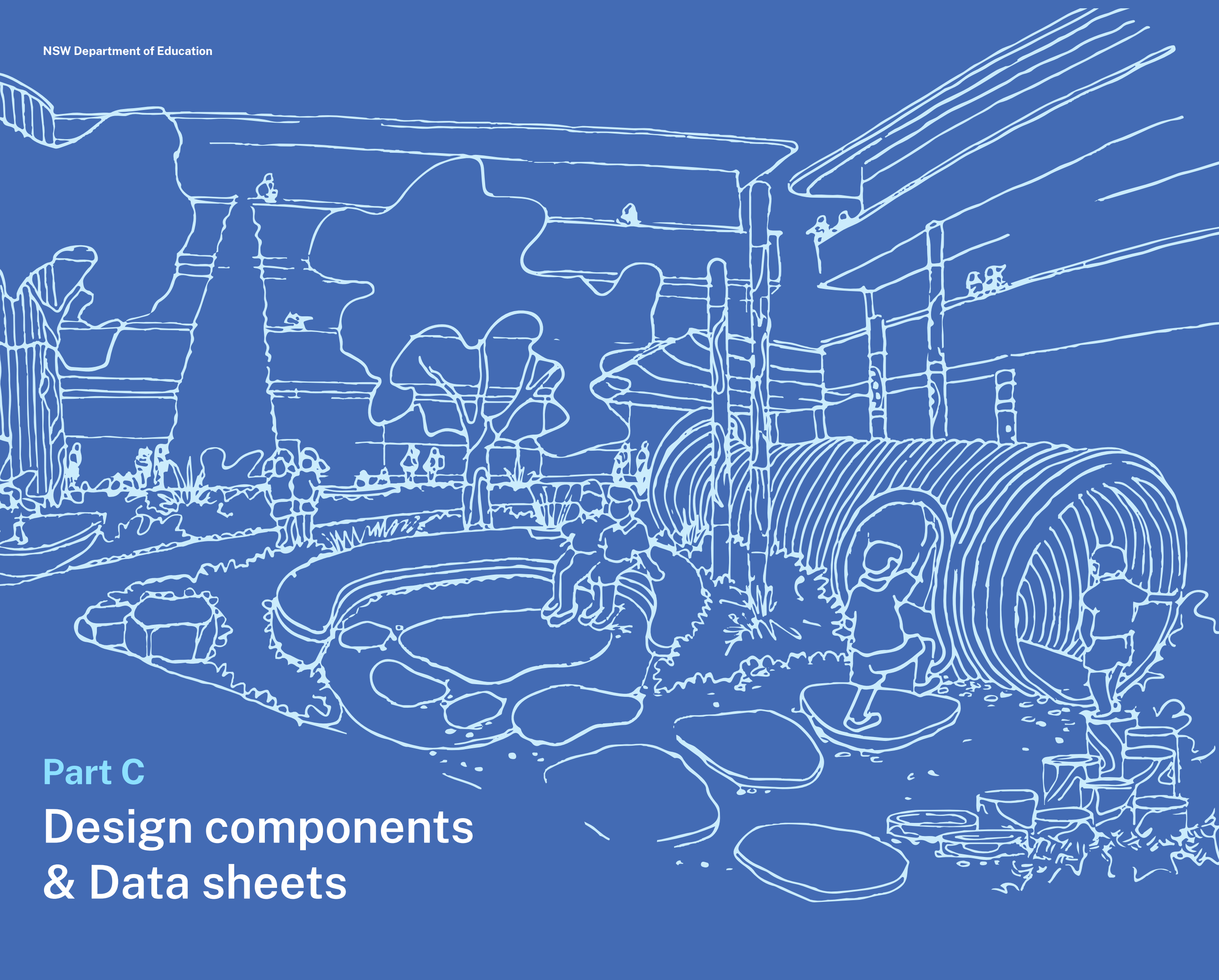




Part C

Design components & Data sheets





Acknowledgment of Country

We recognise the Ongoing Custodians of the lands and waterways where we work and live. We pay respect to Elders past and present as ongoing teachers of knowledge, songlines and stories.

We strive to ensure every Aboriginal and Torres Strait Islander learner in NSW achieves their potential through education.

Artist Credit: Suzanna, a former student from Boggabilla Central School. The artwork featured throughout our RAP represents the themes of community, school, friendship and family.

Disclaimer – EFSG 2025

The Educational Facilities Standards and Guidelines (EFSG) 2025 form part of the contractual requirements for the design and delivery of school infrastructure projects commissioned by School Infrastructure NSW (SINSW). Adherence to the EFSG is mandatory and constitutes a legal obligation for all engaged parties.

EFSG 2025 sets out the design intent, spatial and functional requirements, and standardised design components necessary to guide the consistent, equitable, and high-quality development of educational facilities across NSW. While comprehensive in scope, the EFSG is not exhaustive. Project teams must apply professional judgment in addressing specific project needs, site conditions, and applicable statutory and regulatory obligations.

While the most current version of the EFSG is generally the authoritative reference, the applicable version for any given project may be determined by the date on which the project’s business case was approved. It is the responsibility of project teams to confirm the relevant version with SINSW and seek clarification where uncertainty exists.

The EFSG adopts a ‘live learning’ model, and updates may be issued through future annual releases to reflect evolving priorities, sector feedback, and lessons learned. Components such as the Pattern Book are iterative tools and will continue to be developed over time.

SINSW accepts no liability for any loss, damage, or claim arising from the misapplication, outdated referencing, or misinterpretation of EFSG content. Users must ensure they are working from the correct version and confirm any ambiguities directly with SINSW.

Version Control

Revision Number	Date of Publication	EFSG Version	Description	Updated by	Approved by
2025r0	01.07.2025	EFSG 2025	Issue for Publication	RS,LS,SS	MB

List of amendments

This list has been developed to assist document users to identify key changes incorporated into EFSG 2025. This list provides a description of major changes only.

Document Reference	Change and Commentary
Throughout	EFSG v2.0 Design Framework Documents are now a superseded document and are incorporated into this document (Design Vision and Objectives)

Purpose of this document

The Educational Facilities Standards and Guidelines

The Educational Facility Standards and Guidelines (EFSG) contains design and construction standards, that are required for the design and delivery of new school facilities and upgrades.

The EFSG sets the design intent and benchmark for all new built environment works for school facilities in NSW. This document is to be read in conjunction with Parts B, C and D of the EFSG.

The EFSG details design and construction standards where they exceed or are in addition to the minimum standards set out in the National Construction Code (NCC). This document does not replace compliance requirements detailed in the National Construction Code, including the Building Code of Australia (BCA), Australian Standards and NATSPEC.



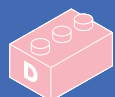
Design Vision & Objectives



Functional design brief



Design components & Data sheets



Technical standards



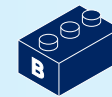
How to use the EFSG



Part A – design vision and objectives

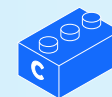
The design vision and objectives document defines high-level design expectations (visions) and measurable goals (objectives) and demonstrates how to achieve alignment with the educational requirements of school settings and the Government Architect's design principles for schools.

The intention of this document is to provide context that informs the wider EFSG design standards, identifying key priorities and criteria to support school design decision-making processes.



Part B – functional design brief

Part B provides Schedules of Accommodation for existing and new projects, providing projects with the number and type of facilities required for all settings, including all sizes of new high school, public school, SSP, Pre-school and Halls. Separate schedules of accommodation are also provided for existing school projects commencing an upgrade.



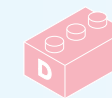
Part C – design components and data sheets

Part C includes a Pattern Book of standardised building components, including school, pre-school, hub and hall layouts.

As a direct response to stakeholder feedback, the Pattern Book is designed to complement the EFSG and clarify the technical standards with spatial layouts, building component details and standardised designs.

Part C provides links to Room Data Sheets for standardised learning spaces across school typologies (GLS's, SLU's, Core Facilities, specialist learning spaces, amenities, storage, services etc.)

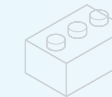
Part C provides links to the digital library of Autodesk Revit (.rvt) and OpenBIM IFC format (.ifc) models of building components for standardised learning hubs/spaces.



Part D – technical standards

Part D contains the design and technical requirements for building and maintaining school infrastructure assets.

Part D is a reformatted version of existing EFSG 2.0 technical standards into one single PDF. There has been no content update for EFSG 2025; however, substantial updates are planned, and a new Design and Technical Requirements document is under development. This update will provide better alignment to the wider EFSG and Pattern Book.



Design topics in development

As content continues to be developed, documents are shared here for consultation and stakeholder engagement, this allows for more innovative thinking to be tested, prior to being incorporated into Parts A, B C and D as endorsed design standards.

Documents contained here have not yet been approved as part of the EFSG. Documents identified as 'in development' should be treated as best practice and guidance. This content is subject to a governance process prior to being formally incorporated into the EFSG.

Related Documents

This document is to be read in conjunction with:

EFSG Part A: Design Vision & Objectives

EFSG Part B: Functional Design Brief

EFSG Part D: Technical Standards

Better Placed Design for Schools, GA NSW

National Construction Code (NCC)

Australian Standards

NATSPEC

Acronyms & Abbreviations

SINSW	School Infrastructure NSW	MPS	MultiPurpose Space
AMU	Asset Management Unit	ALU	Additional Learning Unit
SEPP	State Environmental Planning Policy	BoH	Back of House
NQF	National Quality Framework	FoH	Front of House
BCA	Building Code of Australia	DoE	Department of Education
NCC	National Construction Code	GLS	General Learnings Spaces
EFSG	Educational Facilities Standards and Guidelines	LC	Learning Commons
PS	Public School	OSHC	Out of School Hours Care
HS	High School	SLU	Supported Learning Unit
SSP	Schools for Specific Purposes	SoA	Schedule of Accommodation
DDA	Disability Discrimination Act	TS	Teaching Space
GLS	General Learning Space	WS	Workshop
COLA	Covered Outdoor Learning Area		

Refer to full list of Acronyms & Abbreviations

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This icon indicates that the page includes interactive features, clickable elements designed to enhance navigation and usability.

Click any of the text to navigate to the individual sections within each chapter

Click any of these buttons to jump directly to the related section in the document, as indicated on each button

Click any of these buttons to open the related external document, as described on the button

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1

Introduction

- 1.1 Overview
- 1.2 Flexibility within standardisation

1.1 Overview

Getting started

The School Infrastructure NSW Pattern Book builds upon the standardised approach to school designs by creating a minimum standard with repeatable design elements and components, which can be applied to new and upgrade schools.

The opportunities of standardisation, certainty and repeatable components supports equity within our schools. It enables the application of either traditional or modern methods of construction, and enables increased industry productivity and product innovation in the design and delivery of schools.

The school building designs in the Pattern Book are intentionally agnostic to structural material. This is to ensure industry can bring best practice and innovation to the design and construction of school infrastructure.

Stakeholder input

The Pattern Book was developed in collaboration with School Infrastructure Delivery, Planning, Cost Planning, Asset Management, Design and Infrastructure Standards, Digital Engineering and Sustainability. It also leveraged external expertise in cost planning, sustainability, building services, construction and buildability, manufacturing and architecture.

The efficacy of the Pattern Book was tested on a dozen projects to evaluate fit for purpose outcomes, and as such, it represents a culmination of effort from numerous external teams. It is the first step in providing a design benchmark and certainty for industry and stakeholders.

The purpose of the Pattern Book baseline model is to encourage industry, which includes consultants, construction contractors, manufacturers and education experts, to innovate in their approach to the design, manufacturing, assembly and construction of school infrastructure.

How to use the Pattern Book

The Pattern Book includes standardised templates for school building designs including the expandable Public and High Schools, COLAs, Halls and toilet amenities.

The Pattern Book is available in 2D PDF form and also as BIM models. Users of the Pattern Book can navigate through the book to review designs, understand components, refer to EFSG Design and Technical Requirements for more information on technical standards and performance criteria and also download building envelopes from the EFSG Autodesk Construction Cloud.

1.1 Overview



Master Planning with Pattern Book

One of the key benefits of having a standardised design approach to schools is the ability to have more time to thoughtfully master plan the site. As with any well-designed master plans, multiple issues must be considered and synthesised. This must occur in parallel with the process of applying the Pattern Book on any particular site. These issues include, in no particular order:

- Contextual and site related issues
- Environmental constraints and opportunities
- Placemaking and siting
- Entry arrival and built form
- Safety of children
- Opportunities with or potential impact on neighbouring properties, uses and future developments
- Transport and Parking
- School operation and opportunities for external use of school infrastructure
- Heritage
- Connecting with Country
- Inclusive Design

One item from the above list which deserves special attention is Connecting with Country.

Each school site is unique. There are over 70 different Aboriginal nations in NSW all with different natural and cultural systems. How the site relates to its context -its community, natural environment, built environment, and cultural setting -must inform every DoE project. Responding to the specific character and identity of a location will allow the school site to complement and care for Country and allow for deeper connection between Country and people. Understanding a school’s connection to Country can only be conducted with the active collaboration of local Aboriginal cultural knowledge holders and should not commence without their participation.

Refer to the NSW Government Architects: Connecting with Country document for the broad framework that outlines the Connecting with Country process and to Master planning & Landscape document when applying the Pattern Book.

NSW GA: Connecting with Country

Master Planning & Landscape



1.2 Flexibility within standardisation

Baseline Design Assumptions

The Pattern Book assumes a ‘baseline design’ which represents the majority of new school buildings that are constructed each year in NSW. These are mostly 3 storey schools in greenfield and regional areas. The Pattern Book illustrates this baseline model which assumes:

- Single glazing with fixed panes of glass and a fixed panel of louvres for natural ventilation
- A Deemed-to-Satisfy fire strategy
- A 4 degree mono-pitch roof with large eaves
- 3 x Façade types to respond to the street façade, side and walkway façades

All projects will have site specific requirements and to ensure there is sufficient flexibility in school building designs to respond to their context, the Pattern Book has fixed and flexible elements outlined in the summary table below.

All colour and material choices must comply with reflectivity requirements.

Element	Fixed Criteria	Flexible Criteria
Glazing	Single glazing Min: 8.2m ² to achieve daylight requirements (Applies to GLS only) Max: Approx. 8.8m ² for Section J thermal requirements (Applies to GLS only)	Glazing area may increase by adopting double glazing for site with specific environmental conditions such as bush fire, extreme climate zone Areas for specialist spaces to be derived from area of rooms in association with the ESD consultant on a project basis
Fixed louvre for natural ventilation	Min 4.3m ² to achieve 6.25% of room area ventilated area to be confirmed by project teams (Applies to GLS only) Insulated door panel behind to achieve performance criteria equivalent to external wall Glass louvres not permitted due to maintenance issues	Fixed louvre area may increase to suit site specific environmental conditions Colour and material choices
Mechanical louvre	Mechanical louvres above low ceiling zones based on the adopted mechanical system	Mechanical louvre area may be adjusted to suit site specific environmental conditions Colour and material choices Extent for specialist spaces to be derived from area of rooms in association with the mechanical consultant on a project basis
Cladding	Robust, economical and locally sourced	Colour and material choices

Table continues next page



1.2 Flexibility within standardisation

Element	Fixed Criteria	Flexible Criteria
Spandrel	Comply with NCC DTS fire separation of opening requirements 700mm high fire rated wall + 200mm slab to achieve overall 900mm Preferred finish of the façade to be CFC for robust performance	Project team may adjust sill height to comply with NCC based on structural slab thickness (minimum 600mm above FFL as per the NCC). Fire rated material and finish Compressed fibre cement sheet as final finish is preferred as the base case Other materials and colour may be considered provided it is compliant with budget and robustness
Framing element	To be incorporated to give depth and articulation to the façade	Flexibility subject to budget. Project team may adjust the depth, width, proportion, and arrangement Opportunity to adjust extent in conjunction with sun shading elements if required Colour and material choices
Plinth	Building to sit on a solid plinth to allow for mowing / landscape zone to abut building base. Recommended configuration: For 3 storeys building – 3 storeys of framed façade on a concrete or masonry plinth to manage topography change. For 4 storeys or above – Project team may consider extending plinth up to the first level	Material to provide a grounding to the building and robust construction. Colour and Material choices. The height of the base material relative to the overall height of the building

Element	Fixed Criteria	Flexible Criteria
Sun Shading	To be applied to façades to achieve ESD requirements for various building orientations 15 degree slope for horizontal shading elements to prevent bird roosting.	Colour and material choices Arrangement Depth of elements relative to orientation
Roof	4 degree single pitched roof falling towards street side Roof to cantilever over the walkway at courtyard side Downpipes not permitted on walkway side due to climb-ability issues Walkway side to have appropriate protection from rain at the top floor of the building to a height of 2750mm Depth of roof profile to be in accordance with Manufacturers requirements for roof length – nominal Klip-Lok or similar	Colour of roof (to be determined in accordance with appropriate SRI values) Colour of soffit
Core	Location and size as appropriate to the expansion strategy and scale of building To incorporate toilets, BCR, cleaners room, EDB and mechanical services	Material and colour of cladding Scale of core is subject to services strategy for the school
Walkway - Cantilevered	Minimum 2100mm clear width (plus an allowance for tolerance) Coved finish to concrete floor.	Safety tensile mesh add-on Glass enclosure add-on

Table continues next page

1.2 Flexibility within standardisation

Element	Fixed Criteria	Flexible Criteria
Balustrades	1300mm high (plus an allowance for tolerance) modular face fixed Galvanised steel panels.	Perforated panel add-on Solid panel add-on
Additional Screening	To be applied to serve a variety of functional and environmental purposes to ensure each school design responds to site specific conditions such as privacy, overlooking, sun/ heat control, security, weather protection, acoustic buffering, regulatory compliance and the like.	- Material and extent to suit site specific - Environmental conditions (Flexibility subject to budget) - Colour choices - Arrangement
Stair	Minimum 2100mm clear width stair Double handrails to both sides of stair Full height perforated screen balustrade to perimeter Location of the stair to minimize blocking of light into the teaching spaces along the corridor	Colour of material Location and orientation of the stair may vary to suit project specific master planning constraints Stair cladding material to take into account durability and location such as marine environments
Artwork	The current Indigenous Artwork shown within this document was done by Suzanna one of the students featured in DoE's Reconciliation Action Plan. Any Artwork shown within the Pattern book is not prescriptive and does not dictate Connecting With Country design requirements, neither does it replace the consultation process and knowledge holder engagement to understanding of Country. The Pattern book provides opportunities and flexibility for integration of Connecting With Country in various ways.	

Element	Fixed Criteria	Flexible Criteria
Colour	A neutral interior colour palette is to be used for finishes-refer to Hub Layout and RDS for standardised interior design. Exterior colour schemes should respond to site and project specifics, as well as local community values	School colour selection is flexible and inspired by the uniqueness of each specific project; the culture, place, values and vision that underpin every school community.
Furniture	The furniture selection is based on the specific requirements of each stage and the different learning environments..	Range of modular, mobile and adaptable furniture are available to promote flexible environments and to accommodates diverse pedagogical styles. Refer to the Furniture Section for GLS hub furniture package options.
Lift	Location as appropriate to the expansion strategy. One lift per 14 bays of building located centrally within the length of the walkway side, subject to connection between buildings. Location of the lift to minimize blocking of light into the teaching spaces For urban schools, the number and placement of lifts should be assessed by the project team to suits specific project requirements.	Material and colour of lift shaft



2

Interior

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2.1 Overview



Interior Design components have been included in this section to inform the spatial arrangement, operability and general aesthetics of a typical General Learning Space.

Colour selections are to be project specific, informed by nature and the local context and taking into account requirements such as reflectivity. The colour scheme should be adapted where required for specialist spaces.



Floor Finishes

Ceiling Finishes

Sliding Doors

Joinery

Furniture

Colour and Materiality

2.2 Floor finishes

Layout Design Intent

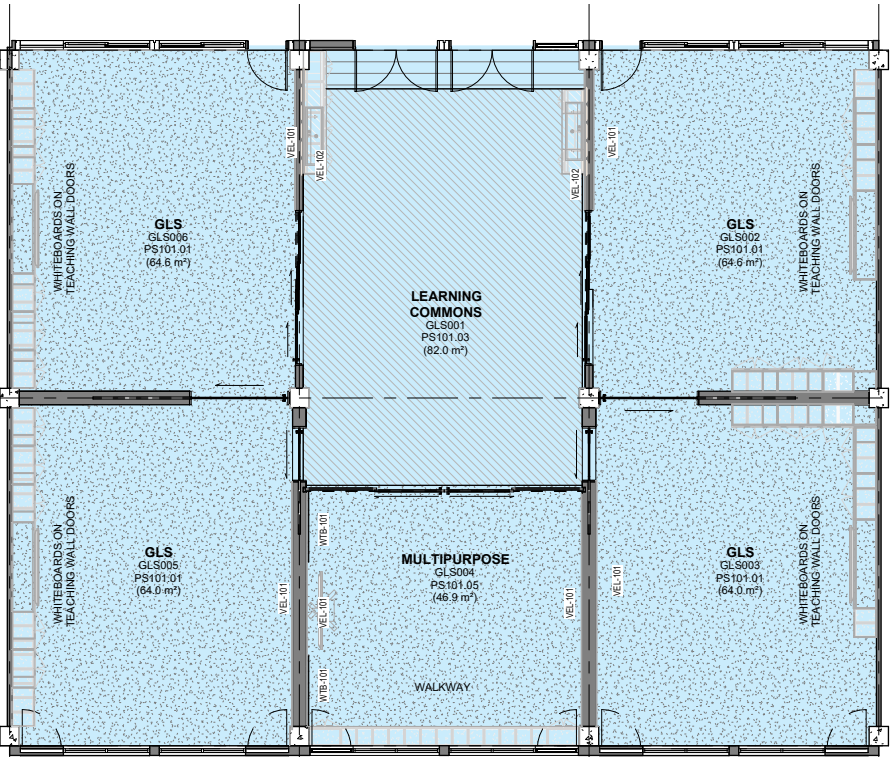
The typical GLS hub features 4 GLS plus an extended flexible space that can be used as a reduced size GLS or Multi Purpose Space.

Floor Finish Design Intent

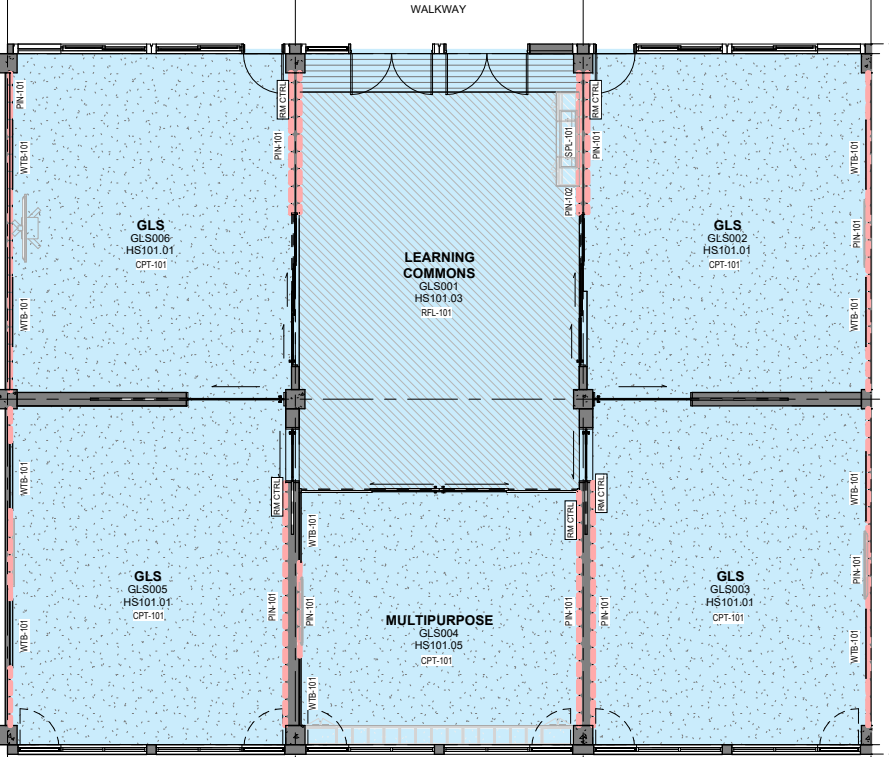
Floor finishes are to be robust, hard wearing, meet acoustic requirements and be cost effective.

Carpet is used throughout all learning spaces with a vinyl floor in the Learning Commons.

Public School layout



High School layout



2.3 Ceiling finishes

Design intent

Ceilings are selected to be cost effective, feature uncut tiles to reduce wastage, meet acoustic requirements and provide an easy maintenance access to the ceiling void.

Tiled ceiling areas

Generally 2750mm ceiling height to allow for tolerance to achieve minimum 2700 clear.

- Set plasterboard ceiling edge surround
- Ceiling tile 1200 x 600mm

High ceiling areas

Acoustic Panel at 3400mm

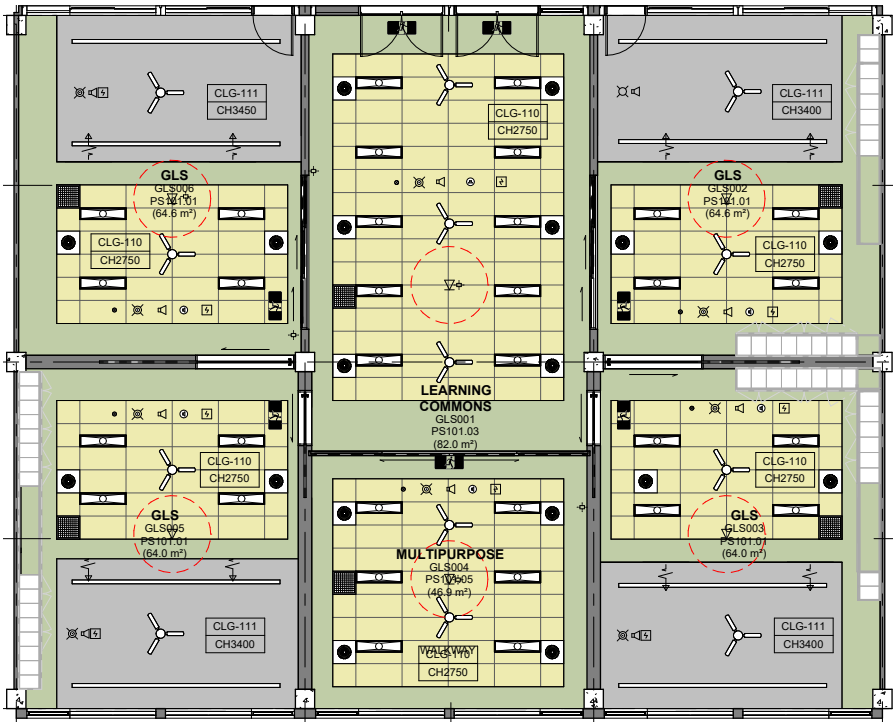
Extent of high ceiling zone subject to mechanical services layout (refer to Type 1 and 2 in Mechanical Strategy Section 3.3) and to be refined by project team based on ceiling service spatial requirement.

Layout Type 1 - Centralised fan coil units

Note: Hub Layout and RDS covered in this release refer to this type of mechanical strategy, which allows for additional ceiling height and the potential for high-level glazing to GLSs.

