Horizontal rails:	25 x 28mm aluminium top and bottom rails
Vertical pickets:	16mm tubular aluminium pickets at 85mm centres
Height:	1500 high panels
Finish:	Powder coated
Colour:	Refer Architectural Drawings
Accessories:	Provide single, double and sliding gates as required. Refer Gate Schedules.

Property	Description
Installation:	In accordance with the manufacturer's recommendations and instructions for the relevant location and conditions.
Locations:	Refer ARCHITECTURAL DRAWINGS

MW23 – FENCING – TYPE 3 POOL (1200 HIGH)

Property	Description
Drawing Code:	**MW23**
Manufacturer / Supplier:	**OXWORKS**
Product:	Flat Top Aluminium Tubular Pool Fencing
Posts:	50 x 50mm
Horizontal rails:	25 x 28mm aluminium top and bottom rails
Vertical pickets:	16mm tubular aluminium pickets at 85mm centres
Height:	1200 high panels
Finish:	Powder coated
Colour:	Refer Architectural Drawings
Accessories:	Provide single, double and sliding gates as required. Refer Gate Schedules.
Installation:	In accordance with the manufacturer's recommendations and instructions for the relevant location and conditions.
Locations:	Refer ARCHITECTURAL DRAWINGS

MW31 - GATE – STEEL (SINGLE)

Property	Description
Drawing Code:	**MW31**
Manufacturer / Supplier:	**CUSTOM**
Product – frame:	100 x 25 fully welded RHS frame and mid-rail.
Product – mesh infill:	ARC Weldmesh.
Type – mesh infill:	ES450502 50 x 50 x 4mm square grid mesh.
Fixings – mesh infill:	Spot weld to screen frame.
Finish:	Powder coat finish over prepared galvanised steel – to match Colorbond Wallaby
Accessories:	Galv steel lever tamper guard to inside face of gate. Gate hardware refer to Door Hardware Schedule Supporting SHS members both sides of gate as required fixed to adjacent building structure to support hinge side and receive door hardware. Gate hinges welded to gate surround frame and to SHS verticals.
Location:	Refer ARCHITECTURAL DRAWINGS

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MW32 - GATE – STEEL (DOUBLE)

Property	Description
Drawing Code:	**MW32**
Manufacturer / Supplier:	**CUSTOM**
Product – frame:	100 x 25 fully welded RHS frame and mid-rail.
Product – mesh infill:	ARC Weldmesh.
Type – mesh infill:	ES450502 50 x 50 x 4mm square grid mesh.
Fixings – mesh infill:	Spot weld to screen frame.
Finish:	Powder coat finish over prepared galvanised steel – to match Colorbond Wallaby
Accessories:	Galv steel lever tamper guard to inside face of gate. Drop bolt with inserted ferrule to in active gate. Gate hardware refer to Door Hardware Schedule. Supporting SHS members both sides of gate as required fixed to adjacent building structure to support hinge side and receive door hardware. Gate hinges welded to gate surround frame and to SHS verticals.
Location:	Refer ARCHITECTURAL DRAWINGS

MW43 – TENSILE MESH

Property	Description
Drawing Code:	**MW43**
Manufacturer / Supplier:	**Jakob Webnet N2 / Tensile Design & Construct**
Contact:	Renn Holland M: 0424 778 411
Tensile Wire Mesh:	40mm (x75mm) aperture, 60deg diamond layout, Ø2mm (6x7 WRC) gauge, and sleeves. Lacing wire of same gauge to fix mesh to the Perimeter frame
Perimeter Surrounding Frame:	Nominally a 6mm gauge (6x7 WRC) cable with associated turnbuckles and forks to provide a complete tensioned system;
Intermediate Vertical Surround Frame Supports:	Vertical cables of the same size as the perimeter frame, at changes in direction, or panel edges, fixed as per the perimeter frame
Required structure for Vertical Perimeter Surrounding Frame Support:	Reinforced concrete or hot rolled steel (6mm wall min) to be within 20mm of the perimeter frame. Locate supports lining up with balustrade stanchions to manufacturers' recommendations. The head contractor shall allow to coordinate and provide additional structural members concealed within roof space as required to support tensile mesh system and tensile mesh stresses. Structural engineers certificate to be obtained by the contractor.
Fixings:	M10 Eye-nuts and threads, with chemical anchors to concrete or mechanically fixed to steel (hot rolled only)
Fabrication / finish:	All AISI grade 316 Stainless Steel and finish;

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Property	Description
Extent:	Refer to drawings for extent.
Notes:	To EFSG requirements; the subcontractor to provide declaration/certification of: • ETA, EAD, DIBt or approved equivalent tensile mesh certification. • Minimum Breaking Load / Strength capacity, Quality Assurance, and Material Traceability. • Manufactured with a minimum of 70% recycled content and from 90-100% renewable energy. • ISO9001 & 14001 manufacturing working conditions. • Provide shop drawings for approval.

MW49 – STAIR SCREENING (PERFORATED METAL)

Property	Description
Drawing Code:	**MW49**
Manufacturer / Supplier:	**WEBFORGE LOCKER**
Product:	**Perforated Screening**
Code:	R06451
Contact Details:	Andrew Mitchel M: 0439 300 511 E: amitchell@valmont.com
Material and Finish:	Screens will be manufactured from 3mm thick aluminium sheet with Interpon powder coated finish - in colours referred to in the SPECIFICATIONS SCHEDULE AND MATERIAL SELECTIONS. Confirm thickness with structural engineering details of substructure.
Screen profile:	6.36mm holes with 51% open area. Nominally 1200 x 2400mm sheet sizes, with min 40mm perimeter unperforated border, folded/returned edges and with additional structural support to act as a balustrade to Stairs. Standard panels generally. Custom panels with custom image to approx. 50% of area at landing end of each stair.
Support framing:	Provide hot dipped galvanised finished structural steel support framing to full height perforated screening.
Fixings:	Fixed to vertical and horizontal framing with isolating washers to manufacturer's recommendations using fixings to structure as necessary.
Samples:	Provide sample of perforated sheet for approval prior to fabrication.
Notes:	Provide shop drawings of support system and screening for approval. The contractor shall allow to arrange for structural certification for design and installation of support framing and perforated screening crowd loading.
Locations:	Stair enclosures full height to all stairs.

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MW53 – AWNING - ALUMINIUM TYPE 1 HORIZONTAL PANELS

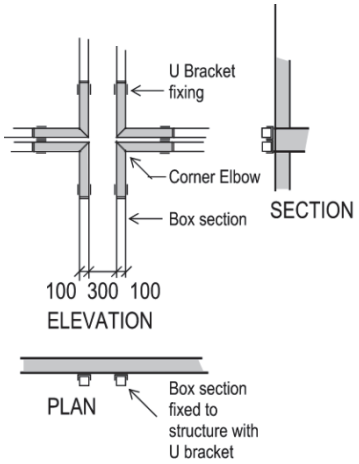
Property	Description
Drawing Code:	**MW53**
Manufacturer / Supplier:	**LOUVRECLAD**
Contact:	1300 165 678
Product:	Awning (Top only blade): Caprice Series 634 panel
Size:	45 thick x 150 wide extruded aluminium box sections to nominally 450mm total width with 450 high vertical supporting blades. . Refer to drawings for details.
Installation:	Installation and mounting details will be designed in accordance with proprietary systems and recommendations as designed and manufactured by Lowline Group. Support top side of awning with 50 x 50 SHS L shaped brackets fixed to wall framing at maximum 600cts.
Finish:	Powder coated white
Shop drawings:	Shop drawings to be provided for Aluminium Window Awnings prior to fabrication.
Notes:	For awning systems that comprise of a tapered vertical fin allow to install a reduced width horizontal panel at the sill. Refer to drawings for detail. The contractor shall arrange to obtain structural certification for design and installation.
Location:	Refer ARCHITECTURAL DRAWINGS.

MW54 – AWNING - ALUMINIUM TYPE 1 VERTICAL FINS

Property	Description
Drawing Code:	**MW54**
Manufacturer / Supplier:	**LOUVRECLAD**
Contact:	1300 165 678
Product:	Awning (vertical fins only): Caprice Series 634 panel
Size:	45 thick x 150 wide extruded aluminium box sections to nominally 450mm total width with 450 high vertical supporting blades. Vertical fins to have a plumb or tapered end face. Refer to drawings for details of plumb or tapered vertical sections.
Installation:	Installation and mounting details will be designed in accordance with proprietary systems and recommendations as designed and manufactured by Lowline Group. Support top side of awning with 50 x 50 SHS L shaped brackets fixed to wall framing at maximum 600cts.
Finish:	Powder coated white

Property	Description
Shop drawings:	Shop drawings to be provided for Aluminium Window Awnings prior to fabrication.
Notes:	The contractor shall arrange to obtain structural certification for design and installation.
Location:	Refer ARCHITECTURAL DRAWINGS.

MW59 – FACADE FRAMING ELEMENT

Property	Description	
Drawing Code:	**MW59**	
Manufacturer / Supplier:	**CUSTOM**	
Fabricate:	Fabricate framing element with nominal 100 x 100 SHS aluminium box sections of wall thickness as shown on engineers drawings. Framing element to consist of corner elbows with mitred corners welded and ground smooth and intermediate sections butted and mechanically fixed together with SHS inserts.	
Material and Finish:	Aluminium box section with powder coated finish. Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS for colour.	
Fixings:	Fix fabricated façade framing element over wall cladding to wall structure with matching powder coated aluminium U brackets to structural engineers details.	
Notes:	Provide shop drawings for approval. The contractor shall arrange to obtain structural certification for design and installation.	
Location:	Refer to drawings for extent and configuration of framing element.	

MW71 – ACOUSTIC LOUVRES PLANT SERVICES STORES – TYPE 1 (100 WIDE)

Property	Description
Drawing Code:	**MW71**
Manufacturer / Supplier:	**IAC ACOUSTICS**
Product:	Slimshield
Type:	SL-100
Material and Finish:	Louvre banks to be manufactured from galvanised steel finished in powder coated finish. Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS for colour.

Property	Description
Fixings:	Bolt fix louvre banks between SHS vertical mullions to manufacturer's recommendations.
Notes:	Provide shop drawings for approval.
Location:	Refer to drawings.

MW72 – ACOUSTIC LOUVRES PLANT SERVICES STORES – TYPE 1 (150 WIDE)

Property	Description
Drawing Code:	**MW72**
Manufacturer / Supplier:	**IAC ACOUSTICS**
Product:	Slimshield
Type:	SL-150
Material and Finish:	Louvre banks to be manufactured from galvanised steel finished in powder coated finish. Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS for colour.
Fixings:	Bolt fix louvre banks between SHS vertical mullions to manufacturer's recommendations.
Notes:	Provide shop drawings for approval.
Location:	Refer to drawings.

MW73 – ACOUSTIC LOUVRES PLANT SERVICES STORES – TYPE 1 (300 WIDE)

Property	Description
Drawing Code:	**MW73**
Manufacturer / Supplier:	**IAC ACOUSTICS**
Product:	Slimshield
Type:	SL-300
Material and Finish:	Louvre banks to be manufactured from galvanised steel finished in powder coated finish. Refer to SPECIFICATIONS SCHEDULE & MATERIALS SELECTIONS for colour.
Fixings:	Bolt fix louvre banks between SHS vertical mullions to manufacturer's recommendations.
Notes:	Provide shop drawings for approval.
Location:	Refer to drawings.

MW75 – CRICKET NETS

Property	Description
Drawing Code:	**MW75**
Manufacturer / Supplier:	**SUMMIT FENCING**

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Property	Description
Product Name:	Cricket Nets
Contact Details	Jamie Harris P: 1300 915 912
Type:	Cricket Nets for 2 practice pitches consisting of 3 sides, extended centre section and roof at batters end.
Posts:	End posts: 80 NB CHC with capped top Intermediate posts: 40NB CHC with capped top Post height shall be 3.0m above ground (to suit chainwire installation). Fix to concrete slab with 150 x 150 x 10mm base plate with 4no. M12 x 150mm wedge anchor fixings. Width of each net (fenced area) to be 3.6m. Outside fence to be 21m long. Extend centre net posts, rails and mesh 6.0m beyond outside end posts.
Top, Mid and Bottom Rail:	32 NB CHS powder coat finish bracketed off posts.
Roof Framing (at batters end:	92NB CHS powder coat finish bracketed off posts. The roof shall extend from the rear fence to 9m.
Chainwire Mesh:	Chain wire mesh to be 50mm x 50mm x 3.15mm diam PVC coated chain wire. Install with horizontal 4mm helicoil tension wire at bottom and mid-point of chain wire mesh.
Finish:	Posts and capping and top, mid and bottom rails to be powder coated black.
Notes:	Provide shop drawings for approval. The contractor shall allow to construct a concrete slab to engineer's details. Coordinate the supply and installation of cricket net fencing. The contractor shall allow to arrange for all design and installation engineering certification.
Location:	Refer to drawings.

3 EXTENT OF WORK

3.1 GENERAL

General
Refer drawings for locations and details of metalwork required for the various components of this project.

3.2 MISCELLANEOUS FIXTURES

Refer to drawings for the locations of proprietary items.

3.3 SANITARY ITEMS

Refer **HYDRAULIC FIXTURE SCHEDULE** for details.

END OF SECTION 532 METALWORK & MISC. FIXTURES SELECTIONS

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541 SIGNS & DISPLAY

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 451 Windows, Glazed Doors & Glazing and 452 Windows, Glazed Doors & Glazing Selections
- 461 Doors & Hardware and 462 Doors & Hardware Selections
- 521 Joinery and 522 Joinery Selections

1.2 INTERPRETATION

Additional definitions
General: For the purposes of this worksection the definitions given below apply.

- Changeable plate systems: Sign systems consisting of fixed plate holders to which may be attached or inserted removable interchangeable sign plates.
- Variable room identification systems+: Changeable plate systems incorporating fixed room numbers and removable name strips.
- Changeable letter systems: Sign systems consisting of display boards or holders into which can be inserted removable individual letters, numbers, etc.
- Illuminated signs: Signs consisting of cabinets enclosing an illuminated source, lighting translucent face panels bearing the specified signage.
- House signage: Internal and external project specific signs.
- Statutory signage: Signs prescribed by the BCA and statutory authorities.

1.3 STANDARDS

Signs
Safety signs - design and use: To AS 1319.

Signs and graphics for disabled access: AS 1428 Parts 1 and 2.

1.4 INSPECTION

Notice
Inspection: Give notice so that inspection may be made of the following:

- Custom-built graphics items fabricated and ready to be delivered to the site.
- Graphics items delivered to site before installation.
- Building locations or substrates prepared to receive graphics items before they are installed.

1.5 SUBMISSIONS

Samples
Materials: Submit samples showing each colour and finish of exposed graphics materials and accessories. If there is a range of colours and/or textures for a particular item, submit samples showing the extremes and mean of the range.

Shop drawings
General: Submit shop drawings showing the following information where relevant:

- Layout, construction and fixing details for custom designed (non standard) sign systems.
- Large scale (full size if practicable) lettering layouts for individual letter signs.
- Computer generated graphic images.
- Full size spacing templates for individually mounted characters.
- Location template drawings for anchorages to permanent construction. Show type of anchorage.
- Wiring diagrams for illuminated signs.

2 PRODUCTS AND MATERIALS

2.1 MATERIALS

Materials standards

Aluminium:

- Plate for engraving: Alloy and temper designation 6063-0.
- For casting: To AS 1874.

Stainless steel: Surface finish designation 4 (general purpose polished).

Plastics:

- PVC-U sheet: Semi-rigid sheet.
- Rigid cellular polystyrene: To AS 1366.3, class VH for cut-out shapes.

3 EXECUTION AND WORKMANSHIP

3.1 WORKMANSHIP

Production

General: Form graphics items accurately with clean, well defined edges or arises, free from blemishes.

Engraving to two layer plastic laminate: Lettering excavated to expose the lower laminate.

Engraved and filled: Lettering precision excavated and filled colouring material. Clean faces of all filling material.

Casting: Produce shapes free of pits, scale, blow holes or other defects, hand or machine finished if necessary.

Laser cut: Individual vinyl letters with self adhesive backing.

Printed lettering: Lettering and graphic images screen / digitally printed on:

- Film with self adhesive backing.
- Acrylic sheet.
- Aluminium plate.
- Stainless steel plate.

Large format digital printing: Lettering and graphic images screen printed film with self adhesive backing.

Signwriting: Lettering and graphic images hand painted direct to the background by a tradesman with recognised qualifications and demonstrated experience.

Fabricated: Three dimensional, formed as follows:

- Laser cutting from solid material and hand finished as necessary.
- Moulding: Individual plastic hollow three dimensional characters and shapes formed by:
  - . Injection moulding.
  - . Vacuum forming.
- Built-up individual shapes by fabricating the faces and edges from separate pieces neatly and securely joined.

Installation
General: Install signage level and plumb, securely mounted, with concealed theft-resistant fixings. Fix self adhesive signs free of bubbles and creases.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **542 SIGNAGE & DISPLAY SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 541 SIGNS & DISPLAY

542 SIGNS & DISPLAY SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

Refer to Signage Schedule in drawing set for further information on graphic requirements.

SD01 – SIGN - REQUIRED FIRE DOOR & REQUIRED SMOKE DOOR

Property	Description
Drawing Code:	**SD01**
Position:	On or adjacent to the door, on the side of the door that faces a person seeking egress, and if the door is in the held open position, on either the wall adjacent the doorway or both sides of the door.
Message if auto door with auto hold open device:	**FIRE SAFETY DOOR – DO NOT OBSTRUCT**
Message if self closing door:	**FIRE SAFETY DOOR** **DO NOT OBSTRUCT** **DO NOT KEEP OPEN**
Message if door discharging from a fire isolated exit:	**FIRE SAFETY DOOR – DO NOT OBSTRUCT**
Letter height (min):	20 mm
Compliance:	BCA D2.23
Proprietary item:	

SD03 – SIGN – FIRE EXIT OFFENCE NOTICE (NSW)

Property	Description
Drawing Code:	**SD03**
Position:	Adjacent door providing access to (but not within) a fire exit stair, passage or ramp
Message:	**OFFENCE RELATING TO FIRE EXITS** It is an offence under the Environmental Planning and Assessment Act 1979. (a) to place anything in or near this fire exit that may obstruct persons moving to and from the exit, or

Property	Description
	(b) to interfere with or obstruct the operation of any fire doors, or (c) to remove, damage or otherwise interfere with this notice.
Letter height (min):	8 mm (title) 2.5 mm (rest)
Compliance:	Environmental Planning and Assessment Regulation 2000 clause 183
Proprietary item:	

SD06 – SIGN – FIRE HOSE REEL AND FIRE HYDRANTS

Property	Description
Drawing Code:	**SD06**
Position:	Cupboard door or adjacent the FHR
Message:	**FIRE HOSE REEL** (and/or) **FIRE HYDRANT**
Letter height (min):	External cabinets: 75 mm Internal cabinets: 50 mm
Sign type:	White adhesive backed vinyl
Compliance:	AS 2441, AS 2419.1 BCA E1.3 and BCA E1.4

SD07 – SIGN – FIRE HOSE REEL LOCATION

Property	Description
Drawing Code:	**SD07**
Position:	Above or adjacent the FHR if located in a recess or obscure location
Message:	To AS 2441 Figure 10.1
Letter height (min):	16 mm
Sign type:	Adhesive backed vinyl
Compliance:	AS 2441

SD12 – SIGN – HOSE REEL SYSTEM VALVE

Property	Description
Drawing Code:	**SD12**
Position:	At any system valve that can isolate flow in the hose reel water supply main
Message:	**FIRE SERVICE VALVE – CLOSE ONLY TO SERVICE FIRE HOSE REELS**
Letter height (min):	8 mm
Sign type:	Label with engraved non-ferrous metal tag
Compliance:	AS 2441, clause 6.2

SD13 – SIGN – WARDEN INTERCOMMUNICATIONS POINT (WIP)

Property	Description
Drawing Code:	**SD13**
Position:	Door for WIP
Message:	**WARDEN INTERCOMMUNICATIONS POINT**
Letter height (min):	20 mm
Compliance:	AS 4428.4

SD14 – SIGN – PORTABLE FIRE EXTINGUISHERS - CABINET

Property	Description
Drawing Code:	**SD14**
Position:	Cabinet
Message:	**FIRE EXTINGUISHER**
Letter height (min):	32 mm
Sign type:	Adhesive backed vinyl
Compliance:	BCA E1.6 AS 2444 clause 3.6 Fire Brigade
Proprietary item:	

SD15 – SIGN – PORTABLE FIRE EXTINGUISHERS – LOCATION SIGNS

Property	Description
Drawing Code:	**SD15**
Position:	As nominated in AS 2444 clause 3.2 at every installed extinguisher nominated BCA Table E1.6
Message:	**Prescribed graphic**
Letter height (min):	16 mm
Sign type:	Computer generated adhesive backed vinyl graphic
Compliance:	BCA E1.6 AS 2444 clause 3.3 Fire Brigade

SD17 – SIGN – FIRE BLANKETS

Property	Description
Drawing Code:	**SD17**
Position:	As nominated in AS 2444 clause 6.4 at every blanket location
Message:	**Prescribed graphic**
Letter height (min):	
Sign type:	Computer generated adhesive backed vinyl graphic
Compliance:	BCA E1.6 AS 2444 clauses 6.3, 6.4 and Fig 6.1

Property	Description
	Fire Brigade

SD20 – SIGN – SAFETY CURTAINS OPERATING CONTROLS - NSW

Property	Description
Drawing Code:	**SD20**
Application:	In a Class 9b building used as a place of public entertainment
Position:	At safety curtain operating controls
Message:	(Indicate its use and operation)
Letter height (min):	Readable at control location.
Compliance:	BCA NSW H101.10

SD21 – SIGN – AUTOMATIC SMOKE & HEAT VENTS FOR STAGES - NSW

Property	Description
Drawing Code:	**SD21**
Application:	In a Class 9b building used as a place of public entertainment.
Position:	At operating controls
Message:	(Indicate method of activation)
Letter height (min):	
Compliance:	BCA NSW H101.22

SD22 – SIGN – STAGE LOAD NOTICE - NSW

Property	Description
Drawing Code:	**SD22**
Application:	In a Class 9b building used as a place of public entertainment
Position:	Adjacent to the stage floor
Message:	(Indicate the actual distributed and concentrated load for which the stage has been designed)
Letter height (min):	50 mm
Compliance:	BCA NSW H101.8

SD25 – SIGN – BRAILLE & TACTILE EXIT SIGNAGE

Property	Description
Drawing Code:	**SD25**
Application:	Buildings required to be accessible
Position:	To BCA Spec D3.6 for every door in BCA E4.5
Message:	Exit (and) Level (followed by the floor level number)
Letter height (min):	BCA Spec D3.6

Property	Description
Compliance:	BCA E4.5, BCA D3.6 and BCA Spec D3.6

SD30 – SIGN – UNISEX ACCESSIBLE SANITARY FACILITIES

Property	Description
Drawing Code:	**SD30**
Position:	To BCA Spec D3.6
Message:	Braille and tactile signage incorporating the international symbol of access. Indicate suitability for left or right handed use.
Letter height:	Braille: BCA Spec D3.6 Raised characters: Sans serif type font 20 mm.
Symbol size:	AS 1428.2 clause 16, Table 1.
Compliance:	AS 1428.1, BCA D3.6

SD31 – SIGN – AMBULANT SANITARY FACILITIES

Property	Description
Drawing Code:	**SD31**
Position:	To BCA Spec D3.6
Message:	Braille and tactile signage incorporating the male/ female ambulant symbol.
Letter height:	Braille: BCA Spec D3.6 Raised characters: Sans serif type font 20 mm.
Symbol size:	AS 1428.2 clause 16, Table 1.
Compliance:	AS 1428.1, BCA D3.6

SD32 – SIGN – NON-ACCESSIBLE SANITARY FACILITIES

Property	Description
Drawing Code:	**SD32**
Position:	At each bank of sanitary facilities that are not provided with an accessible unisex sanitary facility.
Message:	Braille and tactile signage incorporating the international symbol of access. Indicate location of the nearest accessible unisex sanitary facility.
Letter height:	AS 1428.2 clause 17, Table 2.
Symbol size:	AS 1428.2 clause 16, Table 1.
Compliance:	AS 1428.1, BCA D3.6

SD33 – SIGN – HEARING AUGMENTATION

Property	Description
Drawing Code:	**SD33**
Position:	Where hearing augmentation is installed to BCA D3.7

Property	Description
Message:	Braille and tactile signage incorporating the international symbol of deafness. Identify: Type of hearing augmentation. Area covered within the room. If receivers are being used and where the receivers can be obtained.
Letter height:	BCA Spec D3.6
Symbol size:	AS 1428.2 clause 16, Table 1
Compliance:	BCA D3.7, BCA Spec D3.6 , AS 1428.1

SD34 – SIGN – CHANGING PLACES - ENTANCE SIGN

Property	Description
Drawing Code	**SD34**
Position:	Located latch side of entrance door
Message:	Braille and tactile signage incorporating the international symbol of Changing Places.
Letter height:	Comply with BCA S15C3
Sign type:	Incised, inlaid or embossed letters on metal, wood, plastic or similar plate securely and permanently attached to the wall; or letters incised or inlaid directly into the surface of the material forming the wall
Compliance:	Comply with BCA S15C2
Note:	Master Locksmiths Access Key may be required. Confirm with Superintendent prior to ordering and installing.

SD35 – SIGN – CHANGING PLACES - OPERATING SIGN

Property	Description	
Drawing Code	**SD35**	
Position:	Located on a wall within the room that is clearly seen and free from any obstructions.	
Message:	**Change table instructions** - The change table instructions shall include the following information as a minimum: - The safe working limit must be prominently displayed. - Instruction to include 'Never leave a person on the change table unattended'. - Details of safety checks to be completed prior to use. - How to raise and lower the table with the use of the control. - How to raise and lower the safety side. - Instructions for cleaning the table. - Contact details of the operator of the Changing	**Ceiling hoist instructions** - The ceiling hoist instructions shall include the following information as a minimum: - The safe working limit must be prominently displayed. - Advise that hoists should only be used by people and carers who are accustomed to hoisting and have their own sling. - Details of safety checks to be completed prior to use. - How to attach a sling to the hoist. - How to raise and lower the hoist with the use of the control. - Use of the emergency stop/lowering cord. - How to reset the hoist including how to use the spreader bar to reach

Property	Description	
	- Places facility to request assistance or to - notify cleaning requirements. These contact details are to be clearly distinguished from any manufacturers' information	the reset button if it is out of reach. - Contact details of the operator of the Changing - Places facility to request assistance or to alert them to cleaning requirements. These contact details are to be clearly distinguished from any manufacturers' information
Letter height:	Sans serif font with a minimum font size of 24	
Sign type:	A3 size mounted behind a framed clear acrylic sheet secret fixed secured to wall.	
Compliance:	Comply with Changing Places Design Specification 2020.	

SD40 – SIGN – LIFTS WARNING

Property	Description
Drawing Code	**SD40**
Position:	Near every call button for passenger lift(s)
Message:	DO NOT USE LIFTS IF THERE IS A FIRE (or) Do not use lifts if there is a fire
Letter height:	10 mm (upper case) 8 mm (lower case)
Sign type:	Incised, inlaid or embossed letters on metal, wood, plastic or similar plate securely and permanently attached to the wall; or letters incised or inlaid directly into the surface of the material forming the wall
Compliance:	BCA E3.3

SD40 – SIGN – LIFTS WARNING

Property	Description
Drawing Code	**SD40**
Position:	Near every call button for passenger lift(s)
Message:	DO NOT USE LIFTS IF THERE IS A FIRE (or) Do not use lifts if there is a fire
Letter height:	10 mm (upper case) 8 mm (lower case)
Sign type:	Incised, inlaid or embossed letters on metal, wood, plastic or similar plate securely and permanently attached to the wall; or letters incised or inlaid directly into the surface of the material forming the wall
Compliance:	BCA E3.3

SD41 – SIGN – ACCESS TO LIFT PITS

Property	Description
Drawing Code:	**SD41**

Property	Description
Position:	At the landing side of the doorway
Message:	DANGER LIFTWELL – ENTRY OF UNAUTHORISED PERSONS PROHIBITED – KEEP CLEAR AT ALL TIMES
Letter height:	35 mm
Sign type:	Incised, inlaid or embossed
Compliance:	BCA D1.17

SD42 – SIGN – MAIN SWITCHBOARD – MAIN ENTRY

Property	Description
Drawing Code:	**SD42**
Position:	Each entry that may be used by emergency services or at fire indicator panel
Message:	Indicate location of main switchboard. Incorporate the term Main Switchboard into notice
Letter height:	
Compliance:	AS/NZS 3000 clause 2.9.2.4

SD43 – SIGN – MAIN SWITCHBOARD ROOM OR ENCLOSURE

Property	Description
Drawing Code:	**SD43**
Position:	The room or enclosure containing the main switchboard.
Message:	MAIN SWITCHBOARD
Letter height:	
Compliance:	AS/NZS 3000 clause 2.9.2.4

2 EXTENT OF WORK

2.1 GENERAL

General
Refer drawings and Schedules

Statutory Signage
The Contractor is to allow for all statutory signage required by relevant Australian Standards and the BCA

Wayfinding Signage – General Scope of Work
The Contractor is to allow for wayfinding signage across the site.

END OF SECTION 542 SIGNS & DISPLAY SELECTIONS

551 MISCELLANEOUS FIXTURES

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 341 Structural Steel and 342 Structural Steel Selections
- 351 Light Steel Framing and 352 Light Steel Framing Selections
- 361 Timber Framing and 362 Timber Framing Selections
- 461 Doors, Windows & Hardware and 462 Doors, Windows & Hardware Selections
- 521 Joinery and 522 Joinery Selections

1.2 INTERPRETATION

General
Refer to 121 GENERAL REQUIREMENTS for a comprehensive list of abbreviations and definitions used in this contract / specification.

1.3 STANDARD

Refer body of specification.

1.4 SUBMISSIONS

Fire performance
Fire hazard properties: Submit evidence of conformity to PRODUCTS, FIRE PERFORMANCE, Fire hazard properties.

Building Manuals
General: Submit the manufacturers' data as follows:

- Recommendations for demounting and relocation.
- Recommendations for service use, care and maintenance.
- List of manufacturers and suppliers for replacement parts.

Materials
Manufacturer's data: Submit manufacturers published product data including standard drawings and details.

Products and materials
Manufacturer's drawings: Submit the manufacturer's standard drawings and details showing methods of construction, assembly and fixing, with dimensions and tolerances, connection method for all removable components.

Pest resistance: Submit evidence of conformity to PRODUCTS, **MATERIALS**, **Pest resistance** tested to AS 2001.6.1.

Movable office sound absorption: Submit evidence of weighted sound absorption coefficient (α_w) to AS ISO 11654 tested to AS ISO 354 for workstations required to have a particular rating (α_w).

Samples
General: Submit two samples of each of the following where applicable:

- Sections for frames.
- Joints made by proposed techniques.
- Finishes to prepared surfaces with associated selected edge strips and trims.
- Colour range samples of facings and prefinished production material.

Execution

Welding procedures: Submit details of proposed welding procedures before fabrication.

Welding dissimilar metals: Submit the following details:

- Type and thickness of materials to be welded.
- Proposed joint preparation and welding procedures.
- Proposed filler metal.
- Expected dilution (proportion of fused parent metal in the weld metal).

Fastenings to aluminium (including aluminium alloys): Stainless steel or aluminium.

Subcontractors

General: Submit names and contact details of proposed suppliers and installers.

Installation

General: Submit the manufacturer's standard drawings and details showing methods of assembly and fixing, with dimensions and tolerances.

Records

General: Submit any routine service records to AS 1851 for fire extinguishers and blankets.

1.5 INSPECTION

Notice

Inspection: Give notice so that inspection may be made of the following:

- Shop fabricated or assembled items ready for delivery to the site.
- Site erected assemblies on completion of erection, before covering up by cladding and encasing.
- Custom-built items fabricated and ready to be delivered to the site.
- Furniture items delivered to site before installation.
- Building locations or substrates prepared to receive fixtures before the fixture is installed.
- Marked out positions of fixtures on substrate prior to installation, where requested.

2 PRODUCTS AND MATERIALS

2.1 GENERAL

Storage and handling

Requirement: Transport all furniture to site and store without damage or distortion of components.

General: Store and handle fabricated metalwork, as follows:

- Deliver to site in unbroken wrapping or packing.
- Store on a level base, away from uncured concrete and masonry and areas of wet plaster.
- Do not store in contact with other materials that may cause staining, denting or other surface damage.
- Use gloves when handling precoated finishes.
- Keep storage time to minimum by delivering items only when required for installation.

Marking and labelling

General: Label fixtures with the following details in an inconspicuous location:

- Manufacturer's name and address.
- Date of manufacture.

2.2 FIRE PERFORMANCE

Fire hazard properties
Fire hazard indices for all materials: Tested to AS/NZS 1530.3.

2.3 MATERIALS AND COMPONENTS

Metals
Performance: Provide metals in sections of strength and stiffness suited to their required function, finish and method of fabrication.

Copper alloys (brass, bronze)
Composition and designations: To AS 2738.

Fasteners
Performance: Provide fasteners to resist galvanic corrosion in materials of structural and mechanical strengths and corrosion resistance at least equal to that of the lowest resistant metal in the connection.

Materials: Provide fasteners as follows:

- To copper and copper alloys: Copper or copper-alloy fixing devices only.
- To aluminium and aluminium alloys: Aluminium alloy or non-magnetic stainless steel fixing devices only.
- To stainless steel: Appropriate stainless steel materials only.

Rivets
General: Blind rivets where available in the required metal.

Masonry anchors
General: Proprietary types comprising screws or bolts in self-expanding sockets.

Fabrics
Uncoated woven and knitted fabrics: To AS 2663.1.

- Performance classification (minimum): 2.

Coated woven and knitted fabrics: To AS 2663.2.

- Performance classification (minimum): 2.

Vertical blind fabrics: To AS 2663.3.

Antimicrobial treatment
Requirement: Non-metallic, colourless, odourless, positively charged polymer applied during manufacturing to form a molecularly bonded surface to resist bacteria and mould growth.

Pest resistance
Requirement: Provide window coverings composed entirely of materials either inherently resistant to insect attack or treated against insect attack, by application of insecticide to the yarn during the dyeing or scouring process.

Insect resist agents for wool: Conform to the recommended application levels published by the Woolmark Company for Level 4 protection

2.4 HAZARDOUS MATERIALS

Fire hazard
General: Do not provide materials which, when subject to fire conditions, will emit excessive smoke or dangerous fumes.

2.5 FURNITURE MATERIALS

Steel tube
Surface:

- For painted work: Semi-bright.
- For electroplated work: Bright.

Steel sheet
Surface finish:
- For electroplating: P (plating quality).
- For painting: B (bright) or M (matt).

Stainless steel
Grade: 304
Finish: Surface finish 4 (general purpose polished).

Textile upholstery fabrics
Standard: To AS 2687.
Performance classification (minimum): 3.
Wool and woolblend fabrics:
- Woolmark/Woolblendmark: Required.

Flexible cellular polyurethane
Standard: To AS 2281.
Applications: Generally as recommended in AS 2281 Appendix A.

Decorative overlaid wood panels
Standard: To AS/NZS 1859.3.

High-pressure decorative laminate sheets
Standard: To AS/NZS 2924.1.
Thickness (minimum):
- For horizontal surfaces fixed to a continuous background: 1.2 mm.
- For vertical surfaces fixed to a continuous background: 0.8 mm.
- For post formed laminate fixed to a continuous background: 0.8 mm.
- For vertical surfaces fixed intermittently (e.g. to studs): 3.0 mm.
- For edge strips: 0.4 mm.

Dry process fibreboard (including medium density fibreboard)
- Standard: To AS/NZS 1859.2.

Plywood
- Interior use generally: To AS/NZS 2270.
- Interior use, exposed to moisture: To AS/NZS 2271.
- Visible surface with a clear finish: Veneer quality A.
- Other visible surfaces: Veneer quality B.

Powder coating
- Application to aluminium and aluminium alloy substrates: To AS 3715.
- Application to metal substrates other than aluminium: To AS 4506

Stainless steel
- e.g. 304 for normal applications, or 316 for corrosive environments.
- Finish: Surface finish 4 (general purpose polished).

2.6 AUTHORISED PRODUCTS

General
General: Provide equipment listed in the CSIRO CMSE ActivFire Register of Fire Protection Equipment.

2.7 BLINDS

Vertically retracting fabric blinds
Requirement: Complete proprietary systems, as documented, fabricated by one manufacturer.

Horizontally retracting fabric blinds
Requirement: Complete proprietary systems, as documented, fabricated by one manufacturer.
Track material: Extruded aluminium alloy 6063-T6.