Layout Type 2 - Facade-aligned fan coils units

Note: This strategy has currently not been documented. In summary, it requires lower ceiling heights along the perimeter of the building with potential for higher ceilings to the central part of hub-project teams are responsible to coordinate with services engineers.



Layout above refers to Mechanical Strategy Type 1-Centralised Fan Coil Units (refer Section 3.3)

2.4 Sliding doors

Sliding doors design intent

Glazed sliding doors enable flexible learning configurations and create a sense of hub connectivity.

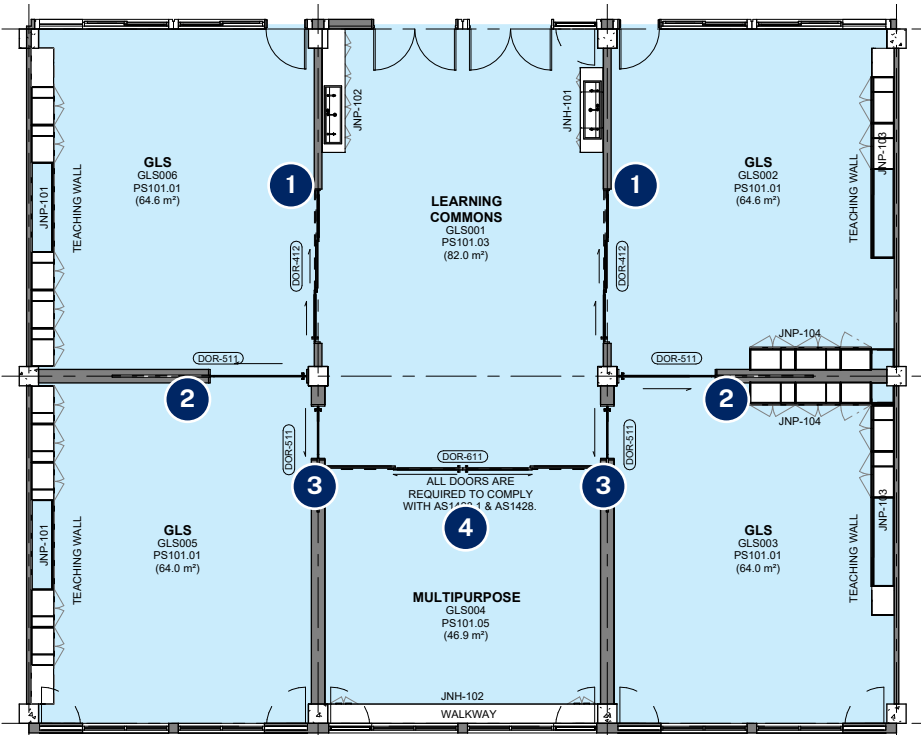
Doors are designed to balance clear width, cost effective design and minimise heavy weights for operability.

There are 4 types of sliding doors:

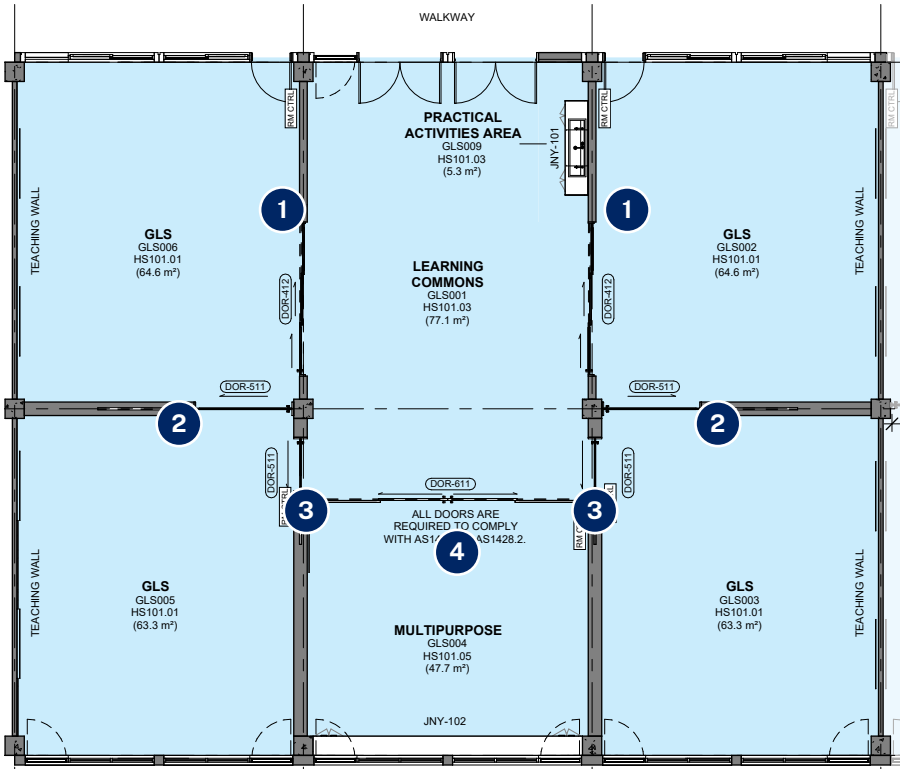
- Type 1 - GLS Entry Large Door
- Type 2 - Inter-GLS Door
- Type 3 - GLS Entry Small Door
- Type 4 - Multipurpose Space Door

Joinery in diagram shown indicatively, refer to PS and HS design intent (Section 5.4)

Typical PS and HS GLS Hub layout



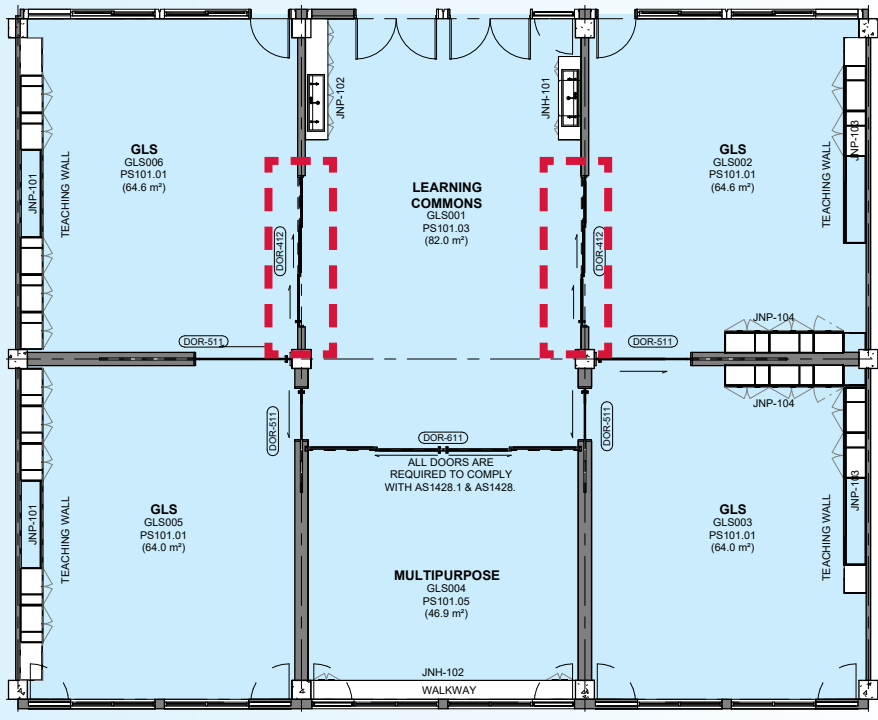
HS GLS and Specialist Hub layouts



2.4 Sliding Doors

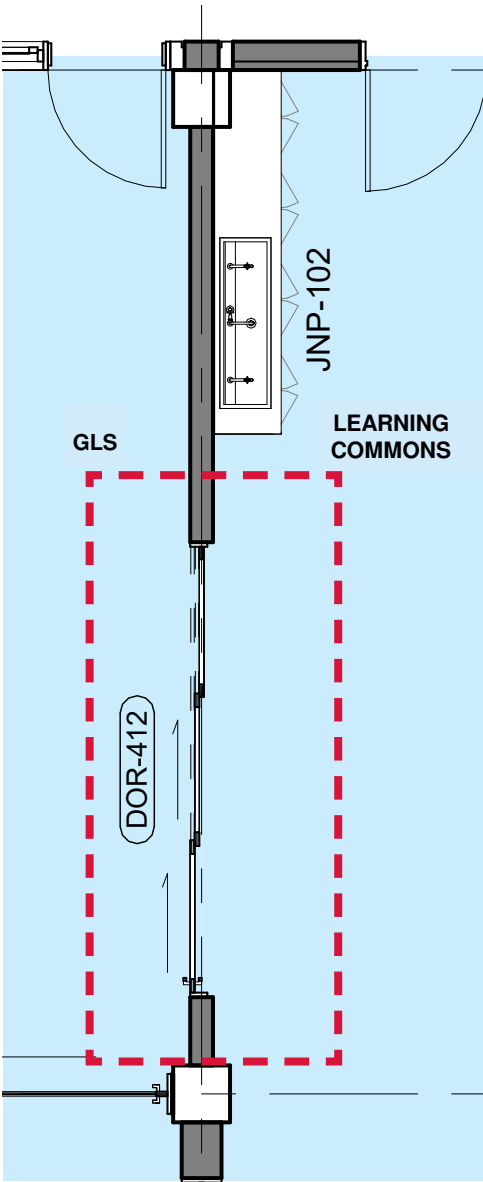
Type 1: GLS entry large sliding door

Key plan

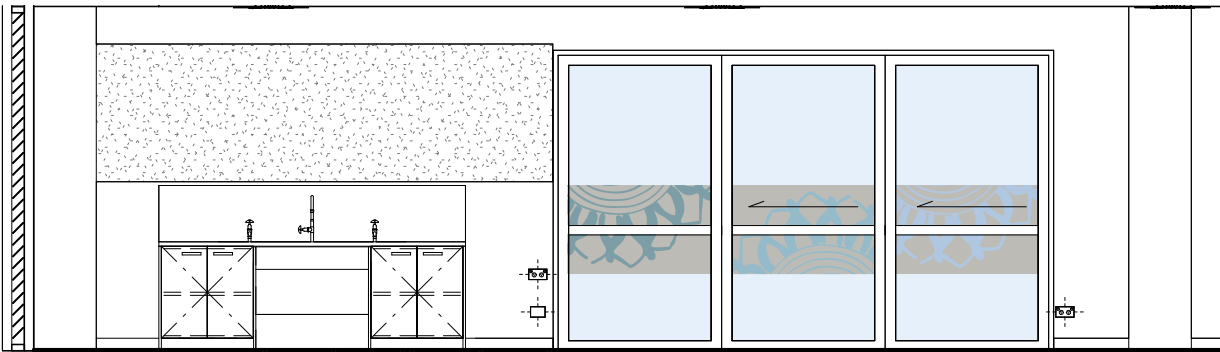


- 3 panels (two sliding parking in front of one fixed)
- Comply with AS1428
- Door to achieve Rw39 acoustic rating
- Opportunity for Connecting With Country or school specific art decal to dimensions shown to provide privacy and visual contrast requirements
- All glazed sliding doors to close with reduced speed using a damping system.

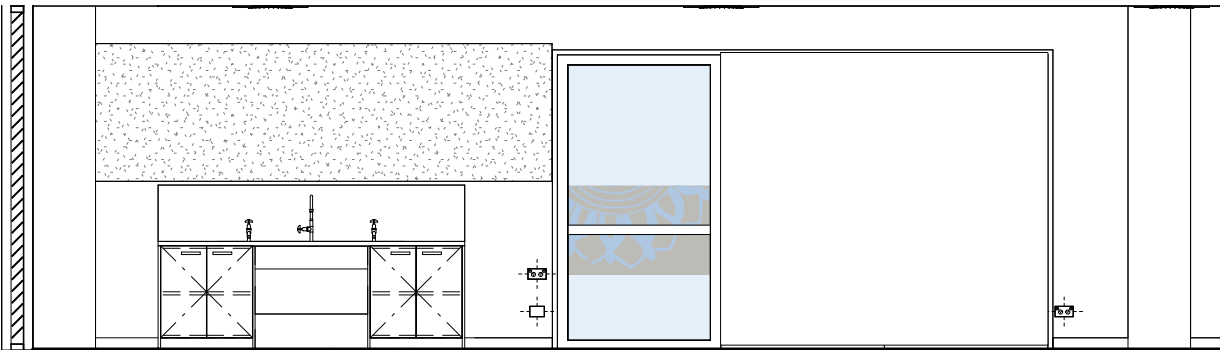
Plan



Elevation - door closed



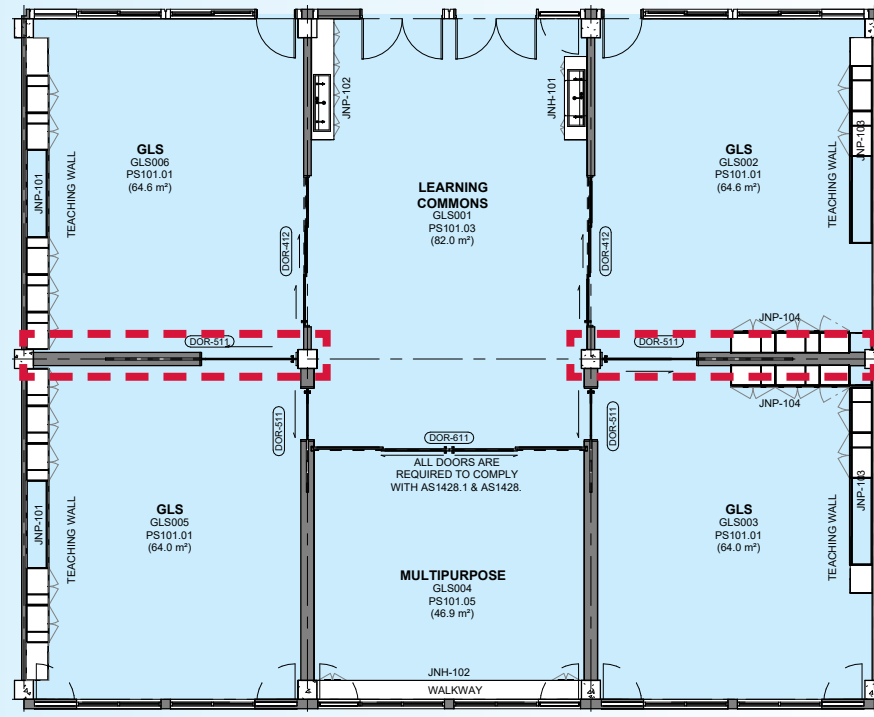
Elevation - door opened



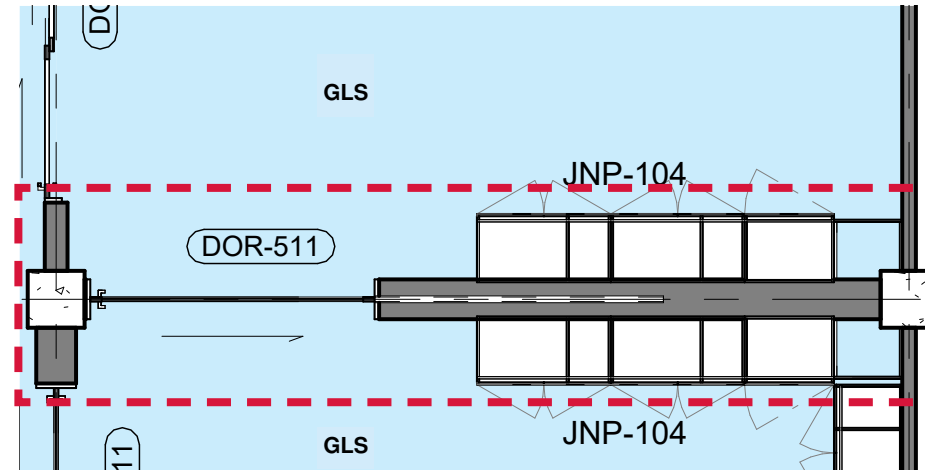
2.4 Sliding doors

Type 2: Inter-GLS sliding door

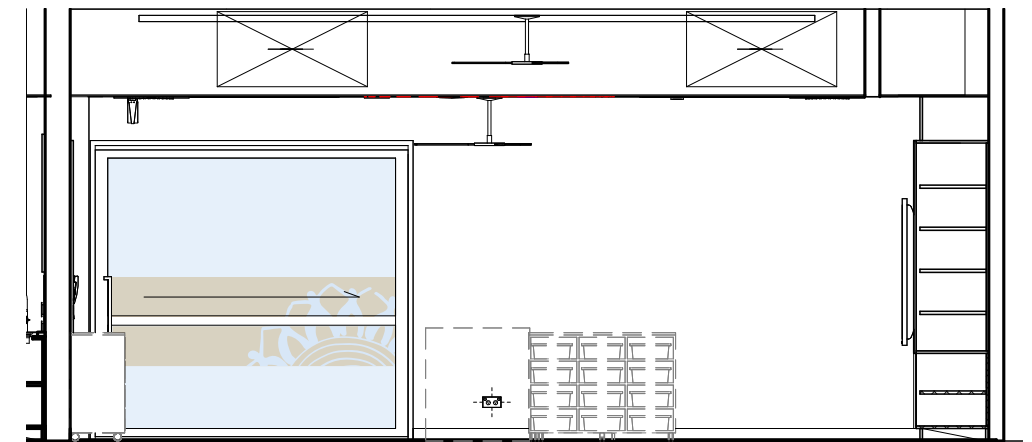
Key plan



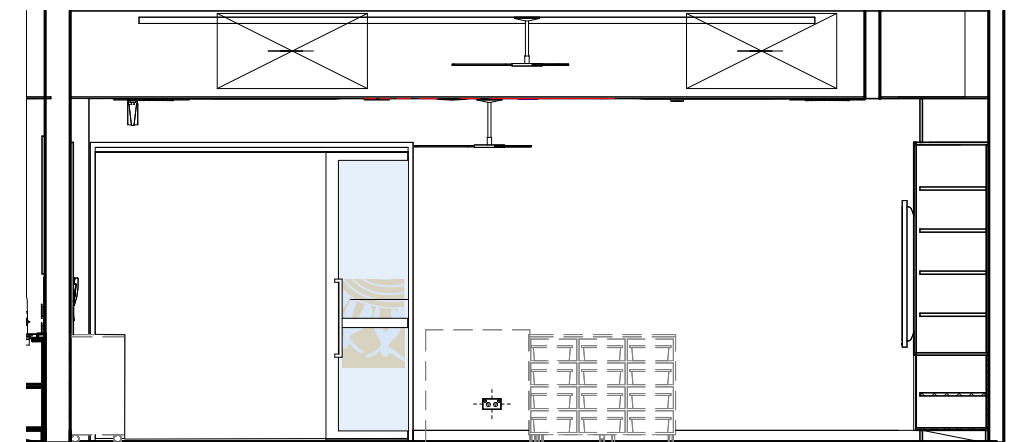
Plan



Elevation - door closed



Elevation - door opened

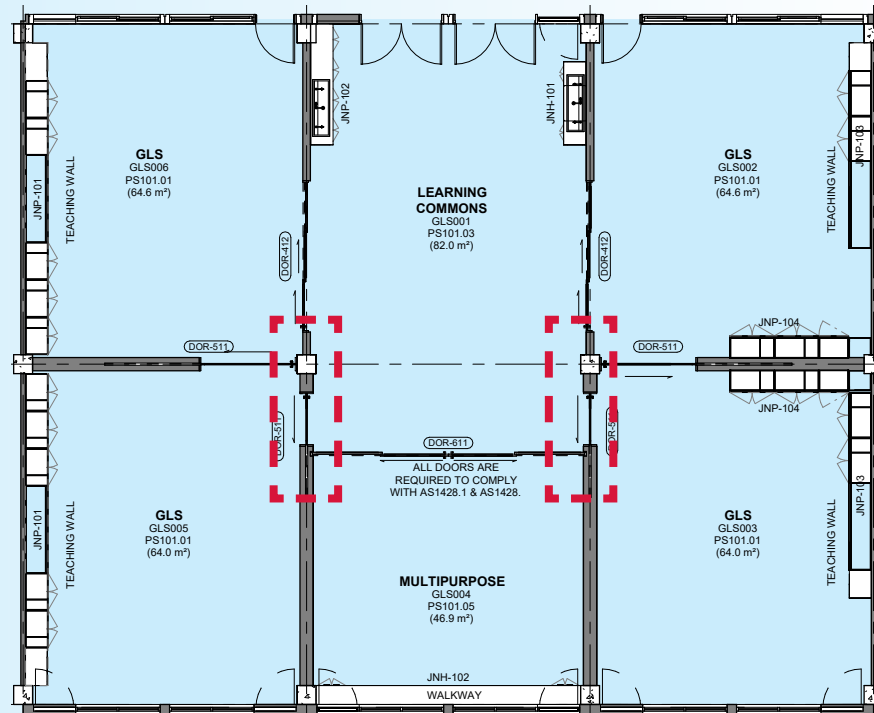


- Secondary access between GLS, not considered as main room access therefore AS1428 latch side clearance not required
- Door to achieve Rw35 acoustic rating
- One panel sliding into plasterboard cavity
- Opportunity for Connecting With Country or school specific art decal to dimensions shown to provide privacy and visual contrast requirements
- All glazed sliding doors to close with reduced speed using a damping system.

2.4 Sliding doors

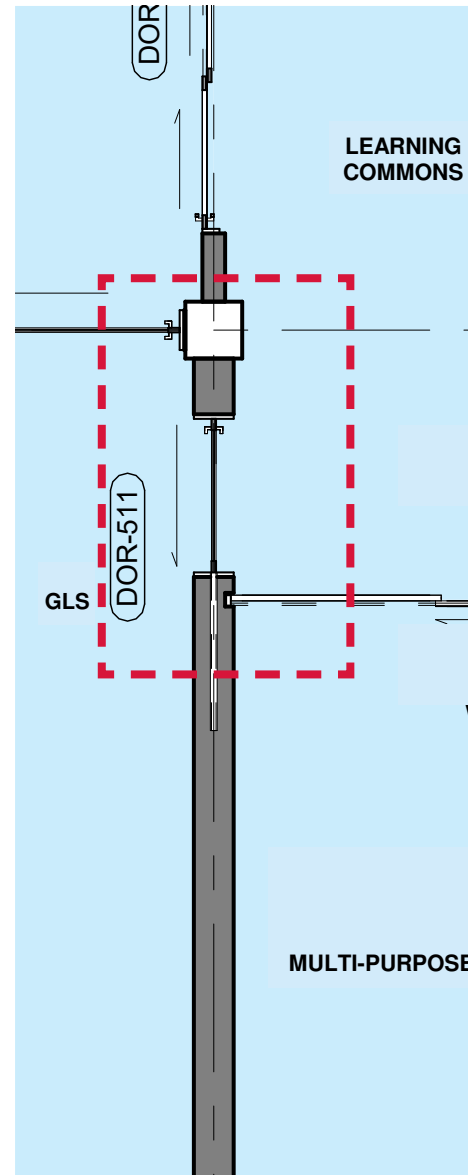
Type 3: GLS entry small sliding door

Key plan

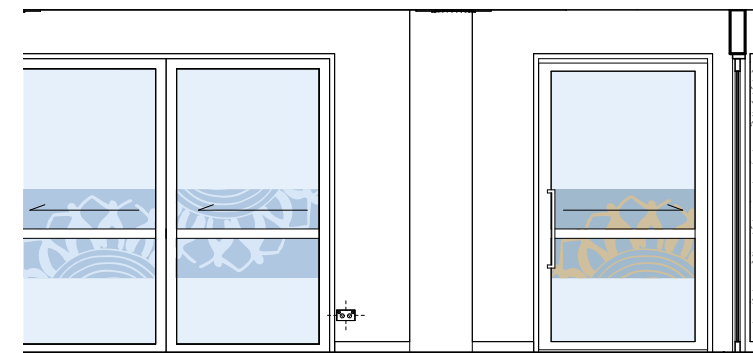


- 1 panel sliding into plasterboard cavity
- Comply with AS1428
- Door to achieve Rw39 acoustic rating
- Opportunity for Connecting With Country or school specific art decal to dimensions shown to provide privacy and visual contrast requirements
- All glazed sliding doors to close with reduced speed using a damping system.