2.8 DISPLAY SURFACES

Pinboards
Description: Faced hardboard or similar panel backed with plywood.
Panel thickness: At least 6 mm.
Panel material: Wet process fibreboard (including softboard) to AS/NZS 1859.4.
Panel backing: Fix board to a 6 mm plywood backing with PVA emulsion adhesive.

Whiteboards
Whiteboard panels: White seamless vitreous enamel surface on sheet steel base, resistant to chipping and fracture when the base is slightly flexed, fixed with a suitable contact adhesive to a backing of primed particleboard at least 12 mm thick.
Surface: Suitable for use with fast-evaporation, dry-erase pens.
Edges: Trim the edges of the panels with hollow square aluminium sections mitred at corners.
Pen rails: Proprietary aluminium section fixed to the full width of the bottom edge of the board.

2.9 CONTAINERS

Letterboxes
Type: Proprietary metal letter box with corrosion-resistant, weatherproof body, weather protected letter slot, lockable hinged door, house or unit number, and accessories necessary for correct installation.
Standard: To AS 4253.

Waste bins
Type: Prefinished proprietary products manufactured from metals or plastics in standard sizes and colours.

2.10 TACTILE GROUND SURFACE INDICATORS (TGSI)

General
Standard: To AS/NZS 1428.4

2.11 FIRE FIGHTING PRODUCTS

Extinguishers
General: Provide portable fire extinguishers and location signs as follows:
- General requirements: AS/NZS 1841.1.
- Water: AS/NZS 1841.2.
- Wet chemical: AS/NZS 1841.3.
- Foam: AS/NZS 1841.4.
- Powder: AS/NZS 1841.5.
- Carbon dioxide: AS/NZS 1841.6.
- Non-rechargeable: To AS/NZS 1841.8.

Selection and location: To AS 2444.
Certification: Required.
Certification provider: An organisation accredited by the Joint Accreditation System of Australia and New Zealand (JAS-ANZ).

Fire blankets
General: To AS/NZS 3504.
Certification: Required.

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Certification provider: An organisation accredited by the Joint Accreditation System of Australia and New Zealand (JAS-ANZ).

Selection and location: To AS 2444.

Maintenance

Fire extinguishers: To AS 1851.

Fire blankets: To AS 1851.

3 EXECUTION AND WORKMANSHIP

3.1 CONSTRUCTION GENERALLY

General

Proprietary systems: Install to manufacturer's recommendations.

Installation: Install tracks in documented locations using manufacturer's purpose fabricated mounting brackets, clips, track splicing and other hardware. Install window coverings to hang plumb and level, and true to line.

Fixing: Provide concealed mechanical fixings suitable for mounting tracks to substrate. Match exposed mounting hardware to the finish and colour of adjacent track.

Adjustment: Adjust all operating hardware for smooth operation free from binding, and to provide even, accurate alignment of window covering in open and closed positions.

Safety: Install child safety devices on all control cords and chains. Install all control cords and chains in conformance with
Competition and Consumer (Corded Internal Window Coverings) Safety Standard.

Fabrics

Fabric surface: Provide a finished surface that is smooth and without irregularities.

Horizontally retracting fabric blinds

Slats and panels: Fix slats and panels in single straight lengths finishing 10 mm above floor or sill level, without twists, warp, bows, edge ripples or fraying. Fix a weight into a pocket formed in the bottom of each slat or a rail to the top and bottom of each panel.

Slat bottoms: Connect bottoms of slats using a chain with reversers.

Spacing: Install slats evenly using plastic spacers which lock into the carrier rail to provide a continuous linkage, and fix with sealed plastic slat holders carried by plastic rotation pivots.

Aluminium structures

Standard: To AS/NZS 1664.1 or AS/NZS 1664.2.

Metals

Performance: Provide metals so that they transmit the loads imposed and ensure the rigidity of the assembly without causing deflection or distortion of finished surfaces.

Incompatible metals: Separate using concealed layers of suitable materials in appropriate thicknesses.

Fasteners

Performance: Provide non-galvanic corrosion fasteners.

Materials: Provide fasteners in materials of mechanical strength and corrosion resistance at least equal to that of the lowest resistant metal joined.

To copper and copper alloys: Provide copper or copper-alloy fixing devices only.

To aluminium and aluminium alloys: Provide aluminium alloy or non-magnetic stainless steel fixing devices only.

To stainless steel: Provide appropriate stainless steel materials only.

Fabrication

Workshop: Fabricate and pre-assemble items in the workshop wherever practicable.

Edges and surfaces: Keep clean, neat and free from burrs and indentations. Remove sharp edges without excessive radiusing.

Tube bends: Form bends in tube without visibly deforming the cross section.

Colour finished work: Match colours of sheets, extrusions and heads of fasteners.

Thermal movement: Accommodate thermal movement in joints and fastenings.

Fabrication tolerances

Structural work generally: ± 2 mm from design dimensions.

Joints

General: Fit joints to an accuracy appropriate to the class of work. Finish visible joints made by welding, brazing or soldering using grinding, buffing or other methods appropriate to the class of work, before further treatment.

Self-finished metals: Free of surface colour variations, after jointing.

Joints: Fit accurately to a fine hairline.

Marking

General: Provide suitable and sufficient marks or other means for identifying each member of site-erected assemblies, and for their correct setting out, location, erection and connection. Mark bolted connections to show the bolting category. Do not mark stainless steel by notching.

Splicing

General: Provide structural members in single lengths.

3.2 WELDING AND BRAZING

General

Quality: Provide finished welds which are free of surface and internal cracks, slag inclusion, and porosity.

Site welds: Avoid site welding wherever possible. If required locate site welds in positions for down hand welding.

Butt weld quality level: Not inferior to the appropriate level recommended in AS 1665 Appendix A.

Brazing

General: Ensure brazed joints have sufficient lap to provide a mechanically sound joint. Do not use butt joints relying on the filler metal fillet only.

3.3 STAINLESS STEEL FABRICATION

Welding stainless steel

Certification of welders: To AS 1796.

Riveting

General: Riveting may be used only to join stainless steel sheet or strip less than 1 mm thick. Drill (not punch) the rivet hole, and drive the rivet cold. On completion, clean and passivate the riveted assembly.

Soldering

General: Do not solder stainless steel.

3.4 METAL FIXTURES

General

General: Provide metal fixtures noted on drawings as follows:

- Components and their location, indicative construction details, scribes and trims, materials, dimensions and thicknesses, and finishes.
- Confirm on site all dimensions noted on drawings.
- Finishes selections as documented.
- Hardware and equipment.

3.5 SHELVING SYSTEMS

General

Height to depth ratio of free-standing shelving units: Maximum 6:1, unless as follows:

- A positive connection between sections is made so that the height/depth ratio of the connected shelving is maximum 6:1.
- The connected shelving is anchored to an external rigid fixing.

Lateral deflection: As follows:

- Free standing shelving: Maximum H/50, where H is the height of the shelving, when a lateral load of 2.5% of the vertical test load (sum of vertical test load applied to each shelf) is applied in any direction at the top of the shelving.
- Multi-tiered shelving tied at floor and soffit levels: Maximum H/50, where H is the height of the shelving, when a lateral load of 2.5% of the full vertical test load (sum of vertical test load applied to each shelf) is applied in any direction at a position mid height between ties.

Mobile shelving

Bases: Mount each unit on a base of structural steel sections supporting the unit between bearings, incorporating necessary bearing and guide wheels.

Tracks: Provide bearing and guide tracks which are bright mild steel sections fixed to the structural concrete floor. Where tracks are to be flush with the finished floor surface, provide linings or edge trim for recesses required for floor guides, operating gear, or the like.

3.6 DISPLAY SURFACES

Pinboards and whiteboards

Installation: Attach the panels to building substrates with either of the following:

- Mastic adhesive.
- Masonry wall plugs and chromium plated raised head screws over chromium plated cup washers.
- Concealed keyhole slots over screwheads in the substrate (for demountable pinboards).

3.7 FABRICS

Fabrics

Fabric surfacing: Prepare and apply so that the finished surface is smooth and without irregularities.

Fabric upholstery: Make the front of the upholstered component in one piece between pipings, if any, with side joins at the rear or underside. Fix with upholsterer's staples.

Piping: 3 mm diameter beads with core.

3.8 INSTALLATION

Fire fighting equipment

Standard: Installation to AS 2444.

- Signage: Provide signs to **STATUTORY SIGNS** in 541 Signs & Display and 542 Signs & Display Selections.

3.9 COMPLETION

Warranties

General: Submit the installer's warranty against defective workmanship or incorrect installation.

Building Manual

General: Submit the manufacturers' data as follows:

- Recommendations for demounting and relocation.
- Recommendations for service use, care and maintenance.
- List of manufacturers and suppliers of replacement parts.
- Manufacturer's published recommendations for service use.

Routine service – Fire extinguishers and blankets

Portable fire extinguishers: To AS 1851 Section 10.

Fire blankets: To AS 1851 Section 11.

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Baseline data – Fire extinguishers and blankets
Requirement: Provide baseline data to AS 1851.

Cleaning
Temporary coatings: On or before completion of the works, or before joining up to other surfaces, remove all traces of temporary coatings used as a means of protection.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **552 MISCELLANEOUS FIXTURES SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 551 MISCELLANEOUS FIXTURES

552 MISCELLANEOUS FIXTURES SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 PROPRIETARY ITEMS

The identification of a proprietary item shall imply exclusive preference for the item so identified and these items must be included in the tender for it to be 'conforming'.

The only acceptable exclusions to this are:

- If noted otherwise (ie by specifically referring to a product followed by 'or equal' or 'or equal approved') alternative products or systems will be considered however these **must be identified at the time of tendering** accompanied by reasons for consideration including costs.
- If more than one proprietary item is included in the product selection then all alternatives noted are acceptable and are deemed to be 'conforming'.

Trim and accessories

Where a proprietary item is identified the intention is for all fixings, brackets, trim and accessories etc necessary for the installation of the nominated product in the positions indicated are supplied and installed.

Manufacturer's instructions and recommendations

Use manufactured items in accordance with the most recently published recommendations of the manufacturer, relevant to such use. The use of these items includes but is not limited to, provision, selection, transportation, delivery, storage, handling, protection, finishing, adjusting and preparation for use. Advise of any activities that supplement, or are contrary to, manufacturer's or supplier's written recommendation and instructions.

Lead times

Ensure manufacturers and suppliers of products specified are contacted for up to date information regarding availability of products and any specific lead times for ordering. Any difficulty in obtaining the products in time to suit the construction program **must be identified at the time of tendering.**

1.2 MATERIALS AND MATERIAL CODES

Drawings and specifications

Our drawings contain material/system codes which are identified on the drawings and within material legends included on drawing sheets. These same codes are used for products specified within this trade section.

Finishes and colours

Products which require a particular finish and/or colour will have an additional code to define these properties. For additional information on finishes/colours refer the relevant **MATERIALS, FINISHES AND COLOUR LEGENDS ON THE DRAWINGS**.

1.3 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

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FX01 – GRABRAIL – ACCESSIBLE STRAIGHT

Property	Description	Picture
Drawing Code:	**FX01**	
Supplier:	**CON-SERV**	
Product Name:	Hygienic Seal Straight Rail	
Code:	HS 300 BS	
Size (mm):	300mm long x 32mm DIA	
Material:	304 Stainless Steel	
Finish:	Brushed Stainless Steel	
Fixings:	Concealed fixing with hygienic seal. To be installed as per manufacturer's instructions. Ply nogging required for wall fixing.	
Compliance:	To install in accordance with Section 14 of AS1428.1	
Note:		
Location:	One to be installed per accessible amenity. Refer to architectural drawings for exact location and quantity.	

FX02 – GRABRAIL – ACCESSIBLE ANGLED LEFT

Property	Description: LHS	Description: RHS	Picture
Drawing Code:	**FX02**		
Supplier:	**CON-SERV**		
Product Name:	HS Toilet Rail BS 960 x 600mm – LH	HS Toilet Rail BS 960 x 600mm – RH	
Code	HS 877 BS LH	HS 877 BS RH	
Size (mm):	870mm x 700mm x 32mm DIA with 40^0 bend		
Material:	304 Stainless Steel.		
Finish:	Brushed Stainless Steel		
Fixings:	Concealed fixing with hygienic seal. To be installed as per manufacturer's instructions. Ply nogging required for wall fixing.		
Compliance:	To install in accordance with Section 14 of AS1428.1		
Note:			
Location:	One to be installed per accessible amenity, depending on orientation of room determines which will need to be installed. Refer to architectural drawings for exact location and quantity.		

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FX04 – GRABRAIL - AMBULANT

Property	Description	Picture
Drawing Code:	**FX04**	
Supplier:	**CON-SERV**	
Product Name:	Toilet Rail BS Left Hand (Code: HS 454 BS LH) Toilet Rail BS Right Hand (Code: HS 454 BS RH)	
Size (mm):	450 long x 450 high x 32mm DIA with 90^0 bend	
Material:	304 Stainless Steel	
Finish:	Brushed Stainless Steel	
Fixings:	Concealed fixing with hygienic seal. To be installed as per manufacturer's instructions. Ply nogging required for wall fixing.	
Compliance:	To install in accordance with Section 14 of AS1428.1	
Note:		
Location:	2 (two) qty per ambulant amenity (one left hand & one right hand). To all ambulant amenities rooms and ambulant cubicles. Refer to architectural drawings for exact location and quantity	

~~**FX05 – GRABRAIL – PWD SHOWER LEFT**~~ **- REMOVED**

~~**FX06 – GRABRAIL - PWD SHOWER RIGHT**~~ **- REMOVED**

FX11 – DISPENSER - SOAP

Property	Description: Option 1	Description: Option 2
Drawing Code:	**FX11**	
Supplier:	**BRADLEY AUSTRALIA**	**First Aid Distribution**
Product Name:	Vertical Liquid Soap Dispenser S.S - Standard Nozzle	OPS Vandal Proof Soap Dispenser
Code:	BTX-05-023	SKU: 1015-01G
Size (mm):	123 W x 123 D x 209mm H [Capacity 1.2L]	164.1 W x 114.3 D x 279.4mm H [Capacity 1L]
Finish:	Satin Stainless Steel	
Fixings:	Surface Mount Concealed Fix Install as per manufacturer's installation guide	
Accessories:	lockable hinged lid (key provided) – ensure all units are keyed the same.	
Compliance:	In accessible areas install to comply with AS1428.1.	
Note:	Vandal resistant	Vandal resistant; 5-year warranty
	Installed on all other schools	Installed only on Vincentia High School

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Property	Description: Option 1	Description: Option 2
Location:	To be installed in all amenities; one per vanity basin unless more than one vanity is mounted together; in which case one to be installed in between vanity basins	
Image:		

FX12 – DISPENSER – PAPER TOWEL

Property	Description	Picture
Drawing Code:	**FX12**	
Supplier:	**BRITEX**	
Product Name:	S.S. Contour Paper Towel Dispenser	
Code:	BTX-04-014	
Size (mm):	W 280 x D 125 x H 348mm	
Finish:	Satin Stainless Steel	
Fixings:	Surface Mount Concealed Fix Install as per manufacturer's installation guide	
Accessories:	lockable hinged lid (key provided) – ensure all units are keyed the same.	
Compliance:	In accessible areas install to comply with AS1428.1	
Note:		
Location:	One per to be installed to all amenities, except to amenities with multiple vanity basins; in this case, one to be installed either end of the bank of vanity basins (accessible WC's, Ambulant WC's and toilet banks)	

FX13 – DISPENSER - TOILET PAPER, ACCESSIBLE

Property	Description	Picture
Drawing Code:	**FX13**	
Supplier:	**BRITEX**	
Product Name:	S.S. Surface Mounted Toilet Tissue Dispenser - No Hood	
Size (mm):	W 161 x H 161 x D 83mm	
Finish:	Chrome plated	
Fixings:	Mounting Surface Mount with Visible Fix	
Accessories:	Lockable model	
Compliance:	To be installed in compliance with AS1428.1	
Note:		

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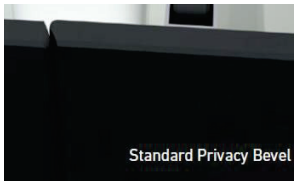
Property	Description	Picture
Location:	To be installed in all accessible amenities (accessible WC and ambulant WC) refer to architectural drawings for extent and quantity	

FX14 – DISPENSER – TOILET PAPER, JUMBO

Property	Description: Option 1	Description: Option 2
Drawing Code:	**FX14**	
Supplier:	**BRITEX**	**BRADLEY**
Product Name:	SS Jumbo Roll Toil tissue dispenser	Double toilet tissue dispenser
Code:	BTX-06-046	Model 5402
Size (mm):	273 W x 273 H x 120mm D *Capacity – standard roll up to 108 wide sheet x 300mm long*	114 W x 264 H x 135mm D *Capacity – two standard core toilet tissue rolls 127mm diameter*
Finish:	304 Stainless Steel, Satin Finish	
Fixings:	Surface mounted with conceal fix	
Installation:	Install as per manufacturers installation guide.	
Note:	Not to be used in any accessible spaces Unit is fitted with security lock – ensure all units are keyed the same	
Location:	Installed on all other schools	Installed only on Vincentia High School
	To be installed in all amenities; one per vanity basin unless more than one vanity is mounted together; in which case one to be installed in between vanity basins	
Image:		

FX22 – WET AREA PARTITION SYSTEM

Property	Description	Picture
Drawing Code:	**FX22**	
Supplier:	**INTERLOC**	
Fixture / Details:	Total Privacy Partitions / Unisex	
Size (mm):	2100mm Ht Extent indicated on drawings. Confirm dimensions on site *Allow for space at base of doors for opening in case of emergency with lift off hinges	
Material:	13mm Compact Laminate	

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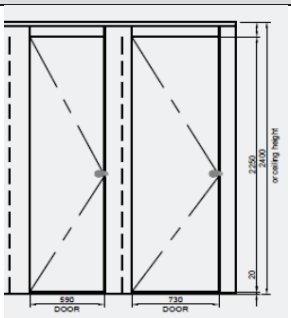
Property	Description	Picture
Accessories:	Hardware & Channels: Anodised Aluminium / Matte Black Concealed Moda Spring Hings Concealed Moda Bumper Moda Lock and Indicator Concealed Moda Hat and Coat Hook 	
Notes:	System to be fixed to floor, wall, and ceiling With standard Privacy Bevel	
Location:	To banks of male and female toilets and as shower privacy panels to EOT facilities. Refer to Architectural drawings for exact location and extent.	

FX22 – WET AREA PARTITIONING – BENCH WITHOUT HOOK RAIL

Property	Description	Picture
Drawing Code:	**FX22**	
Supplier:	**INTERLOC**	
Fixture / Details:	Bench Seating – Wall without Coat Rail	
Size (mm):	Extent indicated on Architectural Drawings. Confirm dimensions on site	
Material:	13mm Compact Laminate	
Accessories:	Hardware & Channels: Anodised Aluminium / Matte Black	
Location:	To be installed in EOT facilities and change rooms, where shown on architectural drawings. This option for where benches are NOT shown against walls (FX23 to be installed in locations shown against wall).	

FX23 – WET AREA PARTITIONING – BENCH & HOOK RAIL

Property	Description	Picture
Drawing Code:	**FX23**	
Supplier:	**INTERLOC**	
Fixture / Details:	Bench Seating – Wall with Coat Rail	
Size (mm):	Extent indicated on Architectural Drawings. Confirm dimensions on site	
Material:	13mm Compact Laminate	
Accessories:	Coat hook rail Hardware & Channels: Anodised Aluminium / Matte Black	

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Property	Description	Picture
Location:	To be installed in EOT facilities and change rooms, where shown on architectural drawings. This option for where benches are shown against walls (FX22 to be installed in locations not against the wall).	

FX25 – SHOWER SEAT

Property	Description	Picture
Drawing Code:	**FX25**	
Supplier:	**CON-SERV**	
Product Name:	Accessible Folding Shower Seat	
Code:	SS 964 BS	
Size *(mm)*:	960L x 400W x 480mmH	
Finish *(Frame)*:	Type 304 Stainless Steel, Brushed Stainless finish	
Finish *(Seat):*	Polar White, UV stabilised, fade resistant Hight Density Polyethylene with self-draining channels	
Capacity:	Maximum load 250kg	
Fixings:	Stud Wall Installation: use 4x stainless steel M8 x 75mm screws. Fix Seat with screws into wall studs or nogging. Acetyl plugs and stainless steel fixings supplied. 100 x 60mm coved plated rear legs for fixing to floor.	
Installation:	Mount Seat deck 470 - 480mm above finished floor level. Install in compliance with AS1428.1 and as per manufacturers specifications	
Warranty:	7-year warranty on commercial installations	
Location:	To be installed in accessible amenities with showers. Refer to architectural drawings for exact location and quantity	
Notes:		

FX28 – SHOWER RAIL & CURTAIN

Property	Description: Track	Description: Curtain	Picture
Drawing Code:	**FX28**		
Supplier:	**METLAM**		
Fixture / Details:	Micro shower curtain track L shape	Box stripe polyester shower curtain	
Code:	SCT_1200x1200_ DESIGNER	SC-WBS3018	
Size (mm):	1200mm x 1200mm	3000 x 1800mm drop	
Material:	Anodised aluminium	Polyester	
Colour/Finish:	Designer matte black	Striped	
Mounting/fixing:	Ceiling + wall	Eyelets along top of curtain for track hooks	
Accessories:	SCT_Suppourted + SCT_Wall Bracket	NA	

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Property	Description: Track	Description: Curtain	Picture
Note:	NA	Mildew resistant	
Location:	To be installed in accessible amenities with showers. Refer to architectural drawings for exact location and quantity		

FX29 – MIRROR - PROPRIETARY

Property		Description	Picture
Drawing Code:		**FX29**	
Supplier:		**BRITEX**	
Product Name:		Polished S.S. Mirror GRADE 304 5/5, solid nylon back	
FX29a:	Code:	BTX-07-032	
	Size:	450 W x 1000 L x 7.5mm D	
	Note:	For accessible & ambulant bathrooms *(install in compliance with AS1428.1)*	
FX29b:	Code:	SMIR	
	Size:	500 W x 600 H x 7.5mm D	
	Note:	All other bathrooms that aren't accessible or ambulant	
Finish:		Polished SS	
Fixings:		Concealed secret fixing – nogging in wall required, as per manufacturer's specifications.	
Compliance:		Install to comply with as1428.1	
Location:		One per vanity basin to be installed to all amenities (accessible WC's, Ambulant WC's and toilet banks)	

FX31 – SHELVING – CLEANERS, FREE STANDING

Property	Description	Picture
Drawing Code:	**FX31**	
Supplier:	**Specfurn**	
Product Name:	Longspan Shelving System	
Size (mm):	1200 W x 505 D x 2000mm H	
Warranty:	3 years	
Compliance:	Designed & tested to comply with the recommendations of the FEM Shelving Design code 10.2.06	
Finish:	Uprights – Galvanised; Beams – painted RAL 9002	
Notes:	Fix unit to wall as well as floor Comes with 3 shelves but additional can be purchased	

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Property	Description	Picture
Location:	To be installed in all cleaners stores than large enough to fit FX32. All cleaners stores to have shelving *(either FX31 or FX32)*	

FX32 – SHELVING – CLEANERS, WALL FIXED

Property	Description	Picture
Drawing Code:	**FX32**	
Supplier:	**BRITEX**	
Product Name:	Square Tube Shelf	
Code:	SHELF-T	
Size (mm):	1200 L x 325 W 300mm H	
Finish:	Stainless Steel	
Fixings:	Supplied complete with stainless steel wall brackets	
Notes:	Tube ends to be sealed.	
Location:	To be installed in all cleaners stores than cannot fit FX31. All cleaners stores to have shelving *(either FX31 or FX32)*	

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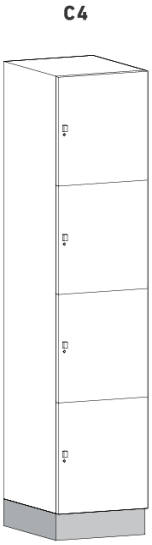
FX34 – LOCKERS LAMINATE

Property	Description	Picture
Drawing Code:	**FX34**	
Supplier:	**INTERLOC**	
Product Name:	Rectangular Locker Door System, C4 (4 door high)	
Size (mm):	Individual locker: 400 W x 450 H x 500mm D Overall length: 1800mm typically (+ end panel and shadow) refer to architectural drawings to confirm Overall height: 1800 (+ 110mm kick)	
Material:	13mm compact laminate	
Finish:	Hardware: Clear anodised aluminium	
Accessories:	Key lock – Heavy Duty Padlock Receptor All other standard fittings and hardware to be included. Numbers routered to top left hand corner of each door	
Locations:	As per architectural drawings	
Installation:	Install as per manufacturer's recommendations. Keyed to client's specifications.	
Certification:	Global Green Tag Certified – GreenRate Level A	
Shop Drawings:	Provide shop drawings, based on site measure. Architect to review prior to commencing manufacturing	
Location:	To be installed to projects that require Green Star rating with quantity to be as per ESD consultant report. Refer to architectural drawings for exact location and quantity	

FX37 – CUPBOARD – METAL CLOTHES LOCKER

Property	Description	Picture
Drawing Code:	**FX37**	
Supplier:	**DEXION**	
Name:	Precision Classic Locker	
Details:	1 Door Standard Cam key lock	
Size:	375 W x 457 D x 1800mm H	
Finish:	White Satin	
Warranty:	10 Years	
Lead Time:	3-4 Weeks	

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Property	Description	Picture
Notes:	Flush integrated handle Coat rail included	
Location:	To be installed in large cleaners stores as per EFSG requirements	

FX38 – CLEANERS CABINET – LOCKABLE METAL

Property	Description	Picture
Drawing Code:	**FX38**	
Supplier:	**SPECFURN**	
Product Name:	Hinged Door Cupboard 4 Levels	
Size (mm):	1950 H x 915 W x 457mm D	
Finish:	Grey Powder Coat	
Warranty:	5 Years material and workmanship	
Notes:	3-point locking; height adjustable shelving	
Location:	To be installed in large cleaners stores as per EFSG requirements	

FX39 – CABINET – FLAMMABLE LIQUIDS STORAGE

Property	250L Capacity	100L Capacity	Picture
Drawing Code:	**FX39**		
Supplier:	**VERDEX**		
Name:	Flammable Liquid Cabinet		
Code:	V7610	V7652	
Size (mm):	1100 W x 500 D x 1975 H	920 W x 620 D x 800 H	
Finish:	Powder coated steel		
Compliance:	Complies with all required Australian Standards and relevant dangerous goods regulations		
Notes:	*Adjustable and removable shelves*		
Location:	To be installed in large cleaners stores as per EFSG requirements		

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FX41 – HOOK – SINGLE, ACCESSIBLE

Property	Description	Picture
Drawing Code:	**FX41**	
Supplier:	**BRADLEY AUSTRALIA**	
Product Name:	Hat and Coat Hook with rubber bumper	
Code:	9931	
Size (mm):	24 W x 61 H x 85mm projection	
Finish:	Satin Finish	
Material:	304 Stainless Steel	
Fixings:	Wall mounted with included screws	
Installation:	Install according to manufacturer's specifications	
Compliance:	To be installed in compliance with AS1428.1	
Locations:	To be installed in all accessible amenities (x2 per accessible WC), ambulant amenities (x1 per ambulant WC) and cleaner's stores (x1 per store). Refer architectural drawings for exact room location and extent.	

FX42 – HOOK - CLEANER

Property	Description	Picture
Drawing Code:	**FX42**	
Supplier:	**BRADLEY AUSTRALIA**	
Product Name:	Mop + Broom holder x 3	
Code:	9953	
Size (mm):	600w x 102h x 70D mm	
Finish:	Stainless Steel	
Fixings:	Screw fixed as per manufacturer's instructions.	
Locations:	To be installed in all cleaner's stores (x1 per store). Refer architectural drawings for exact room location and extent.	

FX43 – HOOK - TRIPLE

Property	Description	Picture
Drawing Code:	**FX43**	
Supplier:	**BRADLEY AUSTRALIA**	
Product Name:	Hat and Coat Rack 3 Hooks	
Code:	Model 9943	
Size (mm):	610 W x 184mm D	
Finish:	Satin Stainless Steel	
Fixings:	Install as per manufacturer's installation guide	

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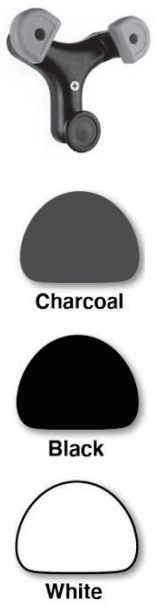
Property	Description	Picture
	Screw to wall with mounting screws (included)	
Warranty:	One (1) year against corrosion	
Locations:	To be installed in all cleaner's stores (x1 per store). Refer architectural drawings for exact room location and extent.	

FX44 – HOOK – STUDENT AMENITIES

Property		Description	Picture
Drawing Code:		**FX44**	
Supplier:		**Safe Hook Australia**	
Name / Code:		OZ-Y Hook	
Size (mm):		24 W x 61 H x 85mm projection	
Finish:	Body:	Black	
	Button:	Charcoal and White 50% of each, with alternating installation	
Material:		Moulded co-polypropylene UV stabilised and fully compounded at the time of manufacture	
Capacity:		Combined total load equivalent to 150kg	
Fixings:		Install as per manufacturer's installation guide Wall mounted with recommended screws	
Installation:		Install according to manufacturer's specifications	
Compliance:		To be installed in compliance with AS1428.1	
Warranty:		5-year structural warranty	
Locations:		To be installed in all student amenities (x1 per WC). Refer architectural drawings for exact room location and extent.	

FX56 – CORNER PROTECTION – STAINLESS STEEL

Property	Description
Drawing Code:	**FX56**
Supplier:	**IN-PRO CORPORATION**
Product Name:	16 gauge Type 304 surface mounted ss corner protection.
Size (mm):	38 x 38 x 2600L.
Material:	Stainless steel.
Finish:	# 4 satin finish stainless steel.
Colour:	Clear powder coat.
Fixings:	Adhesive fix to manufacturer's specification.
Group:	Group 1.

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FX59 – DOOR PROTECTION – STAINLESS STEEL KICKPLATE

Property	**Description**
Drawing Code:	**FX59**
Supplier:	**TBC**

FX61 – TGSI - STAINLESS STEEL – WARNING

Property	**Description: Tiles**	**Description: Studs**	
Drawing Code:	**FX61**		
Supplier:	**CLASSIC ARCHITECTURAL GROUP**		
Product Name:	Classic Tredfx Warning Tile	Classic Tredfx TGSI Individual Tactile	
Code:	PT30	SH10P / SH10N-B	
Material:	Polyurethane	Stainless Steel / Black PVD	
Size:	300 x 300mm	35 DIA x 26mm H	
Warranty:	Lifetime		
Slip Rating:	P5		
LRVs:	**Colour**	**Dry**	**Wet**
	Black	2.4 %	2.6 %
	White	67.0 %	65.4 %
	Mid Grey	16.1 %	16.1 %
	Yellow	41.3 %	42.2 %
	Beige	29.8 %	30.2 %
	Light Grey	43.2 %	43.3 %
	Stainless Steel	51.0 %	46.5 %
	Stainless Steel – Black PVD	4.6 %	3.5 %
Installation:	In accordance with AS1428.1		
Fixing:	Screw and adhesive fix to manufacturer's specification.		
Location:	Refer to architectural drawings		

FX62 – TGSI – DIRECTIONAL

Property	**Description: Tile**	**Description: Studs**
Drawing Code:	**FX62**	
Supplier:	**CLASSIC ARCHITECTURAL GROUP**	
Product Name:	Classic Tredfx Directional Tile	Classic Tredfx TGSI Directional Bar
Code:	PT30	SD19P
Material:	Polyurethane	Stainless Steel / Black PVD
Size:	300 x 300mm	35 DIA x 26mm H
Warranty:	Lifetime	
Slip Rating:	P5	

Property	**Description: Tile**	**Description: Studs**	
LRVs:	**Colour**	**Dry**	**Wet**
	Black	2.4 %	2.6 %
	White	67.0 %	65.4 %
	Mid Grey	16.1 %	16.1 %
	Yellow	41.3 %	42.2 %
	Beige	29.8 %	30.2 %
	Light Grey	43.2 %	43.3 %
	Stainless Steel	51.0 %	46.5 %
	Stainless Steel – Black PVD	4.6 %	3.5 %
Installation:	In accordance with AS1428.1		
Fixing:	Screw and adhesive fix to manufacturer's specification.		
Location:	Refer to architectural drawings		

FX63 – STAIR NOSING – CONCRETE

Property	**Description**
Drawing Code:	**FX63**
Supplier:	**DTAC**
Product Name:	Edging- Corduroy
Code:	DEO110B – Black.
Material:	Hard anodised aluminium.
Installation:	Butt vinyl sheeting to back edge of stair nosing.
Fixing to timber:	Screw and adhesive fix to manufacturer's specification.

FX64 – STAIR NOSINGS - CARPET STAIRS

Property	**Description**
Drawing Code:	**FX64**
Supplier:	**DTAC**
Product Name:	Edging- Corduroy
Code:	DEO630C – Natural.
Material:	Hard anodised aluminium.
Installation:	Insert carpet into nosing as per manufacturer's details.
Fixing to timber:	Screw and adhesive fix to manufacturer's specification.

FX65 – STAIR NOSINGS – RESILIENT FINISH

Property	**Description**
Drawing Code:	**FX65**
Details:	See FX63

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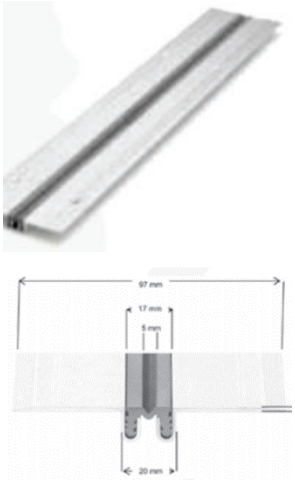
FX66 EXPANSION JOINT COVER

Property	Description
Drawing Code:	**FX67**
Supplier:	**LATHAM INDUSTRIES**
Product Name:	NBDS Flat-Line Series.
Code:	NBDS-30.
Material:	Stainless Steel Cover Plate.
Installation:	Recess slab 35mm at joints.
Fixings:	Mechanical fix at 475 crs to manufacturer's specification.

FX67 – THRESHOLD COVER PLATE

Property	Description	Picture
Drawing Code:	**FX67**	
Supplier:	**SHORELINE**	
Product Name:	Helsinki Threshold Cover Plate	
Size:	20mm gap, overall width 97mm x install depth 12mm	
Finish / Material:	2mm Aluminium and black rubber	
Code:	FN 20/12	
Install:	In accordance with manufacturers recommendations. Ensure screwed into the sub-floor to make sure of a secure and reliable fit.	
Fixing:	In accordance with manufacturers recommendations	
Location:	Only required on Kogarah Public School Between FD50 Sports Floor and adjoining rooms, doors, and floor finish changes	

FX68 – FLOOR PLATE – SPORTING EQUIPMENT

Property	Description				Picture
Drawing Code:	**FX68**				
Supplier:	**SHORELINE**				
Product Name:	Helsinki Floor Plate, Standard				
Size:	Size *(clear of frame)*	Outside dia of frame	Outside dia of Cover	Cut out in Floor	
	90	135	98	108	
Finish:	Oak				
Install / Fixings:	In accordance with manufacturers recommendations.				

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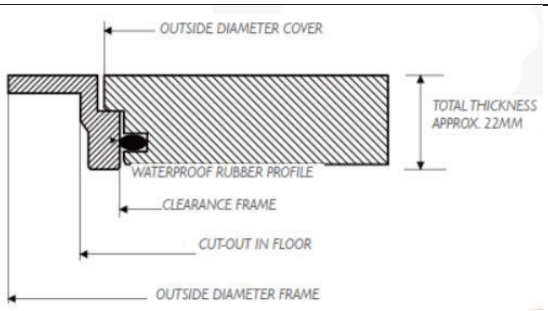
Property	Description	Picture
Location:	Only required on Kogarah Public School	
Details:		

FX69 – FLOOR PLATE - RECTANGULAR

Property	Description				Picture
Drawing Code:					**FX69**
Supplier:	**SHORELINE**				
Product Name:	Helsinki Threshold Cover Floor Plate, Rectangular				
Size:	Size *(clear of frame)*	Outside dia of frame	Outside dia of Cover	Cut out in Floor	
	340 x 220	298 x 418	238 x 360	260 x 380	
	340 x 340	418 x 418	360 x 360	380 x 380	
Finish:	Oak				
Install / Fixings:	In accordance with manufacturers recommendations.				
Location:	Only required on Kogarah Public School				

FX73 – PINBOARD – FRAMED

Property	Description	Picture
Drawing Code:		**FX73**
Supplier:	**KROST.**	
Product Name:	Fabric Pinboard	
Size:	1800 L x 1200mm H	
Code:	FB104	
Material:	Krost Fabric A – 100% polyester	
Edge:	Upholstered wrapped edges	
Installation:	Wall mounted with concealed fixings. To be installed as per manufacturer's instructions	
Fixings:	Adhesive fixed directly to wall surface in accordance with manufacturer's recommendations.	