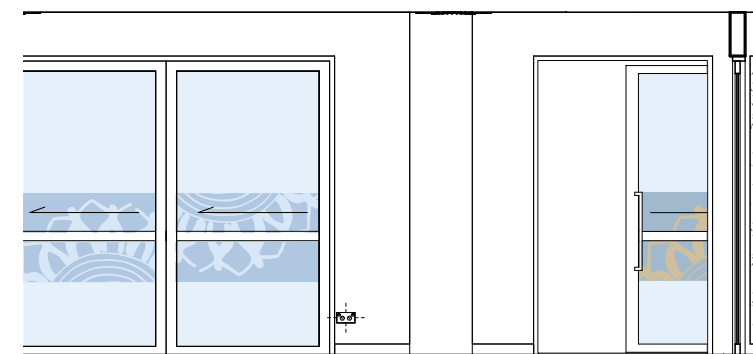
Plan



Elevation - door closed



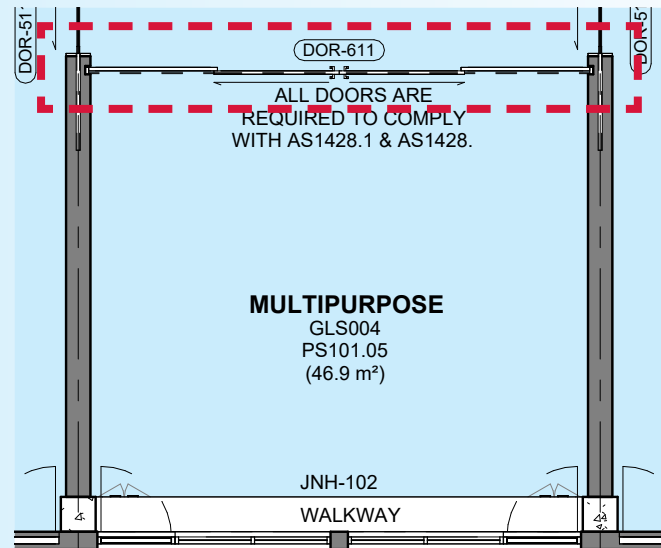
Elevation - door opened



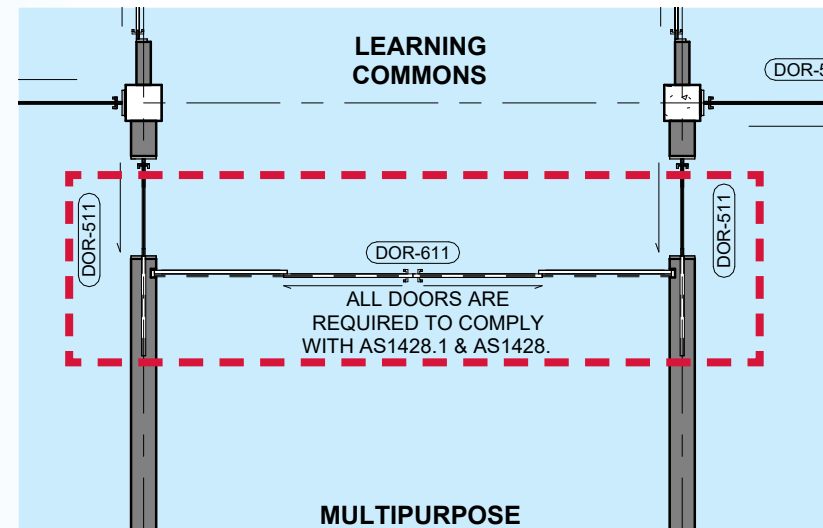
2.4 Sliding doors

Type 4: Multipurpose sliding door

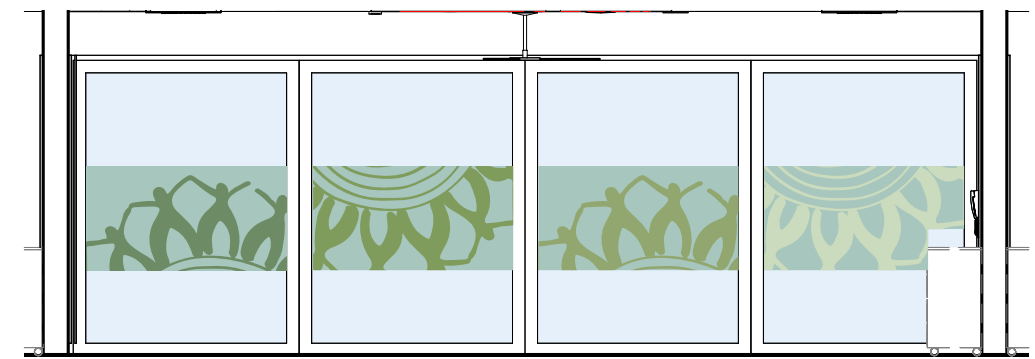
Key plan



Plan

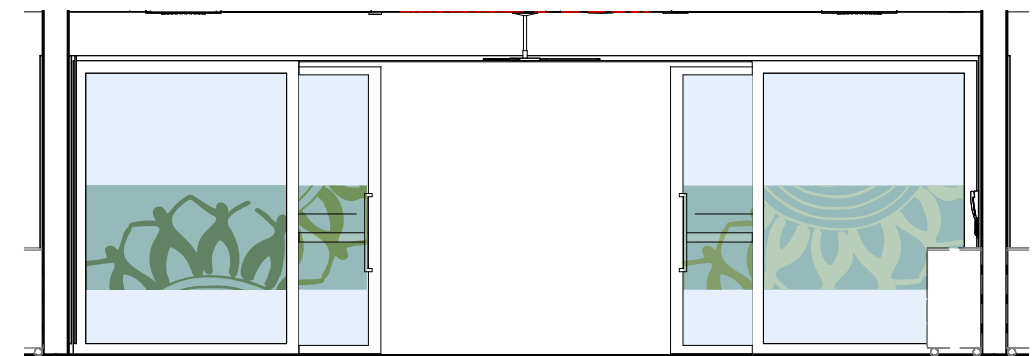


Elevation - door closed



- 4 panels (centre opening sliding onto fixed panels either side)
- Comply with AS1428
- Door to achieve Rw39 acoustic rating
- Opportunity for Connecting With Country or school specific art decal to dimensions shown to provide privacy and visual contrast requirements
- All glazed sliding doors to close with reduced speed using a damping system.

Elevation - door opened



2.5 Joinery

Joinery Design Intent

This section describes the general joinery location strategy. Refer to Hub Layout Sheets for detailed joinery and FFE requirements for each room.

Generally, joinery is to be located in areas away from high ceiling zones to be full height to avoid cleaning and hiding issues above.

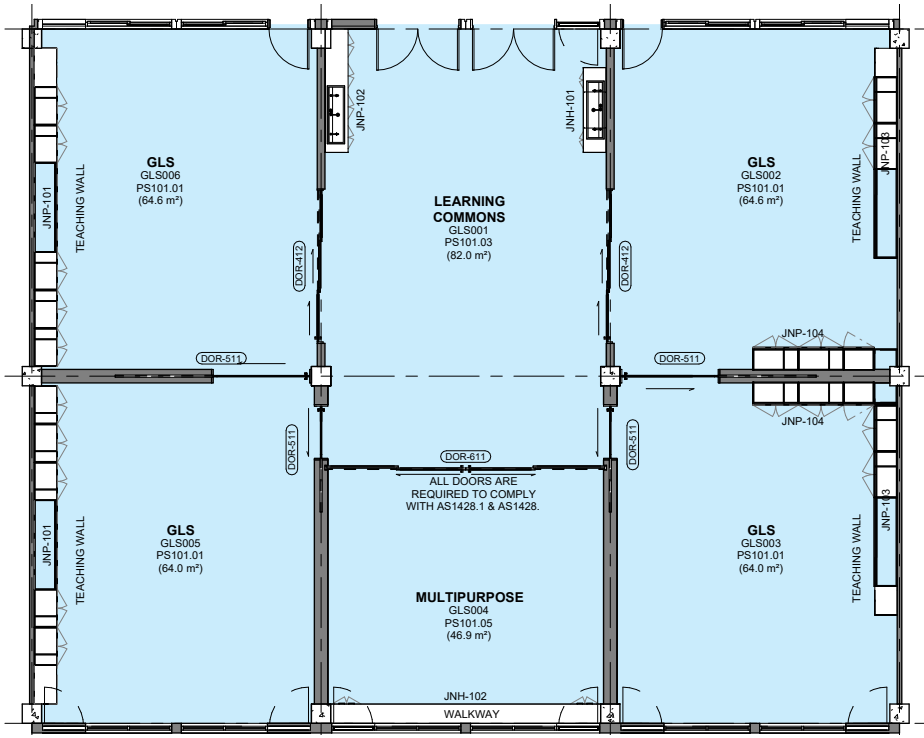
Learning Commons

- 1200mm - 1500mm clear zone at entry. This allows full opening of ventilation door on the facade.
- In Public Schools where two sink troughs are required (PAA), joinery to be placed on both sides and set back from the entry zone.
- In High School where one PAA is required, locate the joinery on the opposite side of the ventilation door.

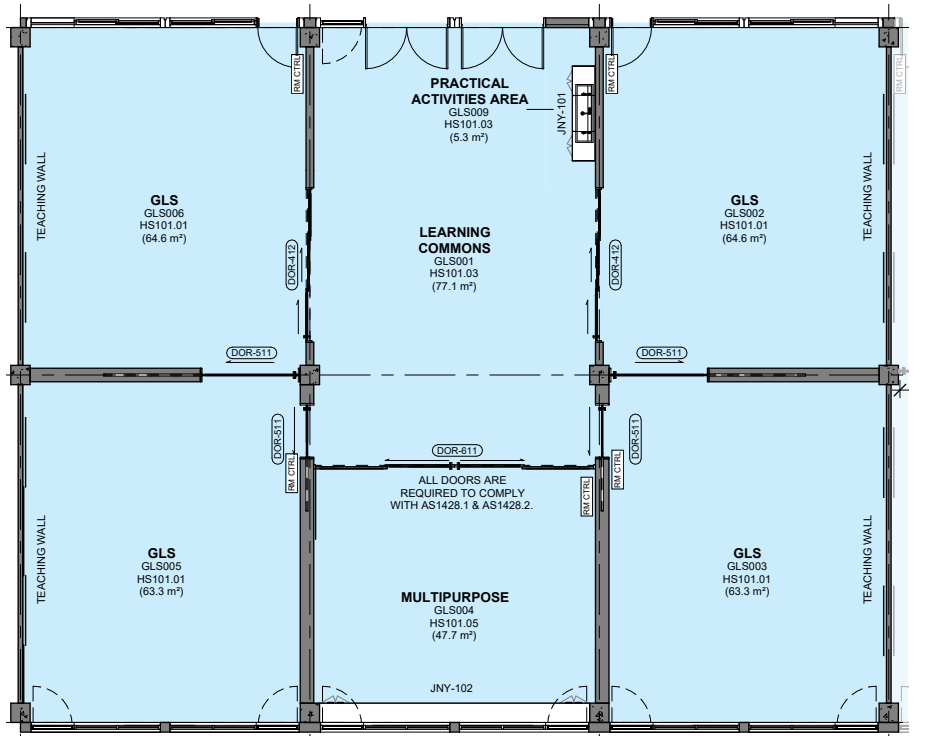
GLS/Multipurpose Space

Joinery to be located under window along facade to allow for wide contiguous room space.

Public School Layout



High School Layout



2.6 Furniture

Design intent for furniture arrangement

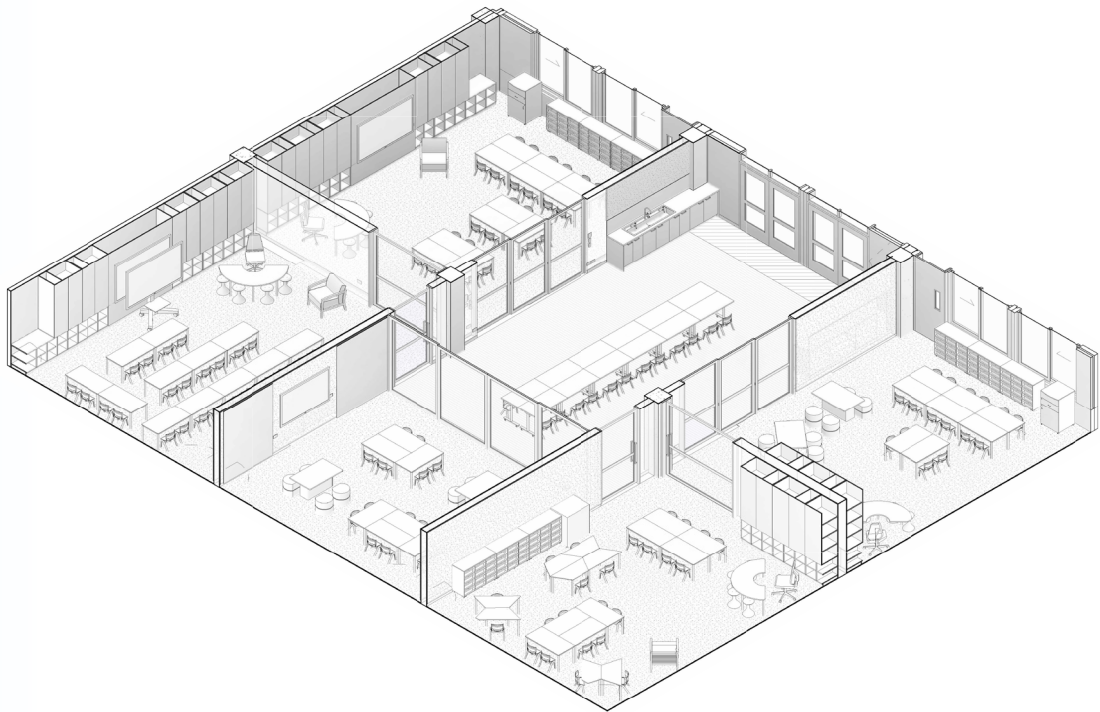
This section describes the general strategy for loose furniture layouts and flexibility of arrangements in the General Learning Space (GLS) hubs for both public school and high school.

The appropriate selection of furniture in learning environments plays a crucial role in promoting flexibility and accommodating diverse pedagogical styles. It enables educators to create flexible environments that cater to the diverse needs of all students and creates a more responsive and dynamic educational setting.

Modular, mobile and adaptable furniture allows spaces to be easily reconfigured to support a range of teaching methods - from explicit instruction and group collaboration to independent learning. By enabling flexibility between layouts, furniture can enhance student engagement and improved learning outcomes. Educators can take advantage of the flexibility to design activities that are inclusive, engaging, authentic and connected.

To accommodate variety in teaching practices between schools, the following pages provide optional furniture layouts for each of the different stages. The furniture types have been selected based on the specific requirements of each stage. For examples, lower seating and activity tables are included within the Learning Commons (LC) of Kindergarten – Year 2 for group practical activities. While for Years 7-10, there are options for high tables supporting collaborative work or options of individual desks for independent work.

Furniture Supporting Various Pedagogy Learning Modes



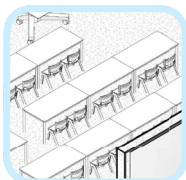
Discussion

Talk about and share ideas



Collaboration

Learning with others



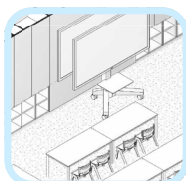
Explicit

Learn from an expert



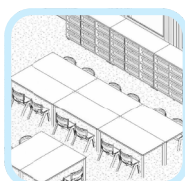
Feedback & Reflection

Learn about my learning



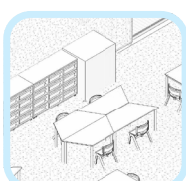
Demonstration

Present Learning



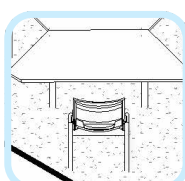
Guided

Learn with an expert



Experiential

Make, explore & investigate



Independent

Learn by myself

	Stages	Years	Subject	Max. Students Occupancy	
Public School (K-6) Ages: 5-11 Years	Early Stage 1	Pre K	General Learning Spaces	20	Always set up for max. of 30 desks
	Early Stage 1	Kindy	General Learning Spaces	20	
	Stage 1	Year 1	General Learning Spaces	22	
		Year 2	General Learning Spaces	24	
	Stage 2	Year 3-4	General Learning Spaces	24	
	Stage 3	Year 5-6	General Learning Spaces	30	
High School (7-12) Ages: 12-18 Years	Stage 4-5	Year 7-10	General Learning Spaces	30	
			Technology (Mandatory in Year 7-8)	22	
			Design & Technology	22	
			Industrial Technology, Agriculture & Visual Arts	20	
			Food Technology & Textile Technology	24	
	Stage 6	Year 11-12	General Learning Spaces	24	
SLU/SSP 5-18 Years	SLU	K-12	General Learning Spaces	18	
	SSP-IS/IO/P	K-12	General Learning Spaces	7	
	SSP-ED/BD	K-12	General Learning Spaces	7	

2.6 Furniture

Early stage 1 and stage 1(K - Year 2)

Option 1 Furniture Pack

Key features:

- Linear table options including trapezoidal shapes that tessellate well with rectangular tables
- Wide activity table options with stationary storage below within LC to allow for accessories
- Low height chairs suitable for age group
- Consideration of open floor area
- Additional jelly bean setup option for one-on-one sessions with teacher
- Foldable tables within MPS to support flexibility
- Teacher’s chair and desk arrangement

Student occupancy numbers

As per layout shown

GLS-24	LC-24	GLS-24
GLS-24	MPS-22	GLS-24

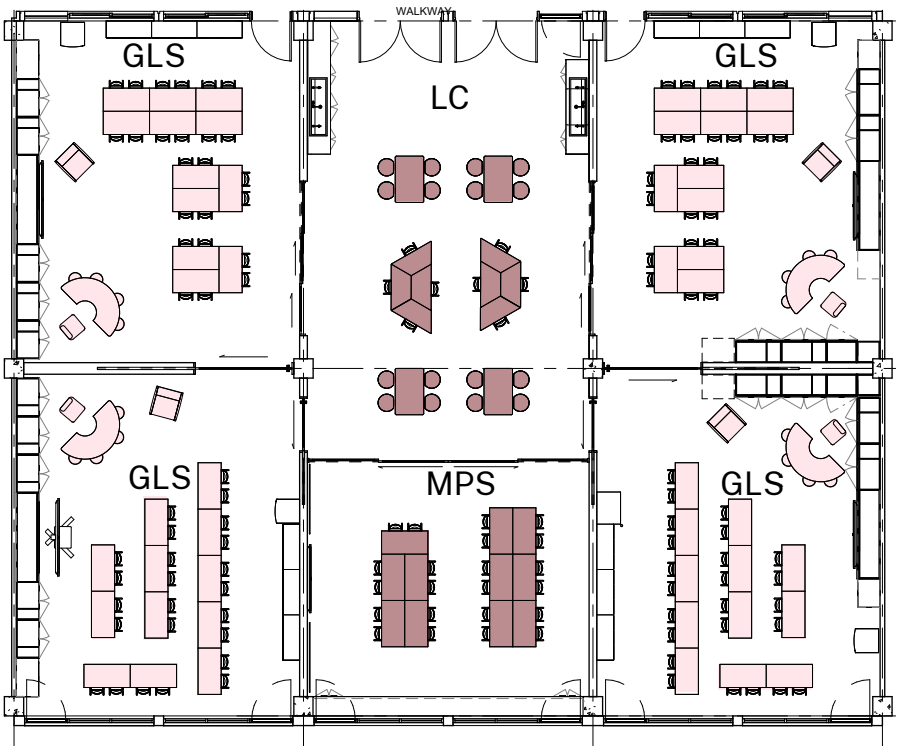
GLS- General Learning Space

LC- Learning Commons

MPS- Multi Purpose Space

Option 1 - Configuration A

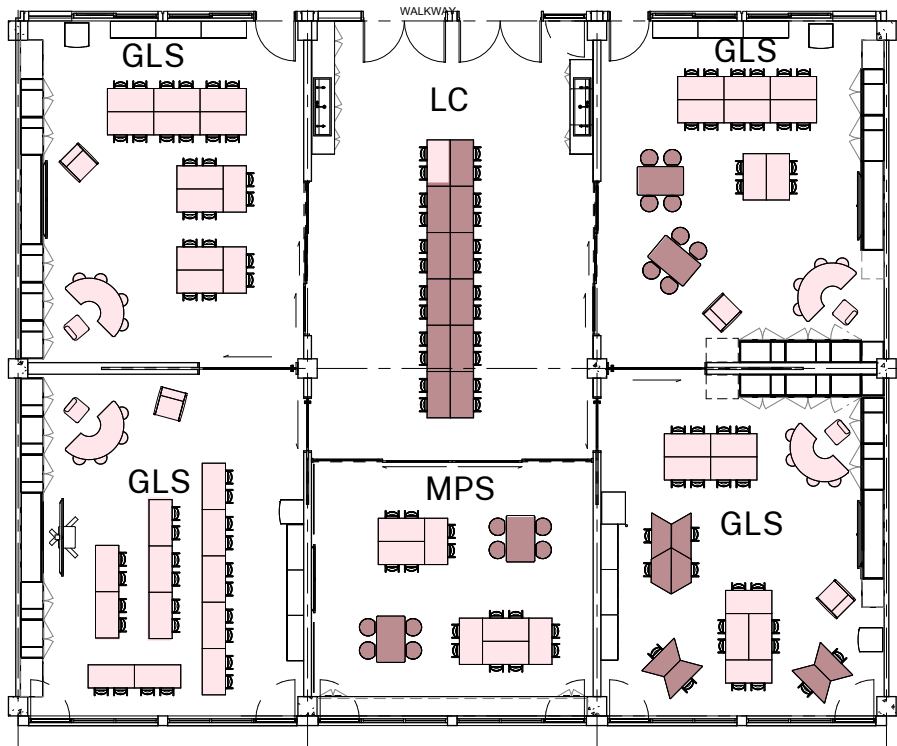
Shows setup of the standard furniture package in GLS & optional furniture in LC /MPS



- GLS Furniture Pack (standard)
- LC / MPS Furniture Pack (optional to choose)

Option 1 - Configuration B

Shows optional setup of the same furniture selection mixed throughout the hub



2.6 Furniture

Early Stage 1 and Stage 1 (K - Year 2)

Option 2 Furniture Pack

Key features:

- Curved and round table options to provide variety from regular GLS tables
- Wide activity table options with stationary storage below within LC to allow for accessories
- Low height chairs suitable for age group
- Consideration of open floor area
- Additional jelly bean setup option for one-on-one sessions with teacher
- Foldable tables within MPS to support flexibility
- Teacher’s chair and desk arrangement

Student occupancy numbers

As per layout shown

GLS-24	LC-24	GLS-24
GLS-24	MPS-18	GLS-24

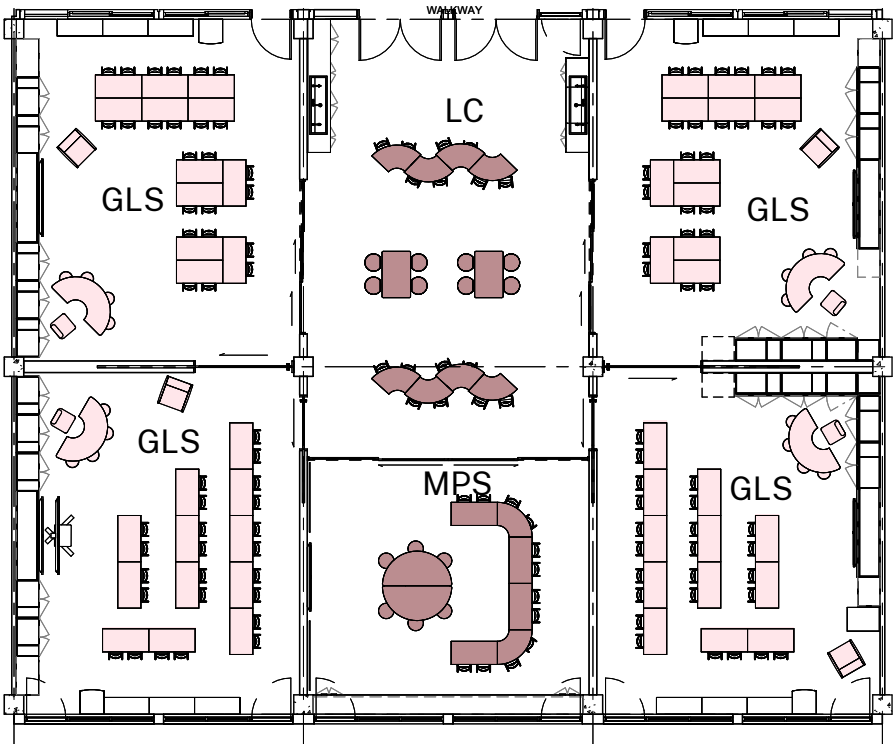
GLS-General Learning Space

LC-Learning Commons

MPS-Multi Purpose Space

Option 1 - Configuration A

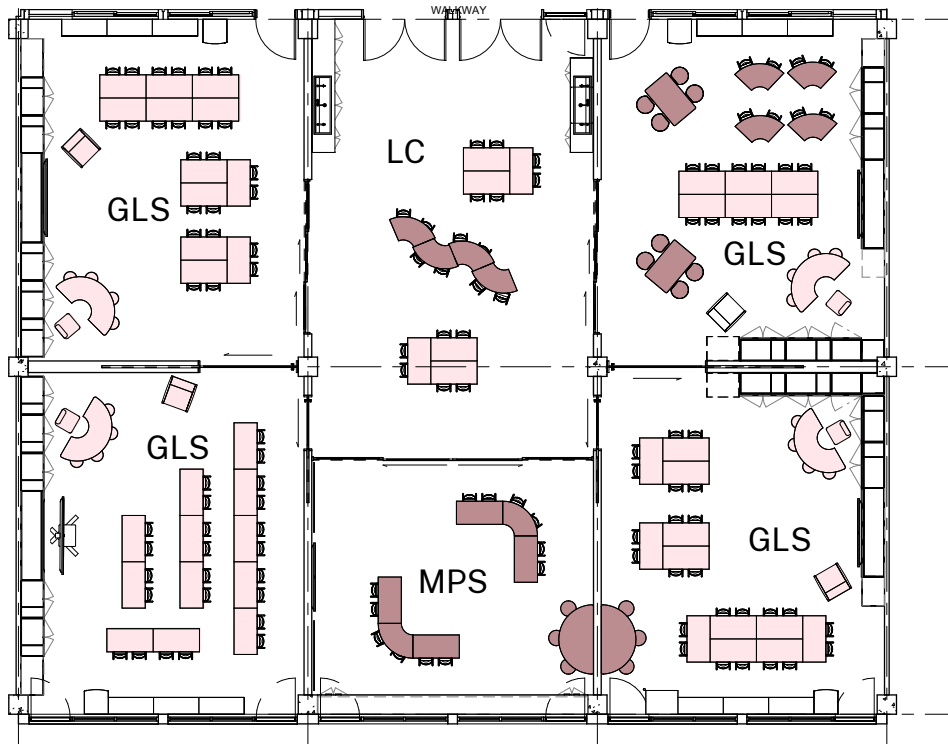
Shows setup of the standard furniture package in GLS & optional furniture in LC /MPS



- GLS Furniture Pack (standard)
- LC / MPS Furniture Pack (optional to choose)

Option 1 - Configuration B

Shows optional setup of the same furniture selection mixed throughout the hub



2.6 Furniture

Stages 2 and 3 (Year 3 - 6)

Option 1 Furniture Pack

Key features:

- Linear table options including trapezoidal shapes that tessellate into different configurations
- Long activity table options within LC to support collaborative settings
- Seating suitable for age group
- Height adjustable tables to suit range of heights within group
- Consideration of open floor area
- Additional jelly bean setup option for one-on-one sessions with teacher
- Foldable tables within MPS to support flexibility
- Teacher's chair and desk arrangement