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Property	Description	Picture
Location:	Refer to architectural drawings	

FX74 – WHITEBOARD

Property	Description	Picture
Drawing Code:	**FX74**	
Supplier:	**KROST.**	
Product Name:	Idea Magnetic Whiteboard	
Size (mm):	2400 W x 1200mm H	
Code:	MB101	
Colour:	Gloss White	
Edge Colour:	Egger ABS edge Birch Plywood	
Edge Profile:	Radius Corners	
Installation:	As per manufacturers specifications	
Fixings:	Concealed installation wall fixings included	
Notes:	Made in Australia Includes whiteboard kits with 2 markers, 1 eraser and 3 magnets	
Location:	Refer to architectural drawings	

FX79 – CLOCK

Property	Description	Picture
Drawing Code:	**FX79**	
Supplier:	**TEMPLE + WEBSTER**	
Product Name:	Jones silent wall clock	
Size (mm):	400mm Diameter	
Material:	Metal	
Finish colour:	Charcoal Grey	
Fixings:	Screw hooks or nail recommended to hang by supplier	
Locations:	Refer to architectural drawings	
Notes:	Or approved equal	

FX91 – ROLLER BLINDS - MANUAL BLOCKOUT

Property	Description	Picture
Drawing Code:	**FX91**	
Supplier:	**HUNTER DOUGLAS**	
Product name:	Quantum roller blinds	

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Property	Description	Picture
Chain:	Plastic chain - white	
Fascia:	Anodised finish	
Blind Colour:	FB01 & FB02 *(See details below)*	
Range:	Plaza plus	
Size (mm):	Refer to Architectural Drawings for various sizes	
Green Star Compliance: ***(COMPULSORY)***	**Materials** As per 20. RESPONSIBLE BUILDING MATERIALS 20.3 – 90% of all cables, pipes, floors and blinds must meet best practice PVC guidelines OR do not contain PVC and have EPD's. Evidence of compliance with the above requirement to be provided to Architect and Builder.	
Locations:	Refer to Architectural Drawings	

FX92 – FIRE EXTINGUISHER 2.7KG ABE

Property	Description
Drawing Code:	**FX92**
Supplier:	**WORMALD**
Product Name:	ABE Powder fire extinguisher
Size (mm):	2.7kg
Colour:	White band
Fixings:	Mounting bracket.
Accessories:	Mandatory signage.

FX93 – FIRE EXTINGUISHER 4.5KG ABE

Property	Description
Drawing Code:	**FX93**
Supplier:	**WORMALD**
Product Name:	ABE Powder fire extinguisher
Size (mm):	4.5kg
Colour:	White band
Fixings:	Mounting bracket.
Accessories:	Mandatory signage.

FX94 – FIRE BLANKET

Property	Description
Drawing Code:	**FX94**
Supplier:	**WORMALD**

Property	Description
Product Name:	Fire Blanket WFB 1812
Size (mm):	1800 X 1200
Fixings:	Mounting brackets.
Accessories:	Mandatory signage.

FX95 – FIRE EXTINGUISHER – 4.5KG FOAM

Property	Description
Drawing Code:	**FX95**
Supplier:	**WORMALD**
Product Name:	Class B foam extinguisher
Size (mm):	4.5kg
Colour:	Blue band
Fixings:	Mounting bracket.
Accessories:	Mandatory signage.
Note:	

FX96 – BIRD NUISANCE SPIKES

Property	Description
Drawing Code:	**FX96**
Supplier:	**VARIOUS**
Product Name:	Stainless steel bird nuisance spikes
Colour:	Marine grade stainless steel
Fixings:	As per manufacturer's recommendations
Locations:	Generally, any exposed structural steel members that around bird roosting, window sills that are deeper than 90mm, lower roof edge where one roof overlaps another and other external areas where birds are likely to roost.

FX98 – ELECTRICAL WALL DUCT

Property	Description
Drawing Code:	**FX98**
Supplier:	**ECD**
Product Name:	Cat No. EL15035D
Colour:	Powdercoated black aluminium.
Fixings:	As per manufacturer's recommendations.
Locations:	Refer to drawings for extent and mounting heights.

FX99 - BIKE RACKS

Property	Description
Drawing Code:	**FX99**
Supplier:	**STREET FURNITURE AUSTRALIA**
Product Name:	BST03 - Semi Hoop Bike Stand.
Size (mm):	845w x 850h
Material:	Galvanised mild steel.
Finish:	Natural galvanised.
Colour:	Unpainted.
Fixings:	Galvanised masonry anchors in accordance with manufacturer's specifications.
Location:	Where noted on ARCHITECTURAL DRAWINGS
Group:	Group 1.

2 EXTENT OF WORK

2.1 GENERAL

General
Refer drawings for locations and details of metalwork required for the various components of this project.

2.2 MISCELLANEOUS FIXTURES

Refer to **COLOUR LEGENDS** on the drawings for the sizes and locations of proprietary items.

2.3 SANITARY ITEMS

Refer **582 HYDRAULIC FIXTURES SELECTIONS** for specification details.

2.4 SAMPLES

Noted above, are the samples of the Metalwork items to be submitted to the superintendent approval, prior to fabrication and installation.

END OF SECTION 552 MISCELLANEOUS FIXTURES SELECTIONS

581 HYDRAULIC FIXTURES

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 111 Preliminaries and 112 Preliminaries Schedules & Annexure
- 121 General Requirements
- 131 Common Requirements
- 521 Joinery and 522 Joinery Selections
- 641 Tiling and 642 Tiling Selections
- 651 Resilient Finishes and 652 Resilient Finishes Selections

1.2 INTERPRETATION

General
Refer to 121 GENERAL REQUIREMENTS for a comprehensive list of abbreviations and definitions used in this contract / specification.

1.3 STANDARD

Design for access and mobility: To AS 1428.1 (2021) and AS 1428.2 (1992).

1.4 INSPECTION

Notice
Inspection: Give notice so that inspection may be made of the following:

- Fixtures delivered to site before installation.
- Building locations or substrates prepared to receive fixtures before the fixture is installed.

1.5 SUBMISSIONS

Manufacturers Data
Manufacturer's data: Submit manufacturers published product data including standard drawings and details including:

- Recommendations for service use, care and maintenance.
- List of manufacturers and suppliers for replacement parts

Subcontractors
General: Submit names and contact details of proposed suppliers and installers.

Installation

- General: Submit the manufacturer's standard drawings and details showing methods of assembly and fixing, with dimensions and tolerances.

2 PRODUCTS AND MATERIALS

2.1 GENERAL

Storage and handling
Requirement: Transport all fixtures to site and store without damage or distortion of components.

2.2 AUTHORISED PRODUCTS

General
Requirement: Listed in the WaterMark Product Database, unless otherwise required by the Network Utility Operator.

Labelling
Water efficiency labelling: Provide products conforming to and labelled to the Water Efficiency Labelling Scheme (WELS).

3 EXECUTION AND WORKMANSHIP

3.1 SANITARY FIXTURES

General
Requirement: Install to manufacturer's recommendations.

3.2 COMPLETION

Warranties
General: Submit the installer's warranty against defective workmanship or incorrect installation.

Maintenance manual
General: Submit the manufacturers' data as follows:

- Recommendations for service use, care and maintenance.
- List of manufacturers and suppliers of replacement parts.
- Manufacturer's published recommendations for service use.

Cleaning
Temporary coatings: On or before completion of the works, or before joining up to other surfaces, remove all traces of temporary coatings used as a means of protection.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **582 HYDRAULIC FIXTURES SELECTIONS** for details of the products and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 581 HYDRAULIC FIXTURES

582 HYDRAULIC FIXTURES SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 PROPRIETARY ITEMS

The identification of a proprietary item shall imply exclusive preference for the item so identified and these items must be included in the tender for it to be 'conforming'.

The only acceptable exclusions to this are:

- If noted otherwise (ie by specifically referring to a product followed by 'or equal' or 'or equal approved') alternative products or systems will be considered however these **must be identified at the time of tendering** accompanied by reasons for consideration including costs.
- If more than one proprietary item is included in the product selection then all alternatives noted are acceptable and are deemed to be 'conforming'.

Trim and accessories

Where a proprietary item is identified the intention is for all fixings, brackets, trim and accessories etc necessary for the installation of the nominated product in the positions indicated are supplied and installed.

Manufacturer's instructions and recommendations

Use manufactured items in accordance with the most recently published recommendations of the manufacturer, relevant to such use. The use of these items includes but is not limited to, provision, selection, transportation, delivery, storage, handling, protection, finishing, adjusting and preparation for use. Advise of any activities that supplement, or are contrary to, manufacturer's or supplier's written recommendation and instructions.

Lead times

Ensure manufacturers and suppliers of products specified are contacted for up to date information regarding availability of products and any specific lead times for ordering. Any difficulty in obtaining the products in time to suit the construction program **must be identified at the time of tendering.**

1.2 MATERIALS AND MATERIAL CODES

Drawings and specifications

Our drawings contain material/system codes which are identified on the drawings and within material legends included on drawing sheets. These same codes are used for products specified within this trade section.

Finishes and colours

Products which require a particular finish and/or colour will have this noted in the selections schedule.

1.3 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

School Infrastructure Group 2 - D&C
Project No: 7068VS01

HY01 – BASIN – WALL MOUNTED WITH MIXER

Property	Basin	Tapware	Picture
Drawing Code:			**HY01**
Manufacturer:	**CAROMA**	**GALVIN ENGINEERING**	
Fixture / Details:	Faun Wall Basin 1TH	Ezy-Push CP-BS Lead Safe Timeflow Push Button Pillar Tap - 6 Sec	
Code:	640210W	173.15.21.00	
Size (mm):	450L x 350 W x 215mm H	TAPH 50 x OH 105 x PROJ 100	
Finish:	Vitreous China - White	Chrome	
Accessories:	White plug & chrome flush fitting waste included		
Compliance:	NA	WELS 6 Star, 4.5 L/min Lead Free	
EFSG Details:	EFSG compliant product	EFSG Suggested product	
	Ensure item is approved by EFSG before ordering		
Shroud:	Faun Shroud, Vitreous China, 651350W Install as per manufacturers specifications		
Install:	AS1428.1 accessible compliant		
Fixings:	As per manufacturer's instructions		
Notes:	1 Tap Hole		
Location:	Refer to architectural specification page in architectural drawings for QTY and location.		

HY05 – BASIN – ACCESSIBLE

Property	Basin		Tapware	Picture
Drawing Code:				**HY05**
Supplier:	**CAROMA**		**GALVIN ENGINEERING**	
Fixture / Details:	Opal 720 Wall Basin Left / Right Hand Self		CliniLever Chrome Plated Brass Hospital Single Lever Basin Mixer	
Code:	RHS	632110W	TM-BASCPD	
	LHS	632210W		
Finish:	Vitreous China - White		Chrome plated Brass	
Accessories:	632601W – Caroma Opal Shroud. Wall Hung. Vitreous China. *Install as per manufacturers recommendations*			

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Property	Basin	Tapware	Picture
Note:	1 tap hole	165 Disabled Lever	
Compliance:	NA	6* WELS Rated	
EFSG Details:	EFSG compliant product.	EFSG Suggested product	
	Ensure EFSG approval before ordering.		
Fixings:	According to manufacturer's specifications		
Install:	Ensure installed according to AS 1428.1		
Location:	Refer to architectural specification page in architectural drawings for QTY and location.		

HY08 – BASIN – HAND WASH

Property	Description	Picture
Drawing Code:		**HY08**
Supplier:	**BRITEX**	
Fixture / Details:	Compact Knee Operated Hand Basin	
Code:	HBKOC	
Size (mm):	410 W x 320 D x 230mm H	
Flow rate:	4* WELS rated 7.5 L/min	
Finish:	Stainless steel	
Fixings:	Stainless steel wall bracket with multiple fixing Install according to manufacturer's specifications	
Accessories:	splashback	
Compliance:	Complies with AS4674 for fit out of food premises when installed with tempering valve	
Note:		
Location:	Refer to architectural specification page in architectural drawings for QTY and location.	

HY11 – SINK – SINGLE BOWL WITH SINK DRAINER

Property	Basin	Tapware	Picture
Drawing Code:			**HY11**
Supplier:	**Galvin Engineering**		
Fixture / Details:	GalvinAssist SS, 800mm Sink Single LH Bowl, 1TH	CliniLever CP-BS Hospital Single Lever Sink Mixer	
Code:	105.80.00.01	TM-SNKCPD	
Size (mm):	800 L x 480 W x 180mm D	60 dia x 215 L centre to centre	
Finish:	0.8mm thick 304 grade stainless steel	Chrome Plated Brass	

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Property	Basin	Tapware	Picture
Warranty:	5-year warranty on parts	5-year warranty on parts	
Compliance:	NA	5* WELS Rated 6L/m	
	WaterMarked products under AS/NZS 3718 WMKA 1583		
EFSG Details:	EFSG suggested product		
	Ensure EFSG approval before ordering		
Notes:	Includes 90mm bucket waste	250 Reach w/ 165 Disabled Lever	
Location:	Refer to architectural specification page in architectural drawings for QTY and location.		

HY12 – SINK – DOUBLE BOWL WITH DOUBLE DRAINER

Property	Basin	Tapware	Picture
Drawing Code:			**HY12**
Supplier:	**OLIVERI**	**GALVIN ENGINEERING**	
Fixture / Details:	Monet Double Bowl Topmount Sink with Double Drainer – 1TH	CliniLever CP-BS Hospital Single Lever Sink Mixer	
Code:	M0753	TM-SNKCPD	
Size (mm):	L 1500 x W 500 x H 195	60 dia x 215 L centre to centre	
Finish:	304 grade, 18/10 polished Stainless Steel	Chrome Plated Brass	
Warranty:	Lifetime manufacturer's warranty	5-year warranty on parts	
Accessories *(basin)*:	AC14 Basket Waste x2, AC47 Bamboo Board, and AC7220 Colander		
Compliance:	NA	5* WELS Rated 6L/m	
	WaterMarked products under AS/NZS 3718 WMKA 1583		
EFSG Details:	EFSG suggested products		
	Ensure EFSG approval before ordering		
Notes:	Adjustable clips and sealing foam supplied	250 Reach w/ 165 Disabled Lever	
Location:	Refer to architectural specification page in architectural drawings for QTY and location.		

HY14 – SINK - CLEANER WITH TAP

Property	Basin	Tapware	Picture
Drawing Code:			**HY14**
Supplier:	**CAROMA**	**GALVIN ENGINEERING**	

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Property	Basin		Tapware	Picture
Fixture / Details:	Cleaners Sink – Stainless Steel with grate		Vandal Resistant CP-BS Jumper valve Wall Sink Set (NSW) with 180H Swivel Goose Neck	
Code:	Sink-	Y5100	49946	
	Legs-	Y5914		
Size (mm):	L 500 x W 570 x H 280mm		Ht 315 x PROJ 200mm	
Finish:	Stainless Steel		Chrome plate	
Accessories:	Includes grate, plug & waste		Vandal Resistant Aerator included	
EFSG Details:	Complies with NSW Education EFSG Guidelines Ensure EFSG approval before ordering ***Cold water only***			
Location:	Refer to architectural specification page in architectural drawings for QTY and location.			

HY15 – SINK – LAUNDRY TROUGH

Property	Basin	Tapware	Picture
Drawing Code:			**HY15**
Supplier:	**CLARK**	**GALVIN ENGINEERING**	
Fixture / Details:	Eureka 70 litre Standard Tub & Cabinet	CliniLever CP-BS Hospital Single Lever Sink Mixer	
Code:	9011	TM-SNKCPD	
Size (mm):	W 630 x L 586 x H 893	60 dia x 215 L centre to centre	
Finish:	Stainless Steel	Chrome Plated Brass	
Warranty:	NA	5-year warranty on parts	
Accessories:	Includes one flexible by-pass kit	NA	
EFSG Details:	EFSG suggested product		
	Ensure EFSG approval before ordering		
Compliance:	NA	5* WELS Rated 6L/m WaterMarked products under AS/NZS 3718 WMKA 1583	
Notes:	Single By-Pass	250 Reach w/ 165 Disabled Lever	
Location:	Refer to architectural specification page in architectural drawings for QTY and location.		

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HY18 – TROUGH DRINKING

Property	Description	Picture
Drawing Code:	**HY18**	
Manufacturer:	**CIVIQ**	
Fixture / Details:	Aquafil Hydrobank	
Code:	AQ-HYB3	
Size (mm):	1724 L x 501 D x 956mm H	
Finish:	Stainless Steel Colour end panels – high density polyethylene	
Colour:	TBC	
Filter:	Filtered Water	
Chiller:	Non-refrigerated	
Signage:	TBA	
Lead Time:	Approx. 4 weeks	
Installation:	Instal as per manufacturer's specifications	
Compliance:	Bottle refil complies with AS1428.2-1992 WaterMark Certified	
Hygienic Features:	Backflow prevention, food-grade, lead-free plumbing, left to right water flow, mouth guard & silver-ion antimicrobial protection	
Warranty:	2 years on the product and a further 8-year period covering stainless steel components	
Notes:	Wall mounted school drinking trough	
Location:	Refer to architectural specification page in architectural drawings for QTY and location.	

HY19 – TROUGH PRACTICAL ACTIVITIES

Property	Basin	Gooseneck Tap	Lab Tapware	Picture
Drawing Code:			**HY19**	
Supplier:	**BRITEX**			
Fixture / Details:	Practical Activity Trough	Laboratory Tap Set 16 – Jumper valve, fixed outlet with aerator nozzle	Laboratory Tap Set 9 – Jumper Valve, Fixed Outlet with Aerator Nozzle	
Code:	TPRAC-A	TW-LBSET-01	TW-LBSET-09	
Size (mm):	1500 L x 450 W x 160mm D	200 L x 380 H x 100mm W	185 H x 190mm L (centre to centre) nominal	
Finish:	Stainless Steel	Chrome Plated Brass	Bright Chrome Plated Brass	

Property	Basin	Gooseneck Tap	Lab Tapware	Picture
Notes:	Tap holes Pre-Plumbed Tapware option	Includes vandal resistant aerator 120 swivel gooseneck spout	Includes vandal resistant aerator, handle & button	
Compliance:	NA	5* WELS Rated 6L/min	5* WELS Rated 5.5L/min	
	WaterMarked products under AS/NZS 3718 WMKA 1583			
EFSG Details:	EFSG compliant items			
	Ensure EFSG approval before ordering			
	EFSG ADITTIONAL REQUIREMENTS BELOW: PVC tubing (piping) and PVC waste pipes including traps must not be used (mandatory). Radius rounding finish to all corners. Return folds to remove all exposed leading edges. Sharp edges are not acceptable. The manufacturer's name must be permanently embossed in a clearly displayed position on the trough.			
Install:	Trough, 2 Gooseneck tap & 2 Lab taps to be installed as set.			
Location:	Refer to architectural specification page in architectural drawings for QTY and location.			

HY21 – TOILET SUITE – STUDENT STANDARD

Property	Toilet	Picture
Drawing Code:	**HY21**	
Supplier:	**CAROMA**	
Fixture / Details:	School Smart Connector Suite	
Code:	814135B	
Size (mm):	W 405 x D 635-765 x Pan H 395 x H 854mm approx.	
Finish:	Vitreous China *(Toilet)* Black *(Toilet Seat)*	
Accessories:	Concorde concealed S trap pan Caravelle single flap vandal resistant seat Includes Anti-Vandal Kit	
Compliance:	4* WELS Rated, 4.5/3L per flush	
EFSG Details:	EFSG compliant product	
Notes:	S trap type Bottom inlet	
Location:	Refer to architectural specification page in architectural drawings for QTY and location.	

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HY24 – TOILET SUITE – ACCESSIBLE

Property	Toilet	Picture
Drawing Code:	**HY24**	
Supplier:	**CAROMA**	
Fixture / Details:	Cosmo Care V2 Connector Suite with Backrest	
Code:	982920BAG	
Size:	445 Pan ht x 800 D x 1050 H	
Finish:	Vitreous China (Toilet) & Anthracite Grey (Toilet Seat)	
Accessories:	Included - Caravelle Care single flap seat Required - 750109 Anti Vandal Kit	
Compliance:	4* WELS Rated, 4.5/3L (3.5L average flush)	
EFSG Details:	EFSG Suggested product	
Install:	In compliance with AS1428.1	
Notes:	Bottom Inlet S Trap	
Location:	Refer to architectural specification page in architectural drawings for QTY and location.	

HY26 – TOILET SUITE – AMBULANT

Property	Toilet	Picture
Drawing Code:	**HY26**	
Supplier:	**GALVIN ENGINEERING**	
Fixture / Details:	GalvinAssist Wall Faced, Clean Flush, Easy Care, Ambulant Toilet Suite with Soft Close Seat	
Code:	105.10.20.00	
Size (mm):	360 W x 650 D x 440 pan H x 870mm OH	
Finish:	Vitreous China - White to AS1172	
Accessories:	Soft Close Seat double flap seat Bottom Inlet S Trap	
Compliance:	4.7/3L (3.3L average flush)	
EFSG Details:	EFSG Suggested product	
Install:	In compliance with AS1428.1	
Notes:	Rimless pan Universal trap	
Location:	Refer to architectural specification page in architectural drawings for QTY and location.	

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HY31 – TAP – BOILING & CHILLED

Property	Basin	Picture
Drawing Code:	**HY31**	
Manufacturer:	**BILLI**	
Fixture / Details:	Billi Quadra 460 with XL Levered Dispenser	
Code:	904060LCH	
Underbench Size:	340 H x 315 W x 465mm D	
Finish:	Brushed Chrome	
Accessories:	992800BR - 70mm Riser & Font, brushed chrome	
Compliance:	Energy efficient GreenTag Certified	
Installation:	Installation as per manufacturer's instructions	
Ventilation:	No ventilation required	
Capacity:	Up to 60 persons *(required due to qty at one given time)*	
Notes:	10 amps	
Location:	Refer to architectural specification page in architectural drawings for QTY and location.	

HY32 – BOILING WATER UNIT – WALL UNIT

Property	Basin	Picture
Drawing Code:	**HY32**	
Manufacturer:	**BILLI**	
Fixture / Details:	Billi Ultra 1600	
Code:	910160	
Size (mm):	365 W x 220 D x 547mm H	
Capacity:	Up to 100 persons	
Finish:	Colorbond White Case	
Installation:	Instal as per manufacturer's specifications	
Notes:	10amps	
Location:	Refer to architectural specification page in architectural drawings for QTY and location.	

HY33 – WATER UNIT – DRINKING FOUNTAIN AND BOTTLE REFILL, TYPE 1

Property	Basin	Picture
Drawing Code:	**HY33**	
Manufacturer:	**CIVIQ**	
Fixture / Details:	Aquafil Solo 900BF	

Property	Basin	Picture
Code:	AQ-SO900BF	
Size (mm):	359 L x 296 D x 992mm H	
Finish:	Stainless Steel, Housing Unit – Anodised Aluminium	
Colour:	TBC	
Filter:	Filtered Water	
Chiller:	Non-refrigerated	
Signage:	Allow for custom artwork sign to include School Logo	
Lead Time:	Approx. 4 weeks	
Installation:	Instal as per manufacturer's specifications	
Compliance:	Bottle refil complies with AS1428.2-1992 WaterMark Certified	
Hygienic Features:	Backflow prevention, food-grade, lead-free plumbing, left to right water flow, mouth guard & silver-ion antimicrobial protection	
Warranty:	2 years on the product and a further 8-year period covering stainless steel components	
Notes:		
Location:	Refer to architectural specification page in architectural drawings for QTY and location.	

HY34 – WATER UNIT – DRINKING FOUNTAIN AND BOTTLE REFILL, TYPE 2

Property	Basin	Picture
Drawing Code:		**HY34**
Manufacturer:	**CIVIQ**	
Fixture / Details:	ELKAY EZH20 Vandal-Resistant	
Code:	LVRC8WS2K	
Size (mm):	460 x 480 x 990mm H	
Finish:	Stainless Steel	
Lead Time:	Approx. 4 weeks	
Installation:	Wall Mounted Instal as per manufacturer's specifications	
Compliance:	Bottle refill complies with AS1428.2-1992 WaterMark Certified Wheelchair Accessible Design	
Hygienic Features:	Antimicrobial, Green Ticker, Drainage system to prevent stagnant water build-up	
Warranty:	2 years on the product and a further 8-year period covering stainless steel components	

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Property	Basin	Picture
Notes:		
Location:	Refer to architectural specification page in architectural drawings for QTY and location.	

HY41 – TAPWARE – SHOWER & MIXER

Property	Description: Shower	Description: Mixer	Picture
Drawing Code:			**HY41**
Supplier/ Manufacturer:	**CAROMA**		
Fixture / Details:	Care Support Shower Set – 900mm Rail	Opal Optional Standard Handle H/C	
Code	91123C4E	99705C	
Size (mm):	900mm H	40 D x 43 dia x 120 H	
Finish:	Chrome	Chrome	
Accessories:	Caroma Care support 900m grab rail GermGard antibacterial protection under concealed clam flanges	Hot & Cold mixer indicator	
Compliance:	AS1428.1 Accessible Compliant WELS 4 Star, 7.5 L/min		
Install:	Install to comply with AS1428 Install as per manufacturers recommendations		
Notes:			
Location:	Refer to architectural specification page in architectural drawings for QTY and location.		

HY42 – TAPWARE – ACCESSIBLE SHOWER & MIXER (WITH T-RAIL)

Property	Description: Shower		Description: Mixer	Picture
Drawing Code:				**HY42**
Supplier/ Manufacturer:	**CAROMA**			
Fixture / Details:	Care Support Accessible Shower		Opal Optional Standard Handle H/C	
Code	Right Hand 290581	Left Hand 290584	99705C	
Size (mm):	1100mm H x 700mm W x 56mm D		40 D x 43 dia x 120 H	
Finish:	Chrome		Chrome	
Accessories:	Caroma Care support 900m grab rail with added GermGard antibacterial		Hot & Cold mixer indicator	

Property	Description: Shower	Description: Mixer	Picture
	protection under concealed clam flanges		
Compliance:	AS1428.1 Accessible Compliant WELS 4 Star, 7.5 L/min		
Install:	Install to comply with AS1428 Install as per manufacturers recommendations		
Notes:			
Location:	Refer to architectural specification page in architectural drawings for QTY and location.		

HY44 – TAPWARE – EMERGENCY EYEWASH

Property	Shower	Picture
Drawing Code:	**HY44**	
Supplier:	**BRADLEY AUSTRALIA**	
Fixture:	USA HALO Pedestal Eyewash unit with Dust Cover	
Code:	S19214PDCZS	
Size:	337 W x 902 H x 502mm D	
Colour:	Satin and Yellow	
Material:	Stainless Steel PIPE	
EFSG:	Not an EFSG approved item. Ensure EFSG approval before ordering Requires final sign off from SME	
Installation:	Install as per manufacturer's instructions	
Notes:		
Location:	Refer to architectural specification page in architectural drawings for QTY and location.	

HY46 – HOSE COCK

Property	Description
Drawing Code:	**HY46**
Product:	REFER TO HYDRAULIC ENGINEER SPECIFICATION
Location:	Terrace, Covered Outdoor Room, Staff Terrace, Consult Terrace, Service Yard

HY51 – FLOOR WASTE – VINYL

Property	Description	Picture
Drawing Code:	**HY51**	

Property	Description	Picture
Manufacturer / Supplier:	**HARBIC**	
Fixture / Details:	Vinyl floor waste set, including base, clamp ring & grate, to suite 100mm PVC	
Code:	52133	
Finish:	Chrome	
Lead Time:	~	
Fixings:	As per manufacturer's instructions	
Notes:	Refer to Hydraulic Consultant Specification & Drawings for placement and details	

HY52 – FLOOR WASTE – TILE

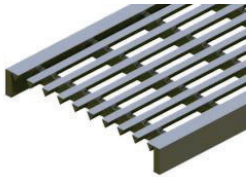
Property	Description	Picture
Drawing Code:		**HY53**
Supplier/ Manufacturer:	**ART**	
Fixture / Details:	Square Bermuda tile floor waste	
Code:	105575	
Finish:	Stainless Steel	
Fixings:	As per manufacturer's instructions	
Notes:	Refer to Hydraulic Consultant Specification & Drawings for placement and details	

HY53 – FLOOR WASTE – CONCRETE

Property	Description	Picture
Drawing Code:		**HY53**
Supplier/ Manufacturer:	**GALVIN**	
Fixture / Details:	Heel Grate	
Code:	25266	
Finish:	316 bGrade Stainless Steel	
Fixings:	Installed as per manufactures recommendation, lock down Allen key screws	
Notes:	Refer to Hydraulic Consultant Specification & Drawings for placement and details	

HY54 – GRATED DRAIN – OUTSIDE GF DOORS

Property	Description	Picture
Drawing Code:		**HY54**

Property	Description	Picture
Supplier/ Manufacturer:	**ACO**	
Contact:	Kristy Hutchinson M: 0413 750 703	
Type:	H100KS channel shall be 100mm nominal internal width with an overall width of 130mm. Channels shall have an overall depth of 85mm. All channels for double door width shall be interlocking with a male/female joint	
Grates:	Type 443D Stainless 5 Star **Heelsafe®** *Anti-Slip* grate with **DrainLok** barless and boltless locking system	
Grate width:	Allow grate to be for the full width of door opening (single / double doors) in standard length modules of 1000mm long. Refer to drawings.	
Fixings:	Installed as per manufactures recommendation.	
Locations:	Generally install to all ground floor classroom doors only. Refer to drawings	
Notes:	Coordinate depth of drain with slab on ground recess. Connect to stormwater drainage. Refer to Hydraulic Consultant drawings.	

2 EXTENT OF WORK

2.1 GENERAL

General
Refer drawings for locations and details of hydraulic and sanitary fixtures required for this project.

END OF SECTION 582 HYDRAULIC FIXTURES SELECTIONS

621 CEMENTITIOUS TOPPINGS

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 321 Concrete and 322 Concrete Selections
- 411 Waterproofing – External and 412 Waterproofing – External Selections
- 631 Waterproofing – Wet Areas and 632 Waterproofing – Wet Areas Selections
- 641 Tiling and 642 Tiling Selections
- 651 Resilient Finishes and 652 Resilient Finishes Selections

1.2 INTERPRETATION

Additional definitions
General: For the purposes of this worksection the definitions given below apply.

- Concrete class:
  - . Normal: Concrete which is specified primarily by a standard compressive strength grade.
- Granolithic topping: A topping mix with the coarse aggregate restricted to between 2 mm and 3 mm.
- Movement control joints: Includes substrate control joints and crack control joints.
- Substrates: The concrete surfaces on which toppings are placed.
- Topping: Mixture of binders, aggregate and water applied to substrates in a plastic state and dried and cured to a hard surface.
- Topping function:
  - . Levelling: Topping placed to receive applied floor finishes.
  - . Wearing: Topping placed to act as the finished floor.
  - . Falls: Topping used to create falls to wastes etc.
- Topping method:
  - . Bonded or post applied: Topping which is bonded to a hardened substrate from which laitance has been removed and to which a bonding agent has been applied.

1.3 STANDARDS

Refer body of specification.

1.4 INSPECTIONS AND TESTS

Construction inspections
General: Give notice to allow inspections as follows:

- Substrates ready for laying of toppings.

Construction tests
General: Test and assess conformity of construction as follows:

- Flatness: If flatness properties are required:
  - . Method: To ASTM E1155.

- In situ crushing resistance/soundness: If a soundness category is required:
  . Method: To BS 8204-1.
- Slip resistance: If a slip resistance classification is required:
  . Method: To AS/NZS 4663.

1.5 SUBMISSIONS

Prototypes
General: Prepare prototypes of each topping type:
- Size: 1200 x 2400 mm.

Samples
General: Submit samples of the following products:
- Colouring products.
- Control joint products.
- Surface treatment products.

Tests
Other tests: Submit results, as follows:
- Flatness.
- In situ crushing resistance/soundness.
- Site slip resistance test of completed installation.

2 PRODUCTS AND MATERIALS

2.1 PRODUCTS

Admixtures
Standard: To AS 1478.1.

Aggregates
Standard: To AS 2758.1.

Coarse aggregate: To be nominal single size ≤ 1/3 topping thickness.

Fine aggregate: To be fine, sharp, well-graded sand with a low clay content and free from efflorescing salts.

Bonding products
General: To be proprietary products manufactured for bonding cement-based toppings to concrete substrates.

Cement
Standard: To AS 3972.
- Type: SL.

Concrete
Standard: To AS 1379.

Topping not reinforced:
- Class: Normal.

Reinforced topping: Conform to the **Reinforced topping table**.

Reinforced topping table

Exposure location	Strength grade	Cover to reinforcement

External > 50 km inland and tropical and External near coastal (> 1 km < 50 km)	N32	30 mm

Reinforcement

Standard: To AS/NZS 4671.

Mesh sizes for joint spacing as follows:

- SL 42: Up to 3 m internal, 2 m external.
- SL 62: Up to 6 m internal, 4 m external.

Curing products

General: To be proprietary products manufactured for use with cement-based toppings and with the floor finish to be laid on the toppings.

Surface treatment products

General: Provide proprietary products manufactured for use with cement- based toppings to change the characteristics of the surface of the finished topping.

Water

General: To be clean and free from any deleterious matter.

2.2 MOVEMENT JOINTS

Movement joint materials

Movement joint strip: A proprietary expansion joint consisting of a neoprene filler sandwiched between plates with lugs or ribs for mechanical keying. Set flush with the finished surface.

Proprietary slide plate divider strip: An arrangement of interlocking metal plates grouted into pockets formed in the concrete joint edges.

Sealant: One-part self-levelling non-hardening mould resistant, silicone or polyurethane sealant applied over a backing rod. Finish flush with the terrazzo surface.

Floors: Trafficable, shore hardness > 35.

Backing rod: Compressible closed cell polyethylene foam with a bond-breaking surface.

Provide movement joints as follows:

- Over structural (isolation, contraction, expansion) joints.
- To divide complex room plans into rectangles.
- Around the perimeter of the floor.
- At junctions between different substrates.
- To divide large topping finished areas into bays.
- At abutments with the building structural frame and over supporting walls or beams where flexing of the substrate is anticipated.

Depth of joint: Right through to the substrate.

Depth of elastomeric sealant: One half the joint width, or 6 mm, whichever is the greater.

3 EXECUTION AND WORKMANSHIP

3.1 PREPARATION

Substrates

General: Ensure substrates have:

- Any deposit which may impair adhesion of monolithic or bonded toppings cleaned off.
- Excessive projections removed and voids and hollows filled with a mix not stronger than the substrate nor weaker than the topping.
- Hardened concrete roughened by scabbling or the like to remove 2 mm of the laitance and expose the aggregate.

Bonded toppings
General: Before laying topping wash the substrate with water and use a bonding product or treat as follows:

- Keep wet for ≥ 2 hours.
- Remove surplus water and brush on neat cement or a clean slurry of cement and water.
- Place the topping while the slurry is wet.

3.2 APPLICATION

Laying
General: Spread the mix and compact. Strike off, consolidate and level surfaces to finished levels.

Monolithic toppings: Lay while concrete subfloor is plastic and surface water is no longer visible.

Toppings over 50 mm thick:

- Lay in two layers of equal thickness.
- Place a layer of reinforcement between the layers of toppings. Lap reinforcement 200 mm and tie. Do not create four way laps.

3.3 SURFACE FINISHES

Finishing methods – primary finish

- Ensure finish is compatible with surface finish i.e. ceramic tiles, vinyl.

Steel trowel finish: After machine floating finish as follows:

- Use power trowels to produce a smooth surface relatively free from defects.
- When the surface has hardened sufficiently, use steel hand trowels to produce the final consolidated finish free of trowel marks and uniform in texture and appearance.

Wood float finish: After machine floating use wood or plastic hand floats to produce the final consolidated finish free of float marks and uniform in texture and appearance.

Scored or scratch finish: After screeding, give the surface a coarse scored texture using a stiff brush or rake drawn across the surface before final set.

Temperature
General: Ensure that the temperature of mixes, substrates and reinforcement are, at the time of application, ≥ 5ºC or ≤ 35ºC.

Severe temperature: If the ambient shade temperature is greater than 38°C, do not mix topping.

3.4 JOINT ACCESSORIES

Floor finish dividers
General: Finish cementitious toppings at junctions with differing floor finishes with a corrosion resistant metal dividing strip suitable fixed to the substrate, with top edge flush to the finished floor. If changes of floor finish occur at doorways make the junction directly below the centre of the closed door.

3.5 TOLERANCES

General
Thickness: Deviation from the stated thickness:

- Thickness < 15 mm: 2 mm.
- Thickness ≥ 15 < 30 mm: 5 mm.
- Thickness ≥ 30 mm: 10 mm.

Flatness deviation: Measured under a 3000 mm straightedge laid in any direction on a plane surface:

- Class A: < 3 mm.
- Class B: ≥ 3 < 5 mm.

3.6 COMPLETION

Curing

General: Prevent premature or uneven drying out and protect from the sun and wind.

Curing: Use a curing product or, as soon as it has set sufficiently, keep the toppings moist by covering with polyethylene film for ≥ seven days.

Joint sealant

General: If required, seal joints as follows:

- Formed joints ≤ 25 mm deep: With filler and bond-breaker.
- Sawn joints: Full depth of cut.

Protection

General: Protect finished work from damage during building operations.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **622 CEMENTITIOUS TOPPINGS SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 621 CEMENTITIOUS TOPPINGS

622 CEMENTITIOUS TOPPINGS SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

1.2 SPECIALIST SUPPLY AND INSTALLATION

Approved manufacturers and experienced subcontractors

Proprietary waterproofing membrane materials and associated components and finishes shall be supplied by approved manufacturers / suppliers and installed by subcontractors experienced in work of this nature.

Only applicators accredited and / or recommended by the product manufacturer shall be used for proprietary waterproofing membrane systems specified in this section. Provide written proof of accreditation and / or recommendation at least 7 days prior to commencing work.

Combined trades

Installation of waterproofing membrane systems, cementitious toppings, floor tiling and resilient finishes shall be installed, certified and guaranteed by the same subcontractor.

Refer to CEMENTITIOUS TOPPINGS, WATERPROOFING – WET AREAS, TILING and RESILIENT FINISHES for the complete system of topping, water proof membrane and adhesion of tiles and resilient finishes.

CT01 - TOPPING – SELF LEVELLING THIN BED

Property	Description
Drawing code:	**CT01**
Manufacturer / Supplier:	**ARDEX**
Product Name:	K10
Primer:	ARDEX E25 as directed
Protective finish / cover:	Floor finishes as specified
Method of application:	Pour and trowel as recommended by Manufacturer.

CT04 - TOPPING – TROWELLED THICK BED UNDER TILES

Property	Description
Drawing code:	**CT04**
Manufacturer / Supplier:	**ARDEX**
Product Name:	A38 topping
Primer:	ARDEX P51 as directed in a bonding slurry

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Property	Description
Protective finish / cover:	Floor finishes as specified
Thickness:	15mm – 100mm in one application. Ensure screed is well compacted
Method of application:	Mix and trowel as recommended by Manufacturer.
Note:	A38 is a rapid set topping screed that meets requirements of AS1884-2012. Apply in bays approx. 40m2 each. When dry, adjacent bays may be joined with epoxy adhesive to form one panel approx. 100m2 in size bounded by expansion joints. In applications under vinyl flooring, apply a skim coat (3-5mm thick) Ardex K12N before installing vinyl sheet.

CT11 - TOPPING - STAIRS

Property	Description
Drawing code:	**CT11**
Manufacturer / Supplier:	**ARDEX**
Product Name:	K301
Primer:	When concrete substrate is very porous, use ARDEX P51 as directed.
Protective finish / cover:	3 coats Streetscape sealer. Refer spec section Concrete STR-02.
Thickness:	2mm - 20mm
Method of application:	Dampen concrete before application. Pour and trowel as recommended by Manufacturer.

CT13 - TOPPING - TRANSITIONS

Property	Description
Drawing code:	**CT13**
Manufacturer / Supplier:	**ARDEX**
Product Name:	K10
Primer:	ARDEX P51 as directed.
Protective finish / cover:	Floor finishes as specified.
Thickness:	feather edge - 35mm
Method of application:	Dampen concrete before application. Pour and trowel as recommended by Manufacturer.

2 EXTENT OF WORK

2.1 GENERAL

General
Refer drawings for locations and details of toppings required for the various components of this project.

INTERNAL WET AREAS

ACCESS WCs and SHOWERS
- to the whole of floor area

LEVELLING - INTERNAL AREAS

ALL AREAS
- at entries to all rooms, feather vinyl flooring to match level of adjacent carpet or tiles.
- to all existing slabs to create a level and even sub-surface for new finishes

END OF SECTION 622 CEMENTITIOUS TOPPINGS SELECTIONS

631 WATERPROOFING – WET AREAS

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 321 Concrete and 322 Concrete Selections
- 511 Linings & Ceilings and 512 Linings & Ceilings Selections
- 621 Cementitious Toppings and 622 Cementitious Toppings Selections
- 641 Tiling and 642 Tiling Selections
- 651 Resilient Finishes and 652 Resilient Finishes Selections

1.2 INTERPRETATION

Additional definitions
General: For the purposes of this worksection the definitions given below apply.

- Substrates: The surfaces on which tiles are bedded.
- Bond breaker: A system preventing the membrane bonding to the substrate, bedding or lining.
- Membranes: Impervious barriers to liquid water which may be:
  - . Installed below floor finishes.
  - . Installed behind the wall sheeting or render and termed *External*.
  - . Installed to the face of the wall sheeting or render and termed *Internal.*
  - . Liquid applied in liquid or gel form and air cured to form a seamless film.
  - . Sheet in sheet form with joints lapped and sealed.
- Waterproof (WP): The property of a material that does not allow moisture to penetrate through it.
- Waterproofing systems: Combinations of membranes, flashings, drainage and accessories which form waterproof barriers and which may be:
  - . Loose-laid.
  - . Bonded to substrates.
- Water resistant (WR): The property of a material that restricts moisture movement and will not degrade under conditions of moisture.
- Wet area: An area within a building supplied with a floor waste.

1.3 STANDARDS

Wet areas
Standard: To AS 3740.

1.4 INSPECTION

Notice
Inspection: Give sufficient notice so inspection may be made of the following:

- Substrate preparation completed.
- Secondary layers preparation completed.

- Before membranes are covered up or concealed.

1.5 SUBMISSIONS

Execution records
Placing records: Photographically record the application of membranes and information as follows:
- Date.
- Portion of work.
- Substrate preparation.
- If exposed to the elements at the time of application, weather during application and curing.
- Protection provided from traffic and weather, if exposed.

Products documentation
General: Submit copies of product manufacturers:
- Installation instructions.
- Material safety data sheets (MSDS).
- Type tests certificates verifying conformance to AS/NZS 4858.

2 PRODUCTS

2.1 PRODUCTS

Membranes
Standard: To AS/NZS 4858.

Membrane systems
General: To be a proprietary membrane systems having one of the following stating that the system is suitable for the intended wet area waterproofing, as follows:
- A current Australian Building Product and Systems Certification Scheme certificate issued by ABCB (Australian Building Codes Board).
- A current appraisal report issued by either CSIRO Building Products and Systems Appraisals.
- A current BRANZ report.

3 EXECUTION

3.1 PREPARATION

Substrates
General: Ensure substrates are as follows:
- Clean and free of any deposit or finish which may impair adhesion or location of tiles.
- If framed or discontinuous, support members are in full lengths without splicing.
- If solid or continuous:
  - Excessive projections are removed.
  - Voids and hollows > 10 mm with abrupt edges are filled with a cement:sand mix not stronger than the substrate nor weaker than the bedding.
  - Depressions < 10 mm are filled with a latex modified cementitious product with feathering eliminated by scabbling the edges.
  - Cracks in substrates wider than 1.5 mm are filled with a filler compatible with the membrane system.

Absorbent substrates: If suction is excessive, control it by dampening but avoid over-wetting and do not apply mortar bedding to substrates showing surface moisture.

Joints and fillets
Internal corners: Provide 45° fillets.

External corners: Round or arris edges.

Movement control joints: Prepare all substrate joints to suit the membrane system.

Priming

General: If required, prime the substrates with compatible primers to ensure adhesion of membrane systems.

3.2 APPLICATION

Protection

General: Protect membrane from damage during installation and for the period after installation until the membrane achieves its service characteristics that resist damage.

Curing of liquid applied systems

General: To the manufacturer's instructions.

Curing: Allow membrane to fully cure before tiling.

Movement control joints

General: Locate over movement control joints in the substructure.

Fillets and bond breakers: If movement between substrates is expected, provide of sufficient dimension to allow the membrane to accommodate the movement.

Bonded membranes: Carry movement joints in the substrate through to and into the surface finish.

Membrane terminations

Edge protection: Provide > 150 mm upturns.

Anchoring: Secure sheet membranes along the top edge.

Edge protection: Protect edges of the membrane.

Waterproofing above terminations: Waterproof the structure above the termination to prevent moisture entry behind the membrane using tiler's angle and finish overlaps.

Membrane vertical penetrations

Pipes, ducts, and vents: Provide separate sleeves for all pipes, ducts, and vents and have fixed to the substrate.

Membrane horizontal penetrations

Sleeves: Provide a flexible flange for all penetrations, bonded to the penetration and to the membrane.

Membrane about doors

General: Install membrane prior to the fixing of door frames or sills.

Overlaying finishes on membranes

Compatibility: If a membrane is to be overlayed with another system such as tiles, pavers, provide an overlaying system that is compatible with and not cause damage to the membrane.

Bonded or partially bonded systems: If the topping or bedding mortar requires to be bonded to the membrane, provide sufficient movement joints in the topping or bedding mortar to reduce the movement over the membrane.

3.3 FLOOD TEST

General

Application: Perform a flood test prior to the installation of surface finishes.

Set-up:

- Measure for dryness the wall/floor junction of adjacent spaces the slab soffit below using the hygrometer test method.
- Record the result for each area.
- Dam the doorway(s) and seal floor wastes and drainage outlets to allow 50 mm water level.
- Fill space with clean water and leave overnight.

Evaluation:

- Make a visual inspection of the wall/floor junction of adjacent spaces and of the slab soffit below for obvious water or moisture.

- Test the same areas for dryness using the hygrometer test method, and compare the results to the measurements taken prior to flooding.

Compliance:

- Evidence of water from the visual test: Failure.
- No visual evidence of water: Proceed with the hygrometer test.
- Increase in test results before and after flooding: Failure.

Records:

- Submit records of all flood tests.

3.4 COMPLETION

Protection

General: Keep traffic off membrane surfaces until bonding has set or for 24 hours after laying, whichever period is the longer.

Reinstatement: Repair or replace faulty or damaged work. If the work cannot be repaired satisfactorily, replace the whole area affected.

Warranty

Waterproofing: Cover materials and workmanship in the terms of the warranty in the form of interlocking warranties from the supplier and the applicator against failure of materials and execution under normal environment and use conditions.

- Period: As offered by the supplier.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **632 WATERPROOFING – WET AREAS SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 631 WATERPROOFING – WET AREAS

632 WATERPROOFING – WET AREAS SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

WI01 – WATERPROOFING MEMBRANE - LIQUID INTERNAL

Property	Description
Drawing Code:	**WI01**
Manufacturer / Supplier:	ARDEX
Product Name:	WPM 002 Superflex Premixed Bathroom and Balcony
No of layers / coats:	Two (2) Two part membrane.
Reinforcement:	ARDEX Deckweb reinforcement as recommended.
Primer:	ARDEX WPM265 if concrete is fully cured. ARDEX WPM300 over green concrete.
Protective finish / cover:	Smooth with ARDEX Feather Finish prior to fixing floor and wall vinyls. Not required for ceramic tile installations.
Junctions:	Ensure all wall/floor and wall/wall junctions are coved prior to applying membrane
Method of application:	Brush or roller in accordance with Manufacturer's recommendations.

2 EXTENT OF WORK

2.1 GENERAL

General
Refer drawings for locations and details of waterproofing required for the various components of this project.

END OF SECTION 632 WATERPROOFING – WET AREAS SELECTIONS

641 TILING

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

121 General Requirements

131 Common Requirements

321 Concrete and 322 Concrete Selections

511 Linings & Ceilings and 512 Linings & Ceilings Selections

621 Cementitious Toppings and 622 Cementitious Toppings Selections

631 Waterproofing – Wet Areas and 632 Waterproofing – Wet Areas Selections

1.2 INTERPRETATION

Additional definitions
General: For the purposes of this worksection the definitions given below apply.

- Adhesives:
  - . Cementitious (C): Adhesives in which the binders are hydraulic, e.g. Portland cement, with aggregates and organic additives.
  - . Dispersion (D): Adhesives in which the binders are in the form of aqueous polymer dispersion with mineral fillers and organic additives.
  - . Reaction resin (R): Adhesives in which in the binders are synthetic resins with mineral fillers and organic additives. The curing occurs by chemical reaction.
- Substrates: The surfaces on which tiles are bedded.
- Bedding: Mixtures of materials which are applied to substrates in a plastic state and dry and cure to adhere tiles to substrates.
  - . Adhesive bedding: Tiling adhered by adhesives.
  - . Mortar bedding: Tiling adhered in a cementitious mortar bed.
- Pavers: Slabs made from clays, stone, precast concrete and/or other inorganic raw materials generally over 20 mm thick used as coverings for floors and supported over continuous substrates.
- Tiles: Thin slabs made from clays and/or other inorganic raw materials used generally as coverings for floors and walls and adhered to continuous supporting substrates.
  - . Cementitious: Cement based tile products.
  - . Dry-pressed: Tiles made from a finely milled body mixture and shaped in moulds at high pressure. Also known as Type B.
  - . Extruded: Tiles whose body is shaped in the plastic state in an extruder then cut to size. Also known as Type A.
- Wet area: An area within a building supplied with a floor waste.
- Acoustic underlay: A resilient underlay providing acoustic isolation.
- Lippage: Height deviation between adjacent tiles.
- Stepping: The relative surface level of adjacent paving elements within the expanse of the main pavement.

1.3 STANDARDS

Tiling
General: Comply with the recommendations of those parts of AS 3958.1 and AS 3958.2 which are referenced in this worksection.

Responsibilities
General: Provide tiling systems to walls, floors and other substrates as follows and/or to the **Selections**:

- Consistent in colour and finish.
- Firmly bonded to substrates for the expected life of the installation.
- Set out with joints accurately aligned in both directions and wall tiling joints level and plumb.
- To direct all water flowing from supply points to drainage outlets without leakage to the substrate or adjacent areas.

1.4 INSPECTION

Notice
Inspection: Give notice so that inspection may be made of the following:

- Substrate immediately before tiling.
- Trial set-outs before execution.
- Control joints before sealing and grouting.
- Grout and caulking colours before application.

1.5 SUBMISSIONS

Samples
General: Submit labelled samples of tiles, including fittings, accessories, grout and sealants, illustrating the range of variation in colour and finish.

Execution
Margins: If it appears that variations in joint widths or overall dimensions will avoid cut tiles, submit a proposal.

2 PRODUCTS AND MATERIALS

2.1 MARKING

Identification
General: Deliver materials to the site in the manufacturer's original sealed containers legibly marked to show the following:

- Manufacturer's identification.
- Product brand name.
- Product type.
- Dimensions and quantity.
- Product reference code and batch number.
- Date of manufacture.
- Material composition and characteristics such as volatility, flash point, light fastness, colour and pattern.
- Handling and installation instructions.

2.2 TILES AND ACCESSORIES

Tiles
Standard: To AS 4662.

Tactile ground surface indicators: To AS/NZS 1428.4.

Coves, nosings and skirtings: To be matching stop-end and internal and external angle tiles moulded for that purpose.

Exposed edges: To be purpose-made border tiles with the exposed edge (whether round, square or cushion) glazed to match the tile face. If such tiles are not available, mitre tiles on external corners.

Accessories

General: Provide tile accessories which match the composition, colour and finish of the surrounding tiles.

Coves, nosings and skirtings

General: Provide matching stop ends and internal and external angle tiles moulded for that purpose.

2.3 ADHESIVES

General

Standard: To AS 2358 and AS 4992.1.

Type

General: Provide adhesives compatible with the materials and surfaces to be adhered.

Prohibited uses: Do not provide the following combinations:

- Cement-based adhesives on wood, metal, painted or glazed surfaces, gypsum-based plaster.
- Organic solvent-based adhesives on painted surfaces.
- Organic PVC-based adhesives and organic natural rubber latex adhesives in damp or wet conditions.
- PVA (polyvinyl acetate) based adhesives in wet areas or externally.

2.4 GROUT

Type

Cement based proprietary grout: Mix with water. Fine sand may be added as a filler in wider joints.

Terra cotta tiles: Use proprietary polymer modified grout.

Portland cement based grout: Mix with fine sand. Provide minimum water consistent with workability.

- For joints < 3 mm: 1 cement:2 sand (by volume).
- For joints ≥ 3 mm: 1 cement:3 sand (by volume).

Pigments

Pigments for coloured grout: Provide colourfast fillers compatible with the grout material. For cement-based grouts, provide lime-proof natural or synthetic metallic oxides compatible with cement.

2.5 MOVEMENT JOINTS

Movement joint materials

Movement joint strip: A proprietary expansion joint consisting of a neoprene filler sandwiched between plates with lugs or ribs for mechanical keying. Set flush with the finished surface.

Proprietary slide plate divider strip: An arrangement of interlocking metal plates grouted into pockets formed in the concrete joint edges.

Sealant: One-part self-levelling non-hardening mould resistant, silicone or polyurethane sealant applied over a backing rod. Finish flush with the terrazzo surface.

- Floors: Trafficable, shore hardness > 35.

Backing rod: Compressible closed cell polyethylene foam with a bond-breaking surface.

3 EXECUTION AND WORKMANSHIP

3.1 TOLERANCES

Completed tiling
Conform to the **Tolerances table**.

Tolerances table

Property	Tolerance criteria
Alignment: Deviation of the finished tiles from a 3 m straight edge laid against any joints	< 3 mm
Flatness: Deviation of any plane surface under a 3 m straight edge laid in any direction on an area of uniform grade	< 3 mm
Lippage: -Unpolished tiles -Polished tiles 300 x 300 mm or less -Polished tiles over 300 x 300 mm	 < 2 mm < 1 mm, with 5% not exceeding 1.5 mm < 1.5 mm, with 5% not exceeding 2 mm

3.2 SUBSTRATES

Drying and shrinkage
General: Before tiling, allow at least the following times to elapse (for initial drying out and shrinkage) for these substrates:

- Concrete slabs: 42 days.
- Concrete blockwork: 28 days.
- Toppings on slabs and rendering on brick or blockwork: A further 21 days.

3.3 PREPARATION

Standard
Preparation: To AS 3958.1 section 4.

Ambient temperature
General: If the ambient temperature is < 5 or > 35°C, do not lay tiles.

Substrates without wet area membranes
General: Ensure substrates are as follows:

- Clean and free of any deposit or finish which may impair adhesion or location of tiles.
- If framed or discontinuous, support members are in full lengths without splicing.
- If solid or continuous:
  - Excessive projections are removed.
  - Voids and hollows > 10 mm with abrupt edges are filled with a cement:sand mix not stronger than the substrate nor weaker than the bedding.
  - Depressions < 10 mm are filled with a latex modified cementitious product with feathering eliminated by scabbling the edges.

Absorbent substrates: If suction is excessive, control it by dampening but avoid over-wetting and do not apply mortar bedding to substrates showing surface moisture.

Dense concrete: If not sufficiently rough to provide a mechanical key, roughen by scabbling or the like to remove 3 mm of the surface and expose the aggregate; then apply a bonding treatment.

Substrates with wet area membranes
General: Ensure substrates are as follows:

- Clean and free of any deposit or finish which may impair adhesion or location of tiles.
- Compatible with all components of the floor system.

Trial set-out
General: Prepare a trial tile set-out to each area as follows to:
- Maximise the size of equal margins of cut tiles.
- Locate movement joints.
- Note minor variations in joint widths to eliminate cut tiles at margins.
- Walls to mark accommodation of fittings.

3.4 TILING GENERALLY

Sequence
General: Fix wall tiles before floor tiles.

Cutting and laying
Cutting: Cut tiles neatly to fit around fixtures and fittings, and at margins where necessary. Drill holes without damaging tile faces. Cut recesses for fittings such as soapholders. Rub edges smooth without chipping.

Laying: Return tiles into sills, reveals and openings. Butt up to returns, frames, fittings, and other finishes. Strike and point up beds where exposed. Remove tile spacers before grouting.

Variations
General: Distribute variations in hue, colour, or pattern uniformly, by mixing tiles or tile batches before laying.

Protection
Floor tiles: Keep traffic off floor tiles until the bedding has set and attained its working strength.

Cleaning: Keep the work clean as it proceeds and protect finished work from damage.

Floor finish dividers
General: Finish tiled floors at junctions with differing floor finishes with a corrosion-resistant metal dividing strip fixed to the substrate. If changes of floor finish occur at doorways, make the junction directly below the closed door.

Sealed joints
General: Fill joints with silicone sealant and finish flush with the tile surface where tiling joins sanitary fixtures and at corners of walls in showers.

3.5 SETTING OUT

Tile joints
Joint widths: Set out tiles to give uniform joint widths within the following limits:
- Floors:
  - Dry pressed tiles: 3 mm.
  - Extruded tiles: 6 mm.
  - Vitrified: 3 to 5 mm.
  - Quarry tiles: 6 to 12 mm.
  - Chemical resistant epoxy jointed tiling: 5 to 6 mm.
- Large and/or irregular floor tiles: 6 to 12 mm.
- Mounted mosaics: To match mounting pattern.
- Walls:
  - Dry pressed tile: 1.5 mm.
  - Extruded tile: 6 mm.

Joint alignment: Set out tiling with joints accurately aligned in both directions and wall tiling joints level and plumb.

Joint position: Set out tiles from the centre of the floor or wall to be tiled and, if possible, ensure cut tiles are a half tile or larger.

Margins
General: Provide whole or purpose-made tiles at margins where practicable, otherwise set out to give equal margins of cut tiles. If margins less than half tile width are unavoidable, locate the cut tiles where they are least conspicuous.

Fixtures
General: If possible position tiles so that holes for fixtures and other penetrations occur at the intersection of horizontal and vertical joints or on the centre lines of tiles. Continue tiling fully behind fixtures which are not built in to the tiling surface. Before tiling ensure that fixtures interrupting the tile surfaces are accurately positioned in their designed or optimum locations relative to the tile layout.

3.6 FALLS AND LEVELS

Grading
General: Grade floor tiling to even and correct falls to floor wastes and elsewhere as required. Make level junctions with walls. Where falls are not required lay level.

Fall, general: 1:100 minimum.

Fall, in shower areas: 1:60 minimum.

Change of finish: Maintain finished floor level across changes of floor finish including carpet.

3.7 BEDDING

Standard
Cement mortar: To AS 3958.1 clause 5.5.

Adhesive: To AS 3958.1 clause 5.6.

Preparation of tiles
Adhesive bedding: Fix tiles dry; do not soak.

Bedding
General: Use bedding methods and materials which are appropriate to the tile, the substrate, the conditions of service, and which leave the tile firmly and solidly bedded in the bedding material and adhered to the substrate. Form falls integral with the substrate.

Thin adhesive beds
General: Provide only if the substrate deviation is less than 3 mm when tested with a 3 m straight edge. Cover the entire tile back with adhesive when the tile is bedded.

Thickness: 1.5 – 3 mm.

Thick adhesive beds
General: Provide on substrates with deviations up to 6 mm when tested with a 3 m straight edge, and with tiles having deep keys or frogs.

Nominal thickness: 6 mm.

Adhesive bedding application
General: Apply adhesive by notched trowel to walls and floors and direct to tiles if required, to provide evenly distributed coverage after laying as follows:

- Domestic internal walls: > 65%.
- Domestic internal floors: > 80%.
- Other wall and floors: > 90%.
- Wet areas and bench tops: 100%.

Pattern of distribution of adhesive: As described in AS 3958.1 clause 5.6.4.3. Verify by examining one tile in ten as work proceeds.

Wall tile spacers: Do not use spacer types that inhibit the distribution of adhesive.

Curing: Allow the adhesive to cure for the period nominated by the manufacturer prior to grouting or allowing foot traffic.

3.8 MOVEMENT JOINTS

General

General: Provide movement joints carried through the tile and the bedding as follows:

- Floor location:
  - . Over structural (isolation, contraction, expansion) joints.
  - . To divide complex room plans into rectangles.
  - . Around the perimeter of the floor.
  - . At junctions between different substrates.
  - . To divide large tiled areas into bays.
  - . At abutments with the building structural frame and over supporting walls or beams where flexing of the substrate is anticipated.
- Wall location:
  - . Over structural joints.
  - . At junctions with different background materials when the tiling is continuous.
  - . At vertical corners in shower compartments to AS 3740.
- Depth of joint: Right through to the substrate.
- Sealant width: 6 – 25 mm.
- Depth of elastomeric sealant: One half the joint width, or 6 mm, whichever is the greater.

3.9 GROUTED AND CAULKED JOINTS

Grouted joints

General: Commence grouting as soon as practicable after bedding has set. Clean out joints as necessary before grouting.

Face grouting: Fill the joints solid and tool flush. Clean off surplus grout. Wash down when the grout has set. When grout is dry, polish the surface with a clean cloth.

Edges of tiles: Grout exposed edge joints.

Epoxy grouted joints: Ensure that tile edge surfaces are free of extraneous matter such as cement films or wax, before grouting. Wall and floor tiles generally are to have epoxy grout.

Mosaic tiles

Grouting mosaics: If paper faced mosaics are to be bedded in cement mortar, pre-grout the sheeted mosaics from the back before fixing. After fixing, rub grout into the surface of the joints to fill any voids left from pre-grouting. Clean off surplus grout. When grout has set, wash down. If necessary use a proprietary cement remover.

Caulked joints

General: Provide caulked joints filled with sealant and finished flush with the tile surface as follows:

- Where tiling is cut around sanitary fixtures.
- Around fixtures interrupting the tile surface, for example pipes, brackets, bolts and nibs.
- At junctions with elements such as window and door frames and built-in cupboards.

Material: Anti-fungal modified silicone.

Width: 5 mm.

Depth: Equal to the tile thickness.

3.10 JOINT ACCESSORIES

Floor finish dividers

General: Finish tiled floors at junctions with differing floor finishes with a corrosion resistant metal dividing strip suitably fixed to the substrate, with top edge flush with the finished floor. Where changes of floor finish occur at doorways make the junction directly below the closed door.

Stepping: Less than 5 mm.

Adjustments
If the floor finish divider was installed by the wet area waterproof membrane applicator check that the height is sufficient for the topping and tile thickness. Adjust as required with a matching flat bar adhesive fixed to the divider angle.

3.11 COMPLETION

Spare tiles
General: Supply spare matching tiles and accessories of each type for future replacement purposes. Store the spare materials on site.

Quantity: At least 1% of the quantity installed.

Cleaning
General: Clean tiled surfaces using an appropriate tile cleaning agent, and polish.

Operation and maintenance manuals
General: Submit a manual describing care and maintenance of the tiling, including procedures for maintaining the slip-resistance grading stating the expected life of the slip-resistance grade.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **642 TILING SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 641 TILING

642 TILING SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

1.2 SPECIALIST SUPPLY AND INSTALLATION

Approved manufacturers and experienced subcontractors

Proprietary waterproofing membrane materials and associated components and finishes shall be supplied by approved manufacturers / suppliers and installed by subcontractors experienced in work of this nature.

Only applicators accredited and / or recommended by the product manufacturer shall be used for proprietary waterproofing membrane systems specified in this section. Provide written proof of accreditation and / or recommendation at least 7 days prior to commencing work.

Combined trades

Installation of waterproofing membrane systems, cementitious toppings, floor tiling and resilient finishes shall be installed, certified and guaranteed by the same subcontractor.

Refer to CEMENTITIOUS TOPPINGS, WATERPROOFING – WET AREAS, TILING and RESILIENT FINISHES for the complete system of topping, water proof membrane and adhesion of tiles and resilient finishes.

1.3 TYPICAL TILING DETAILS

Note: These details illustrate the general principles involved in installing ceramic wall tiling and ceramic floor tiling. These details do not illustrate every possible circumstance but should allow for other circumstances to be interpreted from these drawings. Seek guidance from the Superintendent if there is any doubt on issues arising from the Works.

1.4 GREEN STAR REQUIREMENTS

Indoor Environment Quality

As per the Green Building Council of Australia, Greenstar Matrix Section 13. INDOOR POLLUTANTS 13.1.1/2 requires 95% of Paints, Adhesives, Sealants, and Carpets to be LOW VOC. Compliance must be achieved through one of the following, Product Certification, Lab Test or No paints, adhesives, or sealants/carpets. Proof of compliance must be provided by the Architect and / or Builder.

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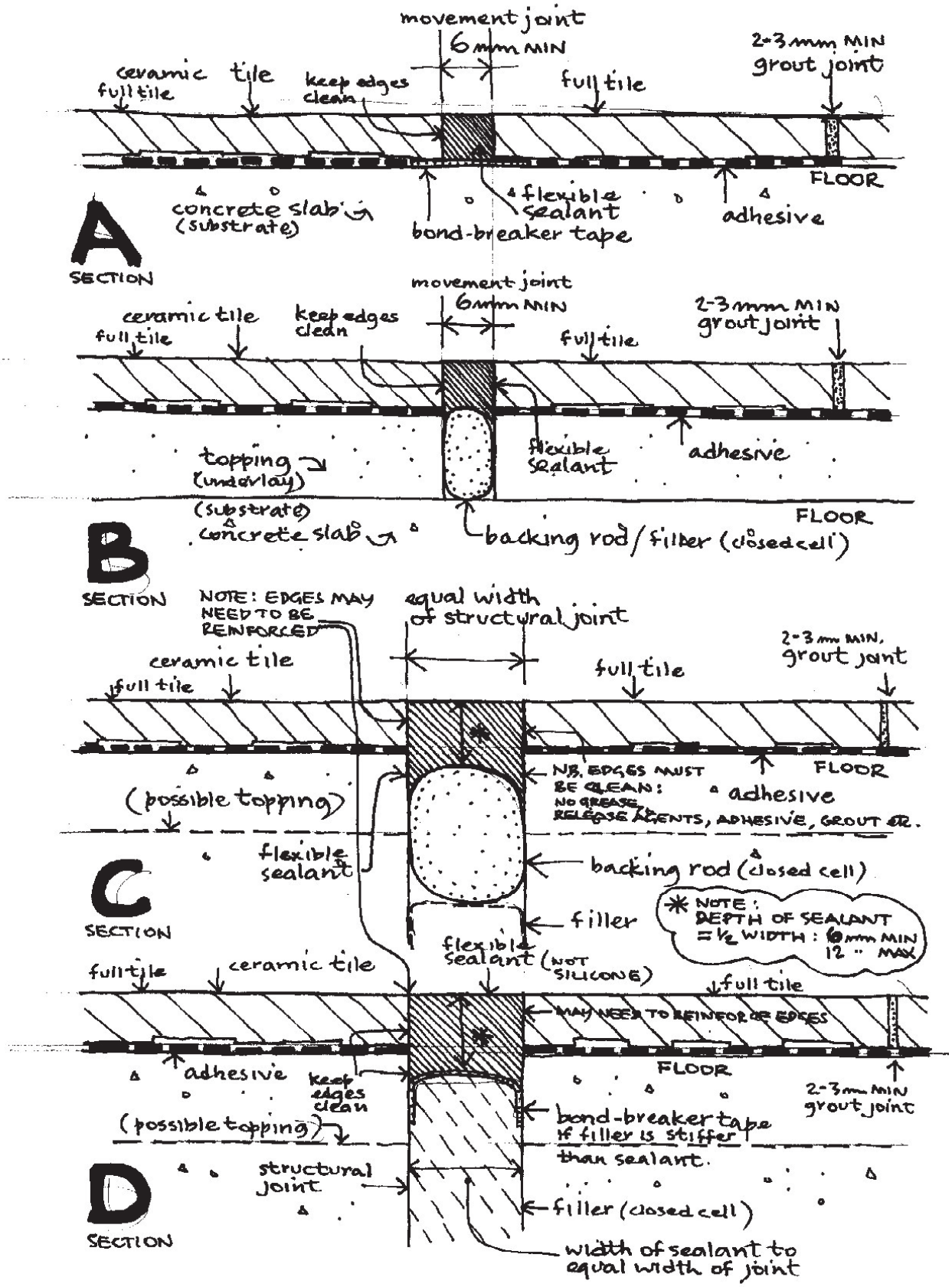
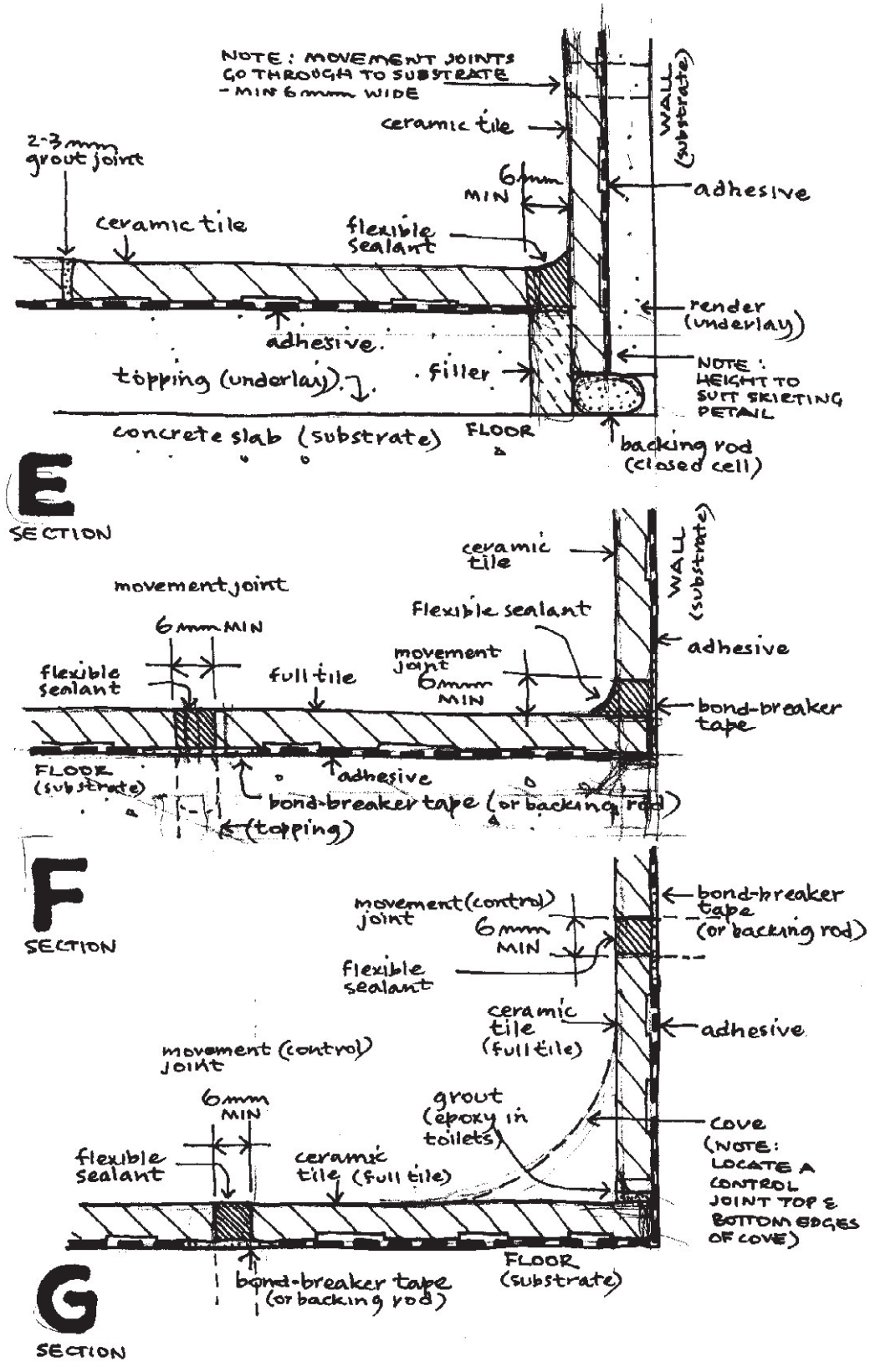
GENERAL NOTES

- Comply with as 3958.1 & as 3958.2 unless the documents specifically direct otherwise.
- Movement joints shall be 6mm minimum.
- All joints shall be free of adhesive, grout, mortar, dirt and other contaminants.
- All adhesive shall be removed from tile faces and edges.
- Sealant shall be applied in strict accordance with manufacturer’s instructions.
- Use backing rods, bond-breaking tape, fillers and primers as required.
- Unless otherwise approved, all backing rods, bond-breaking tapes and fillers shall be manufactured as closed cell material.
- Wall and floor tiles generally are to have epoxy grout.