Student occupancy numbers

As per layout shown

GLS-30	LC-30	GLS-30
GLS-30	MPS-22	GLS-30

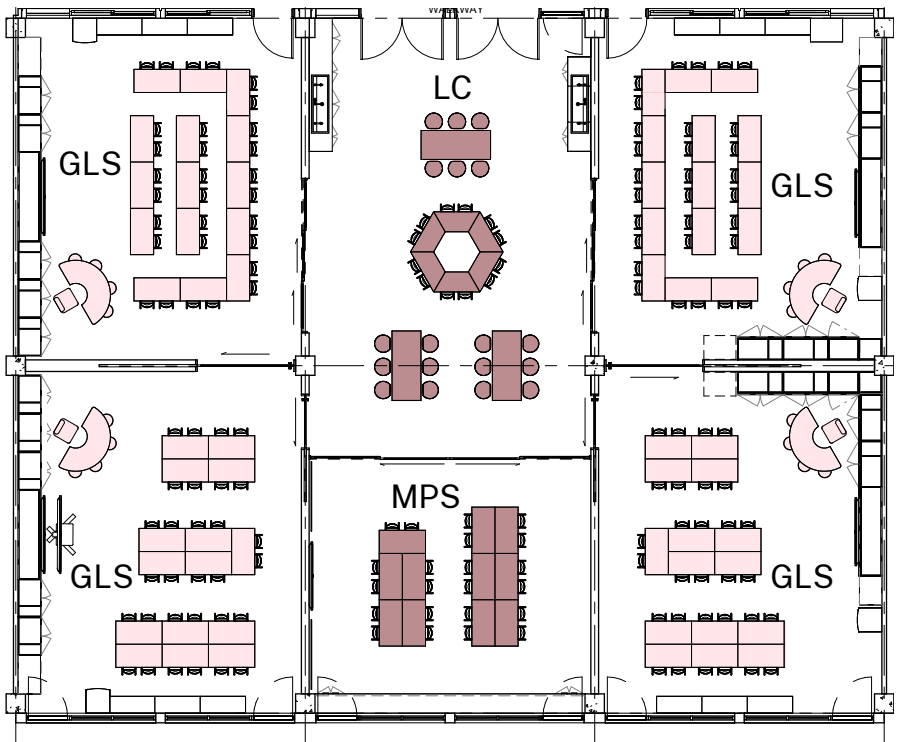
GLS-General Learning Space

LC-Learning Commons

MPS-Multi Purpose Space

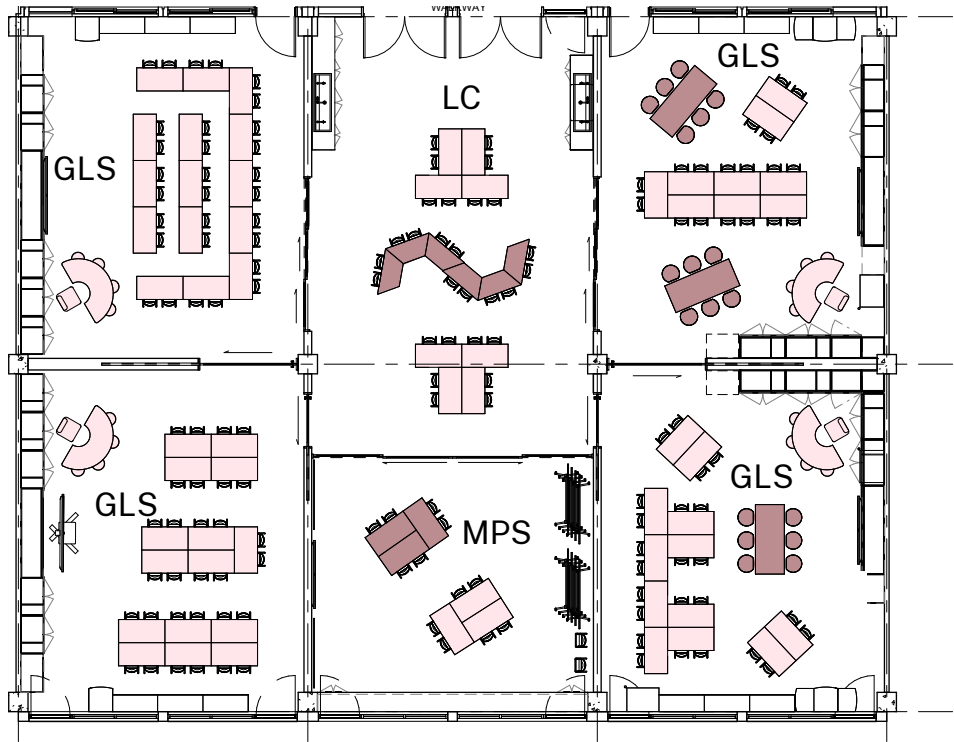
Option 1 - Configuration A

Shows setup of the standard furniture package in GLS & optional furniture in LC /MPS



Option 1 - Configuration B

Shows optional setup of the same furniture selection mixed throughout the hub



- GLS Furniture Pack (standard)
- LC / MPS Furniture Pack (optional to choose)

2.6 Furniture

Stages 2 and 3 (Year 3 - 6)

Option 2 Furniture Pack

Key features:

- Curved table options that tessellate with regular GLS tables
- Complimentary crescent table shapes for single or 2 person use
- Seating suitable for age group
- Height adjustable tables within GLS to suit range of heights within group
- Consideration of open floor area
- Additional jelly bean setup option for one-on-one sessions with teacher
- Foldable tables within MPS to support flexibility
- Teacher’s chair and desk arrangement

Student occupancy numbers

As per layout shown

GLS-30	LC-24	GLS-30
GLS-30	MPS 18-20	GLS-30

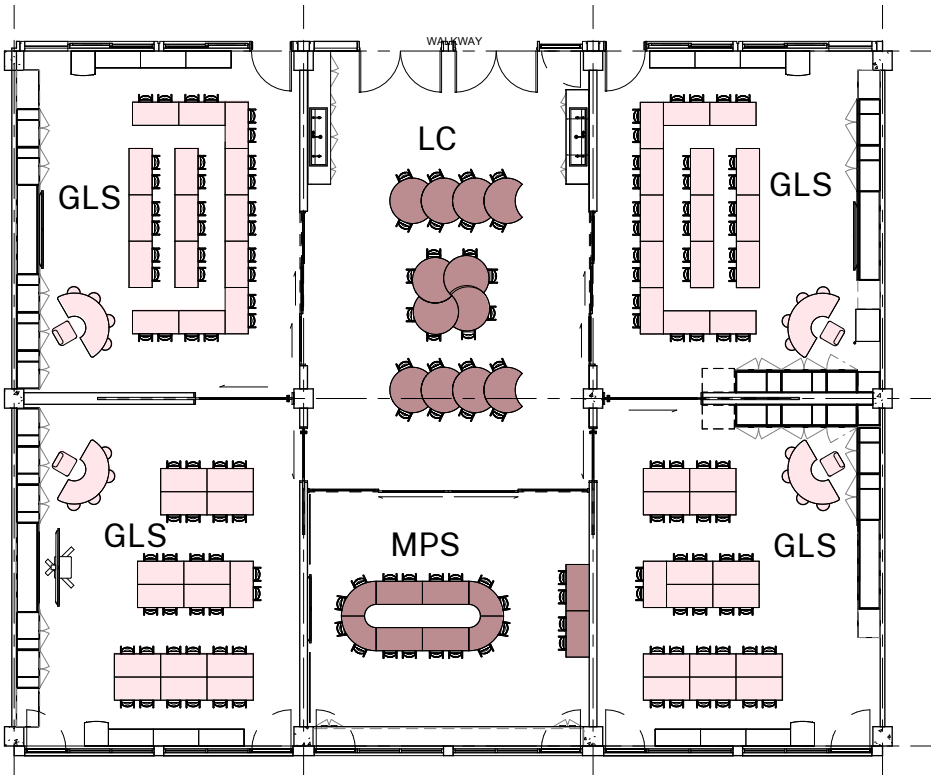
GLS-General Learning Space

LC-Learning Commons

MPS-Multi Purpose Space

Option 1 - Configuration A

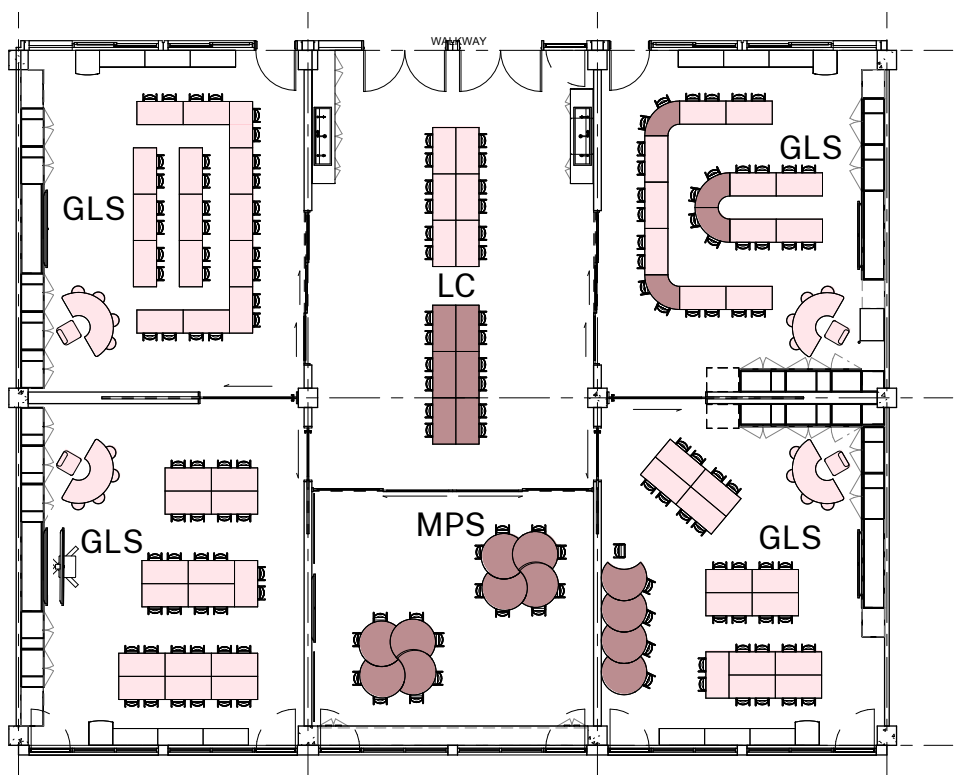
Shows setup of the standard furniture package in GLS & optional furniture in LC /MPS



- GLS Furniture Pack (standard)
- LC / MPS Furniture Pack (optional to choose)

Option 1 - Configuration B

Shows optional setup of the same furniture selection mixed throughout the hub



2.6 Furniture

Stages 4-6 (Year 7-12)

Option 1 Furniture Pack

Key features:

- Trapezoidal shaped tables that tessellate into different configurations and with rectangular tables
- Individual table settings
- Complimentary booth settings within LC to support small group collaboration
- Seating suitable for age group
- Height adjustable tables to suit range of heights within group
- Foldable tables within MPS to support flexibility
- Teacher's chair and desk arrangement

Student occupancy numbers

As per layout shown

GLS-30	LC-24	GLS-30
GLS-30	MPS-24	GLS-30

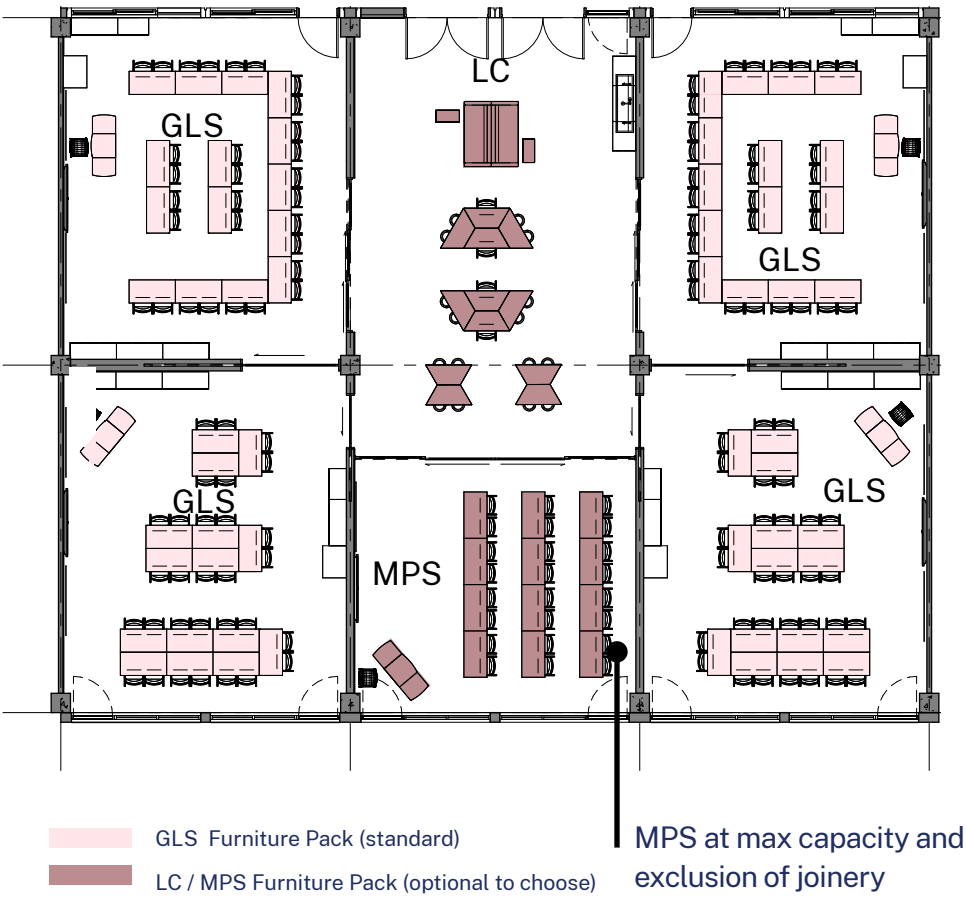
GLS-General Learning Space

LC-Learning Commons

MPS-Multi Purpose Space

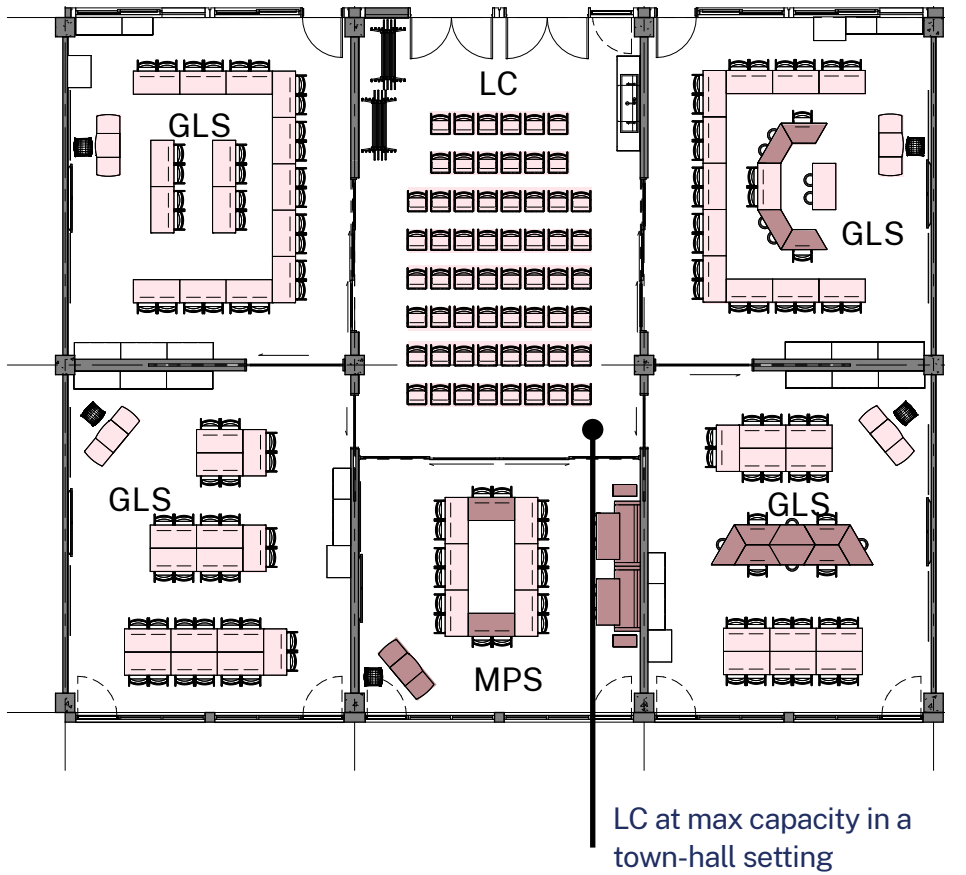
Option 1 - Configuration A

Shows setup of the standard furniture package in GLS & optional furniture in LC /MPS



Option 1 - Configuration B

Shows optional setup of the same furniture selection mixed throughout the hub



2.6 Furniture

Stages 4-6 (Year 7-12)

Option 2 Furniture Pack

Key features:

- Curved table options that tessellate with regular GLS tables
- Complimentary curved booth settings and high benches within LC to support large group collaboration
- Seating suitable for age group
- Height adjustable tables within GLS to suit range of heights within group
- Foldable tables within MPS to support flexibility
- Teacher’s chair and desk arrangement

Student occupancy numbers

As per layout shown

GLS-30	LC-24	GLS-30
GLS-30	MPS 18-22	GLS-30

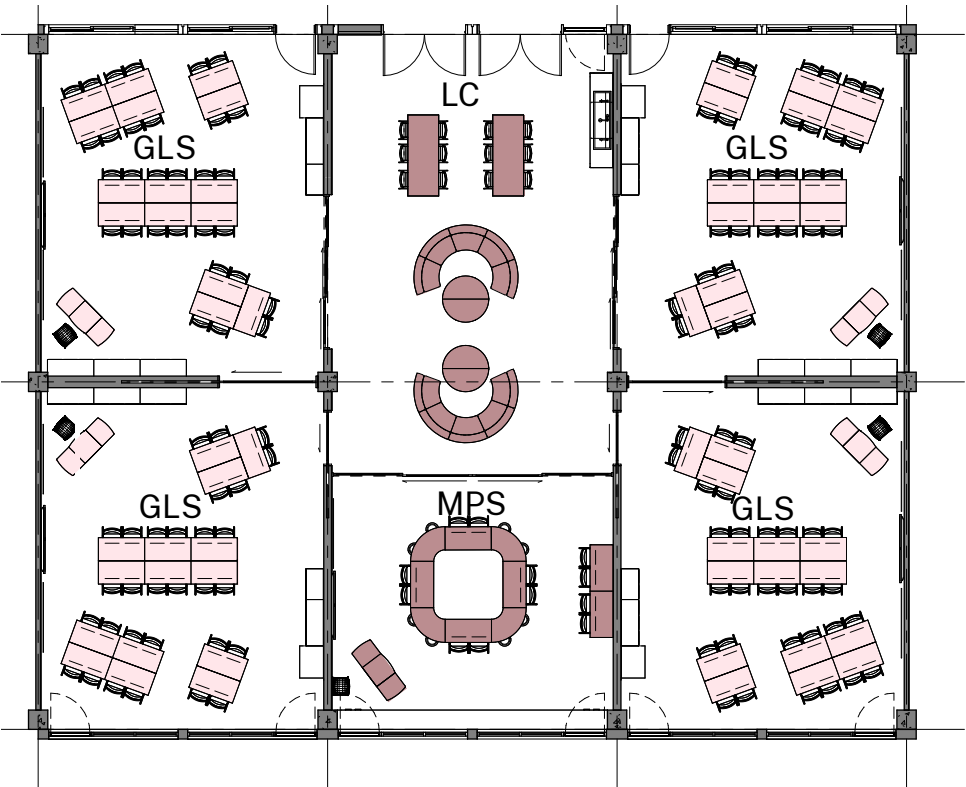
GLS-General Learning Space

LC-Learning Commons

MPS-Multi Purpose Space

Option 1 - Configuration A

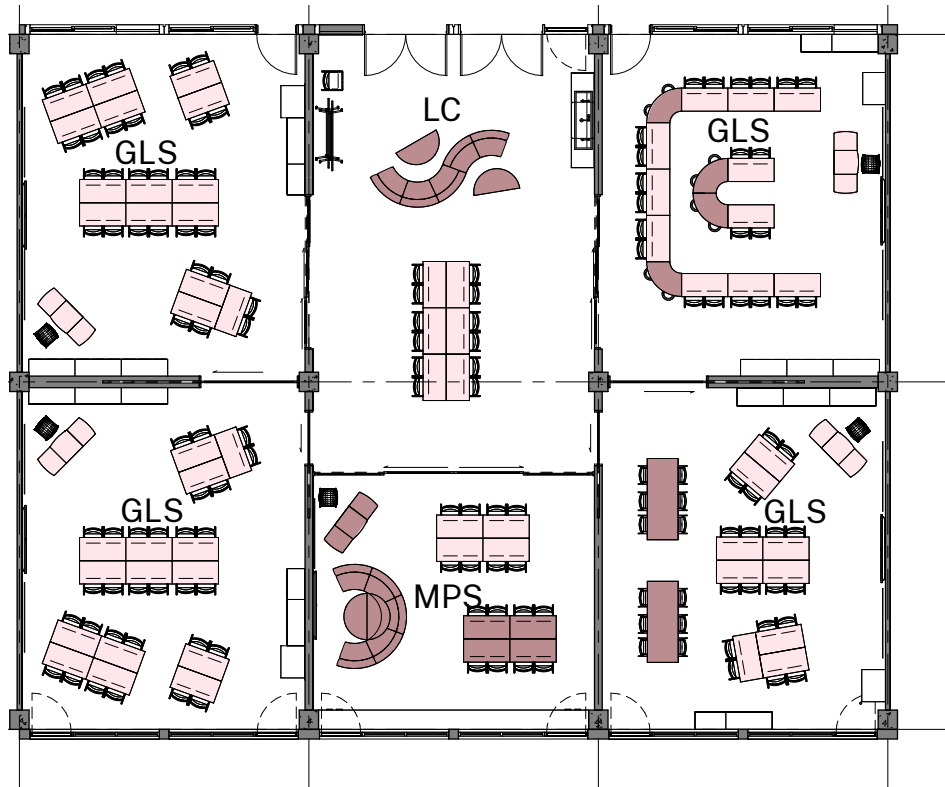
Shows setup of the standard furniture package in GLS & optional furniture in LC /MPS



GLS Furniture Pack (standard)
LC / MPS Furniture Pack (optional to choose)

Option 1 - Configuration B

Shows optional setup of the same furniture selection mixed throughout the hub



2.7 Colour & Materiality

Colour selection

Choosing colour in schools is more than an aesthetic decision — it plays a key role in learning, behaviour, mood, and wayfinding. School design should have spaces and experiences that make students, staff and the school community feel truly welcome, comfortable and promote wellbeing.

A neutral colour palette is to be used for school interiors to create a calm, adaptable backdrop that invites personalisation and community ownership. Neutral backgrounds allow for student projects and artworks, learning materials and seasonal decoration to stand out. The quality and value of school interior design derives from a sense of authenticity translated into purposeful effect, care and substance to:

- Enhance learning: Colour can help improve focus, memory retention, and stimulation.
- Support wellbeing: Certain colours can reduce stress or anxiety and create a calming atmosphere.
- Facilitate orientation: Colour can aid in navigation and space recognition, especially in large campuses.
- Reinforce identity: School branding, values, and culture can be reflected in colour choices.

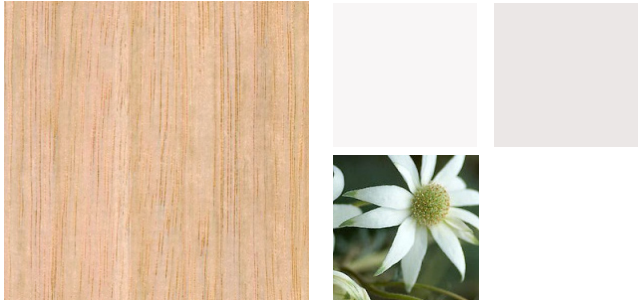
Colour schemes in Supported Learning Spaces (SLS) and School for Specific Purposes (SSPs) requires thoughtful application to promote calm, focus, emotional regulation, and sensory comfort. Key design principles must be evaluated to:

- Minimise over stimulation and sensory overload to promote a calm learning environment
- Support biophilic design and its health benefits, inclusivity, accessibility, wayfinding, safety and foster a sense of security
- Balance colour / extraneous distractions with teaching wall and learning material displays

Neutral base palette

Harmonised by a neutral palette of native timbers and warm whites, colour should be used to reflect the local landscape, providing unique outcomes to each facility. Below are some examples of how the colour scheme can be applied across different facilities:

Base Wall Surfaces and Standard Joinery



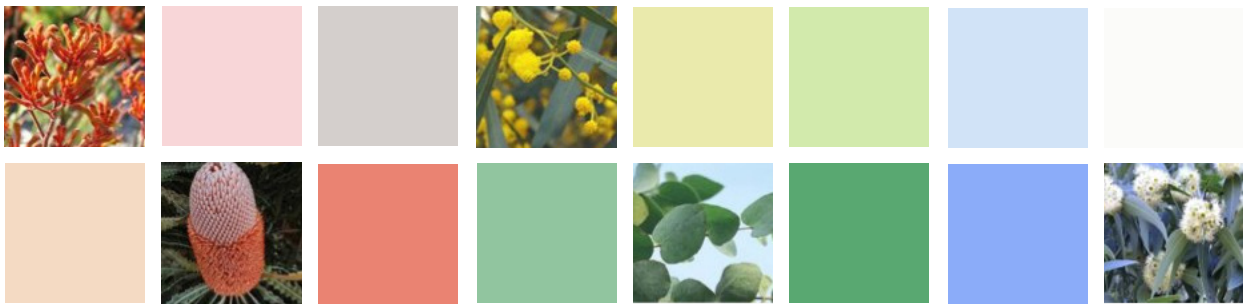
Colour palette

Subtle application of feature colours to provide an accent to neutral palette drawn from natural surroundings or local contexts.

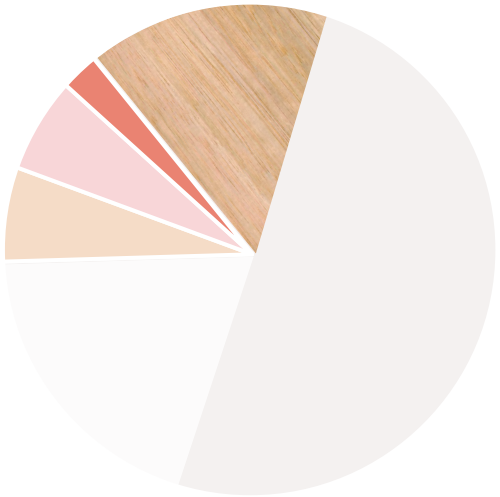
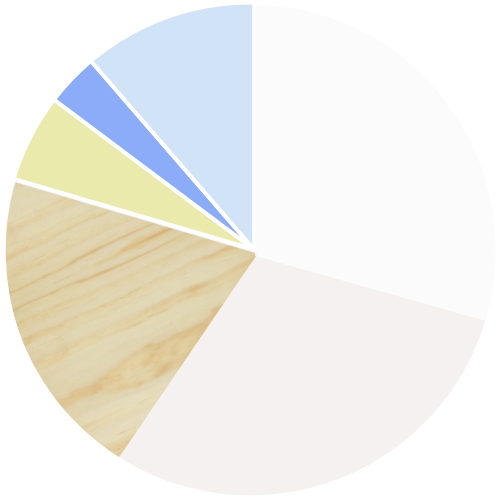
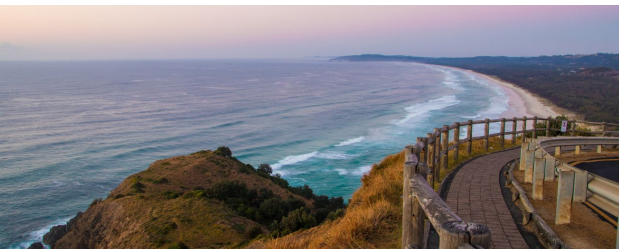
To be avoided:

- Loud primary colours (red, bright yellow, stark white)
- High-gloss or mirrored surface finishes that reflect light harshly
- Busy patterns or strong contrasts (e.g. black and white stripes)

Selected Surfaces and Joinery



Inspired by surrounding landscape & ecotones



2.8 Worked example

View from Learning Commons (Refer to Joinery design intent for PS & HS application)



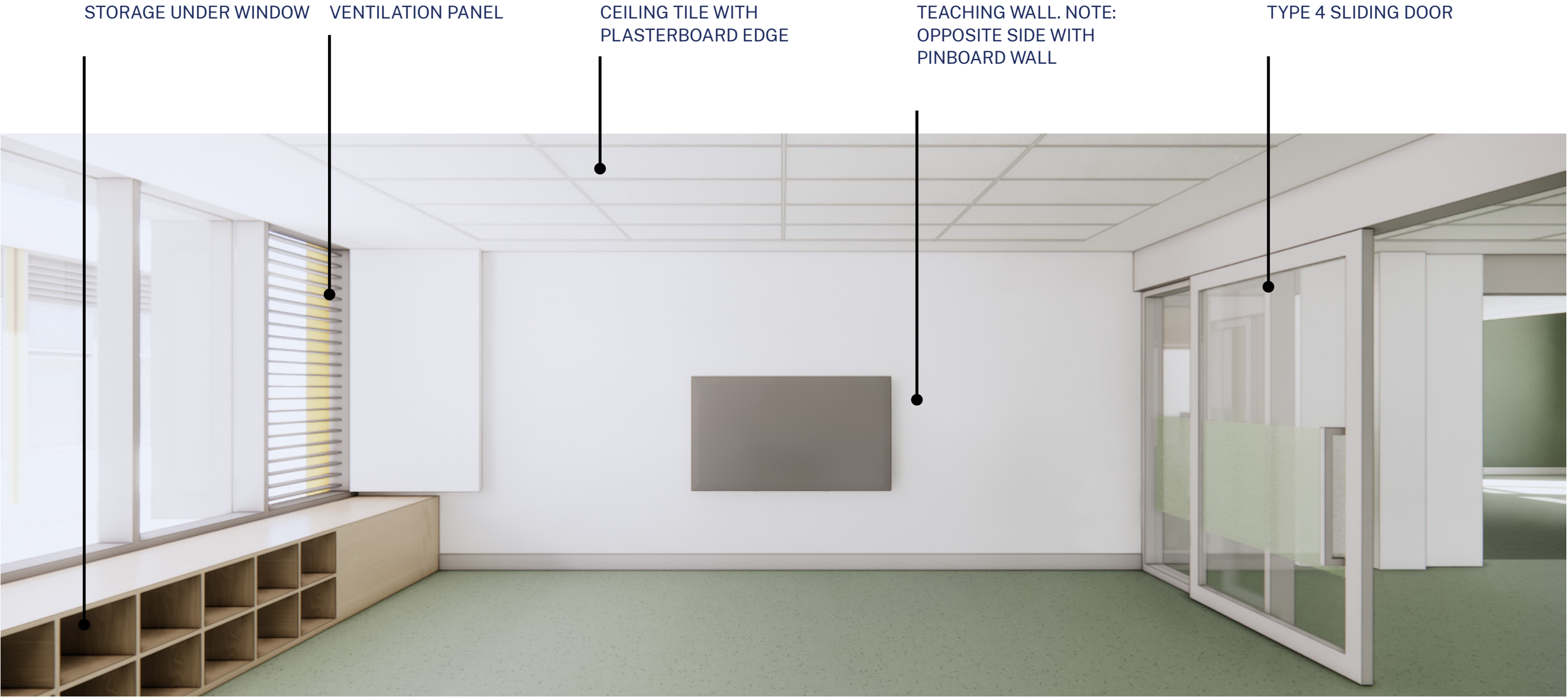
2.8 Worked example

View from street side GLS (HS arrangement shown below)



2.8 Worked example

View from GLS/Multipurpose space



2.9 Preschool interiors



Design intent

The Preschool hub is designed with a strong focus on the Playrooms, where children and educators spend most of their time. These Playrooms are directly connected to the Outdoor Play area, allowing for a seamless flow between indoor and outdoor learning. Key interior features of the hub include:

Children’s Spaces:

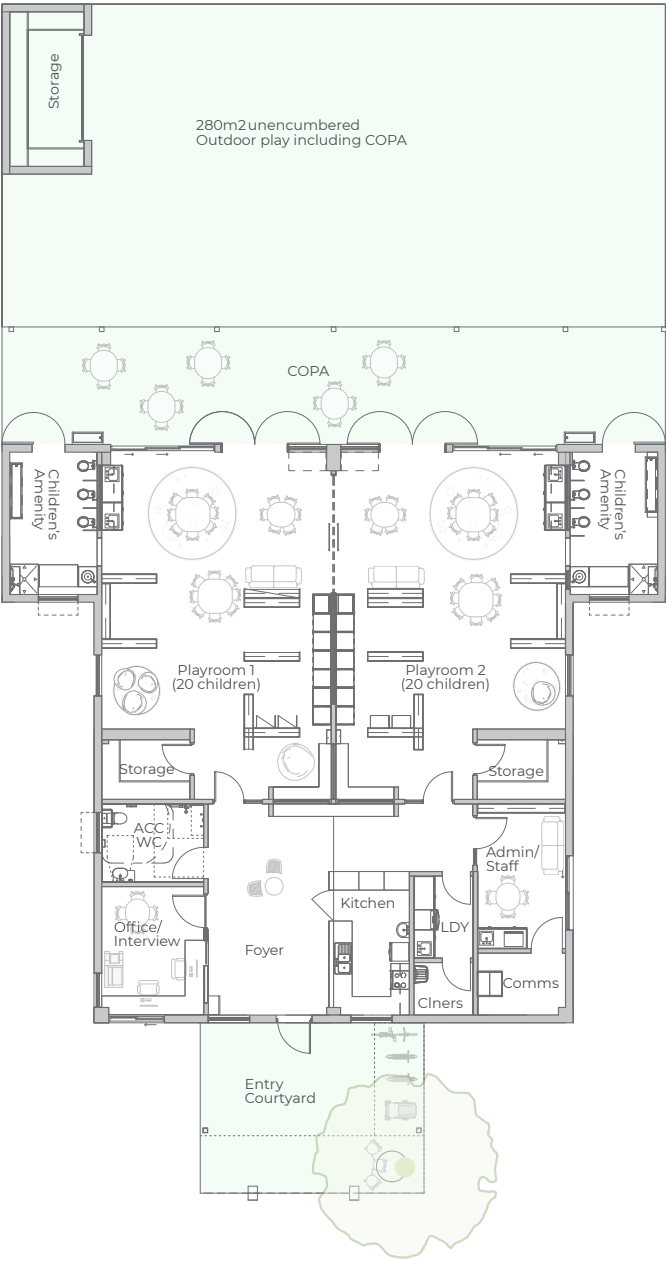
- Playrooms designed to support play-based learning
- Children’s amenities with direct visibility and access from the Playrooms

Staff Spaces:

- Storage rooms with direct access to the Playrooms
- Staff room
- Office with clear visibility over the entry foyer
- Kitchen with clear visibility over the entry foyer
- Laundry, cleaners’ room, communications room, and staff amenities

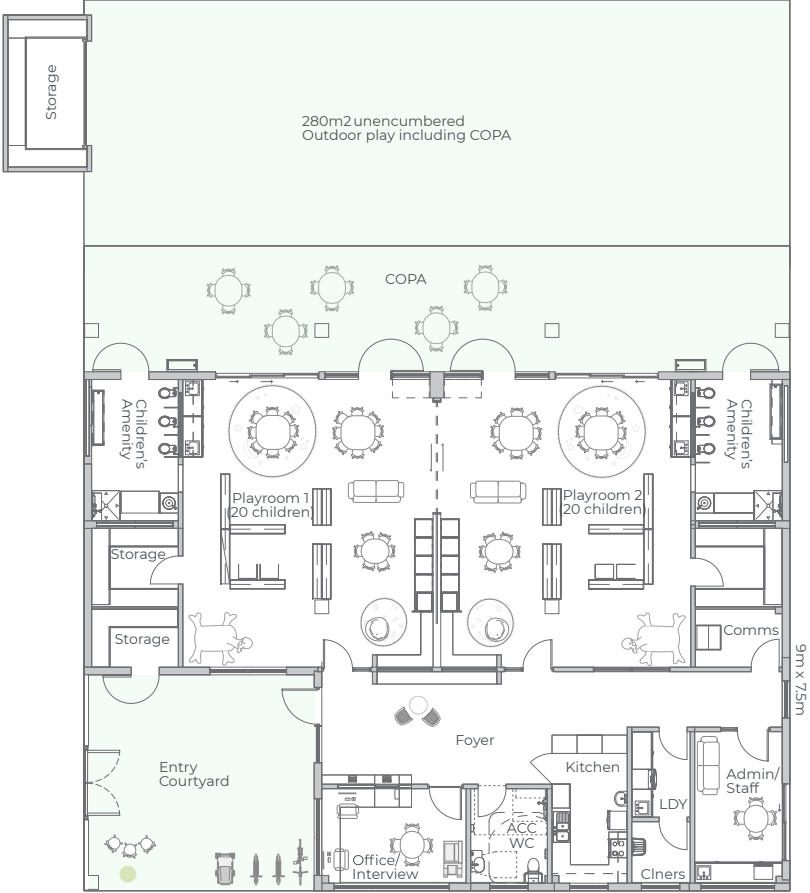
Worked example 1:

40-student Stand-alone Preschool with front entry (Layout 1A)



Worked example 2:

40-student Integrated Preschool (Layout 2)



Refer to Preschool Design Brief

3

Circulation

- 3.1 Overview
- 3.2 Walkway & Balustrade
- 3.3 Lift
- 3.4 Stairs
- 3.5 Circulation worked example

3.1 Overview

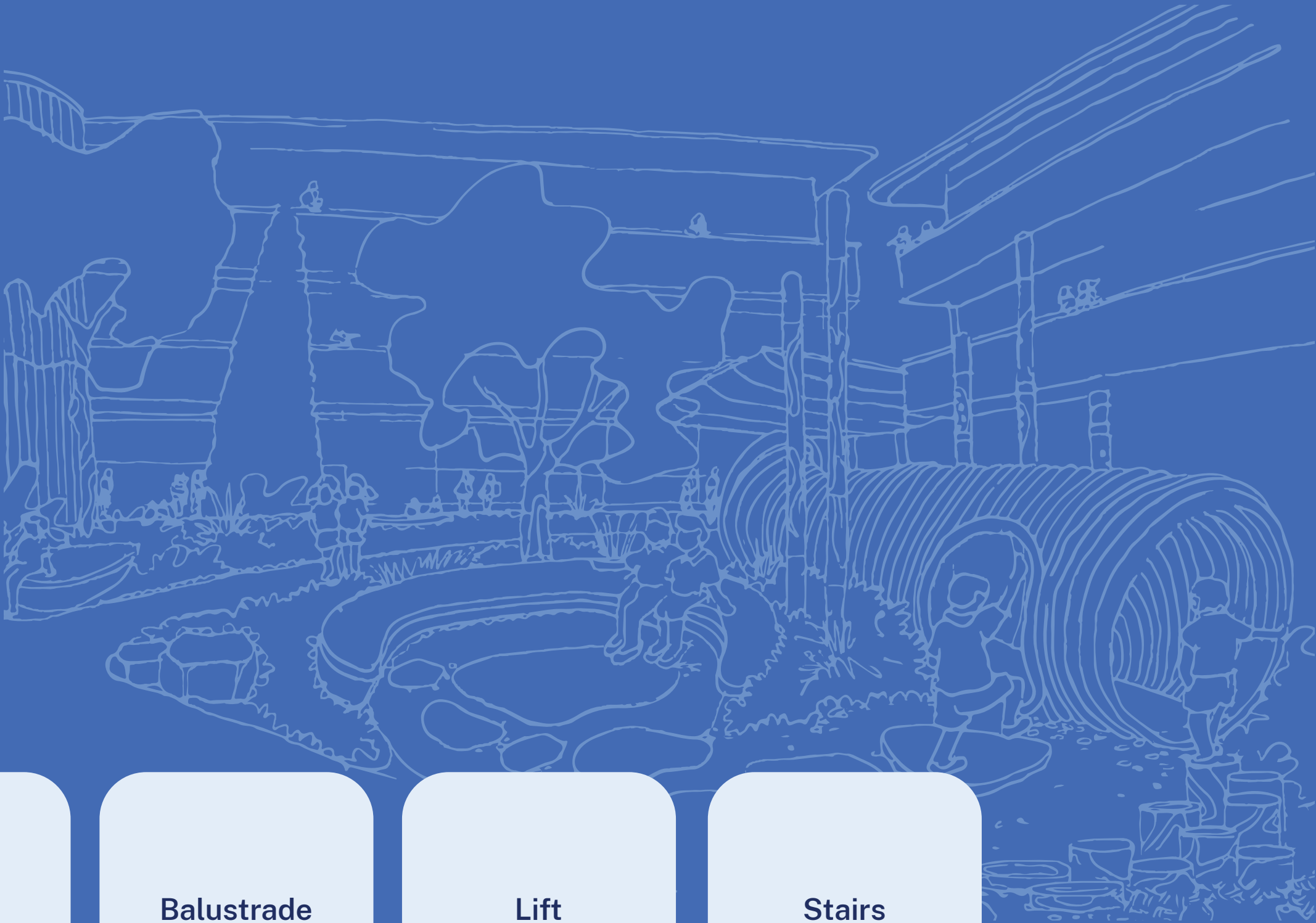


External circulation components

The external circulation components are efficiently designed to provide the primary means of movement within a school. All buildings on the school site, including both learning hubs and core facilities, must be connected with covered accessible walkways to achieve operational requirements in inclement weather.

This enables covered access to the learning spaces and cores, and is integral to the visual experience from within the school grounds.

it provides opportunity to add some site specific choices of configuration, colour and material.



Walkway

Balustrade

Lift

Stairs

3.2 Walkway & Balustrade

Walkway design intent

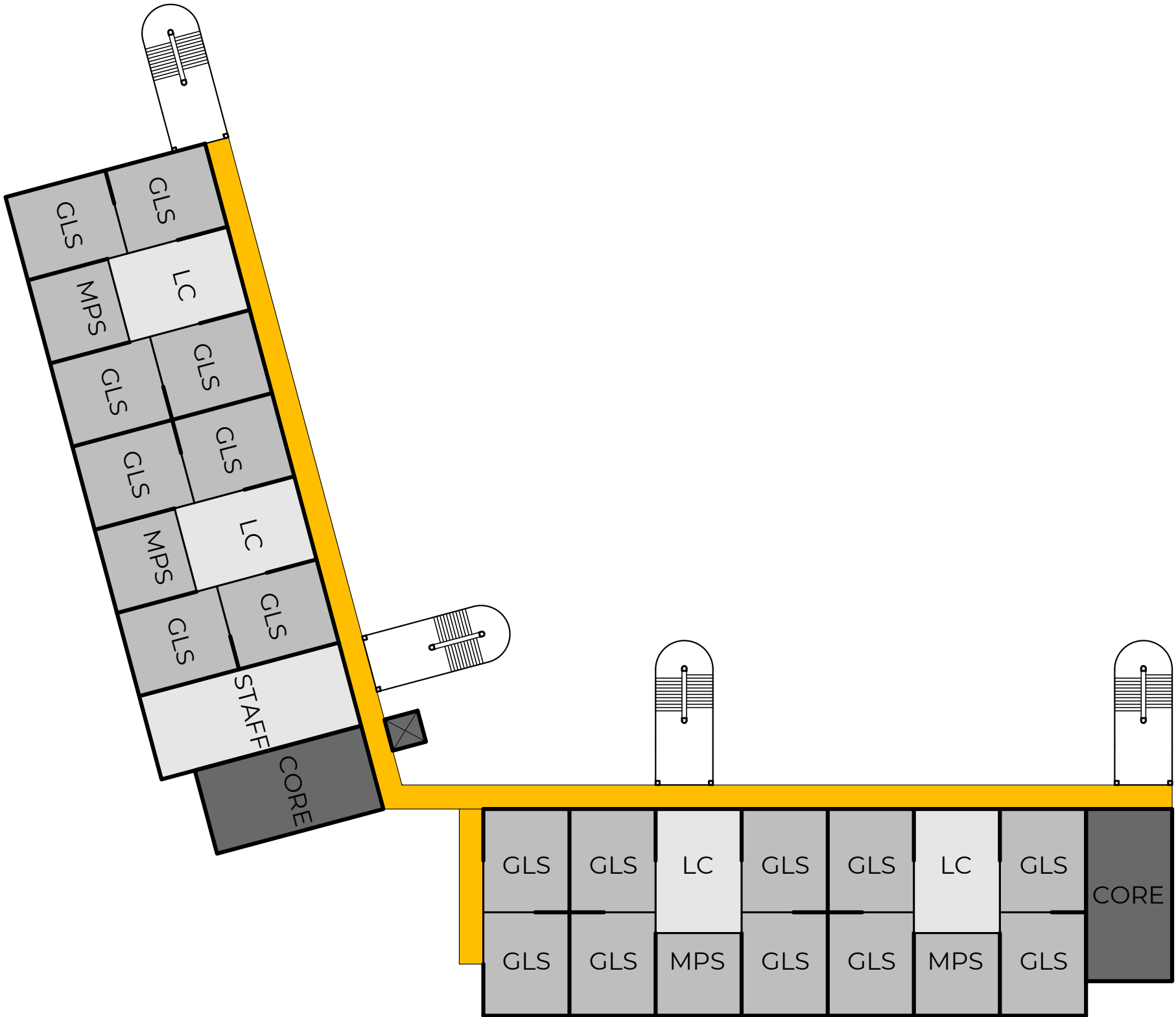
Walkways are concrete finished laid to cross-fall, covered by the slab or roof above and contained with a balustrade.

Balustrade design intent

Designed to be durable, robust and low maintenance with a galvanised steel flat bar panel detail. Panels size should not exceed 1250mm width to enable ease of handling, installation and replacement.

To ensure each school presents a unique identity and response to project specific requirements, there is the need to bring additional elements to the baseline design to accommodate colour, texture, variety and potentially additional safety measures.

Panels of colour, texture and perforated metal can be added to the baseline panel design. There is also the flexibility to add a tensile mesh and fully enclosed glazed solution to address concerns of safety or comfort in colder climates.



3.2 Walkway & Balustrade

Walkway design intent

Walkway

- External walkway to achieve minimum 2100mm clear width. Project team to incorporate sufficient tolerance in detail design based on preferred construction methodology i.e. top or face fixed
- Exposed concrete with coved finish to provide required slip rating
- Walkway to achieve minimum 1:80 fall in accordance with NCC
- Performance solution may be considered to achieve compliance for waterproofing and drainage requirement
- Maintain accessible transition between internal and external space as per AS1428.1
- Pavers on pedestals are not supported

Balustrade

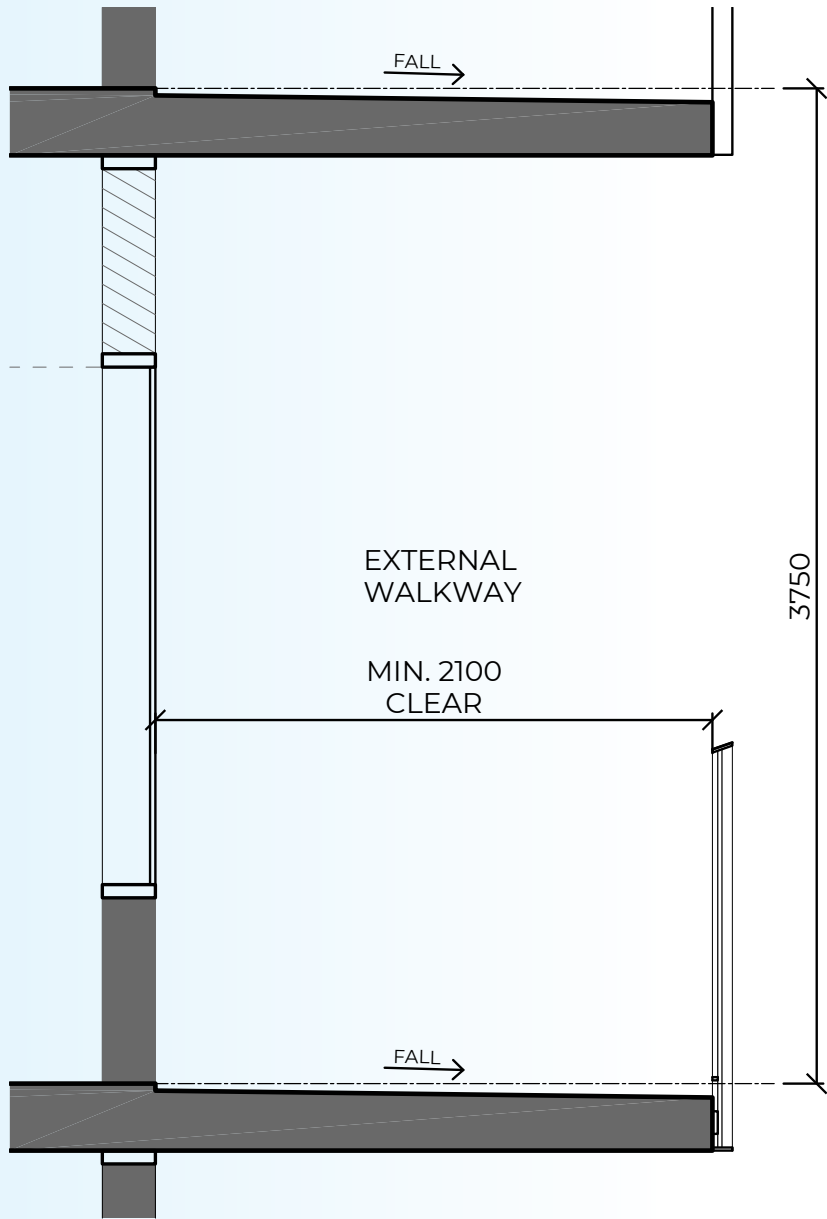
- Balustrade to be minimum 1300mm high
- Balustrades must not contain openings greater than 100mm in width
- All balustrades must not contain a toehold in the zone of 150-760mm above the floor.