movement joint
6mm MIN
2-3mm MIN grout joint
ceramic tile full tile
keep edges clean
full tile
FLOOR
concrete slab (substrate)
flexible sealant
bond-breaker tape
adhesive
A SECTION
movement joint
6mm MIN
ceramic tile full tile
keep edges clean
full tile
2-3mm MIN grout joint
topping (underlay)
flexible sealant
adhesive
(substrate) concrete slab
backing rod / filler (closed cell)
FLOOR
B SECTION
NOTE: EDGES MAY NEED TO BE REINFORCED
equal width of structural joint
ceramic tile full tile
full tile
2-3mm MIN. grout joint
NB. EDGES MUST BE CLEAN: NO GREASE, RELEASE AGENTS, ADHESIVE, GROUT ETC.
FLOOR
adhesive
(possible topping)
flexible sealant
backing rod (closed cell)
filler
* NOTE: DEPTH OF SEALANT = ½ WIDTH : 6mm MIN 12 " MAX
C SECTION
flexible sealant (NOT SILICONE)
full tile
ceramic tile full tile
MAY NEED TO REINFORCE EDGES
FLOOR
adhesive
keep edges clean
2-3mm MIN grout joint
(possible topping)
bond-breaker tape if filler is stiffer than sealant.
structural joint
filler (closed cell)
width of sealant to equal width of joint
D SECTION


NOTE : MOVEMENT JOINTS GO THROUGH TO SUBSTRATE - MIN 6mm WIDE
ceramic tile
WALL (substrate)
2-3mm grout joint
6mm MIN
adhesive
ceramic tile
flexible sealant
render (underlay)
adhesive
topping (underlay)
filler
NOTE : HEIGHT TO SUIT SKIRTING DETAIL
concrete slab (substrate)
FLOOR
backing rod (closed cell)
E
SECTION
ceramic tile
WALL (substrate)
movement joint
6mm MIN
Flexible sealant
adhesive
flexible sealant
full tile
movement joint 6mm MIN
bond-breaker tape
FLOOR (substrate)
adhesive
bond-breaker tape (or backing rod)
(topping)
F
SECTION
movement (control) joint
6mm MIN
bond-breaker tape (or backing rod)
flexible sealant
ceramic tile (full tile)
adhesive
movement (control) joint
6mm MIN
grout (epoxy in toilets)
cove
flexible sealant
ceramic tile (full tile)
(NOTE: LOCATE A CONTROL JOINT TOP & BOTTOM EDGES OF COVE)
FLOOR (substrate)
bond-breaker tape (or backing rod)
G
SECTION

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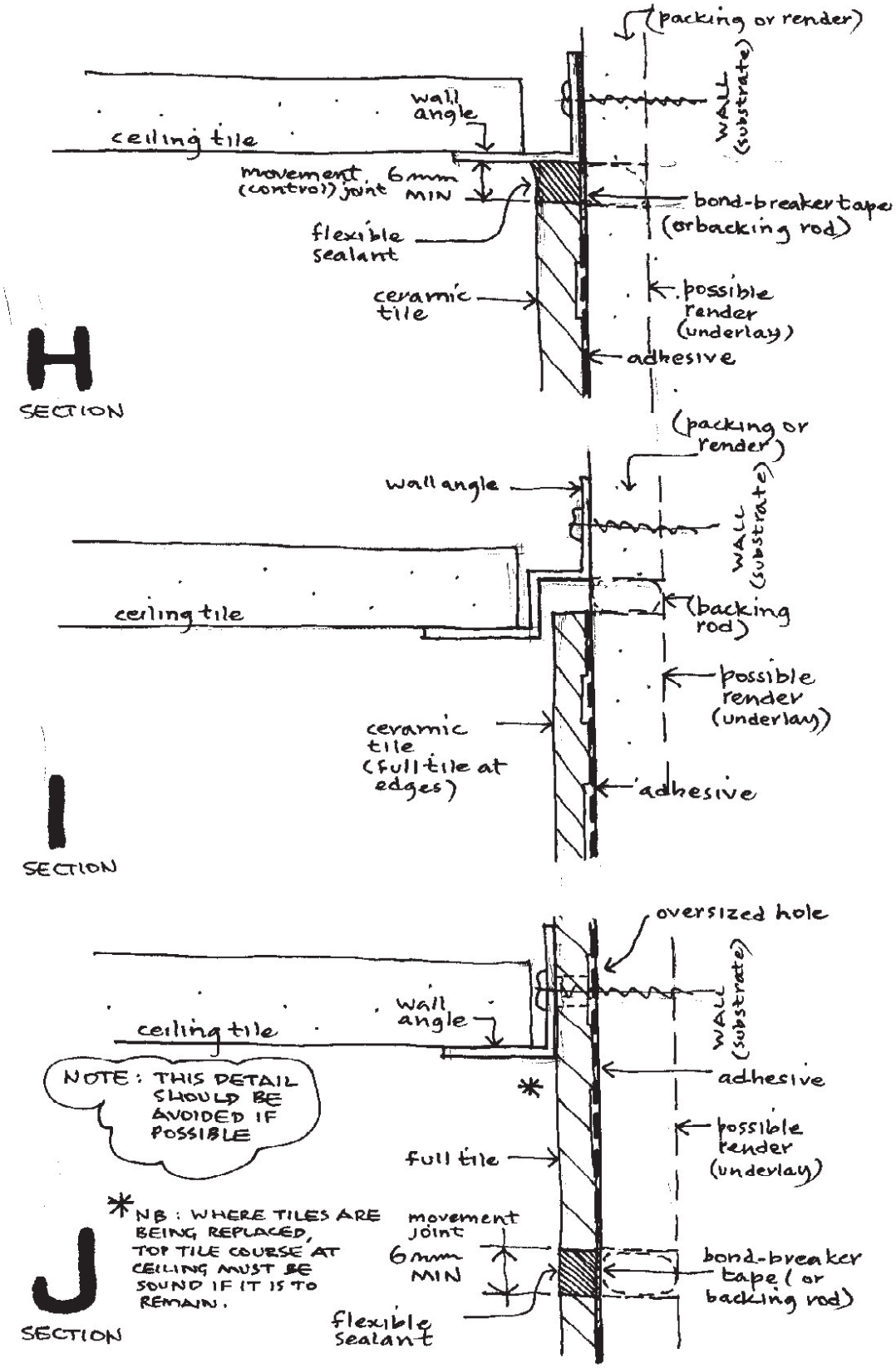
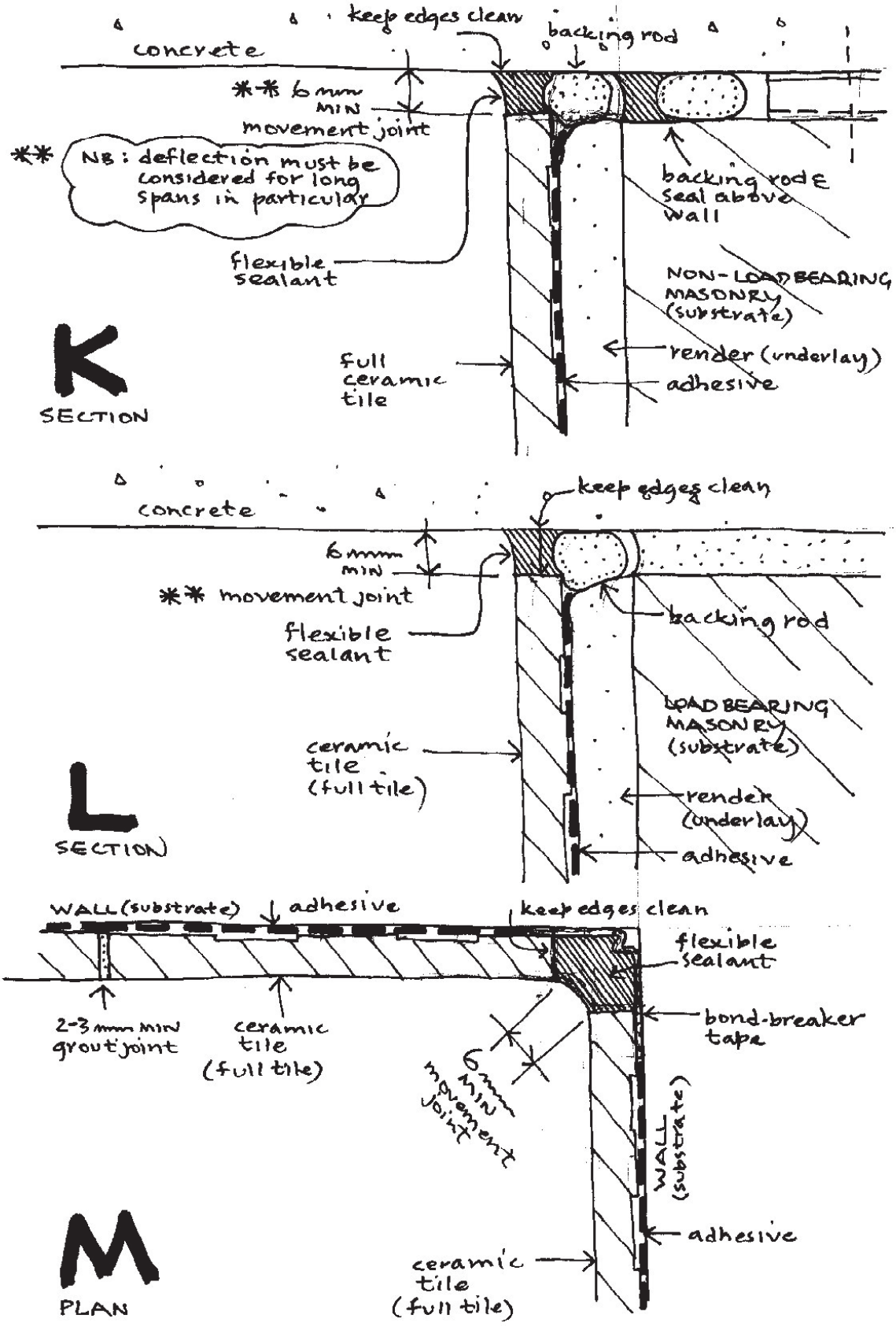
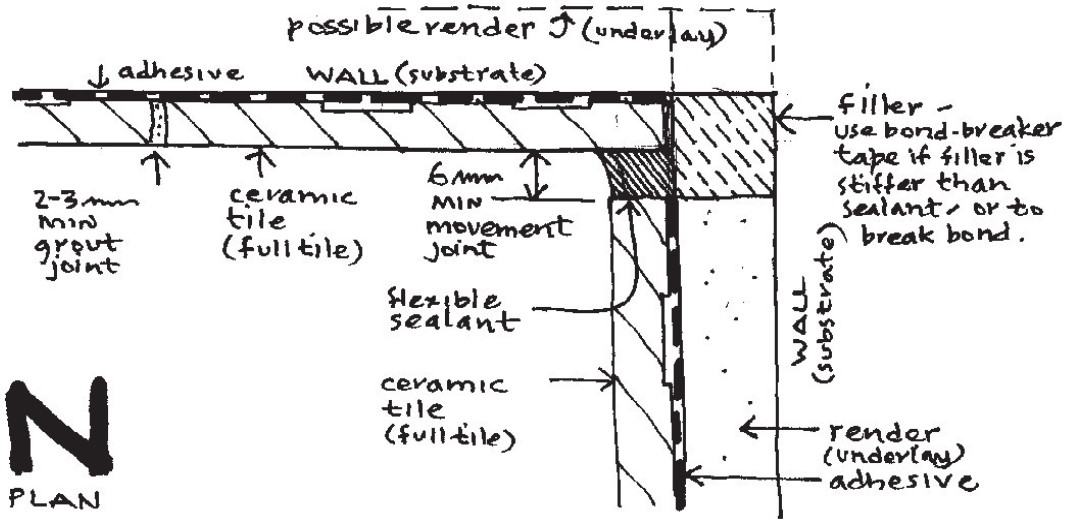
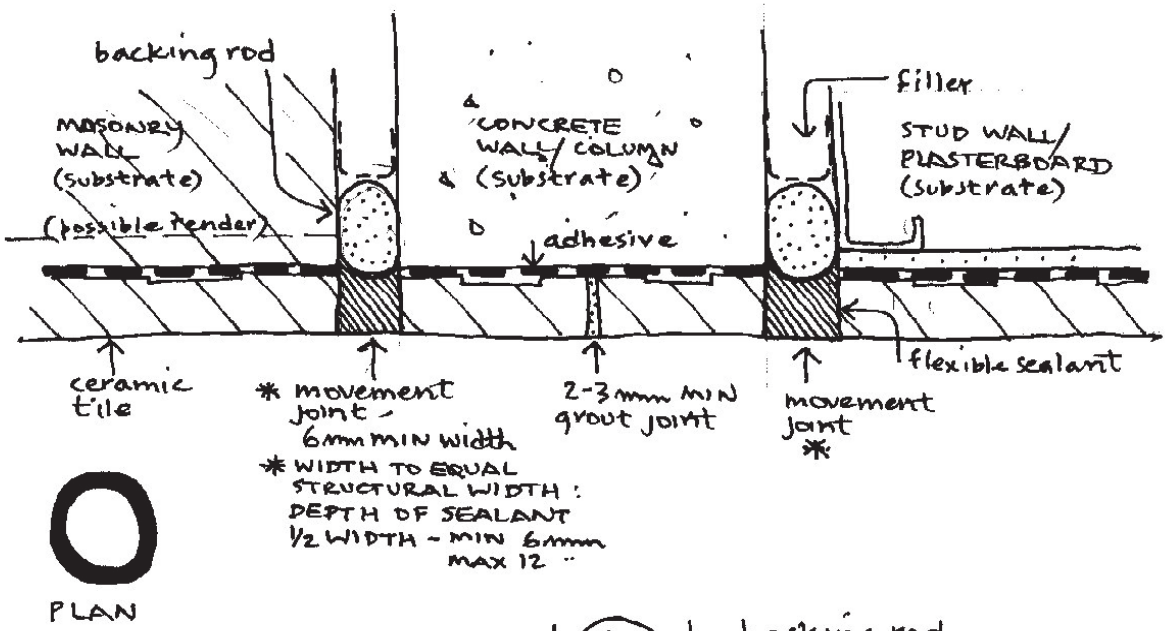
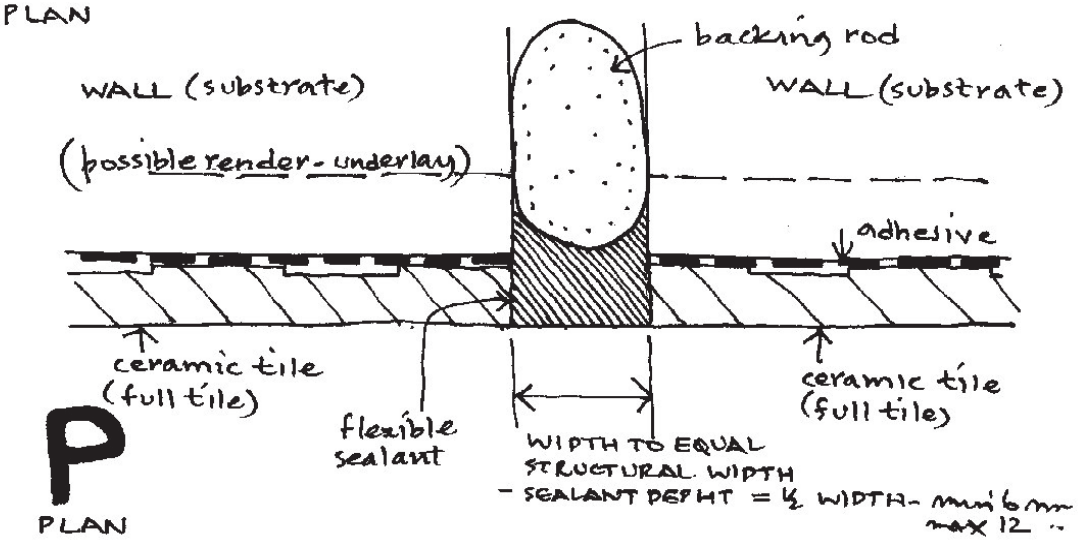



keep edges clean
backing rod
concrete
** 6 mm MIN movement joint
** NB: deflection must be considered for long spans in particular
backing rod & seal above wall
flexible sealant
NON-LOAD BEARING MASONRY (substrate)
render (underlay)
adhesive
full ceramic tile
K
SECTION
concrete
keep edges clean
6 mm MIN
** movement joint
backing rod
flexible sealant
LOAD BEARING MASONRY (substrate)
ceramic tile (full tile)
render (underlay)
adhesive
L
SECTION
WALL (substrate)
adhesive
keep edges clean
flexible sealant
2-3 mm MIN grout joint
ceramic tile (full tile)
bond-breaker tape
6 mm MIN movement joint
WALL (substrate)
adhesive
ceramic tile (full tile)
M
PLAN


possible render (underlay)
adhesive
WALL (substrate)
filler - use bond-breaker tape if filler is stiffer than sealant, or to break bond.
2-3mm min grout joint
ceramic tile (full tile)
6mm MIN movement joint
flexible sealant
WALL (substrate)
ceramic tile (full tile)
render (underlay)
adhesive
N
PLAN


backing rod
MASONRY WALL (substrate)
(possible render)
CONCRETE WALL/COLUMN (substrate)
adhesive
filler
STUD WALL/ PLASTERBOARD (substrate)
flexible sealant
ceramic tile
* movement joint - 6mm MIN width
2-3mm MIN grout joint
movement joint *
* WIDTH TO EQUAL STRUCTURAL WIDTH : DEPTH OF SEALANT 1/2 WIDTH - MIN 6mm MAX 12
O
PLAN


backing rod
WALL (substrate)
WALL (substrate)
(possible render - underlay)
adhesive
ceramic tile (full tile)
flexible sealant
WIDTH TO EQUAL STRUCTURAL WIDTH - SEALANT DEPHT = 1/2 WIDTH - min 6mm max 12
ceramic tile (full tile)
P
PLAN

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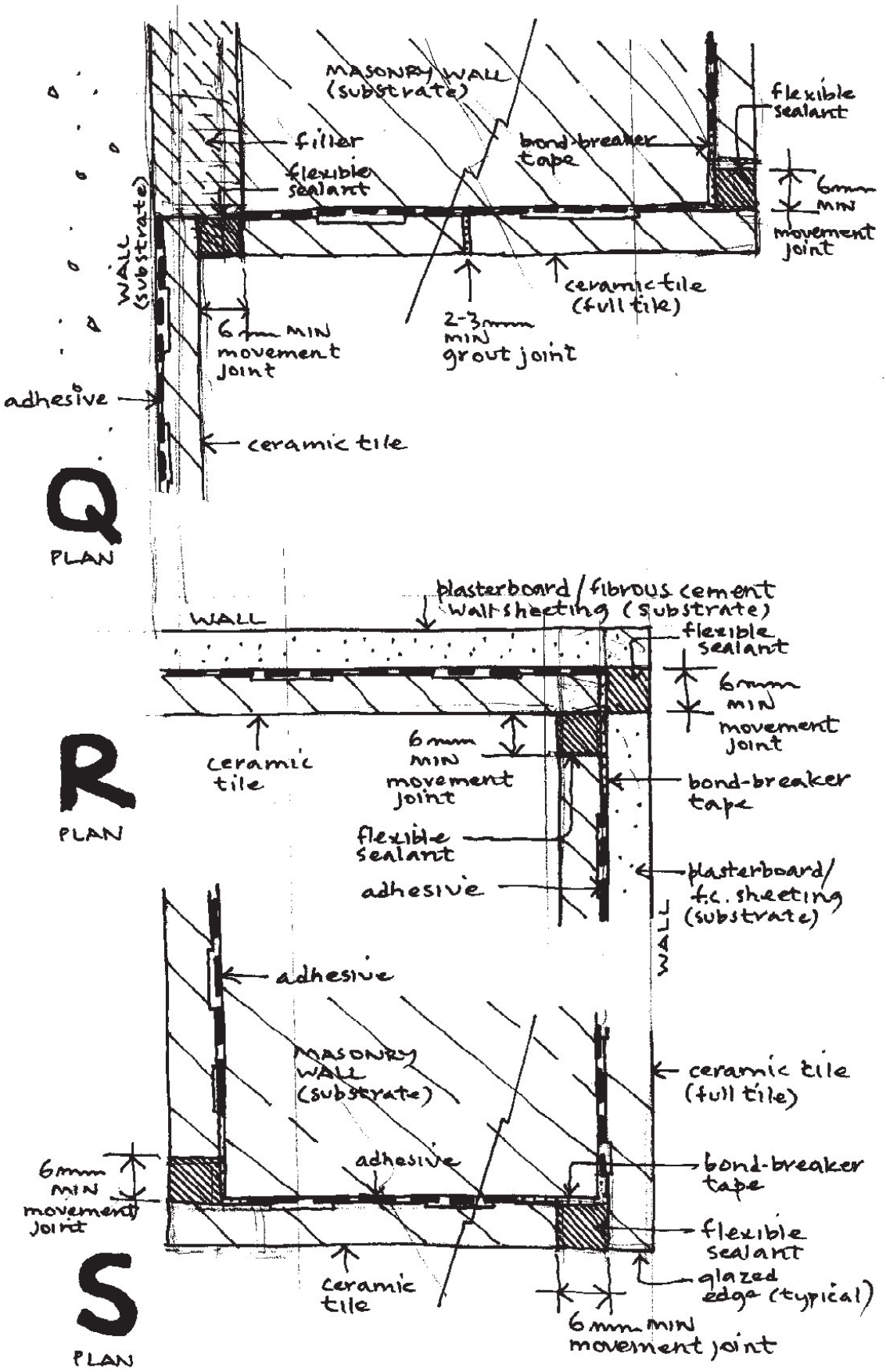
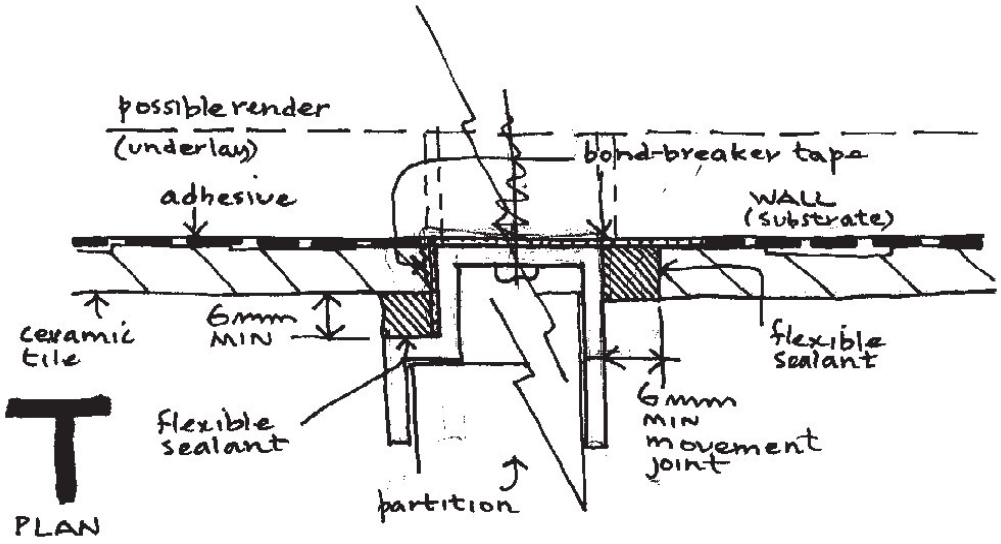
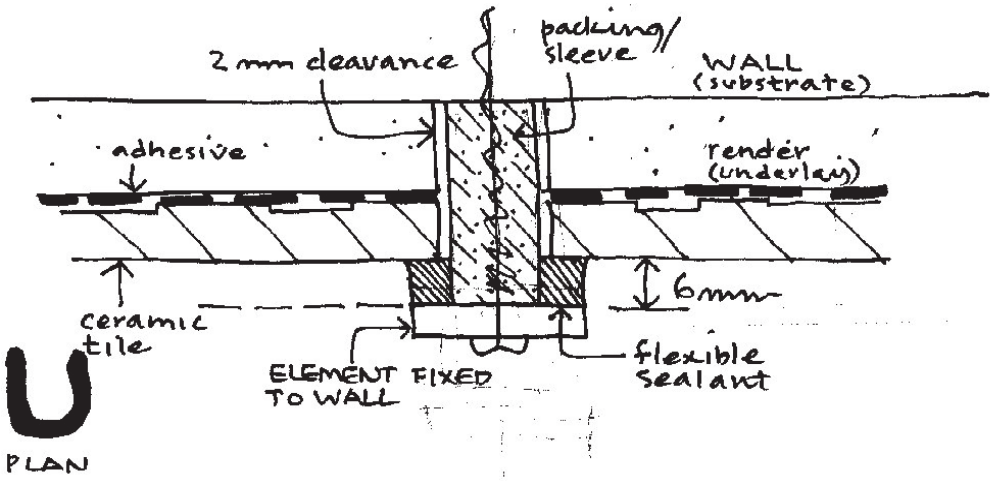




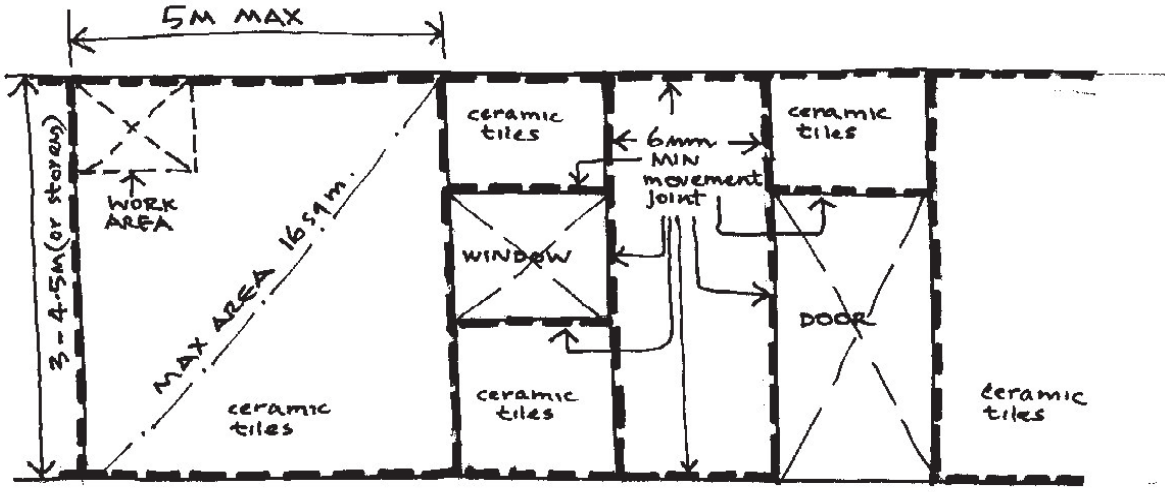
T

PLAN



U

PLAN



V

ELEVATION

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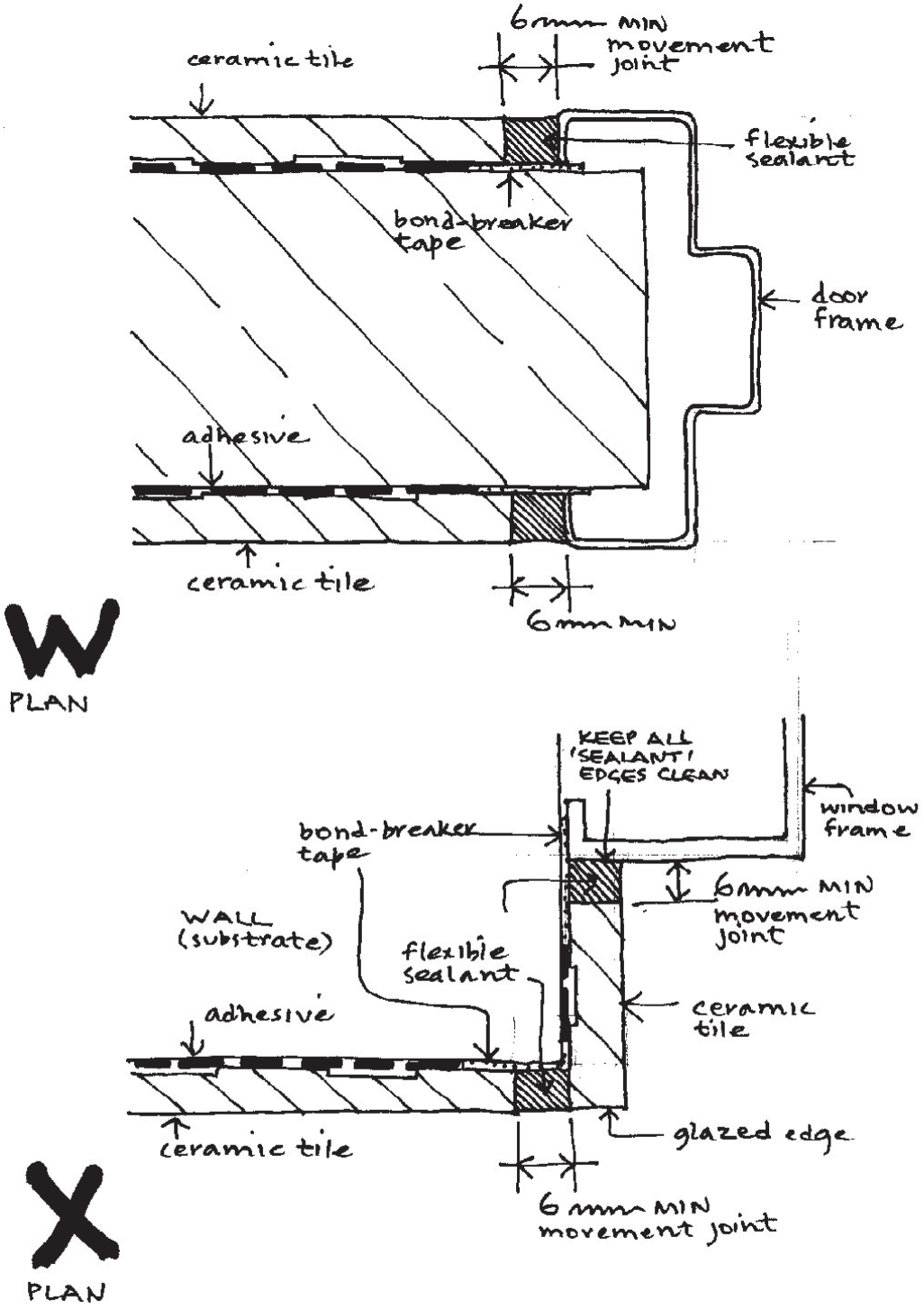

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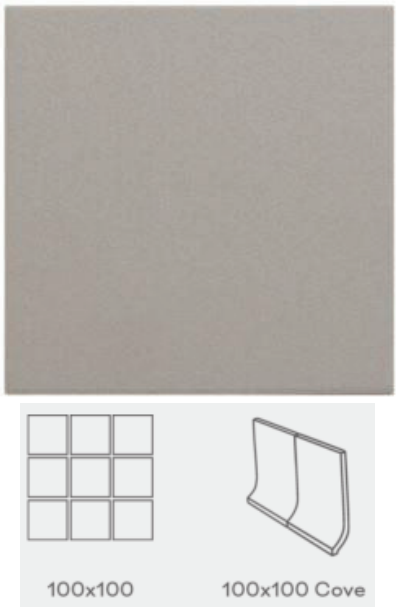
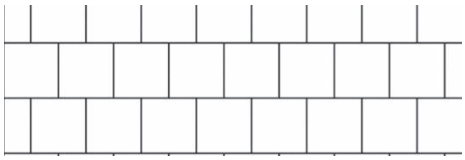
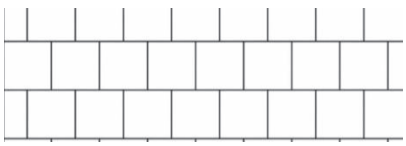
TG01 – FLOOR TILE

Property	Description	Image
Drawing Code:	**TG01**	
Supplier:	**GLENNON TILES**	
Product Details:	Bauhaus	
Size:	100 x 100mm	
Slip Rating:	P4	
Colour:	Pewter	
Material:	Ceramic	
Finish:	Unglazed	
Skirting:	100 x 100 coved skirting tile, Pewter.	
Grout:	CT02	
Install Pattern:	Staggered Bond 	
Location:	Floor finish to all amenities (Accessible WC's, Ambulant WC's & other WC's). Refer to architectural drawings for exact location and extent.	

TG11 – MAIN WALL TILE

Property	Description	Image
Drawing Code:	**TG11**	
Supplier:	**GLENNON TILES**	
Product Details:	Bauhaus	
Size:	100 x 100mm	
Colour:	Gloss White	
Material:	Ceramic	
Finish:	Glazed	
Compliance:	Green Square Certified	
Grout:	CT01	
Install Pattern:	Staggered Bond 	
Location:	Wall finish to all walls in the amenities except the one behind the basin. (Accessible WC's, Ambulant WC's & other WC's). Refer to architectural drawings for exact location and extent.	

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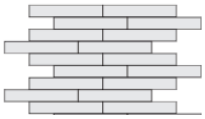
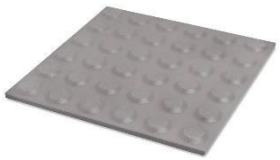
TG12 – FEATURE WALL TILE

Property	Description	Image
Drawing Code:	**TG12**	
Supplier:	**GLENNON TILES**	
Product Details:	New Vintage F402	
Size:	150 x 75mm	
Colour:	Light Taupe	
Material:	Ceramic	
Finish:	Glazed	
Grout:	CT01	
Install Pattern:	Vertical 1/3 offset 	
Location:	Feature wall finish to all amenities to the wall behind the basin. (Accessible WC's, Ambulant WC's & other WC's). Refer to architectural drawings for exact location and extent.	

TG22 – TACTILE INDICATOR – CERAMIC WARNING TILE

Property	Description	Picture
Drawing Code:	**TG22**	
Supplier:	**CLASSIC ARCHITECTURAL GROUP**	
Product Name / Code:	Classic Tredfx / CH40	
Format:	Ceramic 300 x 300 Warning Tile	
Colour:	Charcoal	
LRV:	9.9%	
Slip Rating:	R12	
Preparation and Laying:	Cast in recess into top of concrete path to achieve a straight line joint. Refer t structural engineers details. Patching of insitu concrete adjacent TGSI tile will not be accepted. Lay tiles in recess on cementitious topping to achieve matching surface finish between path and tile	
Installation:	Use accredited installers. Install to Manufacturer's Recommendations. Refer to Product Installation sheet.	
Warranty:	Lifetime	
Certification:	Verify and provide an official test report guaranteeing the luminance contrast and slip resistance in accordance with AS/NZS 1428.4 and HB 197:(1999) Fire Resistant & NCC Compliant	

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TG28 – TILE EDGE TRIM (METAL)

Property	Description
Drawing Code:	**TG28**
Supplier:	TBC
Product Name:	
Installation:	

TG31 – TILE RESILIENT ACOUSTIC UNDERLAY ISOLATION STRIP

Property	Description
Drawing Code:	**TG31**
Supplier:	REGUPOL or equivalent
Product Name:	Regupol 4515, 4.5mm thick
Installation:	Install direct to concrete slab to Manufacturer's Recommendations to topped and tiled wet area setdowns and setdown perimeter upturns as an acoustic underlay isolation strip. Provide to areas that are positioned over floors below that are not wet areas. Concrete substrate to be prepared to AS1884:2012. Provide waterproofing to concrete slab under the acoustic layer to AS3740-2010.

TG32 – MOVEMENT JOINT

Property	Description
Drawing Code:	**TG32**
Product Name:	Appropriate sealant applied to locations to suit existing and proposed building structure, construction and expansion joints, to perimeter of door and window openings, to break up lengths and areas of tiles. Refer Typical Tiling Details A to X above.

GROUT FINISHES

Property	Description	Picture
Drawing Code:	**CT01**	
Item:	Wall Tile Epoxy Grout	
Supplier:	**MAPEI**	
Range / Colour:	Ultracolour Plus / 100 White	
Notes:	*Must be epoxy grout, cannot be substituted for regular grout*	

Drawing Code:	**CT02**	
Item:	Floor Tile Epoxy Grout	

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Property	Description	Picture
Supplier:	**MAPEI**	
Range / Colour:	Ultracolour Plus / 174 Tornado	
Notes:	*Must be epoxy grout, cannot be substituted for regular grout*	

2 EXTENT OF WORK

2.1 GENERAL

General

Refer drawings for locations and details of tiling work required for the various components of this project.

Slab setdowns to receive topping and tiles or vinyl floor finishes are to have a structural slope to floor wastes. The slab setdown area is not to be flat.

END OF SECTION 642 TILING SELECTIONS

651 RESILIENT FINISHES

3 GENERAL

3.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 321 Concrete and 322 Concrete Selections
- 511 Linings & Ceilings and 512 Linings & Ceilings Selections
- 621 Cementitious Toppings and 622 Cementitious Toppings Selections
- 631 Waterproofing – Wet Areas and 632 Waterproofing – Wet Areas Selections

3.2 INTERPRETATION

Additional definitions
General: For the purposes of this worksection the definitions given below apply.