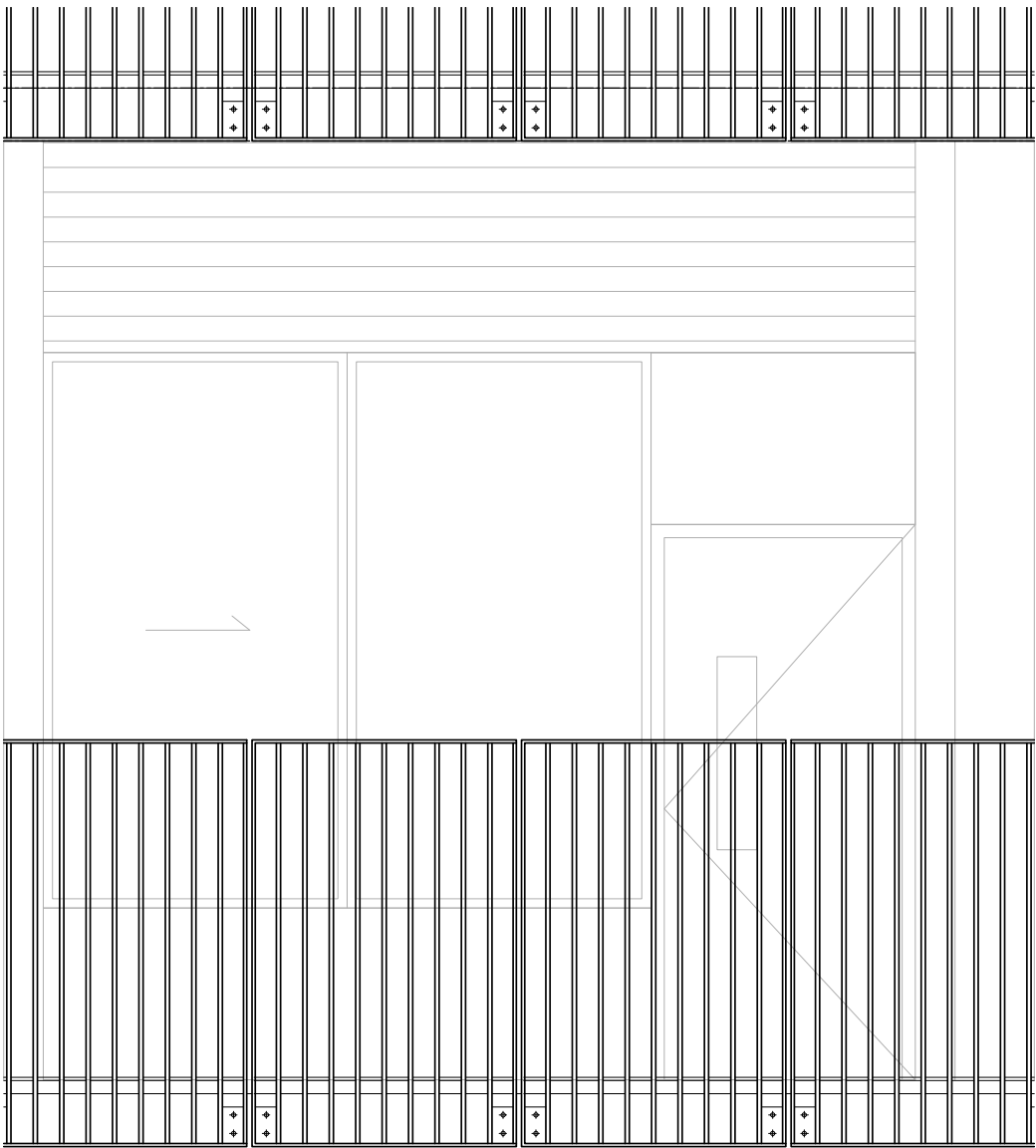
3.2 Walkway & Balustrade

Walkway design

Typical generic walkway - section



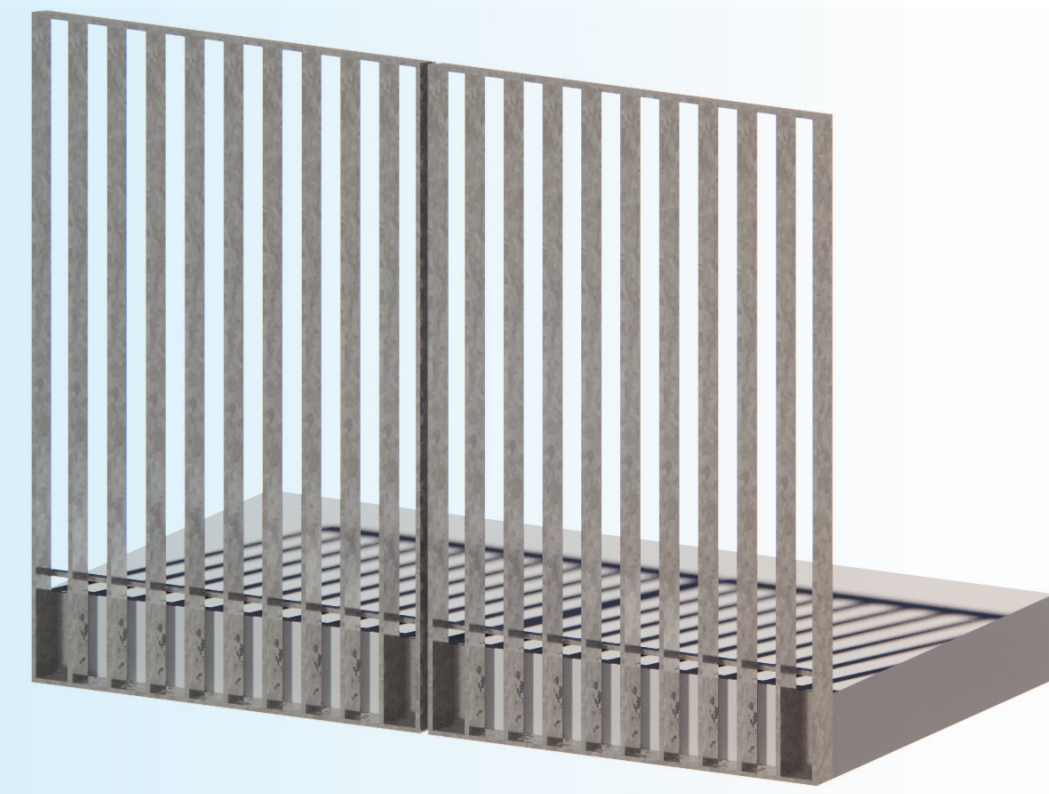
Generic walkway facade module



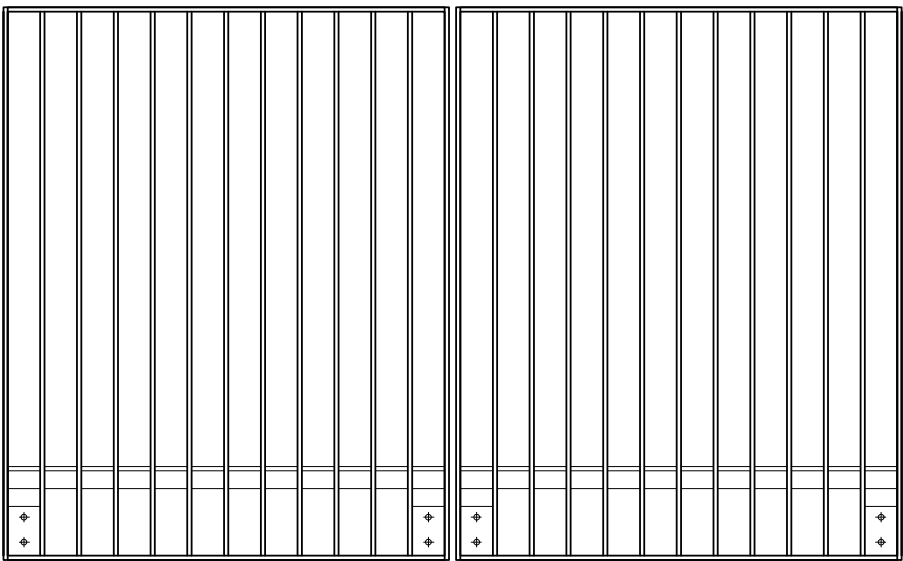
3.2 Walkway & Balustrade

Balustrade baseline design - Face fixed galvanised steel flat bar

Perspective



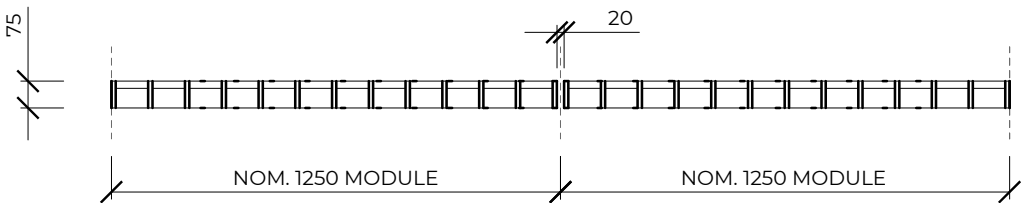
Elevation



Section



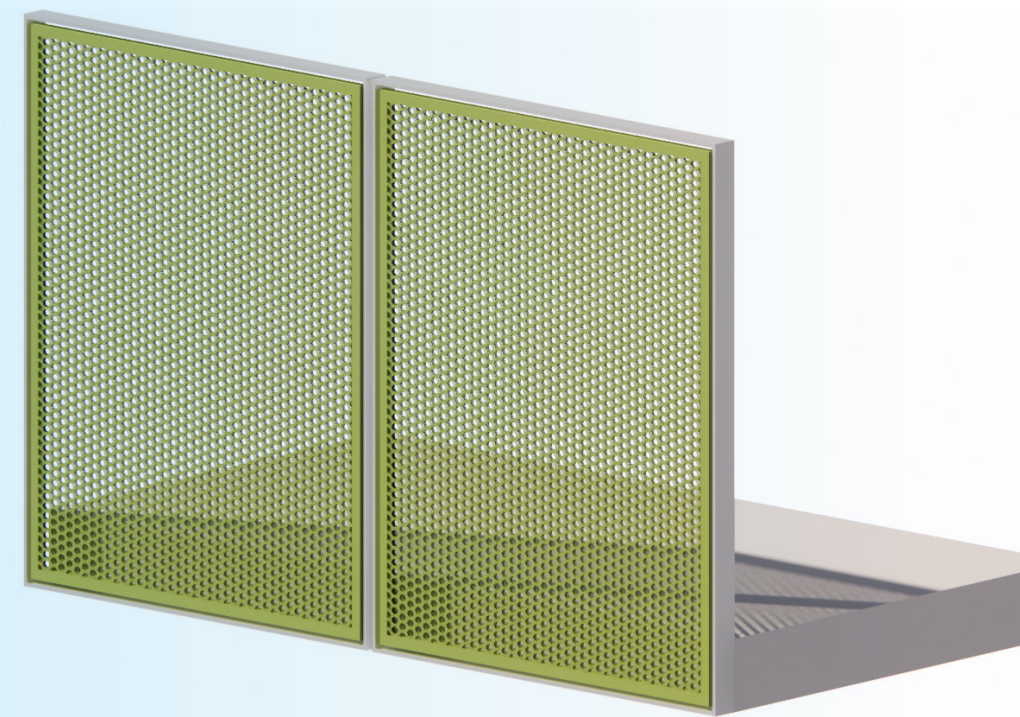
Plan



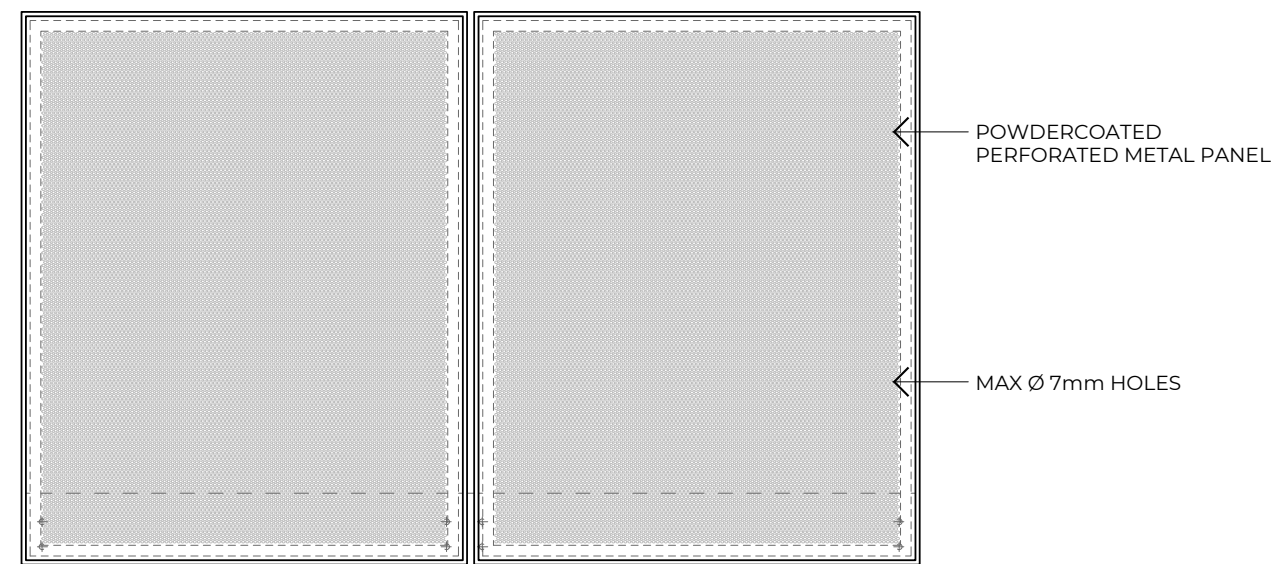
3.2 Walkway & Balustrade

Balustrade - Perforated metal panel

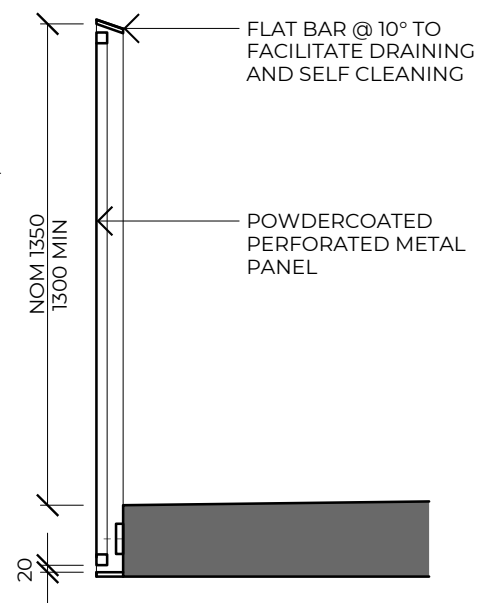
Perspective



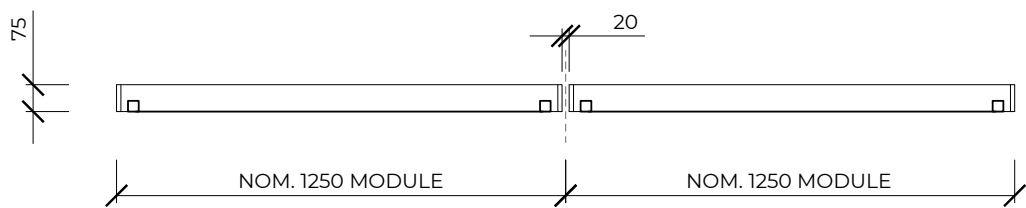
Elevation



Section



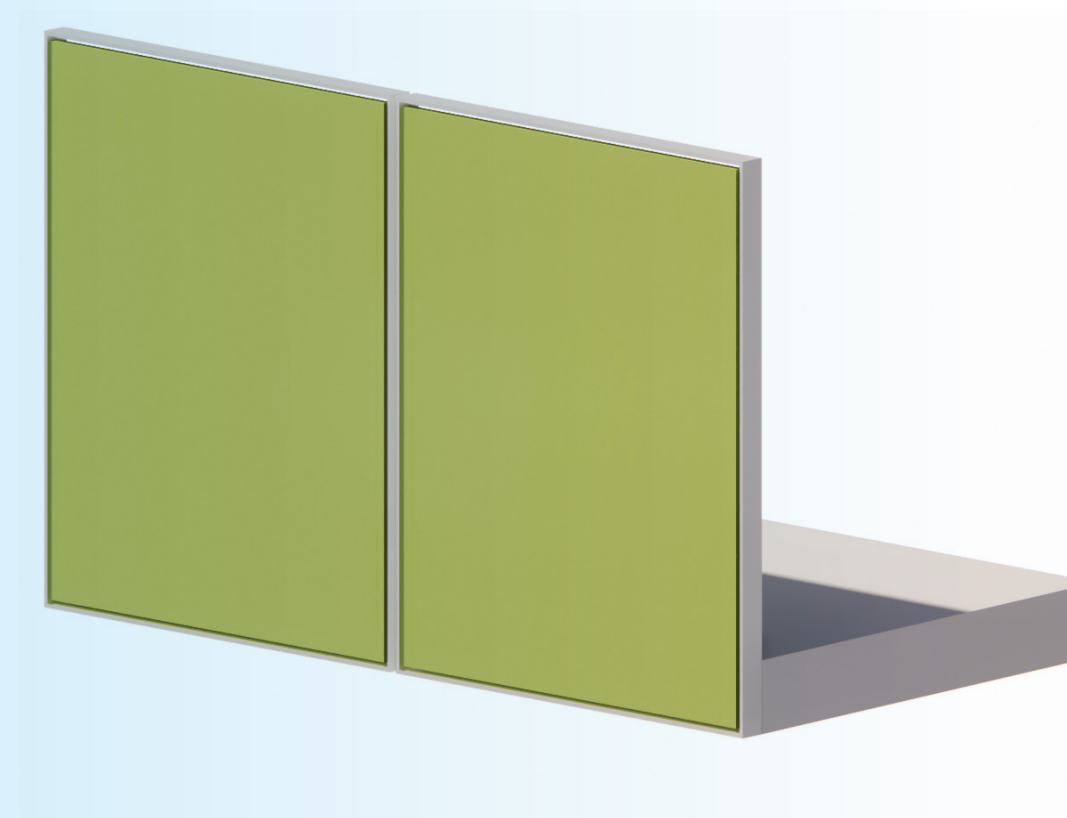
Plan



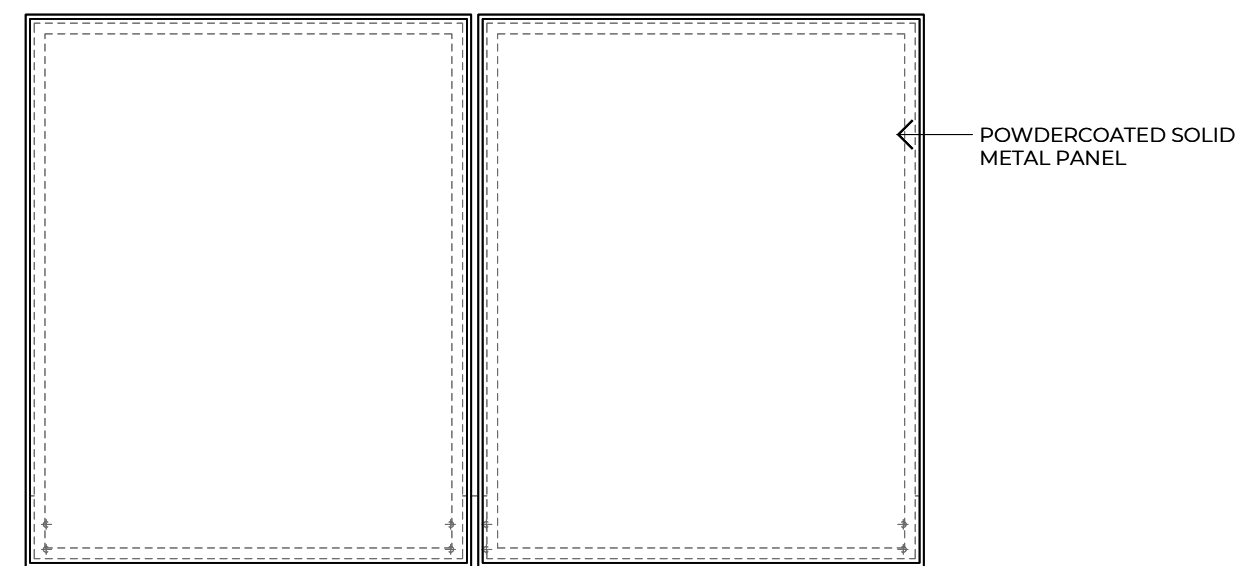
3.2 Walkway & Balustrade

Balustrade - Solid metal panel

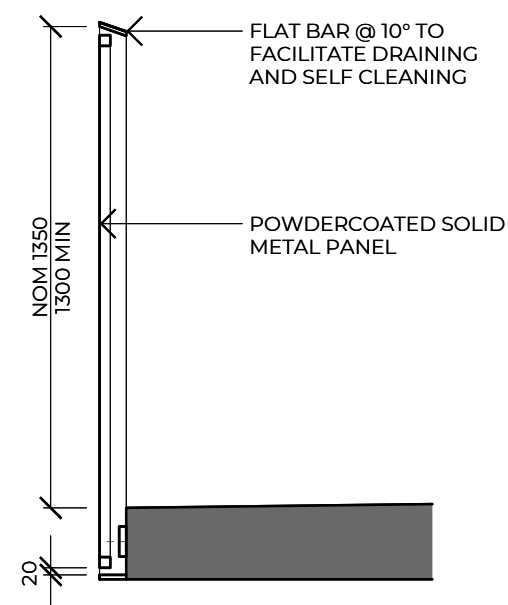
Perspective



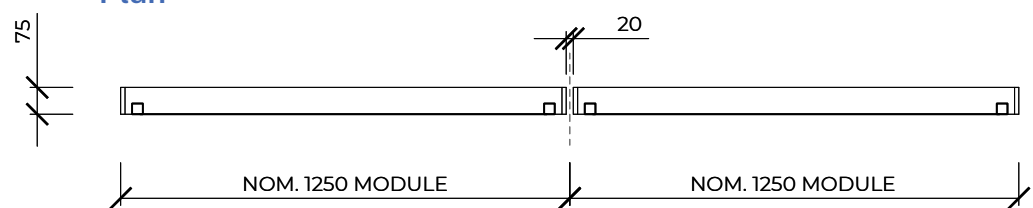
Elevation



Section



Plan



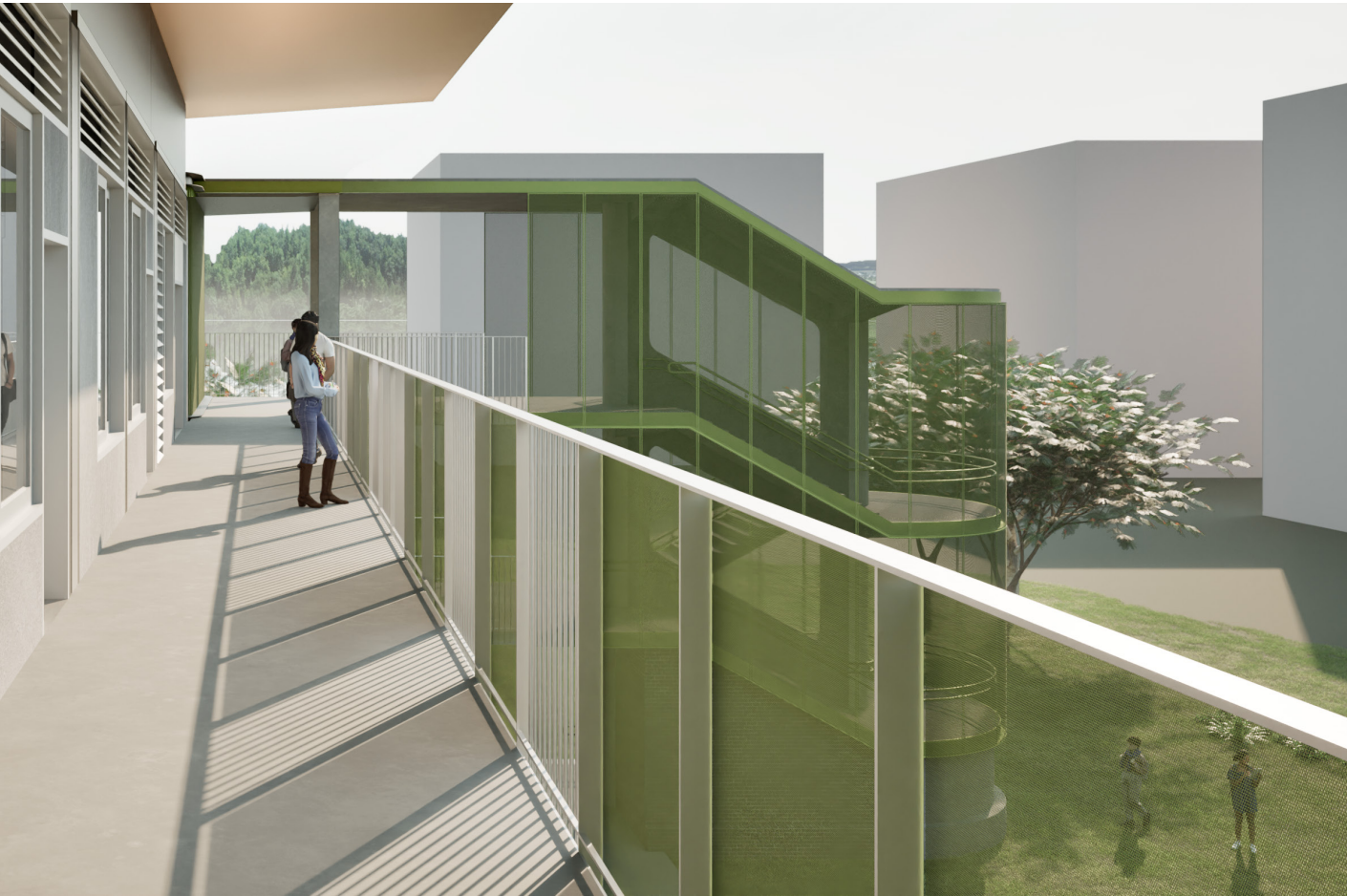
3.2 Walkway & Balustrade

Balustrade flexibility

Additional elements may be added to the baseline design to respond to functional and environmental site conditions, and to accommodate colour, texture and variety to ensure each school presents a unique identity.

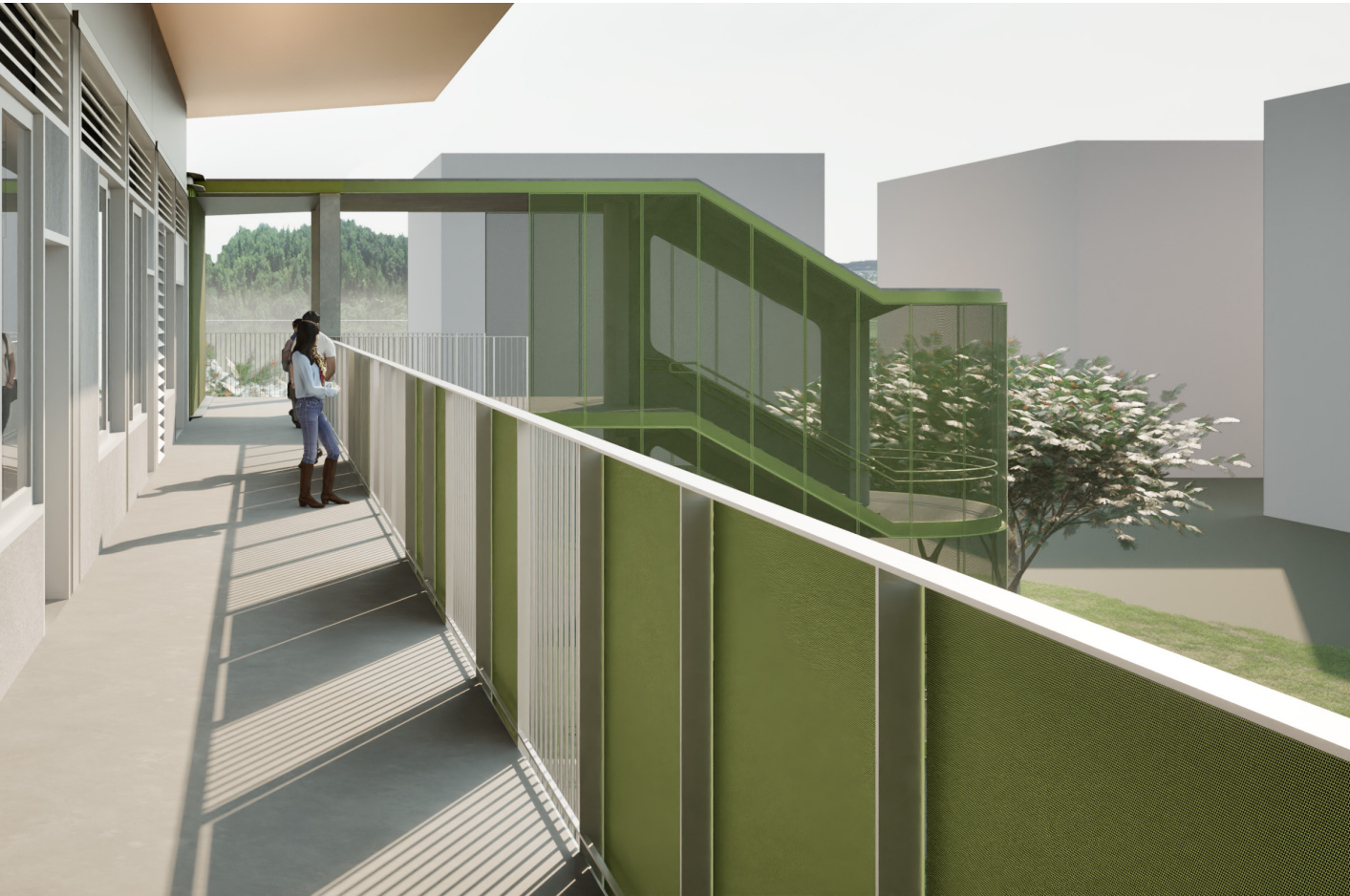
Add-on 1 - Perforated screen

Perforated Screens can address high wind and heavy rain issues. Extent and fixing detail to suit the facade orientation and application.



Add-on 2 - Solid panel

Solid metal panel added to the front of balustrade to add texture and colour variation.



3.2 Walkway & Balustrade

Walkway add-ons

Additional elements may be added to the baseline design to respond to functional and environmental site conditions, and to accommodate colour, texture and variety to ensure each school presents a unique identity.

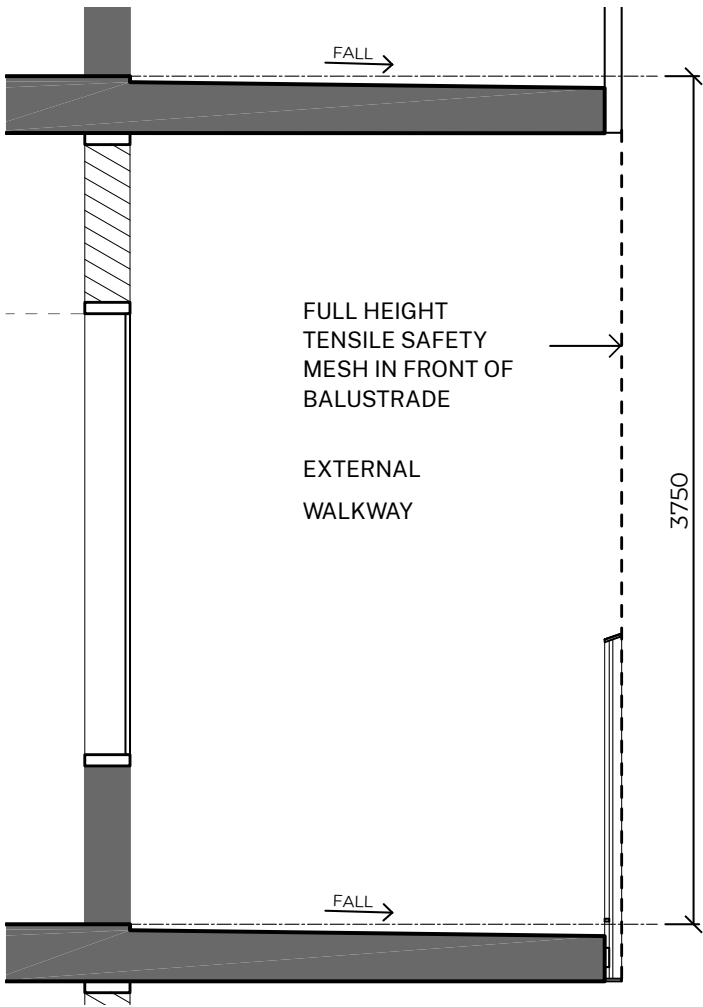
Add-on 1 - safety tensile mesh

For additional Safety and Fall Protection, tensile mesh can be added in front of the balustrade to act as a barrier without blocking light or visibility.

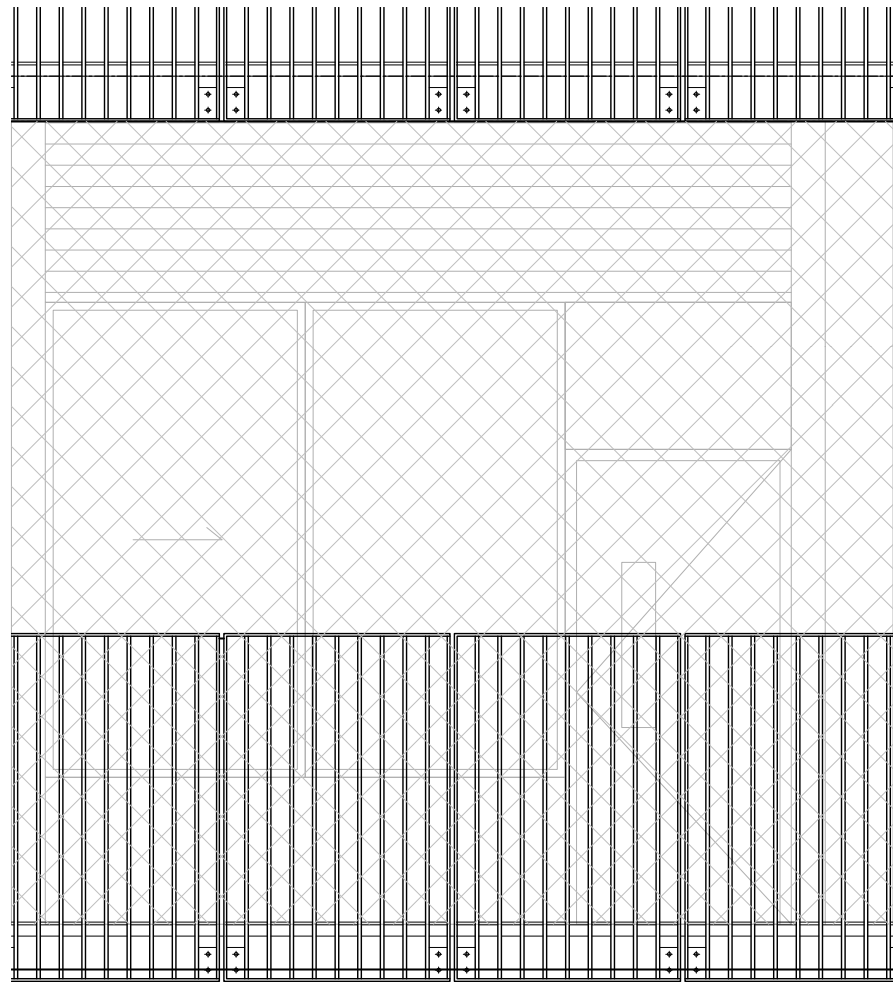
It ensures compliance with safety standards in a lightweight and visually unobtrusive way.

The Mesh must be impact tested, and size and pattern specified to prevent foothold.

Section



Elevation



3.2 Walkway & Balustrade

Walkway add-ons

Additional elements may be added to the baseline design to respond to functional and environmental site conditions, and to accommodate colour, texture and variety to ensure each school presents a unique identity.

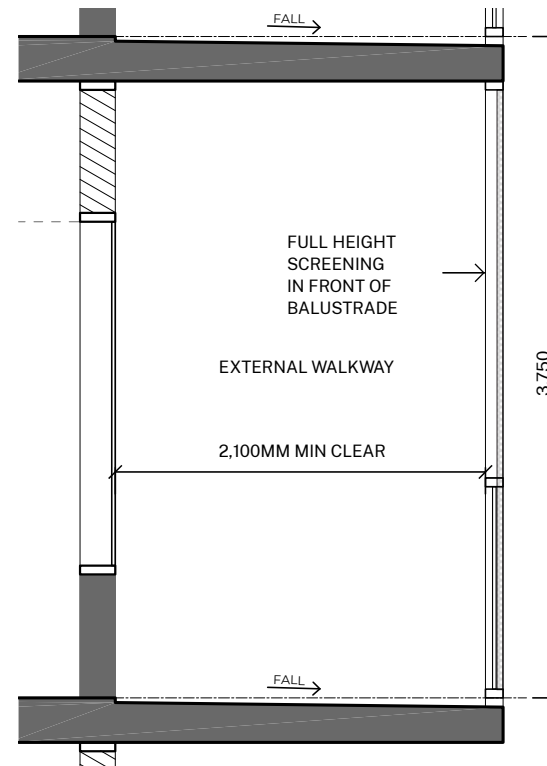
Add-on 2 - full height screening

In colder climate zones, partial or full enclosure of certain building areas is often necessary to improve comfort, protection and usability throughout the year.

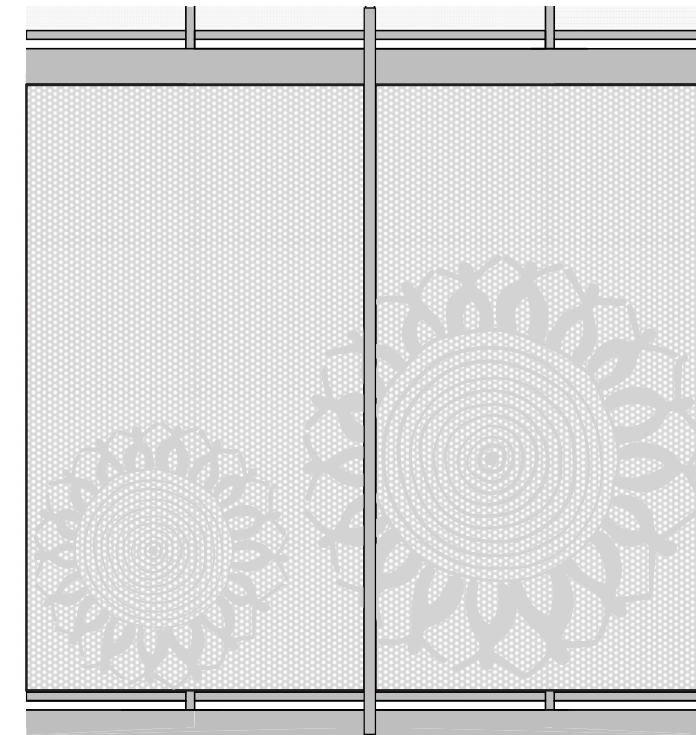
Compliance

Project teams are to develop details based on preferred construction methodology and project specific requirements to achieve the design intent as described, following project specific consultant advice including wind and fire engineer.

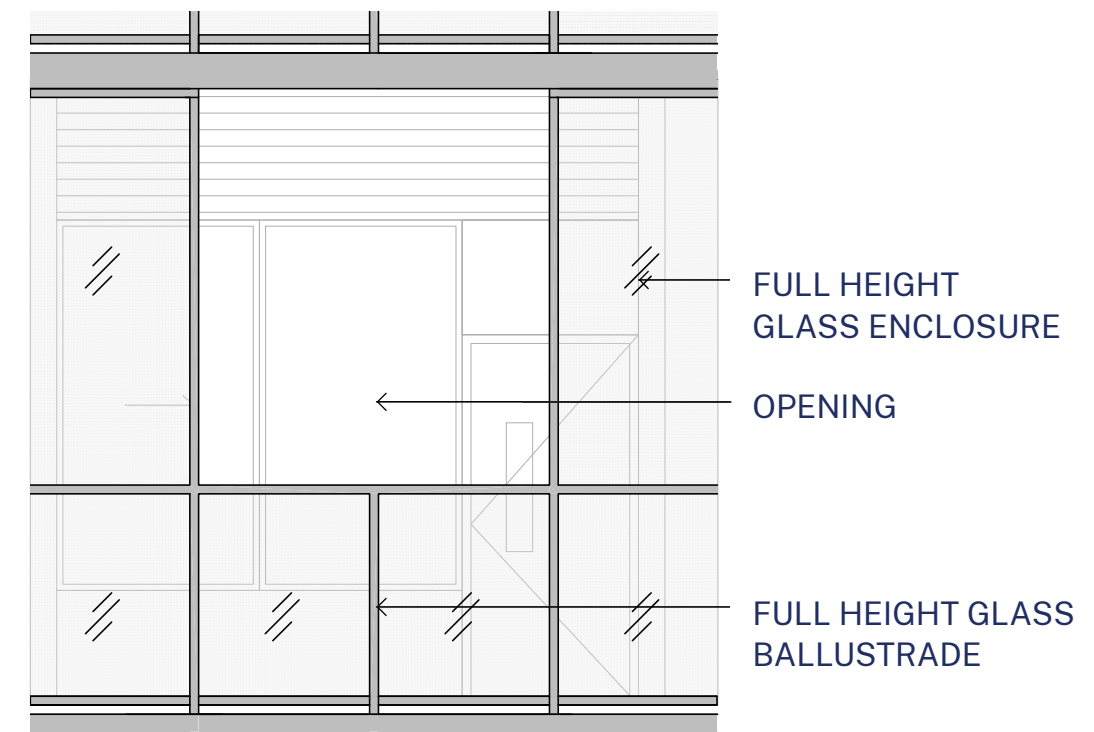
Section



Example elevation perforated screening



Example elevation glazing



3.2 Walkway & Balustrade

Walkway add-ons

Safety tensile mesh

Suitable for when additional safety measure is required



Full height perforated mesh/ louvered blades

Suitable for when additional weather protection is required



Full height glass

Suitable for when additional weather protection is required

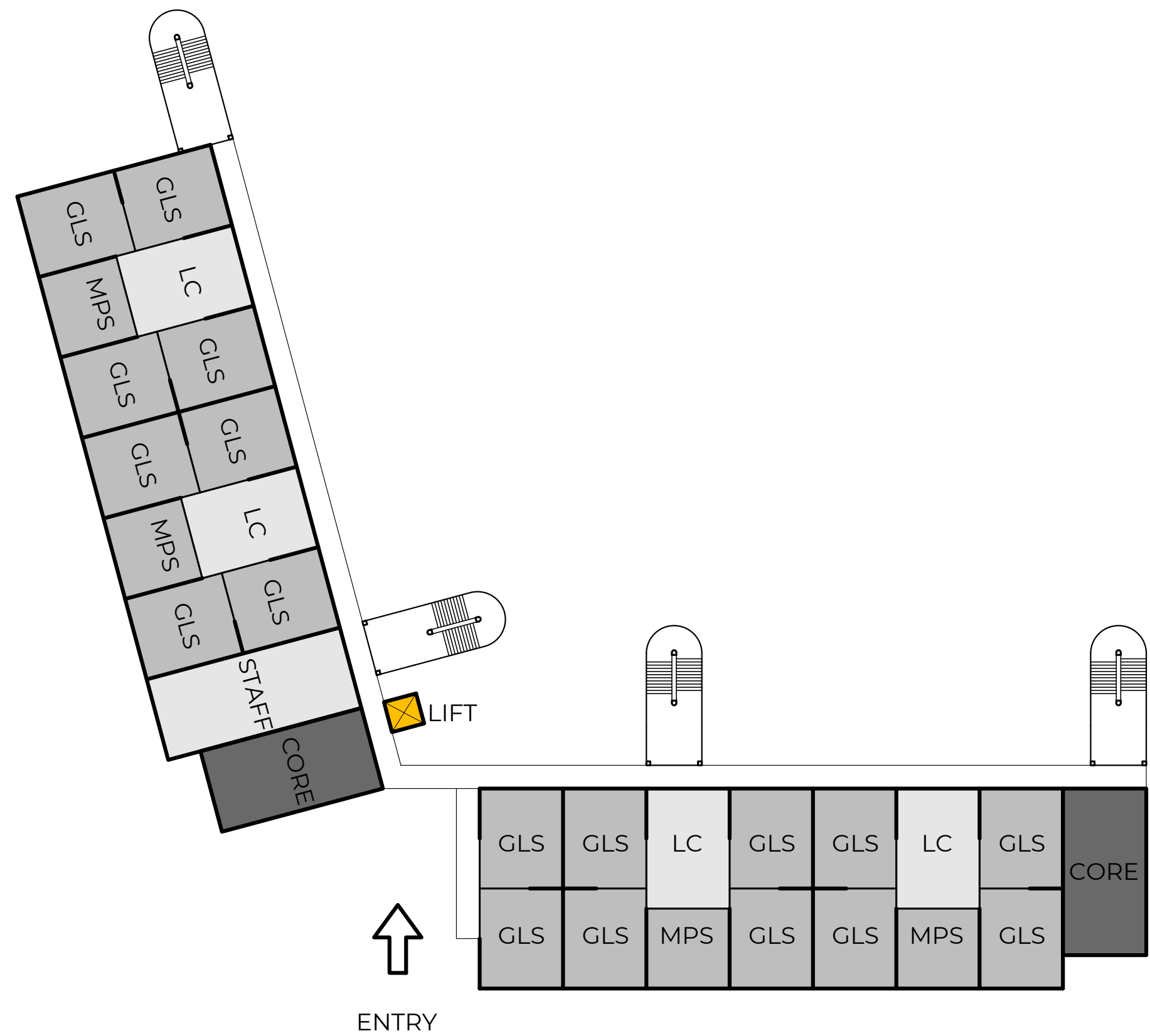


3.3 Lift

Lift design intent

Lift services are installed to buildings that are 2 storeys and above. The primary purpose of lifts is for use by teachers, accessible access and transporting goods. Stairs are the primary mode of movement for students unless otherwise directed by a teacher. The number of lifts is to be determined by a vertical transport consultant however as a secondary mode of movement they are to assume a less prominence than stairs.

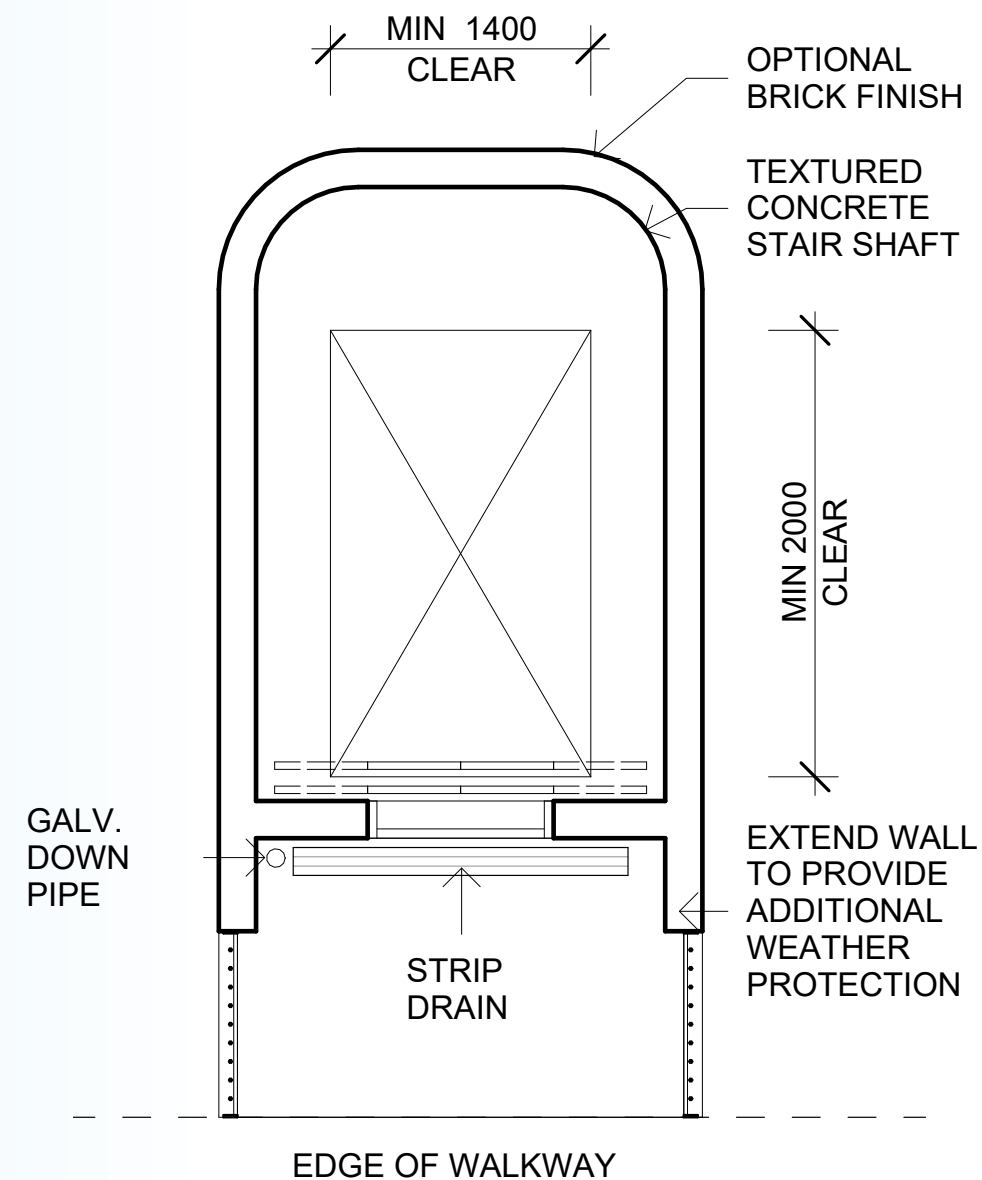
Lifts are to be positioned near the main entry and spaced evenly along the walkway to provide equitable access to the school and can be aesthetically treated to blend into their environment with a textured concrete finish or as prominent feature.



3.3 Lift

Lift design

All lifts to be Machine Room Less (MRL) with minimum car size of 1400mm wide by 2000mm deep. Provision for stretcher lift to be provided as per NCC. Final size to be determined by project team based on specific project requirements.



3.3 Lift

Lift shaft finishes

Textured concrete



Concrete painted with artwork



Brick

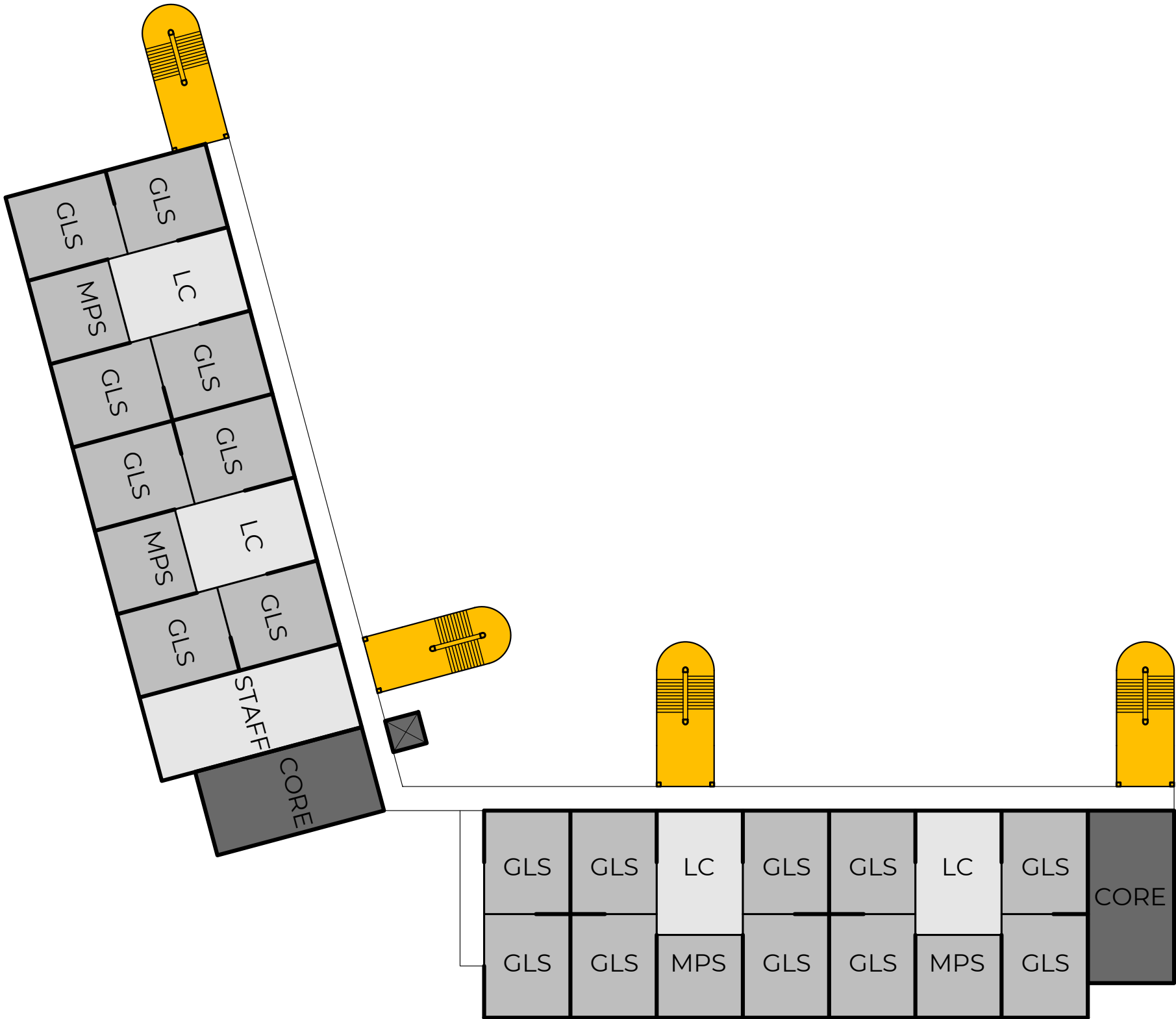


3.4 Stairs

Stairs design intent

Stairs are the primary mode of circulation for students and they are designed to feel welcoming, light and safe to use. The form is rounded to soften the bulk and scale. A full height perforated metal screen wraps around the stair to eliminate risk of falling and provide transparency for passive surveillance. A solid base constructed of concrete or brick encloses the bottom of the stair for safety purposes. Alternatively, the project team may consider integrating the stair into landscape design depending on site conditions.

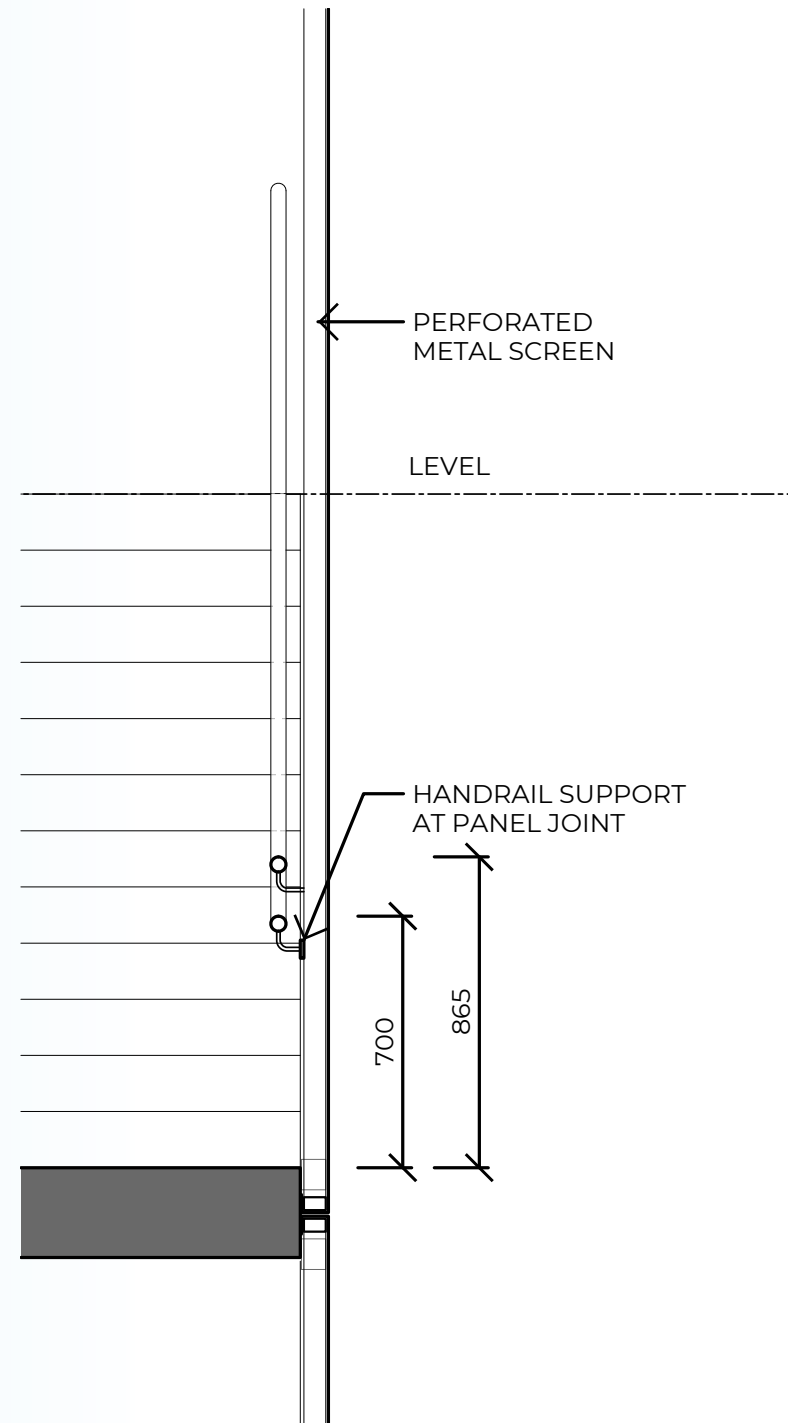
Stairs should ideally be positioned at the opposite end of walkway to minimise obstruction to natural light into the classrooms and ensure passive surveillance of the walkway. Locations should be outside cores ideally and then outside Learning Commons, with locations outside GLSs should be avoided.



3.4 Stairs

Perforated screen design

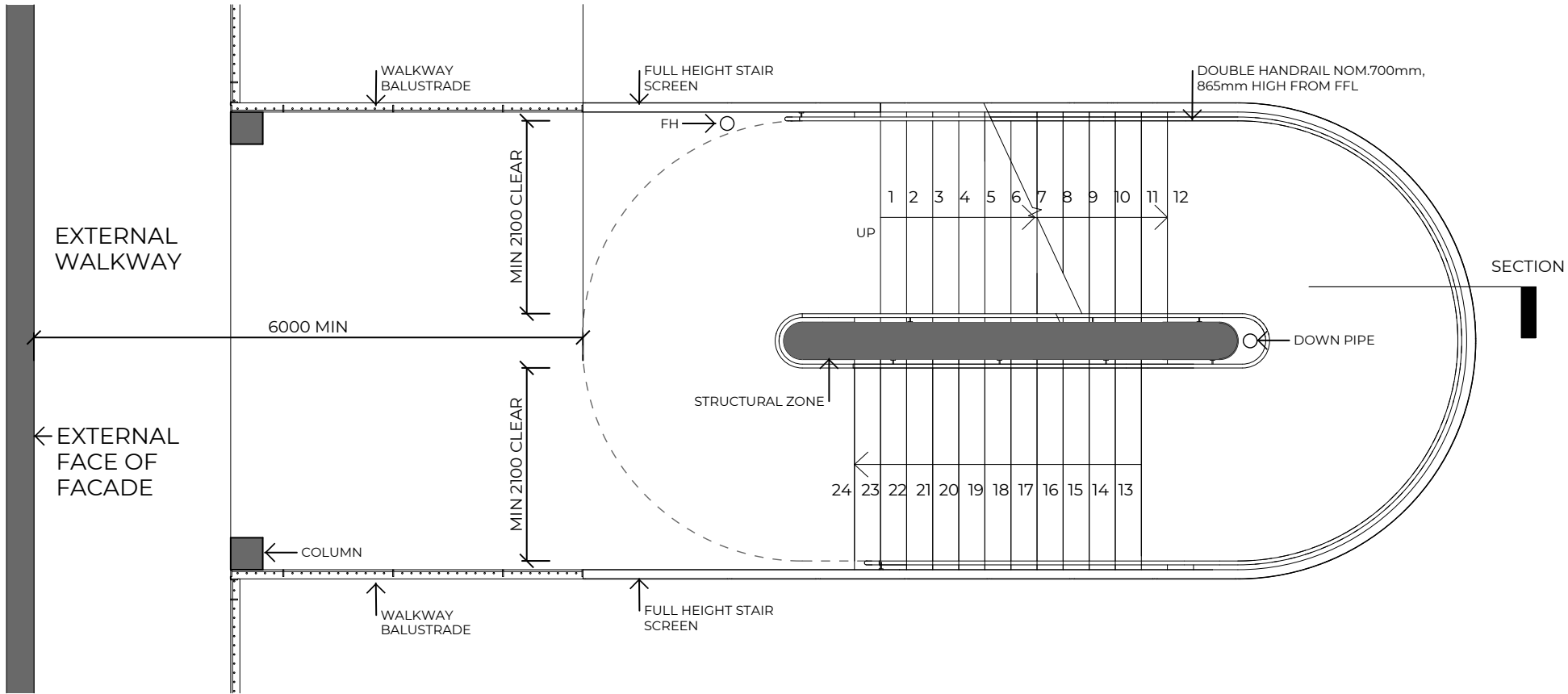
- Full height powder-coated perforated metal screen
- Maximum 7mm diameter perforated metal screen to prevent finger trap and climb-ability
- Consider suitability of powder-coating in coastal regions prone to rusting.