- Resilient floor coverings classification: To BS EN 685.
- Substrate: The building element to which the finish is to be applied. Includes ‘subfloor’ as defined in AS/NZS 2455.1.
- Underlay: A layer of sheet material or in situ filling on the substrate to provide a suitable surface for the resilient covering.

3.3 INSPECTION

Notice
Inspection: Give notice so that inspection may be made of the following:

- Substrate immediately before fixing resilient finishes.
- Finished surface before applying sealers or polishes (if any).
- Completed installation.

3.4 SUBMISSIONS

Samples
General: Submit labelled samples of resilient finishes including fittings, accessories illustrating the range of variation in colour and finish.

4 PRODUCTS AND MATERIALS

4.1 MARKING

Identification
General: Deliver materials to the site in the manufacturer’s original sealed containers legibly marked to show the following:

- Manufacturer’s identification.
- Product brand name.
- Product type.

- Dimensions and quantity.
- Product reference code and batch number.
- Date of manufacture.
- Material composition and characteristics such as volatility, flash point, light fastness, colour and pattern.
- Handling and installation instructions.

4.2 UNDERLAYS

Cementitious
General: Polymer modified cementitious self smoothing and levelling compound.
- Thickness: 3 mm minimum.

4.3 SHEETS AND TILES

Rubber
Standard:
- Smooth rubber: To BS EN 1817.
- Textured/relief rubber: To BS EN 12199.

Edges of sheets and tiles
General: Ensure edges are firm, unchipped, machine-cut accurately to size and square to the face, and that tile edges are square to each other.

Adhesives
General: As recommended by the resilient finishes manufacturer.

5 EXECUTION AND WORKMANSHIP

5.1 SUBCONTRACTORS

General
General: Use specialist installers recommended by the materials manufacturers.

5.2 PREPARATION

Substrates
General: Ensure substrates conform to the **Substrate tolerance table** and are as follows:
- To AS/NZS 2455.1 or AS/NZS 2455.2, as appropriate.
- Clean and free of any deposit or finish which may impair adhesion or location and functioning of movement joints.

Substrate tolerance table

Property	Length of straight edge laid in any direction	Max. deviation under the straight edge
Flatness Class A	3 m	3 mm
Smoothness	150 mm	1 mm
Projections	50 mm	0.5 mm

Cleaning concrete surfaces: Mechanically remove the following surface treatments:
- Sealers and hardeners.
- Curing compounds.

Concrete substrate correction: Remove projections and fill voids and hollows with a levelling compound compatible with the adhesive.

Moisture content: Do not commence installation unless:

- Concrete: The moisture content of the concrete has been tested to AS/NZS 2455.1 Appendix B and the values in clause 2.4.2 (c) have been obtained.

Working environment
General: Do not start work before the building is enclosed, wet work is complete and dry, and good lighting is available. Protect adjoining surfaces.

Conditioning
General: Stabilise the room temperature for seven days prior to, and two days after, installation of resilient finishes, as follows:

- Areas with airconditioning installed: Run airconditioning at operational temperature.
- Airconditioned areas not operational: Maintain a room temperature range of < 30º > 18ºC.
- Un-airconditioned areas: Install at < 30º > 18ºC.

Expose both faces of each sheet of underlay for > 24 hours before fixing.

Stack resilient sheet and tile floor covering for > 48 hours before installation.

5.3 SHEET INSTALLATION

Sheet set out
General: Set out sheets to give the minimum number of joints. Run sheet joints parallel with the long sides of floor areas, vertically on walls.

Junctions
General: Scribe neatly up to returns, edges, fixtures and fittings. Finish flush with adjoining surfaces.

Rolling
General: Where rolling is required, roll the finish in 2 directions before the adhesive sets, using a 70 kg multi-wheeled roller.

Change of finish
General: Maintain finished floor level across changes of floor finish including carpet.

Cleaning
General: Keep the surface clean as the work proceeds.

5.4 VINYL SHEETING

Welded joints
Heat welding: After fixing, groove the seams using a grooving tool and weld the joints with matching filler rod and using a hot air welding gun. When the weld rod has cooled, trim off flush.

5.5 JOINTS AND ACCESSORIES

Junctions
General: Finish junctions tapered to with adjoining surfaces. Where changes of floor finish occur at doorways locate the joint on the centreline of the closed door leaf.

Accessories
General: Provide purpose-made matching moulded accessories for nosings, coves, skirtings, edge cover strips and finishes at junctions, margins, and angles, if available. Otherwise form accessories from the sheet material. Provide solid backing for radiused coves and nosings.

Movement joints
Location: Provide movement joints as follows:

- Over structural (isolation, contraction, expansion) joints.
- At junctions between different substrates.

Depth of joint: Right through to the substrate.

Sealant width: 6 – 25 mm.

Depth of elastomeric sealant: One half the joint width, or 6 mm, whichever is the greater.

Movement joint materials – sheet flooring
Proprietary slide plate divider strip: An arrangement of interlocking metal plates grouted into pockets formed in the concrete joint edges to finish flush with the flooring surface.

Coved skirtings
Site formed coving: Carry the flooring material up over a profiled coving section to form the skirting and mitre and weld all joints. Ensure the radius of the coving section conforms with the requirements of the supplier for the sheeting material and thickness.

5.6 COMPLETION

Protection of sheet materials
General: Keep traffic off floors until bonding has set or for 24 hours after laying, whichever period is the longer. Do not allow water in contact with the finish for 7 days.

Reinstatement
Extent: Repair or replace faulty or damaged work. If the work cannot be repaired satisfactorily, replace the whole area affected.

Warranties
General: For each type of resilient finish specified, submit the installer's warranty of the workmanship and application.

Maintenance manual
General: Submit manufacturer's published use, care and maintenance requirements for each type of finish.

Spare materials
General: Supply spare matching covering materials and accessories of each type for future replacement purposes. Store the spare materials on site where directed.

Quantity: At least 1% of the quantity installed.

Cleaning
General: Clean the finished surface. Buff and polish. Before the date for practical completion, mop and leave the finished surface clean and undamaged on completion.

6 SELECTIONS AND SCHEDULES

6.1 SELECTIONS

Refer to **652 RESILIENT FINISHES SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 651 RESILIENT FINISHES

652 RESILIENT FINISHES SELECTIONS

7 SELECTIONS AND SCHEDULES

7.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

7.2 SPECIALIST SUPPLY AND INSTALLATION

Approved manufacturers and experienced subcontractors

Proprietary waterproofing membrane materials and associated components and finishes shall be supplied by approved manufacturers / suppliers and installed by subcontractors experienced in work of this nature.

Only applicators accredited and / or recommended by the product manufacturer shall be used for proprietary waterproofing membrane systems specified in this section. Provide written proof of accreditation and / or recommendation at least 7 days prior to commencing work.

Combined trades

Installation of waterproofing membrane systems, cementitious toppings, floor tiling and resilient finishes shall be installed, certified and guaranteed by the same subcontractor.

Refer to CEMENTITIOUS TOPPINGS, WATERPROOFING – WET AREAS, TILING and RESILIENT FINISHES for the complete system of topping, water proof membrane and adhesion of tiles and resilient finishes.

7.1 GREEN STAR REQUIREMENTS

Indoor Environment Quality

As per the Green Building Council of Australia, Greenstar Matrix Section 13. INDOOR POLLUTANTS 13.1.1/2 requires 95% of Paints, Adhesives, Sealants, and Carpets to be LOW VOC. Compliance must be achieved through one of the following, Product Certification, Lab Test or No paints, adhesives, or sealants/carpets. Proof of compliance must be provided by the Architect and / or Builder.

RF01 – MAIN FLOOR VINYL

Property	Description
Drawing Code:	**RF01**
Supplier:	**TARKETT**
Product:	iQ Granit
Format:	Roll 25m x 2m (2mm thick)
Slip Rating:	R9 / P4
Trim:	hot weld using TARKETT welding rod to match vinyl colour.
Skirting:	Coved 150mm - Using cove former - 32 x 32mm *(where noted)*
Notes:	*Install glue fixed according to manufacturer's specifications*
Location:	Extent and location as shown in the Patternbook Volume 2 drawing:

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Property	Description	
	Finish is interchangeable with RF05. Refer to finishes specification in Architectural drawings for each to determine selection.	
	Dwg No.:	***Dwg Name:***
	1112	*PS GLS HUB – FINISHES PLAN & RCP*
	1212	*PS SLU FINISHES PLAN & RCP*
	PAT-SINSW-GLS-PS101-DR-A-101002	*HS GLS FINISHES & RCP*
	1212	*HS SLU FINISHES PLAN & RCP*

RF02 – ANTI-STATIC FLOOR VINYL

Property	Description
Drawing Code:	**RF02**
Supplier:	**GERFLOR**
Product:	Mipolam Affinity EL7
Format:	Roll 20lm x 2m (2mm thick)
Slip Rating:	R10 / P2
Trim:	hot weld using GERFLOR welding rod to match vinyl colour.
Skirting:	Coved 150mm - Using Gerflor cove former 4012 - 32 x 32mm *(where noted)*
Notes:	*Install glue fixed according to manufacturer's specifications*
Location:	Comms Rooms & ESD cupboards and anywhere else noted in the EFSG Guidelines.

RF03 – COMMERCIAL VINYL

Property	Description
Drawing Code:	**RF03**
Supplier:	**ARMSTRONG**
Product:	Safeguard R11
Format:	Roll 20lm x 2m (2mm thick)
Slip Rating:	R11
Trim:	hot weld using Armstrong welding rod to match vinyl colour.
Skirting:	Coved 150mm - Using Armstrong cove former *(where notes)*
Notes:	*Install glue fixed according to manufacturer's specifications*
Location:	Only for Kogarah Public School Hall Kitchen area

RF05 – FEATURE FLOOR VINYL

Property	Description
Drawing Code:	**RF05**
Supplier:	**TARKETT**
Product:	Ruby 70

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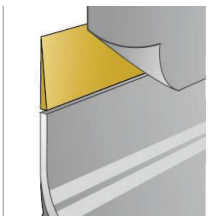
Property	**Description**	
Format:	Roll 23m x 2m (2mm thick)	
Slip Rating:	R10 / P3	
Trim:	hot weld using TARKETT welding rod to match vinyl colour.	
Skirting:	**DO NOT** COVE VINYL	
Notes:	*Install glue fixed according to manufacturer's specifications*	
Location:	Extent and location as shown in the Patternbook Volume 2 drawing: *Finish is interchangeable with RF01. Refer to finishes specification in Architectural drawings for each to determine selection.*	
	Dwg No.:	***Dwg Name:***
	1112 *1212* *PAT-SINSW-GLS-PS101-DR-A-101002* *1212*	*PS GLS HUB – FINISHES PLAN & RCP* *PS SLU FINISHES PLAN & RCP* *HS GLS FINISHES & RCP* *HS SLU FINISHES PLAN & RCP*

RF11 – WALL VINYL

Property	**Description**	**Picture**
Drawing Code:		**RF11**
Supplier:	**TARKETT**	
Product:	Protect Wall 1.5mm	
Format:	Roll 20m x 2m (1.5mm thick)	
Trim:	hot weld using TARKETT welding rod to match vinyl colour.	
Fire Rating:	Group 1	
Accessories:	Where wall vinyl meets coved vinyl use diminishing profile to transition between the two materials. Refer to manufacturer's instructions for use and installation	
Notes:	*Install glue fixed according to manufacturer's specifications*	
Location:	To be install in all Cleaners Stores and Rooms to all walls to 2100mm height. Refer to architectural drawings for exact locations and extent.	

8 EXTENT OF WORK

8.1 RESILIENT FINISHES

Refer to **FINISHES SELECTION SCHEDULE** and drawings for locations and extent of resilient finishes.

8.2 TOPPINGS

Refer to **CEMENTITIOUS TOPPINGS** for details of feathering under floor vinyl at entries to all rooms to match height of adjacent carpet.

END OF SECTION 652 RESILIENT FINISHES SELECTIONS

661 CARPETS & MATS

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 321 Concrete and 322 Concrete Selections
- 621 Cementitious Toppings and 622 Cementitious Toppings Selections

1.2 INTERPRETATION

Additional definitions
General: For the purposes of this worksection the definitions given below apply.

- Substrate, subfloor: The surface on which the textile floor covering or the underlay is to be laid.

1.3 INSPECTION

Notice
Inspection: Give notice so that inspection may be made of the following:

- Subfloor prepared to receive the carpet installation (including application of floor sealer).
- Completed carpet after cleaning and before covering for protection.

1.4 SUBMISSIONS

Subcontractors
General: Submit name and contact details of proposed suppliers and installers.

Samples
General: Submit labelled samples of carpets including accessories illustrating the range of variation in colour and finish.

2 PRODUCTS AND MATERIALS

2.1 CARPET

Tolerances
Standard: To AS/NZS 1385.

Batching
General: Carpet laid in a single area and of a single specified type, quality, colour and design, must come from one manufacturing batch and dye lot.

Insect resistance
Insecticide: Provide carpets and underlays composed entirely of materials either inherently resistant to insect attack, or treated against insect attack, including by moth and carpet beetle, by application of insecticide to the yarn during the dyeing or scouring process.

Approved insecticides
General: Provide insecticides listed in the **Approved insecticides table**.

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Alternatives: Other agents may be used provided they comply with the recommended application levels promulgated from time to time by the Woolmark Company for Level 4 protection.

Approved insecticides table

Insecticide	Minimum level of application	(per cent on weight of wool pile fibre)
	Dyebath application	Scouring application
Eulan U33	0.36%	0.45%
Mitin LP	0.44%	0.54%
Perigen	0.25%	0.32%

Electrical resistance
General: Provide carpet which is within the range of surface resistance specified in AS 2834 clause 2.1.2, when tested to AS 4155.6.

Electrostatic propensity
Criterion: Provide a maximum electrostatic propensity value for carpet of 2500 V at a relative humidity of 25%.

Test method: AATCC TM 134.

VOC limits
Total VOC limit:

- Generally: 0.5 mg/m^2.
- Compliance: To the Environmental Classification Scheme operated by the Carpet Institute of Australia.

2.2 CARPET TILES

Carpet tiles
Type: Non-stick, non-curling tiles capable of being taken up without damage and then relaid in different positions.

Marking: On the back, showing recommended direction of laying.

Carpet tile tolerances:

- Edge dimensions: ± 2 mm.
- Squareness: Maximum difference of 2 mm between lengths of diagonals.

Sustainable carpet tile backing
Reusable backing: Proprietary vinyl backing to carpet tiles capable of separation and reuse in replacement tiles.

2.3 MATS

General
General: Provide a mat made to fit each designated mat recess. Refer drawings.

2.4 ADHESIVES AND TAPES

Standard
General: To AS/NZS 2455.1.

Adhesives
General: Compatible with the floor covering material, and suitable for bonding it to the subfloor.

Hot-melt adhesive tapes
General: Commercial grade glass fibre and cotton thermoplastic adhesive coated tape 60 mm wide on a 90 mm wide metal foil base and backed with silicon-coated release paper.

2.5 STRIPS

Edge strips

Type: Heavy duty edge strip appropriate to the floor covering type (tackless or adhesive fixed), capable where necessary of accommodating different levels of adjacent floor finishes.

Location: At exposed edges of the carpet, and at junctions with differing floor finishes or finishes of a different thickness. Where edge strips occur at doorways, locate the junctions directly below the closed door.

3 EXECUTION AND WORKMANSHIP

3.1 SUBSTRATE

Substrates

General: Ensure substrates conform to the **Substrate tolerance table** and are as follows:

- To AS/NZS 2455.1 or AS/NZS 2455.2, as appropriate.
- Clean and free of any deposit or finish which may impair adhesion or location and functioning of movement joints.

Substrate tolerance table

Property	Length of straight edge laid in any direction	Max. deviation under the straight edge
Flatness	3 m	6 mm
Smoothness	150 mm	1 mm

Concrete substrate correction: Remove projections and fill voids and hollows with a levelling compound compatible with the adhesive.

Moisture content: Do not commence installation unless:

- Concrete: The moisture content of the concrete has been tested to AS/NZS 2455.1 Appendix B and values obtained as follows:
  - ≤ 5.5% when tested by the electrical resistance method.
  - ≤ 70% when tested by the surface hygrometer test.

Fixtures: Remove door stops and other fixtures, and refix in position undamaged on completion of the installation.

Conditioning

General: Stabilise the room temperature for seven days prior to, and two days after laying carpet as follows:

- Areas with airconditioning installed: Run airconditioning at operational temperature.
- Airconditioned areas not operational: Maintain a room temperature range of < 35º > 10ºC.
- Un-airconditioned areas: Install at < 35º > 10ºC.

Expose both faces of each sheet of underlay for > 24 hours before fixing.

Unroll the carpet and soft underlay and allow them to come to the temperature of the in-service environment before laying.

3.2 LAYING CARPET TILES

General

Standard: To AS/NZS 2455.2.

Set out: Do not provide cut tiles which are less than half tile width. Provide full tiles in doorways. Keep joint lines straight.

Laying: Do not allow the pile to catch in the joint when laying. Do not tack or sew the tiles to the floor or to each other.

Fixing
Perimeter and grid system: To AS/NZS 2455.2 clause 7.1.

Fully adhered pressure sensitive system: To AS/NZS 2455.2 clause 7.2.

Double bond system: To AS/NZS 2455.2 clause 7.3.

Fixing cut tiles: Adhesive fix to 100% of tile.

3.3 LAYING CARPET

Standard
General: To AS/NZS 2455.1.

Setting out
General: Lay the carpet in continuous lengths without cross joins in the body of the area. Where unavoidable cross joins occur at doorways, locate the joins directly below the closed doors.

Partition layout: Confirm that permanent partitions have been installed before starting carpet laying.

Seaming methods
Woven carpet: Machine or hand sew. Do not provide glued taped seams.

Tufted carpet: Seam with hot-melt adhesive tape.

Carpet installation
Direct stick system: To AS/NZS 2455.1 clause 3.6.

Cutting laid carpet
Method: Where penetrations through laid carpet are necessary for electrical, telephone or other outlets, cut the carpet either by cross cutting or by cutting rectangular or circular openings.

Cutting holes in concrete floors: Protect the carpet and remove concrete particles and dust on completion. Replace the cut carpet over the opening without any signs of fraying or other damage, and fix with a peel-up adhesive, or resew.

3.4 COMPLETION

Maintenance manual
Contents: Submit a maintenance manual containing a technical specification of the carpet installation and setting out the manufacturer's recommendations, approved by the Australian Wool Corporation in the case of products containing wool, for its use, care and maintenance. Include the names and addresses of the suppliers and manufacturers of each component.

Standard: To AS/NZS 3733.

Spares
Spare material: Supply spare matching materials of each type, colour and design of carpet from the same batch for future replacement purposes.

Offcuts: Retain carpet offcuts exceeding 0.5 m^2 in area and 450 mm in both length and width.

Labelling: Label spare and offcut material appropriately, including the location of the laid area corresponding to each batch. Securely and separately package each batch in a suitable wrapping.

Quantity of spare material:

- Broadloom: At least 1% of the quantity installed, in full or part length rolls.
- Carpet tile: 1 Box for each colour and design.

Storage locations: As directed on site.

Cleaning
Progressively clean the work. Remove waste, excess materials and adhesive.

Final cleaning: When the installation is complete, clean the carpet as necessary to remove extraneous matter, marks and soiling and to lift the pile where appropriate.

Protection: provide fabric drop sheets. Do not use plastic sheeting. If wheeled traffic is to follow carpet installation protect with hardboard sheets butted and fixed with adhesive tape.

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Warranties
General: For each type of carpet and mat specified, submit the installer's warranty of the workmanship and application.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **662 CARPETS & MATS SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 661 CARPETS & MATS

662 CARPETS & MATS SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

1.2 GREEN STAR REQUIREMENTS

Indoor Environment Quality
As per the Green Building Council of Australia, Greenstar Matrix Section 13. INDOOR POLLUTANTS 13.1.1/2 requires 95% of Paints, Adhesives, Sealants, and Carpets to be LOW VOC. Compliance must be achieved through one of the following, Product Certification, Lab Test or No paints, adhesives, or sealants/carpets. Proof of compliance must be provided by the Architect and / or Builder.

Innovation
As per the Green Building Council of Australia, Greenstar Matrix Section 30. IMPROVING ON GREEN STAR BENCHMARKS 30.C - 50% of all paints used to be classed as ULTRA LOW VOC, with the rest to be LOW VOC.

CM01 – CARPET TILE – CARPET RANGE 01

Property	Description
Drawing Code:	**CM01**
Supplier:	**SIGNATURE FLOORS**
Collection:	Raw Elements
Range:	Bedrock + Raw Elements
Size:	500 x 500mm tiles (10mm thick)
Backing:	Comfi Bak
Trim:	At carpet edges adjoining other material, use feathering compound to slab to achieve a flush finish between materials. Ie carpet to vinyl, carpet to tiles. Refer CT03 in 622 Cementitious Topping Selections. B.A.T. 316 Stainless Steel Trim – Size (height) to suit junction between materials
Install Pattern:	Ashlar offset with Random direction of tiles
Installation:	*Install according to manufacturer's specifications to ensure warranty isn't voided* Supplier recommended adhesive – RLA Polymers GS300
Warranty:	15 Years
Notes:	Commercial extra heavy duty Fire – suitable for all areas

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Property	Description	
	GreenTag Green Rate Level A EDPs and Declare Labels WELL & LBC eligible	
Location:	Extent and location as shown in the Patternbook Volume 2 drawing:	
	Dwg No.:	***Dwg Name:***
	1112 *1212* *PAT-SINSW-GLS-PS101-DR-A-101002* *1212*	*PS GLS HUB – FINISHES PLAN & RCP* *PS SLU FINISHES PLAN & RCP* *HS GLS FINISHES & RCP* *HS SLU FINISHES PLAN & RCP*

CM02 – CARPET TILE – CARPET RANGE 02

Property	Description
Drawing Code:	**CM02**
Supplier:	**INTERFACE**
Collection:	NY + LON Street
Range:	Old Street
Size:	500 x 500mm tiles (10mm thick)
Backing:	Comford Backing
Trim:	At carpet edges adjoining other material, use feathering compound to slab to achieve a flush finish between materials. Ie carpet to vinyl, carpet to tiles. Refer CT03 in 622 Cementitious Topping Selections. B.A.T. 316 Stainless Steel Trim – Size (height) to suit junction between materials
Install Pattern:	Ashlar
Installation:	*Install according to manufacturer's specifications to ensure warranty isn't voided*
Warranty:	15 Years
Notes:	
Location:	ONLY for Northmead Refurbishment. Refer to Architectural Documentation for exact location and extent

CM11 – BROADLOOM CARPET

Property	Description
Drawing Code:	**CM11**
Supplier:	**GODFREY HIRST**
Range:	Netcorp
Style:	Needlepoint Patt Loop Pile
Fibre:	100% Wool
Pattern Repeat:	600 W x 600mm L
Width:	3660mm

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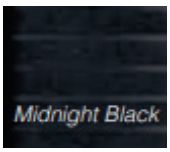
Property	Description
ACCS Rating & No.:	REHDS CHDS 22061
ECS:	Level 4
Install:	As per manufacturer's specification
Location:	ONLY for Ulladulla Refurbishment. Refer to Architectural Documentation for exact location and extent

CM21 – MAT – EXTERNAL ENTRY

Property	Description	Picture
Drawing Code:	**CM21**	
Supplier:	**BIRRUS MATTING**	
Range:	Duramat – open construction	
Size:	Refer to architectural drawings	
Depth:	10mm	
Slip Rating:	P5	
Insert:	Heavy-duty Welvic 5744 flexible vinyl/nitrile rubber	
Finish:	Midnight Black anodised aluminium	
Install:	Recessed - *Install according to manufacturer's specification to ensure warranty isn't voided*	

CM26 – MAT – INTERNAL ENTRY

Property	Description	Picture
Drawing Code:	**CM26**	
Supplier:	**FORBO FLOORING**	
Range:	Coral Classic Entry Matting	
Roll Size:	27.5m x 205 cm x 9mm thick	
Slip Rating:	P5 / R12	
Install:	*Install according to manufacturer's specification to ensure warranty isn't voided*	
Location:	Extent and location as shown in the Patternbook Volume 2 drawing:	

Dwg No.:	***Dwg Name:***
1112	*PS GLS HUB – FINISHES PLAN & RCP*
1212	*PS SLU FINISHES PLAN & RCP*
PAT-SINSW-GLS-PS101-DR-A-101002	*HS GLS FINISHES & RCP*
1212	*HS SLU FINISHES PLAN & RCP*

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2 EXTENT OF WORK

2.1 GENERAL

Refer drawings for locations and details of carpets and mats required for the various components of this project.

END OF SECTION 662 CARPETS & MATS SELECTIONS

681 PAINTING

1 GENERAL

1.1 CROSS REFERENCES

Associated worksections
Ensure all trades are provided access to the full specification and make provision for elements and requirements identified to complete the whole project in particular (but not limited to) the following:

- 121 General Requirements
- 131 Common Requirements
- 321 Concrete and 322 Concrete Selections
- 331 Masonry and 332 Masonry Selections
- 341 Structural Steel and 342 Structural Steel Selections
- 371 Flooring & Decking and 372 Flooring & Decking Selections
- 441 Cladding and 442 Cladding Selections
- 461 Doors & hardware and 462 Doors & Hardware Selections
- 511 Linings & Ceilings and 512 Linings & Ceilings Selections
- 531 Metalwork & Misc Furniture and 532 Metalwork & Misc Furniture Selections

1.2 INTERPRETATION

Additional definitions
General: For the purposes of this worksection the definitions given below apply.

- Standard: To AS/NZS 2310.
- Substrate: The surface to which a sealant must bond.
- Background: The surface to which the undercoat is applied.
- Paint: A product in liquid form, which when applied to a surface, forms a dry film having protective, decorative or other specific technical properties.
- Sealer: A product used to seal substrates to prevent:
  . Materials from bleeding through to the surface.
  . Reaction of the substrate with incompatible top coats.
  . Undue absorption of the following coat into the substrate.
- Primer, prime coat: The first coat of a painting system that helps bind subsequent coats to the substrate and which may inhibit its deterioration.
- Undercoat: An intermediate coat formulated to prepare a primed surface or other prepared surface for the finishing coat.
- Finish coat: The final coat of a coating system.
- Gloss: The optical property of a surface, characterised by its ability to reflect light specularly.
- Sheen: Gloss which is observed on an apparently matt surface at glancing angles of incidence.
- Levels of gloss finish: When the specular direction is 60 degrees, a surface with the following specular gloss reading are defined as follows:
  . Full gloss finish between 50 and 85 gloss units.
  . Semi gloss between 20 and 50 gloss units.
  . Low gloss between 5 and 20 gloss units (also known as low sheen).
  . Flat finish < 5 gloss units (also known as matt).

- Opacity: The ability of a paint to obliterate the colour difference of a substrate.
- Adhesion: The sum total of forces of attachment between a dry film and its substrate. See AS 1580 for tests to assess adhesion.
- Gloss unit: Numerical value for the amount of specular reflection relative to that of a standard surface under the same geometric conditions.

1.3 STANDARDS

Painting
General: Comply with the recommendations of those parts of AS/NZS 2311 and AS/NZS 2312 which are referenced in this worksection.

1.4 INSPECTION

Notice
Inspection: Give notice so that inspection may be made of the following:
- Painting stages:
  . Completion of surface preparation.
  . After application of prime or seal coats.
  . After application of undercoat.
  . After application of each subsequent coat.
- Clear finishing stages:
  . Before surface preparation of timber.
  . Completion of surface preparation.
  . After staining.
  . After sanding of sealer.
  . After application of each clear finishing coat.

1.5 SUBMISSIONS

Clear finish coated samples
General: Submit pieces of timber or timber veneer matching the timber to be used in the works, prepared, puttied, stained, sealed and coated in accordance with the specified system, of sufficient size so that, each piece can be cut into 4 segments, marked for identification, and distributed as directed.

Paint
General: Submit the paint manufacturer's published material safety data sheets (MSDS) showing the health and safety precautions to be taken during application.

Maintenance manual: Submit the paint manufacturer's published recommendations for maintenance.

Execution
General: Submit name and contact details of proposed specialist applicators.

Product conformity
General: Submit current assessments of conformity as follows:
- Product register entry: Australian Paint Approvals Scheme (APAS).

2 PRODUCTS AND MATERIALS

2.1 PAINTS

APAS specifications
General: Provide paints and other materials which are scheduled in the Australian Paint Approvals Scheme 'List of Approved Products' as complying with cited APAS specifications.

Quality: If the product is offered in a number of levels of quality, provide premium quality lines.

Combinations
General: Do not combine paints from different manufacturers in a paint system.

Clear timber finish systems: Provide only the combinations of putty, stain and sealer recommended by the manufacturer of the top coats.

Delivery
General: Deliver paints to the site in the manufacturer's labelled and unopened containers. Ensure containers of materials specified by a APAS specification code are labelled accordingly.

Tinting
General: Provide only products which are colour tinted by the manufacturer or supplier.

Toxic ingredients
General: Comply with the requirements of Appendix P Uniform Paint Standard to the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Putty
Non-timber substrates: Oil-based or polymeric based.

Timber finishes: Lacquer or water based only.

3 EXECUTION AND WORKMANSHIP

3.1 AIMS

Responsibilities
General: Provide coating systems to substrates as follows:

- Consistent in colour, gloss level, texture and dry film thickness.
- Free of runs, sags, blisters, or other discontinuities.
- Paint systems fully opaque.
- Clear finishes at the level of transparency consistent with the product.
- Fully adhered.
- Resistant to environmental degradation within the manufacturer's stated life span.

3.2 PREPARATION

Standards
General: To AS/NZS 2311 Sections 3.

Protection of steelwork: To AS/NZS 2312 Sections 4.

Order of work
Other trades: Before painting, complete the work of other trades as far as practicable within the area to be painted, except for installation of fittings, floor sanding and laying flooring materials.

Clear finishes: Complete clear timber finishes before commencing opaque paint finishes in the same area.

Protection
Fixtures: Remove door furniture (including hinges), switch plates, light fittings and other fixtures before starting to paint, and refix in position undamaged on completion of the installation.

Adjacent surfaces: Protect adjacent finished surfaces liable to damage from painting operations.

'Wet paint' warning
General: Place notices conspicuously and do not remove them until paint is dry.

Restoration
General: Clean off marks, paint spots and stains progressively and restore damaged surfaces to their original condition. Touch up damaged decorative paintwork or misses only with the paint batch used in the original application.

Substrate preparation
General: Prepare substrates to receive the painting systems.

Cleaning: Clean down the substrate surface. Do not cause undue damage to the substrate or damage to, or contamination of, the surroundings.

Filling: Fill cracks and holes with fillers, sealants, putties or grouting cements as appropriate for the finishing system and substrate, and sand smooth.

Clear finish: Provide filler tinted to match the substrate.

Clear timber finish systems: Prepare the surface so that its attributes will show through the clear finish without blemishes, by methods which may involve the following:

- Removal of bruises.
- Removal of discolourations, including staining by oil, grease and nailheads.
- Bleaching where necessary to match the timber colour sample.
- Puttying.
- Fine sanding (last abrasive no coarser than 220 grit) to show no scratches across the grain.

3.3 PAINTING

Standards

General: To AS/NZS 2311 Section 6.

Protection of steelwork: To AS/NZS 2312 Section 8.

Light levels

General: During preparation of surfaces, painting, and inspection, maintain light levels such that the luminance (photometric brightness) of the surface is equal to the specified permanent artificial illumination conditions or 400 lux, whichever is the greater.

Drying

General: Use a moisture meter to demonstrate that the moisture content of the substrate is at or below the recommended maximum level for the type of paint and the substrate material.

Paint application

General: Apply the first coat immediately after substrate preparation and before contamination of the substrate can occur. Apply subsequent coats after the manufacturer's recommended drying period has elapsed.

Priming before fixing

General: Apply one coat of wood primer (2 coats to end grain) to the back of the following before fixing in position:

- External fascia boards.
- Bottoms of external doors.
- Associated trims and glazing beads.

Spraying

General: If the paint application is by spraying, use conventional or airless equipment which does the following:

- Satisfactorily atomises the paint being applied.
- Does not require the paint to be thinned beyond the maximum amount recommended by the manufacturer.
- Does not introduce oil, water or other contaminants into the applied paint.

Paint with known health hazards: Provide masking, ventilating and screening facilities generally to the standards set out for spray painting booths, AS/NZS 4114.1 and AS/NZS 4114.2.

Sanding

Clear finishes: Sand the sealer using the finest possible abrasive (no coarser than 320 grit) and avoid cutting through the colour. Take special care with round surfaces and edges.

Repair of galvanizing

General: For galvanized surfaces which have been subsequently welded, prime the affected area.

Primer: To APAS-2916, two pack.

Tinting
General: Tint each coat of an opaque coating system so that each has a noticeably different tint from the preceding coat, except for top coats in systems with more than one top coat.

Services
General: If not embedded, paint new services and equipment including in plant rooms, except chromium, anodised aluminium, GRP, UPVC, stainless steel, non-metallic flexible materials and normally lubricated machined surfaces. Repaint proprietary items only if damaged.

Extent of Colour
Extent: The minimum extent of any one colour shall be at a change in plane of a particular surface, or where one building element abuts another building element. For example:

- The vertical face of a bulkhead may be a different colour to the ceiling or the soffit of the bulkhead
- On internal walls the colour may change above and below timber picture rails etc
- The architrave may be a different colour to the door and/or door frame

Allow for such changes in colour. However, where colour selection entails changes of colour on a plane, which would necessitate set out and masking, and is not specified hereinafter, the same would entail a contract adjustment.

4 SELECTIONS AND SCHEDULES

4.1 SELECTIONS

Refer to **672 PAINTING SELECTIONS** for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

END OF SECTION 681 PAINTING

682 PAINTING SELECTIONS

1 SELECTIONS AND SCHEDULES

1.1 SELECTIONS

Refer the following coded tables for details of the products, materials and systems selected for use on this project. Immediately advise the Superintendent of any ambiguity or inconsistency for review and resolution.

1.2 PAINT SYSTEMS

Paint system description
Final coat: If a paint or clear finish system is referred to only by its final coat (for example by the manufacturer's brand name, or the generic name) provide in addition to the final coat, the appropriate stains, primers, sealers and undercoats, suitable for the substrate and compatible with the finish coat and each other.

Number of coats
Unless specified as one coat or two coat systems, each paint system consists of at least 3 coats. Provide additional coats if necessary to

- prepare porous or reactive substrates with prime or seal coats consistent with the manufacturer's recommendations;
- achieve the total film thickness or texture; or
- achieve a satisfactory opacity.

1.3 GREEN STAR REQUIREMENTS

Indoor Environment Quality

As per the Green Building Council of Australia, Greenstar Matrix Section 13. INDOOR POLLUTANTS 13.1.1/2 requires 95% of Paints, Adhesives, Sealants, and Carpets to be LOW VOC. Compliance must be achieved through one of the following, Product Certification, Lab Test or No paints, adhesives, or sealants/carpets. Proof of compliance must be provided by the Architect and / or Builder.

Innovation

As per the Green Building Council of Australia, Greenstar Matrix Section 30. IMPROVING ON GREEN STAR BENCHMARKS 30.C - 50% of all paints used to be classed as ULTRA LOW VOC, with the rest to be LOW VOC.

Attention Painting Sub-Contractor:

The head contractor shall arrange for the painting sub-contractor to contact the Dulux Account Manager / Trade Sales Representative and to the Architectural Specification Consultant NSW, Luke Power (m: 0412805654 e:luke.power@dulux.com.au) at least 7 days before commencing.

NOTE: This will ensure a Dulux Project Activity Card (PAC) is activated for this project, which in turn support any warranties and GREENSTAR compliance that might be provided as part of this project, via proof of purchase.

School Infrastructure Group 2 - D&C
Project No: 7068VS01

FOR PAINT FINISHES SELECTIONS REFER TO SPECIFICATION SCHEDULES & MATERIAL SELECTIONS

PG01 – PAINT FINISH – PLASTERBOARD LININGS

Property	Description
Drawing code (v1.01):	**PG01**
Manufacturer / Supplier:	**DULUX**
Manufacturer Spec No:	AUSD2552
Thickness:	3 coat system
Preparation:	Refer manufacturer's recommendations and instructions
First coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Acrylic Sealer Undercoat (AUDD1278)
Second coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Low Sheen (AUDD1274)
Third coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Low Sheen (AUDD1274)
Installation:	The painting system must be installed by an applicator approved by the paint manufacturer to achieve the manufacturer's maximum warranty. Provide written confirmation of such approval prior to commencing painting.

PG02 – PAINT FINISH – PLASTERBOARD CEILINGS

Property	Description
Drawing code (v1.01):	**PG02**
Manufacturer / Supplier:	**DULUX**
Manufacturer Spec No:	AUSD4308
Thickness:	3 coat system
Preparation:	Refer manufacturer's recommendations and instructions
First coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Acrylic Sealer Undercoat (AUDD1278)
Second coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Tintable Ceiling Flat (AUDD1466)
Third coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Tintable Ceiling Flat (AUDD1466)
Installation:	The painting system must be installed by an applicator approved by the paint manufacturer to achieve the manufacturer's maximum warranty. Provide written confirmation of such approval prior to commencing painting.

PG03 – PAINT FINISH – FC LININGS

Property	Description
Drawing code (v1.01):	**PG03**
Manufacturer / Supplier:	**DULUX**
Manufacturer Spec No:	AUSD2717
Thickness:	3 coat system

School Infrastructure Group 2 - D&C
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Property	Description
Preparation:	Refer manufacturer's recommendations and instructions
First coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Acrylic Sealer Undercoat (AUDD1278)
Second coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Low Sheen (AUDD1274)
Third coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Low Sheen (AUDD1274)
Installation:	The painting system must be installed by an applicator approved by the paint manufacturer to achieve the manufacturer's maximum warranty. Provide written confirmation of such approval prior to commencing painting.

PG04 – PAINT FINISH – FC CEILINGS

Property	Description
Drawing code (v1.01):	**PG04**
Manufacturer / Supplier:	**DULUX**
Manufacturer Spec No:	AUSD3887
Thickness:	3 coat system
Preparation:	Refer manufacturer's recommendations and instructions
First coat (Data Sheet):	1 coat DULUX Sealer Binder (AUDD0074)
Second coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Semi Gloss (AUDD1389)
Third coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Semi Gloss (AUDD1389)
Installation:	The painting system must be installed by an applicator approved by the paint manufacturer to achieve the manufacturer's maximum warranty. Provide written confirmation of such approval prior to commencing painting.

PG05 – PAINT FINISH – WET AREA PLASTERBOARD

Property	Description
Drawing code (v1.01):	**PG05**
Manufacturer / Supplier:	**DULUX**
Manufacturer Spec No:	AUSD2289
Thickness:	3 coat system
Preparation:	Refer manufacturer's recommendations and instructions
First coat (Data Sheet):	1 coat DULUX 1 Step Oil Based Primer Sealer Undercoat (AUDD1227)
Second coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Low Sheen (AUDD1274)
Third coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Low Sheen (AUDD1274)
Installation:	The painting system must be installed by an applicator approved by the paint manufacturer to achieve the manufacturer's maximum warranty. Provide written confirmation of such approval prior to commencing painting.

School Infrastructure Group 2 - D&C
Project No: 7068VS01

PG06 – PAINT FINISH – WET AREA FC

Property	Description
Drawing code (v1.01):	**PG06**
Manufacturer / Supplier:	**DULUX**
Manufacturer Spec No:	AUSD3887
Thickness:	3 coat system
Preparation:	Refer manufacturer's recommendations and instructions
First coat (Data Sheet):	1 coat DULUX Sealer Binder (AUDD0074)
Second coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Semi Gloss (AUDD1389)
Third coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Semi Gloss (AUDD1389)
Installation:	The painting system must be installed by an applicator approved by the paint manufacturer to achieve the manufacturer's maximum warranty. Provide written confirmation of such approval prior to commencing painting.

PG07 – PAINT FINISH – PLYWOOD LININGS

Property	Description
Drawing code (v1.01):	**PG07**
Manufacturer / Supplier:	**DULUX**
Manufacturer Spec No:	AUSD2552
Thickness:	3 coat system
Preparation:	Refer manufacturer's recommendations and instructions
First coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Acrylic Sealer Undercoat (AUDD1278)
Second coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Low Sheen (AUDD1274)
Third coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Low Sheen (AUDD1274)
Installation:	The painting system must be installed by an applicator approved by the paint manufacturer to achieve the manufacturer's maximum warranty. Provide written confirmation of such approval prior to commencing painting.

PG10 – PAINT FINISH – INTERNAL DOORS

Property	Description
Drawing code (v1.01):	**PG10**
Manufacturer / Supplier:	**DULUX**
Manufacturer Spec No:	AUSD2290
Thickness:	3 coat system
Preparation:	Refer manufacturer's recommendations and instructions
First coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Acrylic Sealer Undercoat (AUDD1278)
Second coat (Data Sheet):	1 coat DULUX Aquanamel High Gloss (AUDD1282)
Third coat (Data Sheet):	1 coat DULUX Aquanamel High Gloss (AUDD1282)

Property	Description
Installation:	The painting system must be installed by an applicator approved by the paint manufacturer to achieve the manufacturer's maximum warranty. Provide written confirmation of such approval prior to commencing painting.

PG11 – PAINT FINISH – TIMBER TRIMS

Property	Description
Drawing code (v1.01):	**PG11**
Manufacturer / Supplier:	**DULUX**
Manufacturer Spec No:	AUSD2291
Thickness:	3 coat system
Preparation:	Refer manufacturer's recommendations and instructions
First coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Acrylic Sealer Undercoat (AUDD1278)
Second coat (Data Sheet):	1 coat DULUX Aquanamel High Gloss (AUDD1282)
Third coat (Data Sheet):	1 coat DULUX Aquanamel High Gloss (AUDD1282)
Installation:	The painting system must be installed by an applicator approved by the paint manufacturer to achieve the manufacturer's maximum warranty. Provide written confirmation of such approval prior to commencing painting.

PG12 – PAINT FINISH – STEEL DOOR FRAMES

Property	Description
Drawing code (v1.01):	**PG12**
Manufacturer / Supplier:	**DULUX**
Manufacturer Spec No:	AUSD2987
Thickness:	3 coat system
Preparation:	Refer manufacturer's recommendations and instructions
First coat (Data Sheet):	1 coat DULUX Quit Rust Metal Primer (AUDD1050)
Second coat (Data Sheet):	1 coat DULUX Aquanamel High Gloss (AUDD1282)
Third coat (Data Sheet):	1 coat DULUX Aquanamel High Gloss (AUDD1282)
Installation:	The painting system must be installed by an applicator approved by the paint manufacturer to achieve the manufacturer's maximum warranty. Provide written confirmation of such approval prior to commencing painting.

PG13 – PAINT FINISH – INTERNAL METALWORK

Property	Description
Drawing code (v1.01):	**PG13**
Manufacturer / Supplier:	**DULUX**
Manufacturer Spec No:	AUSD2552

School Infrastructure Group 2 - D&C
Project No: 7068VS01

Property	Description
Thickness:	3 coat system
Preparation:	Refer manufacturer's recommendations and instructions
First coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Acrylic Sealer Undercoat (AUDD1278)
Second coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Low Sheen (AUDD1274)
Third coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Low Sheen (AUDD1274)
Installation:	The painting system must be installed by an applicator approved by the paint manufacturer to achieve the manufacturer's maximum warranty. Provide written confirmation of such approval prior to commencing painting.
Installation:	The painting system must be installed by an applicator approved by the paint manufacturer to achieve the manufacturer's maximum warranty. Provide written confirmation of such approval prior to commencing painting.

PG17 – PAINT FINISH – INTERNAL RENDER

Property	Description
Drawing code (v1.01):	**PG17**
Manufacturer / Supplier:	**DULUX**
Manufacturer Spec No:	AUSD2287
Thickness:	3 coat system
Preparation:	Refer manufacturer's recommendations and instructions
First coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Acrylic Sealer Undercoat (AUDD1278)
Second coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Low Sheen (AUDD1274)
Third coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Low Sheen (AUDD1274)
Installation:	The painting system must be installed by an applicator approved by the paint manufacturer to achieve the manufacturer's maximum warranty. Provide written confirmation of such approval prior to commencing painting.

PG34 – PAINT FINISH – EXTERNAL CONCRETE WALLS & COLUMNS

Property	Description
Drawing code (v1.01):	**PG34**
Manufacturer / Supplier:	**DULUX**
Manufacturer Spec No:	AUSD1620
Thickness:	3 coat system
Preparation:	Refer manufacturer's recommendations and instructions
First coat (Data Sheet):	1 coat DULUX AcraTex 501/1 AcraPrime Water Based (AUDA0441)
Second coat (Data Sheet):	1 coat DULUX Weathershield Low Sheen Acrylic (AUDD0053)
Third coat (Data Sheet):	1 coat DULUX Weathershield Low Sheen Acrylic (AUDD0053)
Installation:	The painting system must be installed by an applicator approved by the paint manufacturer to achieve the manufacturer's maximum

Property	Description
	warranty. Provide written confirmation of such approval prior to commencing painting.

PG35 – PAINT FINISH – CONCRETE SOFFITS

Property	Description
Drawing code (v1.01):	**PG35**
Manufacturer / Supplier:	**DULUX**
Manufacturer Spec No:	AUSD2552
Thickness:	3 coat system
Preparation:	Refer manufacturer's recommendations and instructions
First coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Acrylic Sealer Undercoat (AUDD1278)
Second coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Low Sheen (AUDD1274)
Third coat (Data Sheet):	1 coat DULUX Professional EnvirO2 Interior Low Sheen (AUDD1274)
Installation:	The painting system must be installed by an applicator approved by the paint manufacturer to achieve the manufacturer's maximum warranty. Provide written confirmation of such approval prior to commencing painting.

PG59 – PLAYING COURTS LINEMARKING

Property	Description
Drawing code:	**PG59**
Manufacturer / Supplier:	
Installation:	Playing court line marking – 3 SPORTS

2 EXTENT OF WORK

2.1 GENERAL

Refer **FINISHES SELECTION SCHEDULE** for building elements to be painted.

END OF SECTION 682 PAINTING SELECTIONS

School Infrastructure Group 2 - D&C
Project No: 7068VS01

END OF DOCUMENT

School Infrastructure Group 2

Design & Construction

MASTER SPECIFICATIONS

DUNDAS PUBLIC SCHOOL

7068DU01

DUPS-FTA-XX-XX-SP-A-002

For: Department of Education NSW / SINSW

Specification of Workmanship and Materials

Volume 2 – Architectural

Rev	Date	Issue	By	Rev	Date	Issue	By
-	26.11.2024	Schematic Design 80% Issue Dundas Public School, Northmead Public School	JWH				
-	18.12.2024	Schematic Design 100% Issue Cammeray PS. Dundas PS, Kingswood PS, Northmead PS, Dalmeny PS, Greenway PK PS, Kogarah PS	JWH				
Add 1	21.01.2025	Schematic Design Tender Addendum 1 Issue Dundas Public School, Northmead Public School	JWH				
Add 2	03.02.2025	Schematic Design Tender Addendum 2 Issue Dundas Public School, Northmead Public School	JWH				

fulton trotter
ARCHITECTS

Company name: Fulton Trotter Architects Pty Ltd
ACN: 677 264 550 ABN: 57 677 264 550

School Infrastructure Group 2 - D&C
DUNDAS PUBLIC SCHOOL
Project No: 7068DU01

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School Infrastructure Group 2 - D&C
DUNDAS PUBLIC SCHOOL
Project No: 7068DU01

MASTER SPECIFICATIONS
Volume 2 – Architectural

DUNDAS PUBLIC SCHOOL
7068DU01

SPECIFICATION OF WORKMANSHIP AND MATERIALS TO BE PROVIDED FOR:

School Infrastructure Group 2 - D&C

Project No: 7068VS01

for: **Department of Education NSW / SINSW**

To the satisfaction of the following Consultants:

ARCHITECTS: **Fulton Trotter Architects (FTA)**
Suite 904, L9, 28 Foveaux Street
SURRY HILLS NSW 2010
p: 02 8383 5151
e: sydney@fultontrotter.com.au

BUILDER: To be confirmed

School Infrastructure Group 2 - D&C
DUNDAS PUBLIC SCHOOL
Project No: 7068DU01

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VOLUME 2

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SCH-01	NOT USED
SCH-02	Digital Finishes Board
SCH-03	Door Hardware Schedule
SCH-04	Building Manual Template

School Infrastructure Group 2 - D&C
DUNDAS PUBLIC SCHOOL
Project No: 7068DU01

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SCHEDULE 02

Digital Finishes Board

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ARCHITECTS

Company name: Fulton Trotter Architects Pty Ltd
ACN: 677 264 550 ABN: 57 677 264 550

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ARCHITECTS

Dundas Public School

Digital Finishes Board - Rev A

To be read in conjunction with architectural specification and architectural drawings.

CONCEPT

AESTHETIC

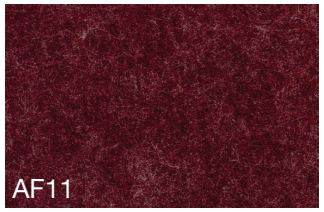
BASE SCHEME

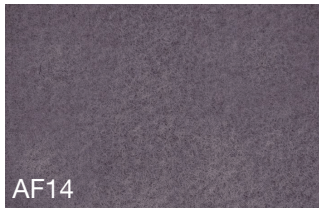
CONCEPT

SCHEME 01 - Wild Flowers

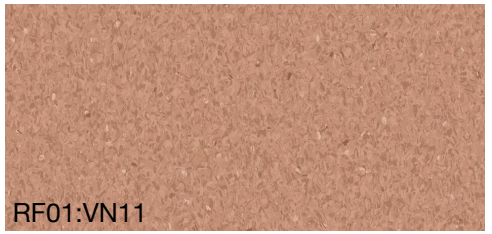
Joinery Laminate

Acoustic Fabric

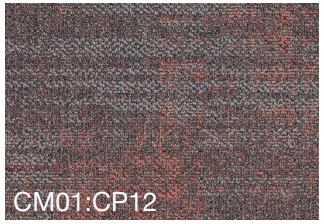


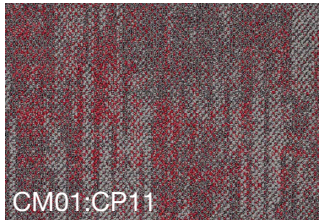


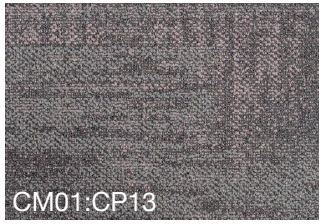
Vinyl & Feature Acoustic Fabric



Carpet Finishes







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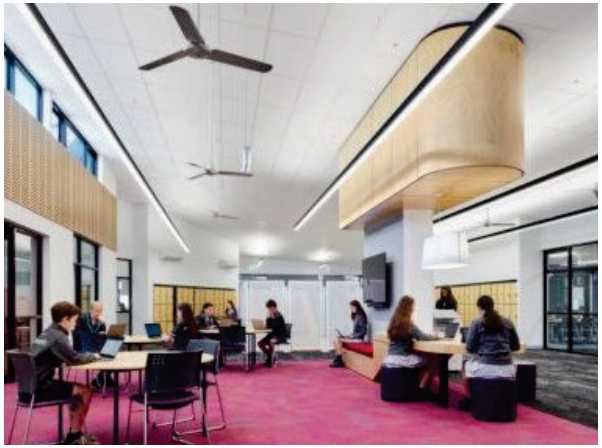

Exterior Finishes

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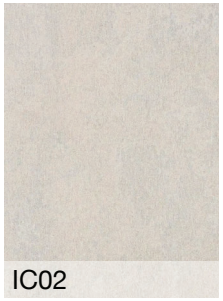
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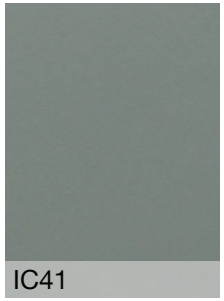
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CB24

CB13

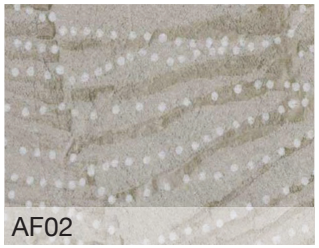
CB18

PC22

PC46

MF08

Wall Finishes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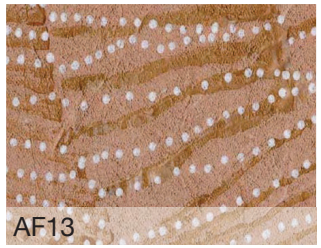
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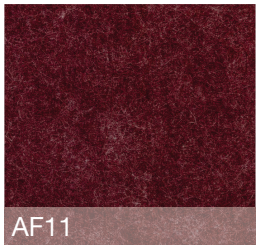
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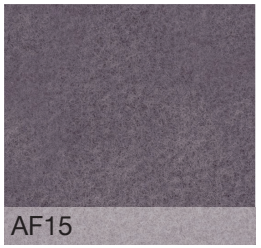
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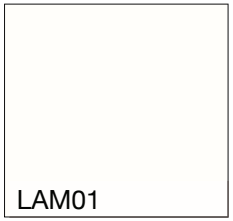
Joinery Finishes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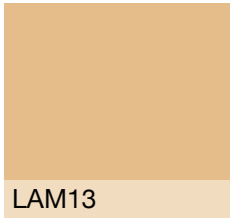
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LAM12

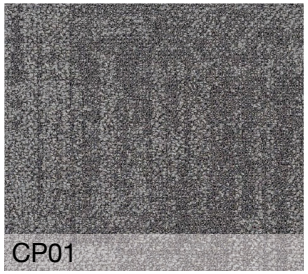
LAM11

Tile Finishes

TG01

TG11

Floor Finishes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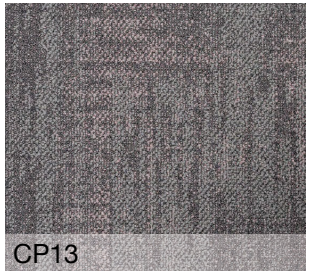
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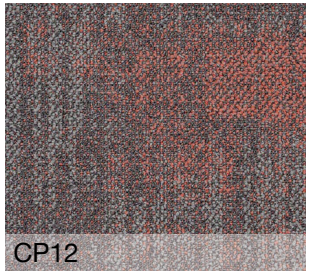
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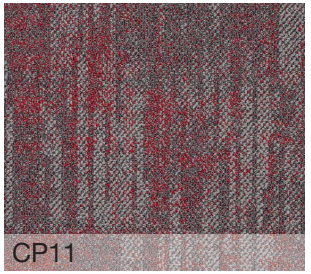
CP11

VN11

VN01

Dundas Public School Finishes Board

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ARCHITECTS

Greenway Park Preschool

Digital Finishes Board - Rev A

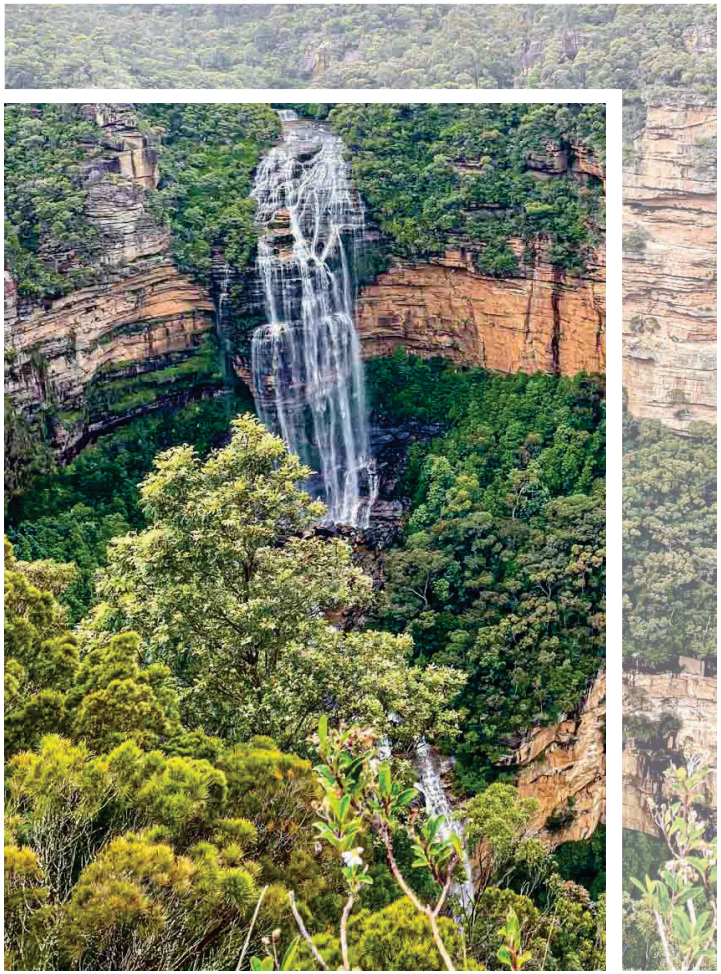
To be read in conjunction with architectural specification and architectural drawings.

CONCEPT

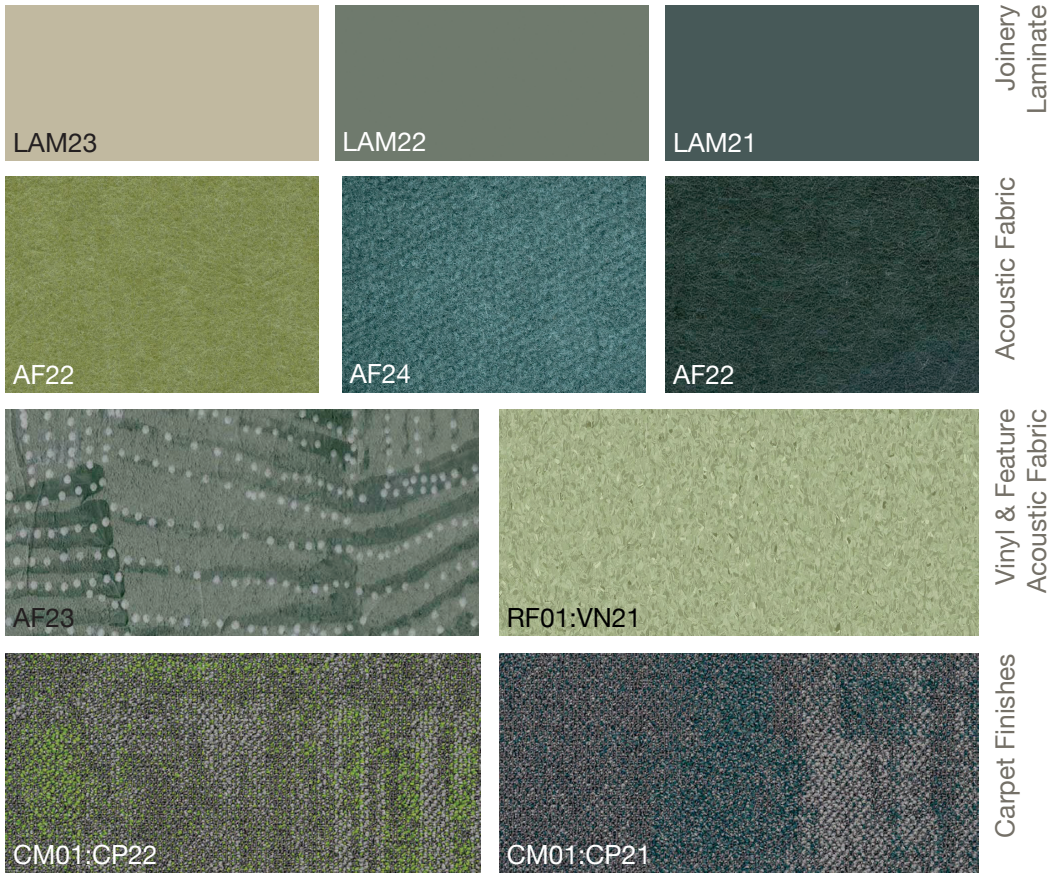
AESTHETIC

BASE SCHEME

CONCEPT



SCHEME 02 - Forest Canopy



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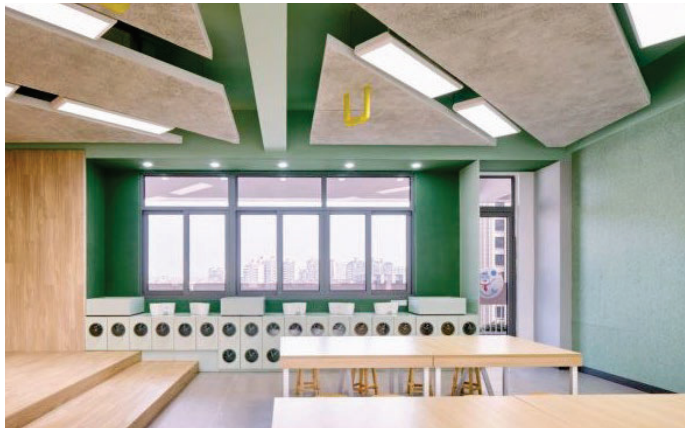
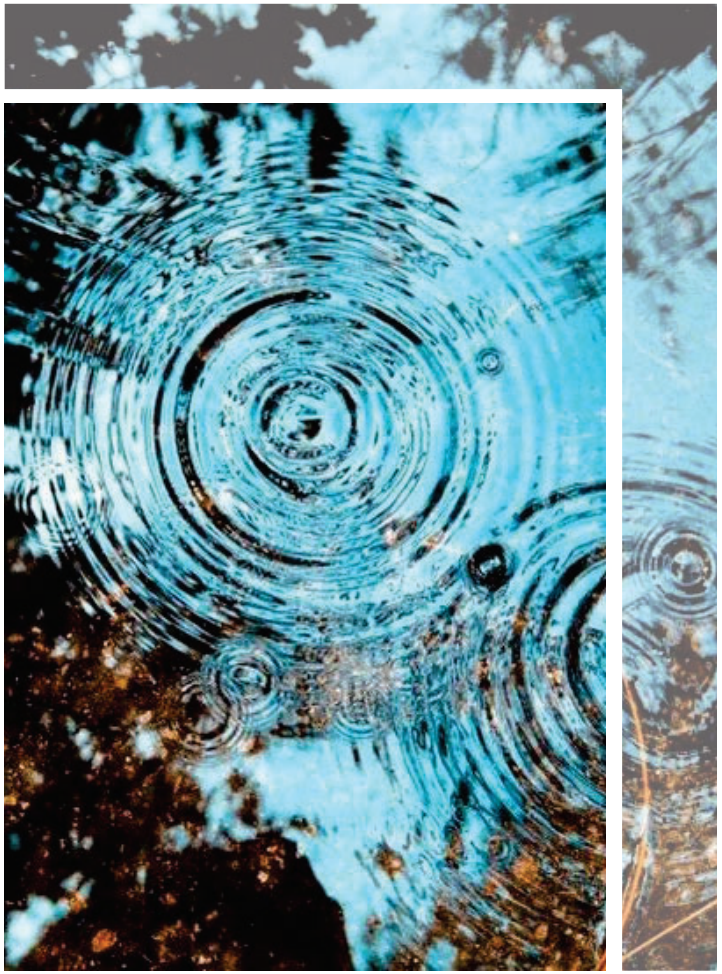
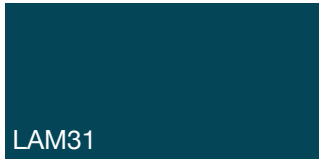


CONCEPT

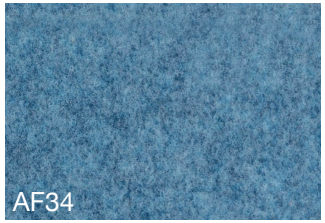


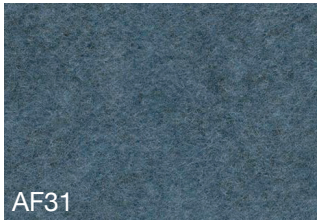
SCHEME 03 - Rainwater

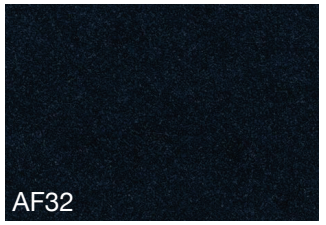
Joinery Laminate



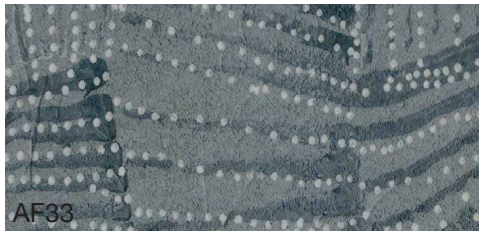
Acoustic Fabric

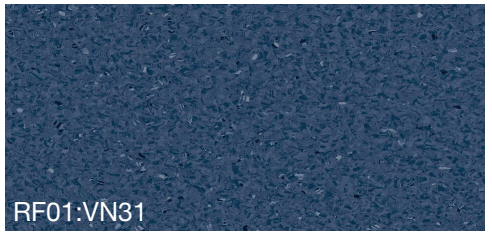




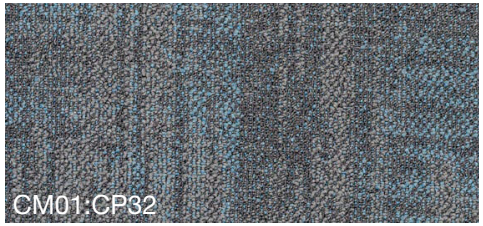


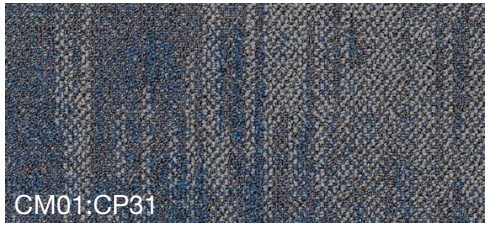
Vinyl & Feature Acoustic Fabric





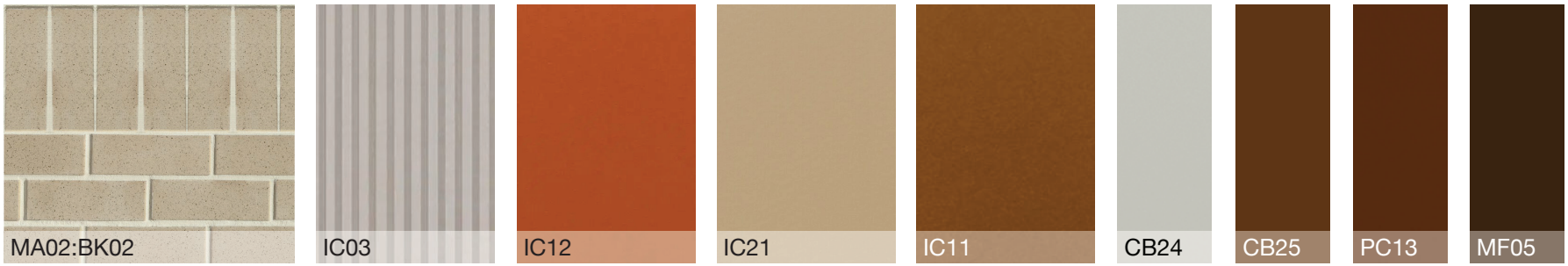
Carpet Finishes



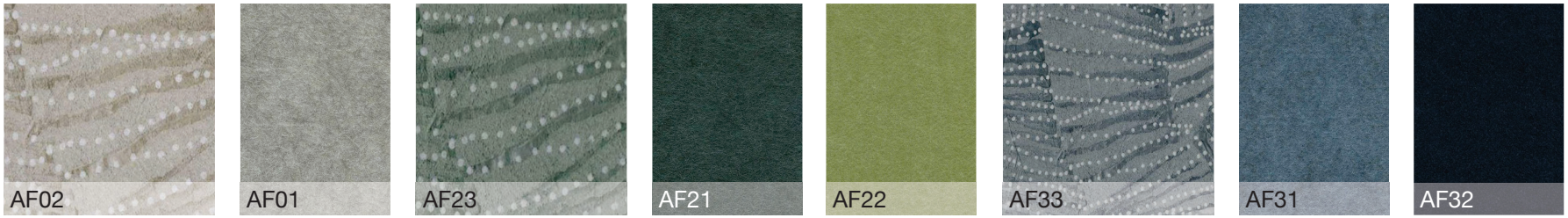


AESTHETIC

Exterior Finishes

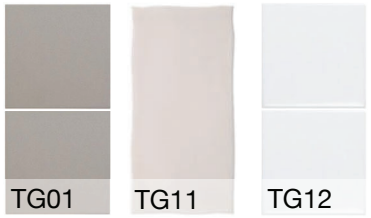


Wall Finishes

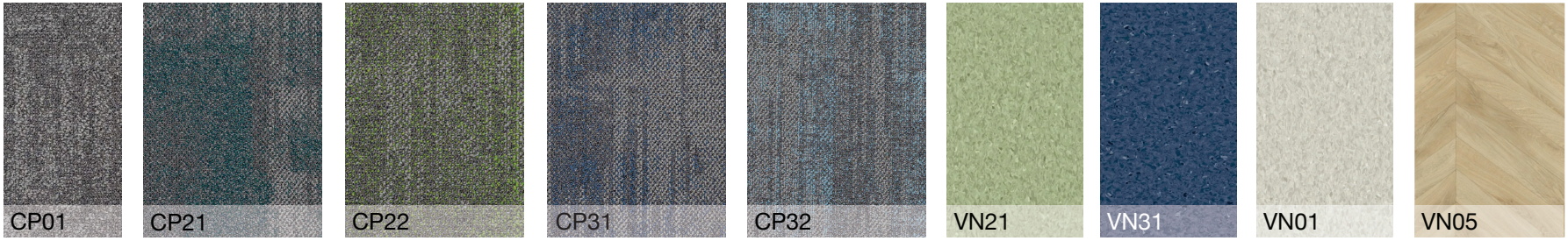


Joinery Finishes

Tile Finishes



Floor Finishes



Greenway Park Preschool Finishes Board

fulton trotter
ARCHITECTS

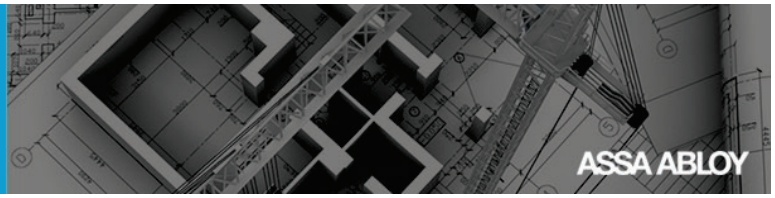
SCHEDULE 03

Door Hardware Schedule

fulton trotter
ARCHITECTS

Company name: Fulton Trotter Architects Pty Ltd
ACN: 677 264 550 ABN: 57 677 264 550

THIS DOCUMENT IS SET UP FOR DOUBLE SIDED PRINTING CONSEQUENTLY THIS PAGE IS NOT USED



Cover Letter | Door Hardware Schedule

31/01/2025 10:48 AM

Project Name: DUNDAS PUBLIC SCHOOL

Project ID: 96876 - (1) (31-01-2025)

Revision Note:

Project Address: 85 Kissing Point Road DUNDAS NSW 2117 AUSTRALIA

Keying System: Extension of Existing System

Architect Company: Fulton Trotter Architects

Architect Project ID: 7068DU01

Consultant: Peter Solling

This schedule is based on the following documentation.

Project Comments: 24NSWPS118

All aspects of this Door Hardware Schedule should be checked and confirmed with all of the current documentation available for this project by the Hardware Supplier. Confirm frame type and door construction prior to the ordering of any hardware.

Final master keyed cylinders are to be provided by the client to match their existing master key system.

Temporary construction keyed (loan) cylinders have been allowed for on all key lockable doors for the duration of the construction period. The Hardware Supplier should allow for 4 construction keys. The builder should organise and allow for the cost of the supply and change over from temporary construction (loan) cylinders to the final master keyed cylinders.

Where door closers have been scheduled to aluminium or timber glazed doors, a larger top rail (nominal 120mm) should be specified to allow for secure mounting of the door closer. The Hardware Supplier is to confirm with the door supplier the need for a drop or trim plate.

Where door closers have been scheduled they should generally be mounted to the less visible side of the door. The door closers scheduled require a minimum nib room of 60mm when mounted to the pull side of the door.

Full-bodied mortice locks have been scheduled to aluminium glazed doors. The lock stile on these doors should be at a nominal 120mm wide.

The Hardware Supplier should confirm seal compatibility (with specified meeting stile, aluminium doors, etc.) and the lengths required.

Sliding / Bi-fold door tracks and their associated fittings have not been included in this door hardware schedule.

No electronic security products have been specified in this door hardware schedule.

Signage has not been included in this door hardware schedule.

Spence Doors, an ASSA ABLOY group company, can provide a full compliant solution for rated and non-rated door and frame requirements excluding aluminium solutions.

ASSA ABLOY Hardware specified within this project is compatible with applicable Spence door applications (at time of production of this documentation).

For questions concerning details of the Spence doors and frames, their specifications, and their utilisation, please contact Spence Doors projectenquiry.spencedoors@assaabloy.com. Alternatively visit www.spencedoors.com.au.

Door Hardware Schedule

Project Name: DUNDAS PUBLIC SCHOOL
Schedule No: 96876 - (1)

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Item		Qty	Description			Brand	Finish
Mark:	E3 x 4	**To/From Room:**	LEARNING COMMS	**Level:**			
Height:	2040	**Width:**	970 + 970				
Door Type:	Aluminum Framed Glazed			**Frame Type:**	Aluminium		
AH130CAN		32	FAST FIX COMMERCIAL ALUMINIUM HINGE CAN			LOCKWOOD	CAN
CK 570		4	TEMPORARY OVAL CYLINDER			OTHER	
MK CYLINDER		4	MASTER KEYED CYLINDER TO MATCH EXISTING SYSTEM			OTHER	
3572NDCSC		4	3572 - MORTICE VESTIBULE PRIMARY LOCK - NSW DEPARTMENT OF COMMERCE			LOCKWOOD	SC
SP3572-5250		4	3570 SERIES LOCKING TURN ADAPTOR ASSEMBLY PK=10			LOCKWOOD	NONE
SP3570-419		4	3570 SERIES - ACCESSORY PACKET 3570 ALUM DOOR BRACKET			LOCKWOOD	NONE
2801/70SC		4	2801 ROUND END PLATE WITH CYLINDER HOLE & 70 LEVER			LOCKWOOD	SC
2939/70SC		4	2939 ROUND END PLATE WITH DISABLED TURN & 70 LEVER			LOCKWOOD	SC
P3513DSC		8	FLUSH BOLT-RECESS MT-NYLON 'D' TIP			INTERLOCK	SC
DP042SN.B		4	DUST PROOF SOCKET SN			SCOPE	SN
2616-153		4	2616 SERIES OPENING DAMPER			LOCKWOOD	
2616DASSS		4	2616 SERIES CAM ACTION CLOSER WITH DELAYED ACTION			LOCKWOOD	SSS
A250SC		8	A250 FLOOR MOUNTED DOOR STOP TP			LOCKWOOD	SC
NB:110MM STILE		4	REQUIRED TO ACCOMODATE 60MM BACKSET MORTICE LOCK			OTHER	
SET (XT)		4	MORTICE LOCK TO XT FUNCTION			LOCKWOOD	
Door Notes:	PAIR						
Set Notes:	(B)						
Mark:	E5 x 3	**To/From Room:**	LEARNING COMMS	**Level:**			
Height:	2040	**Width:**	1070				
Door Type:	Spence Solid Core			**Frame Type:**	Aluminium		
AH130TCAN		12	FAST FIX TIMBER/ALUMINIUM HINGE CAN			LOCKWOOD	CAN
CK 570		3	TEMPORARY OVAL CYLINDER			OTHER	
MK CYLINDER		3	MASTER KEYED CYLINDER TO MATCH EXISTING SYSTEM			OTHER	
3572NDCSC		3	3572 - MORTICE VESTIBULE PRIMARY LOCK - NSW DEPARTMENT OF COMMERCE			LOCKWOOD	SC
SP3572-5250		3	3570 SERIES LOCKING TURN ADAPTOR ASSEMBLY PK=10			LOCKWOOD	NONE
2801/70SC		3	2801 ROUND END PLATE WITH CYLINDER HOLE & 70 LEVER			LOCKWOOD	SC
2939/70SC		3	2939 ROUND END PLATE WITH DISABLED TURN & 70 LEVER			LOCKWOOD	SC
2616-153		3	2616 SERIES OPENING DAMPER			LOCKWOOD	
2616DASSS		3	2616 SERIES CAM ACTION CLOSER WITH DELAYED ACTION			LOCKWOOD	SSS
A250SC		3	A250 FLOOR MOUNTED DOOR STOP TP			LOCKWOOD	SC
SET (XT)		3	MORTICE LOCK TO XT FUNCTION			LOCKWOOD	
Door Notes:	O/I						
Set Notes:	(B)						

Door Hardware Schedule

Project Name: DUNDAS PUBLIC SCHOOL
Schedule No: 96876 - (1)

ASSA ABLOY Opening Solutions
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Item		Qty	Description			Brand	Finish
Mark:	E6A x 6	**To/From Room:**	WC	**Level:**			
Height:	2040	**Width:**	1070				
Door Type:	Spence Solid Core			**Frame Type:**	Aluminium		
AH130TCAN		24	FAST FIX TIMBER/ALUMINIUM HINGE CAN			LOCKWOOD	CAN
CK 570		6	TEMPORARY OVAL CYLINDER			OTHER	
MK CYLINDER		6	MASTER KEYED CYLINDER TO MATCH EXISTING SYSTEM			OTHER	
3571DE#NDCSCNCYL		6	3571 - MORTICE ESCAPE DEADLOCK (NO CYLINDER)NSW DEPT OF COMMERCE			LOCKWOOD	SC
MIB-DPV2		6	ASTRA MORTICE INDICATOR BOLT WITH DISBALED TURN			OTHER	SC
1366/ESC		12	1360 SERIES OVAL CYLINDER ESCUTCHEON - GRUB SCREW FIX			LOCKWOOD	SC
20707NNSS		6	207 INTERIOR PLATE			LOCKWOOD	SS
20624NN/P3SS		6	206 EXTERIOR PLATE WITH P3 PULL HANDLE			LOCKWOOD	SS
2616-153		6	2616 SERIES OPENING DAMPER			LOCKWOOD	
2616-104SIL		6	2616 SERIES ANGLED MOUNTING PLATE			LOCKWOOD	SIL
2616DASSS		6	2616 SERIES CAM ACTION CLOSER WITH DELAYED ACTION			LOCKWOOD	SSS
Door Notes:	RH%						
Set Notes:	(G/H)						
Mark:	E6B x 6	**To/From Room:**	ACC WC	**Level:**			
Height:	2040	**Width:**	1070				
Door Type:	Spence Solid Core			**Frame Type:**	Aluminium		
AH130TCAN		24	FAST FIX TIMBER/ALUMINIUM HINGE CAN			LOCKWOOD	CAN
CK 570		6	TEMPORARY OVAL CYLINDER			OTHER	
MK CYLINDER		6	MASTER KEYED CYLINDER TO MATCH EXISTING SYSTEM			OTHER	
3572XA#SCNCYL		6	3572 - MORTICE VESTIBULE ANTI-LOCKOUT LOCK CYLINDER & TURN			LOCKWOOD	SC
MIB-DPV2		6	ASTRA MORTICE INDICATOR BOLT WITH DISBALED TURN			OTHER	SC
2801/70SC		6	2801 ROUND END PLATE WITH CYLINDER HOLE & 70 LEVER			LOCKWOOD	SC
2939/70SC		6	2939 ROUND END PLATE WITH DISABLED TURN & 70 LEVER			LOCKWOOD	SC
2616-153		6	2616 SERIES OPENING DAMPER			LOCKWOOD	
2616-104SIL		6	2616 SERIES ANGLED MOUNTING PLATE			LOCKWOOD	SIL
2616DASSS		6	2616 SERIES CAM ACTION CLOSER WITH DELAYED ACTION			LOCKWOOD	SSS
Door Notes:	RH%						
Set Notes:	(G/H)						
Mark:	E6C	**To/From Room:**	CLEANER	**Level:**			
Height:	2040	**Width:**	1070				
Door Type:	Spence Solid Core			**Frame Type:**	Aluminium		
AH130TCAN		4	FAST FIX TIMBER/ALUMINIUM HINGE CAN			LOCKWOOD	CAN
CK 570		1	TEMPORARY OVAL CYLINDER			OTHER	
MK CYLINDER		1	MASTER KEYED CYLINDER TO MATCH EXISTING SYSTEM			OTHER	
3572NDCSC		1	3572 - MORTICE VESTIBULE PRIMARY LOCK - NSW DEPARTMENT OF COMMERCE			LOCKWOOD	SC
SP3572-5#50		1	3570 SERIES M FUNCTION TURN ADAPTOR ASSEMBLY			LOCKWOOD	NONE
2801/70SC		1	2801 ROUND END PLATE WITH CYLINDER HOLE & 70 LEVER			LOCKWOOD	SC
2905/70SC		1	2905 ROUND END PLATE WITH 70 LEVER			LOCKWOOD	SC
A250SC		1	A250 FLOOR MOUNTED DOOR STOP TP			LOCKWOOD	SC
SET (M)		1	MORTICE LOCK TO M FUNCTION			LOCKWOOD	
Door Notes:	RH						
Set Notes:	(D)						

Door Hardware Schedule

Project Name: DUNDAS PUBLIC SCHOOL
Schedule No: 96876 - (1)

ASSA ABLOY Opening Solutions
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Item		Qty	Description			Brand	Finish
Mark:	E6D	**To/From Room:**	AIRLOCK	**Level:**			
Height:	2040	**Width:**	1070				
Door Type:	Spence Solid Core			**Frame Type:**	Aluminium		
AH130TCAN		4	FAST FIX TIMBER/ALUMINIUM HINGE CAN			LOCKWOOD	CAN
CK 570		1	TEMPORARY OVAL CYLINDER			OTHER	
MK CYLINDER		1	MASTER KEYED CYLINDER TO MATCH EXISTING SYSTEM			OTHER	
3572NDCSC		1	3572 - MORTICE VESTIBULE PRIMARY LOCK - NSW DEPARTMENT OF COMMERCE			LOCKWOOD	SC
SP3572-5#50		1	3570 SERIES M FUNCTION TURN ADAPTOR ASSEMBLY			LOCKWOOD	NONE
2801/70SC		1	2801 ROUND END PLATE WITH CYLINDER HOLE & 70 LEVER			LOCKWOOD	SC
2905/70SC		1	2905 ROUND END PLATE WITH 70 LEVER			LOCKWOOD	SC
LS04SX.B		1	LOCK SHIELD - MORTICE LOCKS 316 SX			SCOPE	
DS110SS.B		1	HOOK AUTO DOOR HOLDER WALL - SS			SCOPE	SS
SET (M)		1	MORTICE LOCK TO M FUNCTION			LOCKWOOD	
Door Notes:	RH%						
Set Notes:	(D)						
Mark:	E8	**To/From Room:**	EDB	**Level:**			
Height:	2040	**Width:**	970 + 970				
Door Type:	Pyropanel Fire Rated			**Frame Type:**	Pressed Metal		
LW10000BBSSS		8	HINGES 100X100X2.5 BALL BEARING SSS PK=30			LOCKWOOD	SSS
CK 201		1	TEMPORARY ROUND CYLINDER			OTHER	
MK CYLINDER		1	MASTER KEYED CYLINDER TO MATCH EXISTING SYSTEM			OTHER	
507SSS		1	507 NIGHTLATCH			LOCKWOOD	SSS
SP8530-114SSS		1	8530 SERIES TOP LATCH ADAPTOR PLATE TP			LOCKWOOD	SSS
SP8530-57SC		1	8530 SERIES TURN KNOB TP			LOCKWOOD	SC
530-222SC		1	530 SERIES TUBULAR DEADLATCH 70MM BACKSET TP			LOCKWOOD	SC
P2SS		1	STAINLESS STEEL P2 PULL HANDLE			LOCKWOOD	SS
107501-040		1	FOH00149 AUTO FLUSH BOLT			LOCKWOOD	
A3000X230 CAN		1	SEQUENCE SELECTOR TO SUIT 2300MM WIDE DOORS			LOCKWOOD	CAN
7714DASSS		2	7714 DA SIZE 1-4 P/A DC FORMED COVER CLOSER ADJUSTABLE BACKCHECK			LOCKWOOD	SSS
LAS1212/LDDS/B		1	BATWING SEAL 12X12 LNG DBL DR SET BLACK			LORIENT	BLK
NB:MEETING STILE		1	SEALS BY FIRE DOOR SUPPLIER			OTHER	
LAS8006/1070/S		2	DROP SEAL HD FACE FIX 1070 SIL			LORIENT	SIL
NB: SIGNAGE		1	PROVIDED BY SIGNAGE CONTRACTOR			OTHER	
Door Notes:	PAIR%						
Set Notes:	(K)						

Door Hardware Schedule

Project Name: DUNDAS PUBLIC SCHOOL
Schedule No: 96876 - (1)

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Item		Qty	Description			Brand	Finish
Mark:	E12A x 10	**To/From Room:**	GLS/LEARNING COMMS/MULTIPURPOSE SPACE	**Level:**			
Height:	2050	**Width:**	1				
Door Type:	Spence Solid Core			**Frame Type:**	Aluminium		
AH130TCAN		40	FAST FIX TIMBER/ALUMINIUM HINGE CAN			LOCKWOOD	CAN
3572NDCSC		10	3572 - MORTICE VESTIBULE PRIMARY LOCK - NSW DEPARTMENT OF COMMERCE			LOCKWOOD	SC
2905/70SC		10	2905 ROUND END PLATE WITH 70 LEVER			LOCKWOOD	SC
2807SC		10	2807 ROUND END PLATE			LOCKWOOD	SC
2616-153		10	2616 SERIES OPENING DAMPER			LOCKWOOD	
2616DASSS		10	2616 SERIES CAM ACTION CLOSER WITH DELAYED ACTION			LOCKWOOD	SSS
2616-152		10	2616 SERIES HOLD OPEN DEVICE			LOCKWOOD	
A350SC		10	A350 WALL MOUNTED DOOR STOP TP			LOCKWOOD	SC
Door Notes:	O/I						
Set Notes:	* EXIT ONLY. * 2616-152 (HOLD OPEN) IN PLACE OF DS110SS.B DUE TO GYPROCK WALL.						
Mark:	E12B x 2	**To/From Room:**	GLS/LEARNING COMMS/MULTIPURPOSE SPACE	**Level:**			
Height:	2050	**Width:**	1				
Door Type:	Spence Solid Core			**Frame Type:**	Aluminium		
AH130TCAN		8	FAST FIX TIMBER/ALUMINIUM HINGE CAN			LOCKWOOD	CAN
3572NDCSC		2	3572 - MORTICE VESTIBULE PRIMARY LOCK - NSW DEPARTMENT OF COMMERCE			LOCKWOOD	SC
2905/70SC		2	2905 ROUND END PLATE WITH 70 LEVER			LOCKWOOD	SC
2807SC		2	2807 ROUND END PLATE			LOCKWOOD	SC
2616-153		2	2616 SERIES OPENING DAMPER			LOCKWOOD	
2616DASSS		2	2616 SERIES CAM ACTION CLOSER WITH DELAYED ACTION			LOCKWOOD	SSS
2616-152		2	2616 SERIES HOLD OPEN DEVICE			LOCKWOOD	
A250SC		2	A250 FLOOR MOUNTED DOOR STOP TP			LOCKWOOD	SC
Door Notes:	O/I						
Set Notes:	* EXIT ONLY. * 2616-152 (HOLD OPEN) IN PLACE OF DS110SS.B DUE TO GYPROCK WALL.						
Mark:	IN1 x 3	**To/From Room:**	GLS	**Level:**			
Height:	2690	**Width:**	4000				
Door Type:	Aluminum Framed Glazed			**Frame Type:**			
151X300SSS		3	151 COMPLIANT ENTRANCE HANDLES WITH 300MM CENTRES			LOCKWOOD	SSS
NB: TRACK & FITTINGS		3	TRACK & FITTINGS BY FABRICATOR			OTHER	
NB:ADJUST STOPPER		3	IN DOOR TRACK TO ALLOW CLEARANCE OF HARDWARE			OTHER	
Door Notes:	SLIDING						
Set Notes:	NON-LOCKABLE						
Mark:	IN2 x 3	**To/From Room:**	GLS	**Level:**			
Height:	2690	**Width:**	2600				
Door Type:	Aluminum Framed Glazed			**Frame Type:**	Aluminium		
151X300SSS		3	151 COMPLIANT ENTRANCE HANDLES WITH 300MM CENTRES			LOCKWOOD	SSS
NB: TRACK & FITTINGS		3	TRACK & FITTINGS BY FABRICATOR			OTHER	
NB:ADJUST STOPPER		3	IN DOOR TRACK TO ALLOW CLEARANCE OF HARDWARE			OTHER	
Door Notes:	SLIDING						
Set Notes:	NON-LOCKABLE						

Door Hardware Schedule

Project Name: DUNDAS PUBLIC SCHOOL
Schedule No: 96876 - (1)

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Item		Qty	Description			Brand	Finish
Mark:	IN3 x 3	**To/From Room:**	GLS	**Level:**			
Height:	2690	**Width:**	1610				
Door Type:	Aluminum Framed Glazed			**Frame Type:**	Aluminium		
151X300SSS		3	151 COMPLIANT ENTRANCE HANDLES WITH 300MM CENTRES			LOCKWOOD	SSS
NB: TRACK & FITTINGS		3	TRACK & FITTINGS BY FABRICATOR			OTHER	
NB:ADJUST STOPPER		3	IN DOOR TRACK TO ALLOW CLEARANCE OF HARDWARE			OTHER	
Door Notes:	SLIDING						
Set Notes:	NON-LOCKABLE						
Mark:	IN4 x 2	**To/From Room:**	MULTIPURPOSE SPACE	**Level:**			
Height:	2690	**Width:**	2662.5 + 2662.5				
Door Type:	Aluminum Framed Glazed			**Frame Type:**			
151X300SSS		4	151 COMPLIANT ENTRANCE HANDLES WITH 300MM CENTRES			LOCKWOOD	SSS
NB: TRACK & FITTINGS		2	TRACK & FITTINGS BY FABRICATOR			OTHER	
NB:ADJUST STOPPER		2	IN DOOR TRACK TO ALLOW CLEARANCE OF HARDWARE			OTHER	
Door Notes:	SLIDING						
Set Notes:	NON-LOCKABLE						
Mark:	IN6	**To/From Room:**	BCR	**Level:**			
Height:	2040	**Width:**	970				
Door Type:	Spence Solid Core			**Frame Type:**	Aluminium		
AH130TCAN		4	FAST FIX TIMBER/ALUMINIUM HINGE CAN			LOCKWOOD	CAN
CK 201		1	TEMPORARY ROUND CYLINDER			OTHER	
CK 570		1	TEMPORARY OVAL CYLINDER			OTHER	
MK CYLINDER		2	MASTER KEYED CYLINDER TO MATCH EXISTING SYSTEM			OTHER	
3572NDCSC		1	3572 - MORTICE VESTIBULE PRIMARY LOCK - NSW DEPARTMENT OF COMMERCE			LOCKWOOD	SC
RIVERS MODEL-D SERIES 5		1	2 POINT LOCKING BAR SELF LATCHING W/- CYL			OTHER	
SP3572-5#50		1	3570 SERIES M FUNCTION TURN ADAPTOR ASSEMBLY			LOCKWOOD	NONE
2801/70SC		1	2801 ROUND END PLATE WITH CYLINDER HOLE & 70 LEVER			LOCKWOOD	SC
2905/70SC		1	2905 ROUND END PLATE WITH 70 LEVER			LOCKWOOD	SC
DS110SS.B		1	HOOK AUTO DOOR HOLDER WALL - SS			SCOPE	SS
SET (M)		1	MORTICE LOCK TO M FUNCTION			LOCKWOOD	
Door Notes:	RH%						
Set Notes:	(E)						

ASSA ABLOY is represented in all major regions, in both mature and emerging markets, with leading positions in Australia, Europe and North America.

As the world's leading lock group, ASSA ABLOY offers a more complete product range of door opening solutions than any other company in the market.

Openings Studio™

Openings Studio is a suite of BIM software tools for creating and visualising 3D doors, frames, and hardware objects for use in design, construction, and facility management. This program enables our consultants to write schedules with greater efficiency and contains built-in workflow tools for RFI's, change management, and collateral material.

Download Openings Studio
Visit assaabloy.com.au/openings to download a copy.

ASSA ABLOY Australia Pty Ltd
235 Huntingdale Road
Oakleigh, Victoria, 3166
Australia
ABN 90 086 541 907
1300 LOCK UP (1300 562 587)
lockweb.com.au
MELBOURNE FAX 1800 647 673
BRISBANE FAX 1800 626 140

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SCHEDULE 04

Building Manual Template

fulton trotter
ARCHITECTS

Company name: Fulton Trotter Architects Pty Ltd
ACN: 677 264 550 ABN: 57 677 264 550

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School Infrastructure Group 2 – D&C
DUNDAS PUBLIC SCHOOL
Project No: 7068DU01

SCH-0004 Building Manual Template

1 OVERVIEW

1.1 BUILDING MANUAL CONTENTS

The manual shall be structured in the following order:

- Title Page
- Emergency Issues Contact Details
- Project Design Consultants Contact Details
- Trade Contacts Details
- Maintenance Schedule
- Trade: Operational and Maintenance Manual Detail
- Building Certification and Approvals

1.2 TRADE DETAIL

Operational and Maintenance Manual shall provide details for the following trades:

- Termite protection
- Roof safety
- Concrete place
- Playground soft fall
- Playground equipment
- Playground shade sail
- Masonry
- Structural steel
- Roofing
- Aluminium windows and doors
- Door supply
- Door hardware
- Linings and ceilings
- Joinery
- Waterproofing
- Floor coverings
- Tiling
- Painting
- Hydraulic Services
- Mechanical Services
- Electrical Services
- Civil Works
- Building Certification
- Approvals

2 DETAIL REQUIRED

2.1 TITLE PAGE

The contents page should clearly identify the following:

- Project Name:
- Project Address:
- Building manual prepared by:

2.2 EMERGENCY ISSUES CONTACT DETAILS

Details Required

The emergency issues contact details should clearly identify the following:

- Business name:
- Contact name:
- Address:
- Phone number:
- E-mail address:

Contacts Required

Emergency issue contact information is required for the following trades / services / suppliers:

- Electrical (lighting, power, data and security)
- Mechanical (air conditioning and exhaust)
- Hydraulic (water, drainage, sewer and fire)
- Aluminium glazing door hardware and automatic doors
- Door hardware
- Tapware, sanitary items, bathroom accessories, hot water systems and tiles

2.3 PROJECT DESIGN CONSULTANTS

Details Required

The project design consultant details should clearly identify the following:

- Business name:
- Contact name:
- Address:
- Phone number:
- E-mail address:

Contacts Required

Emergency issue contact information is required for the following design consultants:

- Architect
- Structural Engineer
- Civil Engineer
- Mechanical Engineer
- Electrical Engineer
- Hydraulic Consultant
- Landscape Architect

- Building Surveyor

2.4 TRADE CONTACTS

Details Required
The trade contact details should clearly identify the following:
- Business name:
- Contact name:
- Mobile number:
- E-mail address:

Contacts Required
Emergency issue contact information is required for the following trade contacts:
- Termimesh
- Roof access safety
- Earthworks
- Landscaping – plants
- Landscaping – irrigation
- Concrete place
- Playground soft fall
- Playground equipment
- Structural steel
- Masonry
- Roofing
- Cladding
- Aluminium windows and doors
- Door hardware
- Walls and ceiling linings
- Joinery
- Acoustic wall fabric
- Windows / blinds
- Waterproofing
- Plastering
- Tiling
- Flooring
- Painting

2.5 MAINTENANCE SCHEDULE

The contents page

Item	Description	Duration	Note
Hot Water System	Minor Maintenance	6 monthly	Refer plumbing Maintenance schedule
Hot Water System	Service	12 monthly	Refer plumbing Maintenance schedule
Hot Water System	Major Service	5 yearly	Refer plumbing Maintenance schedule
TMV	Preventative Maintenance	12 monthly	Refer plumbing Maintenance schedule
RPZ	Preventative Maintenance	12 monthly	Refer plumbing Maintenance schedule
Electrical	Exit & Emergency Lighting	6 monthly	More information refer to Electrical manual
Electrical	RCD testing to DB-CSL	3 monthly	More information refer to Electrical manual
Electrical	Smoke Alarms	6 monthly	More information refer to Electrical manual
Mechanical	Cleaning Filters and Coils for Return air	3 Monthly	More information refer to Mechanical manual
Mechanical	Lab Fume Cupboard Clean	3 Monthly	More information refer to Mechanical manual
Termite Protection	Termimesh Inspections	12 months	More information refer to Termite manual
External Joinery	Curved Laminated Timber	9 months	Apply Cabot's Natural More information refer to Glulam
Fire Safety	Fire Extinguisher Service	6 months	Timber Seats Manual Refer Fire Extinguisher Manual

2.6 TRADE: OPERATIONAL AND MAINTENANCE MANUAL DETAIL

The following outlines the contents to be included in each trade section of the manual:

Termite Protection
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor
- Explanation of system constructed.
- As built drawings.
- Warranty (in the name of the builder and the principal)
- Form 12
- Detailed maintenance required.

Roof Safety
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor
- Explanation of system constructed.
- As built drawings.
- Warranty (in the name of the builder and the principal)
- Form 12
- Detailed maintenance required.

Concrete Place
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor
- Scope of Works.
- As built drawings.
- Warranty (in the name of the builder and the principal)
- Detailed maintenance required.

Masonry
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor
- Scope of Works.
- As built drawings.
- Warranty (in the name of the builder and the principal)
- Detailed maintenance required.

Structural Steel
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor

- Scope of Works.
- Warranty (in the name of the builder and the principal)
- Test Certificates
- Form 12
- Detailed maintenance required.

Roofing
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor
- Scope of Works.
- Warranty (in the name of the builder and the principal)
- Form 12
- Detailed maintenance required.

Aluminium Windows and Doors
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor
- Scope of Works.
- Warranty (in the name of the builder and the principal)
- Form 12
- Commissioning Report(s)
- Detailed maintenance required.

Door Supply
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor
- Scope of Works.
- Warranty (in the name of the builder and the principal)
- Detailed maintenance required.

Door Hardware
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor
- Scope of Works.
- Equipment Supplied
- Warranty (in the name of the builder and the principal)
- Detailed maintenance required.
- Keying Matrix

Linings and Ceilings
The trade section is to include:

- Name of subcontractor
- Contact details of subcontractor
- Scope of Works.
- Warranty (in the name of the builder and the principal)
- Form 12s
    - Ceilings and Partition Systems
    - Insulation to Walls and Ceilings
    - Structural engineering for the Seismic Restraint of plasterboard ceilings
    - Structural engineering for the anchors providing Seismic Restraint of plasterboard wall systems.
- Detailed maintenance required.

Joinery
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor
- Scope of Works.
- Equipment Supplied
- Warranty (in the name of the builder and the principal)
- Detailed maintenance required.
- As built drawings.

Waterproofing
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor
- Scope of Works.
- Warranty (in the name of the builder and the principal)
- Form 12s

Floor Coverings
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor
- Scope of Works.
- Schedule of Spare floor coverings
- Warranty (in the name of the builder and the principal)
- Commissioning Report(s)
- Detailed maintenance required.

Tiling
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor
- Scope of Works.

- Schedule of Spare tiles
- Warranty (in the name of the builder and the principal)
- Detailed maintenance required.

Painting
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor
- Scope of Works.
- Warranty (in the name of the builder and the principal)
- Commissioning Report(s)
- Detailed maintenance required.

Hydraulic Services
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor
- Scope of Works.
- Equipment Supplied (Asset Register of fixtures and fittings)
- Commissioning Documents
- Installation Test Results and Certificates.
- CCTV Camera recorded footage of installed sanitary drainage.
- Valve numbering register and their isolation areas
- Warranty (in the name of the builder and the principal)
- Detailed maintenance required.
- As Installed Drawings and Documentation.

Mechanical Services
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor
- Scope of Works.
- List of Drawings
- Equipment Supplied
- Schedule of Spares and Consumables
- Operating Instructions
- Warranty (in the name of the builder and the principal)
- Commissioning Reports (Test Data)
- Detailed maintenance required.
- As Installed Drawings and Documentation.

Electrical Services
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor

- Scope of Works.
- Equipment Supplied
- Warranty (in the name of the builder and the principal)
- Form 12s
- Detailed maintenance required.
- As Installed Drawings and Documentation.

Civil Works
The trade section is to include:
- Name of subcontractor
- Contact details of subcontractor
- Scope of Works.
- Operational Works Approval
- As Installed Drawings and Documentation (External to Site).

2.7 BUILDING CERTIFICATION AND APPROVALS

The following outlines the contents to be included under the following headings in the manual:

Building Certification
The section is to include:
- Form 11 - Certificate of Occupancy
    - Form 12s within Form 11

Approvals
The section is to include:
- Drainage approval
- Fire and Rescue NSW approval
- WaterNSW approval

END OF SECTION APP-07 BUILDING MANUAL TEMPLATE

School Infrastructure Group 2 – D&C
DUNDAS PUBLIC SCHOOL
Project No: 7068DU01

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DOCUMENT TRANSMITTAL RECORD
DUNDAS PUBLIC SCHOOL

Project:	DUNDAS PUBLIC SCHOOL
Principal:	NSW DEPARTMENT OF EDUCATION (SINSW)
Project Phase:	CONCEPT DESIGN
Project Number:	7068DU01

Distrubution																
Client	SINSW															
Local Authority																
Structural Engineer	Meinhardt (MHT)															
Civil Engineer	Meinhardt (MHT)															
Electrical Engineer	NDY															
Mechanical Engineer	NDY															
Hydraulic Engineer	ACOR															
Building Certifier																
Quantity Surveyor																
Town Planner	Gyde Consulting															
Surveyor																
Project Manager	RP Infrastructure (RPI)															
Landscape Architect	GROUND Ink															
BCA/DDA	Modern Building Consultants															
Day		20	27	09	18	30	15	26	09	19	21	05	07	19		
Month		09	09	10	10	10	11	11	12	12	01	02	02	02		
Year		24	24	24	24	24	24	24	24	24	25	25	25	25		
Issue Name		Issue For Information	Issue For Information	Issue For Information	80% Concept Design	100% Concept Design	50% Schematic Design	80% Schematic Design	95% Schematic Design	100% Schematic Design	SD Tender Addendum	SD Tender Addendum	REF ISSUE	SD Tender Addendum		
Issued by		**AK**	**AK**	**NK**	**NK**	**NK**	**NK**	**NK**	**NK**	**NK**	**NK**	**NK**	**NK**	**NK**		
Preliminary Tender Information Construction Approval Revision	**Purpose**	P	P	P	P	P	P	P	P	P	P	P	P	P		
Print Electronic Transparency	**Format**	E	E	E	E	E	E	E	E	E	E	E	E	E		
Mail Courier Hand Email	**Method**	E	E	E	E	E	E	E	E	E	E	E	E	E		

Drawing No.	Drawing Title	Current Issue														
DUPS-FTA-XX-XX-DR-A-0000	COVER SHEET + DRAWING LIST	05				P1*	P2*	01*	02*	03*	04*			05*		
DUPS-FTA-XX-XX-DR-A-0001	SPECIFICATION SCHEDULE & MATERIAL SCHEDULE	06							01*	02*	03*	04*	05*	06*		
DUPS-FTA-XX-XX-DR-A-0002	SIGNAGE SCHEDULE	02												02*		
DUPS-FTA-00-00-DR-A-1001	EXISTING SITE PLAN	05	P1*	P2*	P3*	P4*	P5*	01*	02*	03*	04*			05*		
DUPS-FTA-00-00-DR-A-1002	DEMOLITION SITE PLAN	05							01*	02*	03*			04*	05*	
DUPS-FTA-00-00-DR-A-1003	SITE ANALYSIS PLAN	04							01*	02*	03*			04*		
DUPS-FTA-00-00-DR-A-1101	PROPOSED SITE PLAN	05	P1*	P2*	P3*	P4*	P5*	01*	02*	03*	04*			05*		
DUPS-FTA-00-00-DR-A-1201	SITE SECTIONS	04							01*	02*	03*			04*		
DUPS-FTA-00-00-DR-A-1401	EXTERNAL WORKS PLAN (OFF SITE WORKS)	07	P1*	P2*	P3*	P4*	P5*	01*	02*	03*	04*		05*	06*	07*	
DUPS-FTA-00-00-DR-A-1501	STAGING PLAN	06			P1*	P2*	P3*	01*	02*	03*	04*			05*	06*	
DUPS-FTA-00-00-DR-A-1601	PLAYSCAPE CALCULATION	03								01*	02*			03*		
DUPS-FTA-00-00-DR-A-1602	AMENITIES STRATEGY	03								01*	02*			03*		
DUPS-FTA-00-00-DR-A-1603	ACCESS STRATEGY	02									01*			02*		
DUPS-FTA-00-00-DR-A-1604	TREE REMOVAL PLAN	04								01*	02*			03*	04*	
DUPS-FTA-00-00-DR-A-1610	INDIGENOUS ARTWORK STRATEGY	04							01*	02*	03*			04*		
DUPS-FTA-00-00-DR-A-1630	EXTERNAL MATERIAL AND FINISHES	04							01*	02*	03*			04*		
DUPS-FTA-00-00-DR-A-1640	SHADOW DIAGRAM	03								01*	02*			03*		
DUPS-FTA-00-00-DR-A-1650	CONSTRUCTION MANAGEMENT STRATEGY	02									01*			02*		
DUPS-FTA-B00L-GF-DR-A-2101	GROUND FLOOR PLAN	07	P1*	P2*	P3*	P4*	P5*	01*	02*	03*	04*	05*		06*	07*	
DUPS-FTA-B00L-LR-DR-A-2102	ROOF PLAN	05	P1*	P2*	P3*	P4*	P5*	01*	02*	03*	04*			05*		
DUPS-FTA-B00L-GF-DR-A-2201	REFLECTED CEILING GROUND FLOOR PLAN	06						01*	02*	03*	04*	05*		06*		
DUPS-FTA-B00L-ZZ-DR-A-3001	ELEVATIONS 01	05	P1*	P2*	P3*	P4*	P5*	01*	02*	03*	04*			05*		
DUPS-FTA-B00L-ZZ-DR-A-3002	ELEVATIONS 02	05	P1*	P2*	P3*	P4*	P5*	01*	02*	03*	04*			05*		
DUPS-FTA-B00L-ZZ-DR-A-3101	SECTIONS 01	06	P1*	P2*	P3*	P4*	P5*	01*	02*	03*	04*			05*	06*	
DUPS-FTA-B00L-ZZ-DR-A-4001	WALL TYPE DETAILS / PARTITION DETAILS	05						01*	02*	03*	04*			05*		
DUPS-FTA-B00L-ZZ-DR-A-4201	WALL SECTIONS 01	07						01*	02*	03*	04*		05*	06*	07*	
DUPS-FTA-B00L-ZZ-DR-A-4202	WALL SECTIONS 02	06						01*	02*	03*	04*		05*	06*		
DUPS-FTA-B00L-ZZ-DR-A-4401	STAIR AND RAMP DETAILS	03								01*	02*			03*		
DUPS-FTA-B00L-ZZ-DR-A-4501	BALUSTRADE AND HANDRAIL DETAILS	04							01*	02*	03*			04*		
DUPS-FTA-B00L-ZZ-DR-A-4801	TYPICAL COVERED WALKWAY DETAILS	04							01*	02*	03*			04*		
DUPS-FTA-B00L-ZZ-DR-A-4901	TYPICAL FASCIA DETAILS	04							01*	02*	03*			04*		
DUPS-FTA-B00L-ZZ-DR-A-6001	EXTERNAL DOOR & WINDOW SCHEDULE	04							01*	02*	03*			04*		
DUPS-FTA-B00L-ZZ-DR-A-6002	INTERNAL DOOR & WINDOW SCHEDULE	04							01*	02*	03*			04*		
DUPS-FTA-B00L-ZZ-DR-A-9001	PERSPECTIVES 1	04				P1*	P2*		01*	02*	03*			04*		
DUPS-FTA-B00L-ZZ-DR-A-9002	PERSPECTIVES 2	04				P1*	P2*		01*	02*	03*			04*		
DUPS-FTA-XX-XX-RP-A-0001	SCHEMATIC DESIGN REPORT	A									A					
DUPS-APP1	APPENDIX 1 - CONTACT LIST	A									A					
DUPS-APP2	APPENDIX 2 - SCHEDULE OF ACCOMMODATION	A									A					
DUPS-APP3	APPENDIX 3 - ARCHITECTURAL SCHEMATIC DESIGN	A									A					
DUPS-APP4	APPENDIX 4 - LANDSCAPE SCHEMATIC DESIGN	A									A					
DUPS-APP5	APPENDIX 5 - EFSG DEPARTURE SCHEDULE	A									A					
DUPS-APP6	APPENDIX 6 - RFI TRACKER	A									A					
DUPS-APP7	APPENDIX 7 - SAFETY IN DESIGN REPORT	A									A					
DUPS-APP8	APPENDIX 8 - DESIGN COMMENTS TRACKER	A									A					
DUPS-FTA-XX-XX-TR-A-0001	TRANSMITTAL	04						01	02		03				04	
DUPS-FTA-XX-XX-SP-A-0001	ARCHITECTURAL SPECIFICATION - VOLUME 1 (Group 2 Schools-Master Spec)	04							01		02	03	04			
DUPS-FTA-XX-XX-SP-A-0002	ARCHITECTURAL SPECIFICATION - VOLUME 2 - DUNDAS PS	04							01		02	03	04			
DUPS-FTA-00-00-M3-A-0001	IFC MODEL	05					01	02	03	04	05					
	* indicates DWG file also issued															