3.4 Stairs

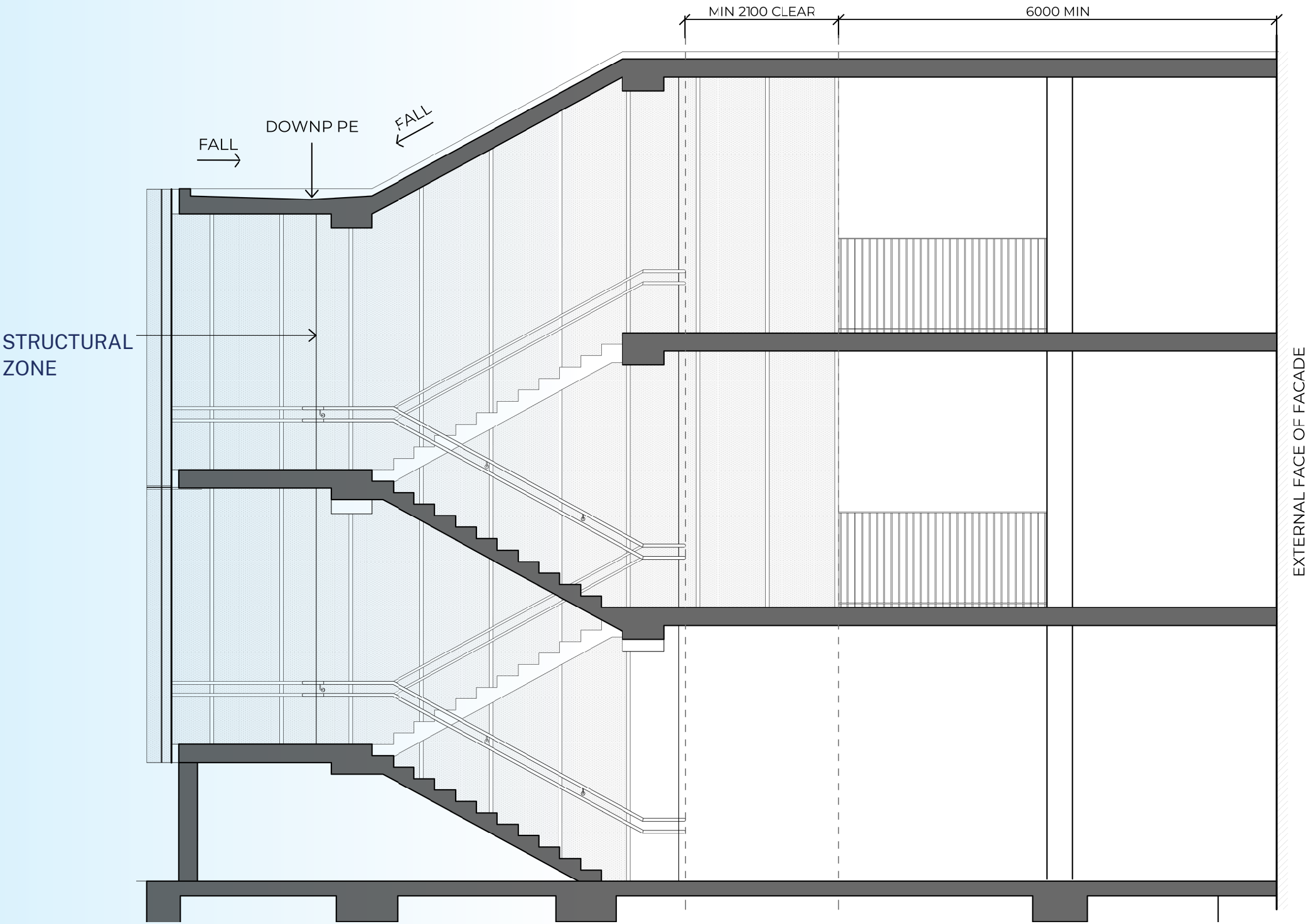
Stair plan

- Minimum 2100mm clear width
- Aggregated width to meet EFSG mass circulation requirement
- Each flight of stairs must have a minimum of 3 risers and a maximum of 14 risers
- Height of stair risers to be nominal 156mm (+/- 10mm) for both Public School and High School (based on the standard 3750mm storey height)
- Stair going dimension is to be 285mm
- Generally designed as Deemed-to-Satisfy solution
- If NCC egress widths and EFSG circulation requirements can be met with an extended travel distances, then a fire engineered Performance Solution may be applied in the interest of reducing the number of stairs.
- A zone is provided for the Fire Hydrant (FH), further coordination between project teams and fire engineer/ BCA consultants is required.



3.4 Stairs

Stair Section



Baseline design



With Base



Integrated with landscape design

3.5 Circulation worked example

Worked example

Baseline design

CONCRETE LIFT
SHAFT WITH
PAINTED ARTWORK

1.3M GALVANISED
STEEL FLAT BAR
BALUSTRADE

CONCRETE STAIR BASE
WITH PAINTED ARTWORK
TO MATCH LIFT

FULL HEIGHT
PERFORATED METAL
STAIR SCREEN



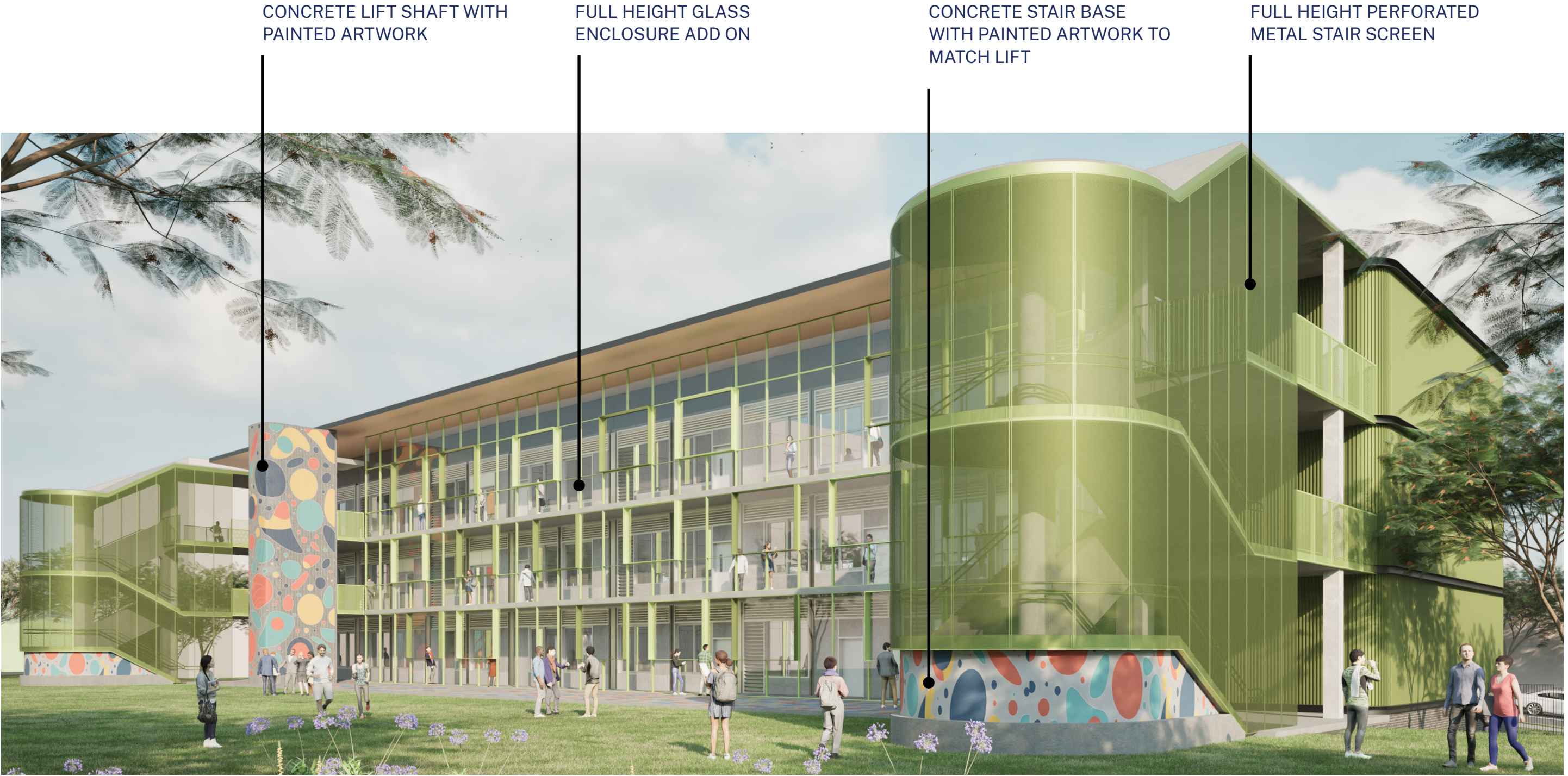
3.5 Circulation worked example

Baseline design with perforated metal balustrade



3.5 Circulation worked example

Full height glazing add-on



4

Services

- 4.1 Overview
- 4.2 Ceiling void strategy
- 4.3 Mechanical strategy
- 4.4 Comms strategy
- 4.5 Electrical strategy
- 4.6 Photovoltaic solar power
- 4.7 Services & Amenities strategy

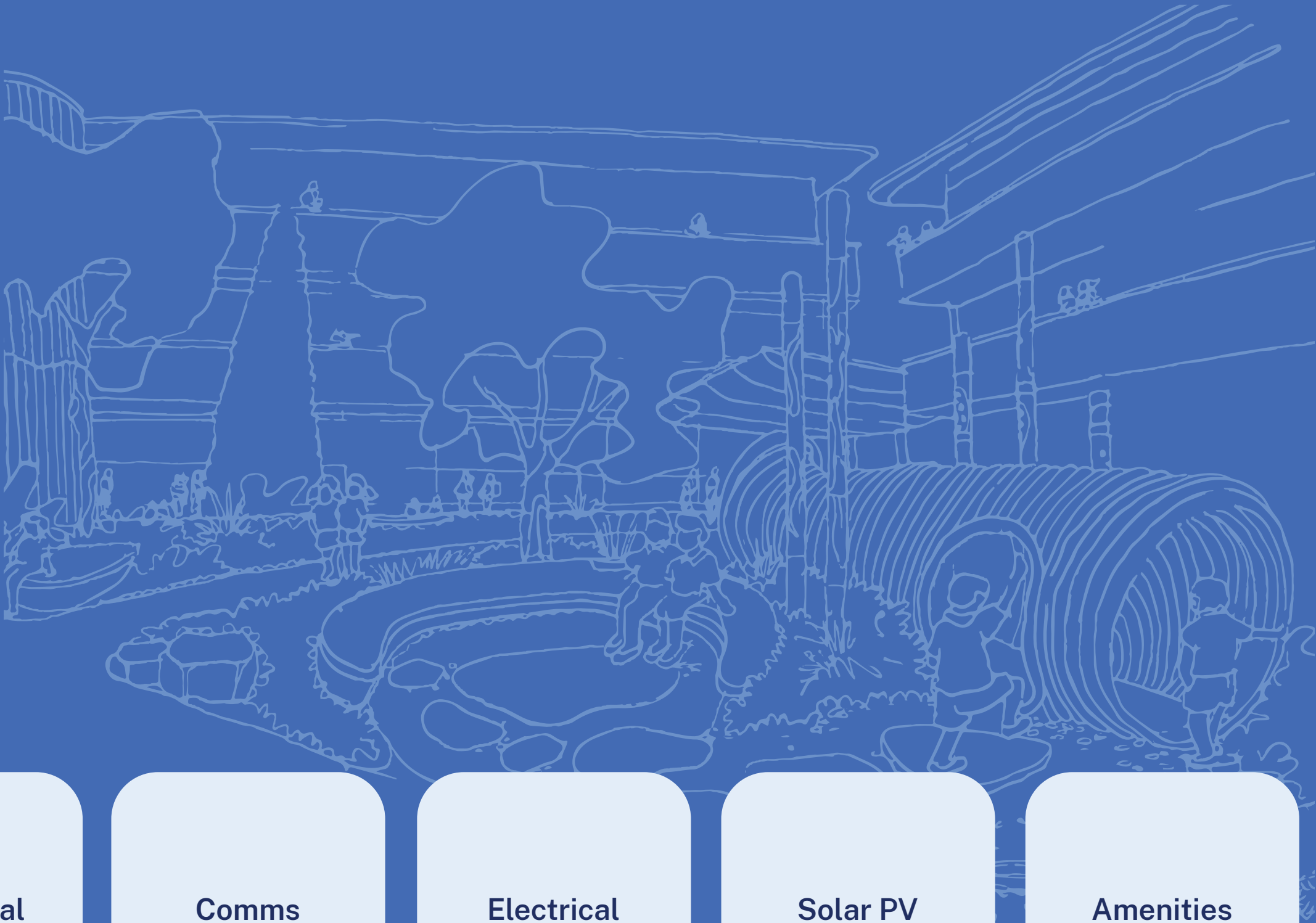
4.1 Overview



Services components

The standardised schools include a core associated with each building which houses student toilets, comms rooms, cleaners rooms, mechanical plant and electrical services.

This section of the Pattern Book outlines the strategies for each of the components shown below.



Ceiling Void

Mechanical

Comms

Electrical

Solar PV

Amenities



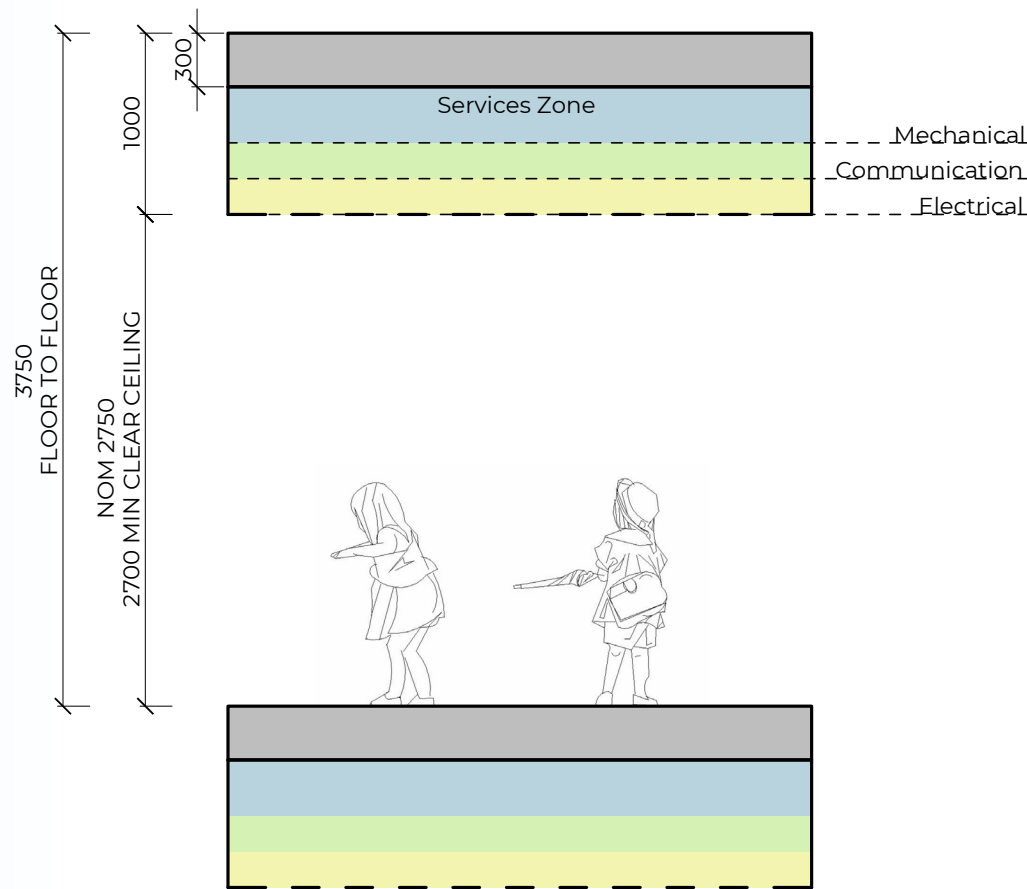
4.2 Ceiling void strategy

Service zone design intent

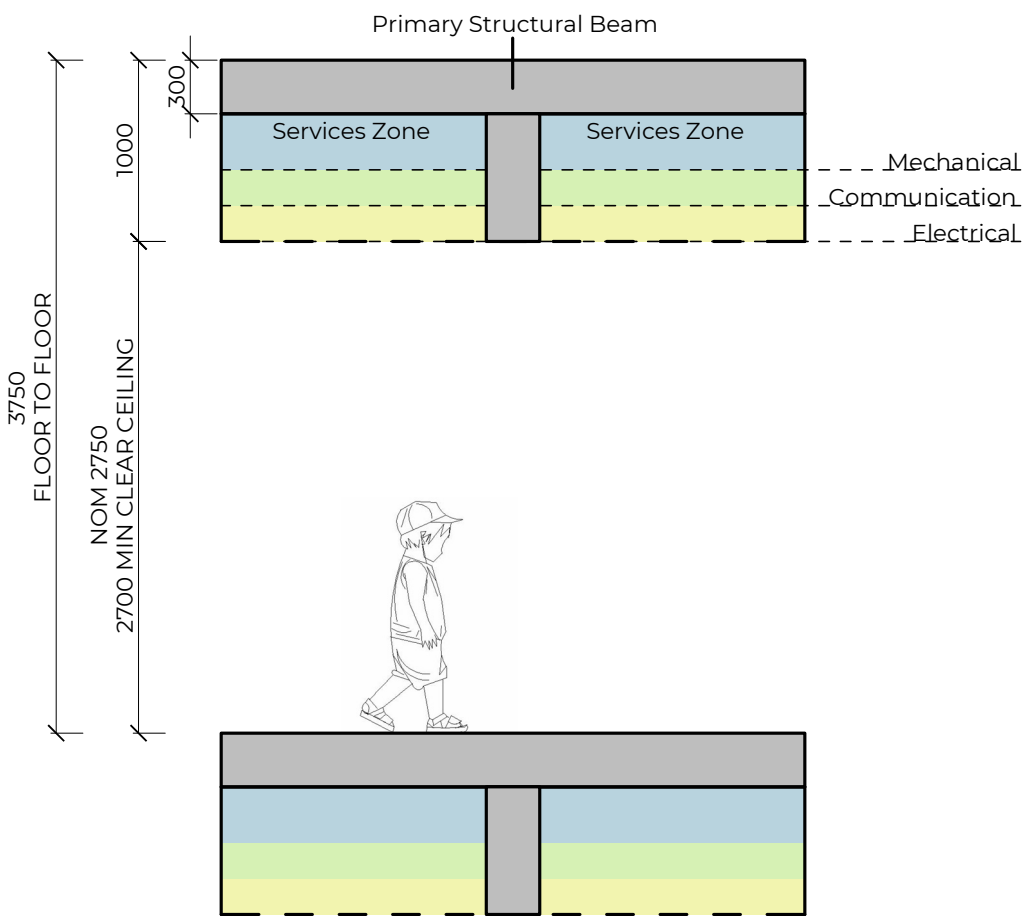
The standardised school designs provided are structurally agnostic, which enables industry product innovation and best practice to be applied to building services. To support a structurally agnostic approach and optimise flexibility in the choice of structure, a floor to floor height of 3.75m has been nominated, assuming 300mm floor structure.

The floor to floor height will be included in planning approvals and does not prohibit industry innovation to lower the floor to floor height to accommodate lean structural systems, provided the building services are not compromised. A minimum clear floor to ceiling height of 2700mm must be maintained. Additionally, project teams should arrange services within the ceiling void with a coordinated zoning approach.

Service zoning strategy for flat slab structure



Service zoning strategy for framed floor structure



4.3 Mechanical strategy

Mechanical design intent

Each building block, typically 7 grid bays maximum length, is to be serviced with mechanical plant located in the core and refrigerant pipework reticulated through the ceiling voids.

Condensers are located on the top floor of the core (open to sky).

There are two types of reticulation and fan coil locations as follows.

Type 1 - Centralised fan coil units

Air intake and exhaust are to be within the learning commons, and then distributed to adjacent rooms in a central bulkhead zone.

This strategy is suitable for flat slab construction allowing mechanical ductwork to travel between bays unencumbered by beams.

Type 2 - Facade-aligned fan coils

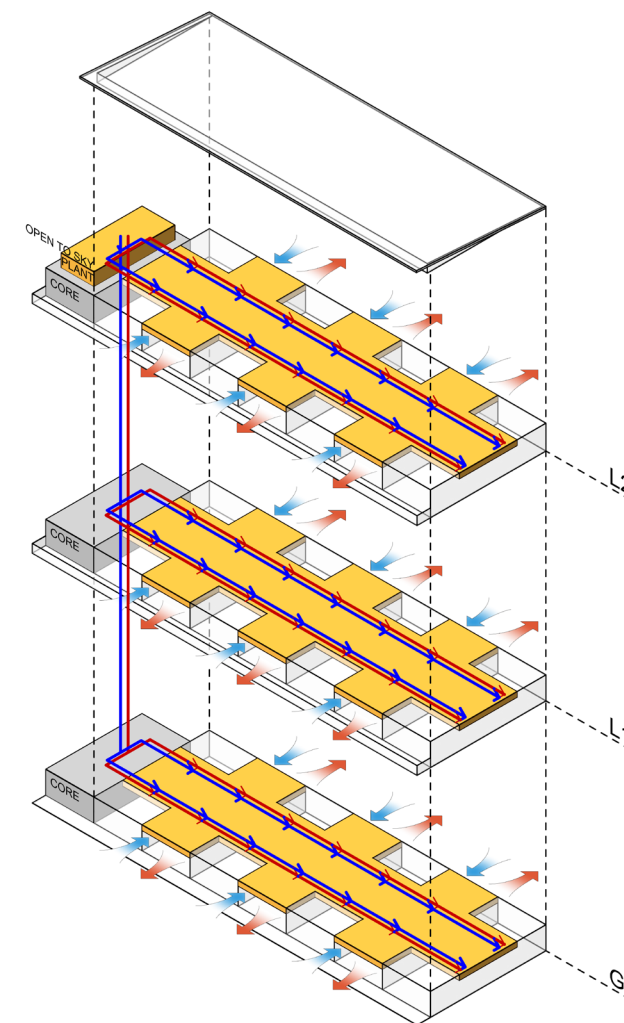
Fan Coil Units are to be located along the façades, with air intake and exhaust directly connected. This strategy creates bulkhead zones along the facade and is compatible with all structural systems.

Natural ventilation requirements

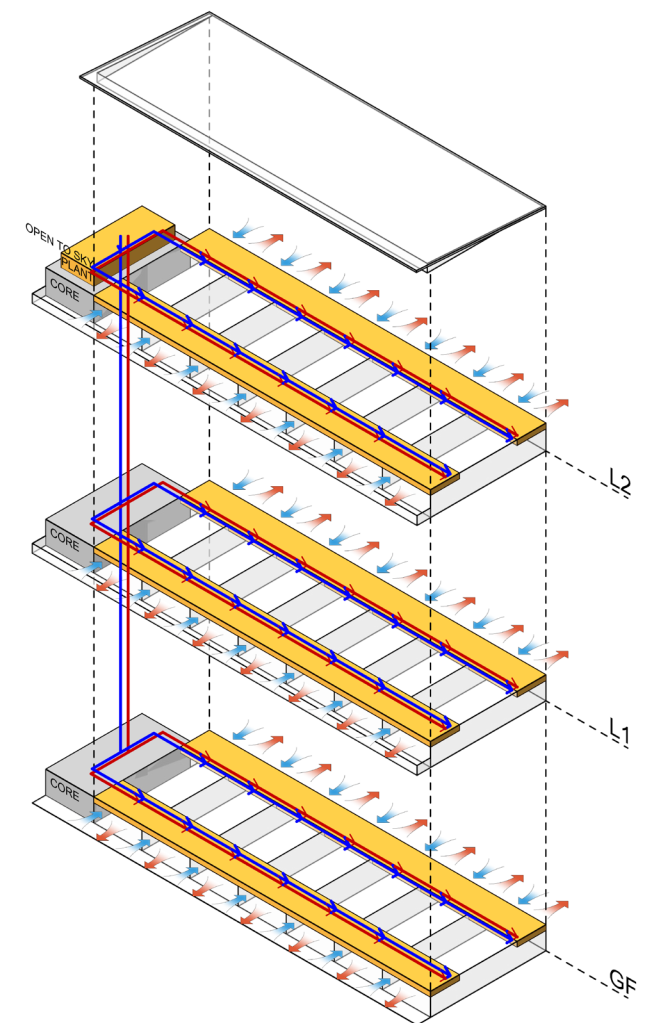
Where habitable rooms are only naturally ventilated, natural ventilation must provide a 50% improvement of outdoor air required by AS 1668.4-2012.

Where habitable rooms are mixed mode (both naturally and mechanically ventilation present) the space must at a minimum meet the requirements of AS1668.4-2012 and the mechanical ventilation system must be designed so that if the CO2 levels within the spaces increase above 800ppm for a period of 10 minutes or more the system must bring the CO2 level down to 700ppm. The system design for this to occur whether windows/louvres are open or not, and only operate when the space is occupied.

Type 1 - Centralised fan coil units



Type 2 - Facade-aligned fan coils



4.3 Mechanical strategy

Preschool services strategy

Stand-alone Preschool

External mechanical condensers on non-prominent side elevation.

Integrated Preschool

Services are to be part of the whole building servicing strategy for the Public School.

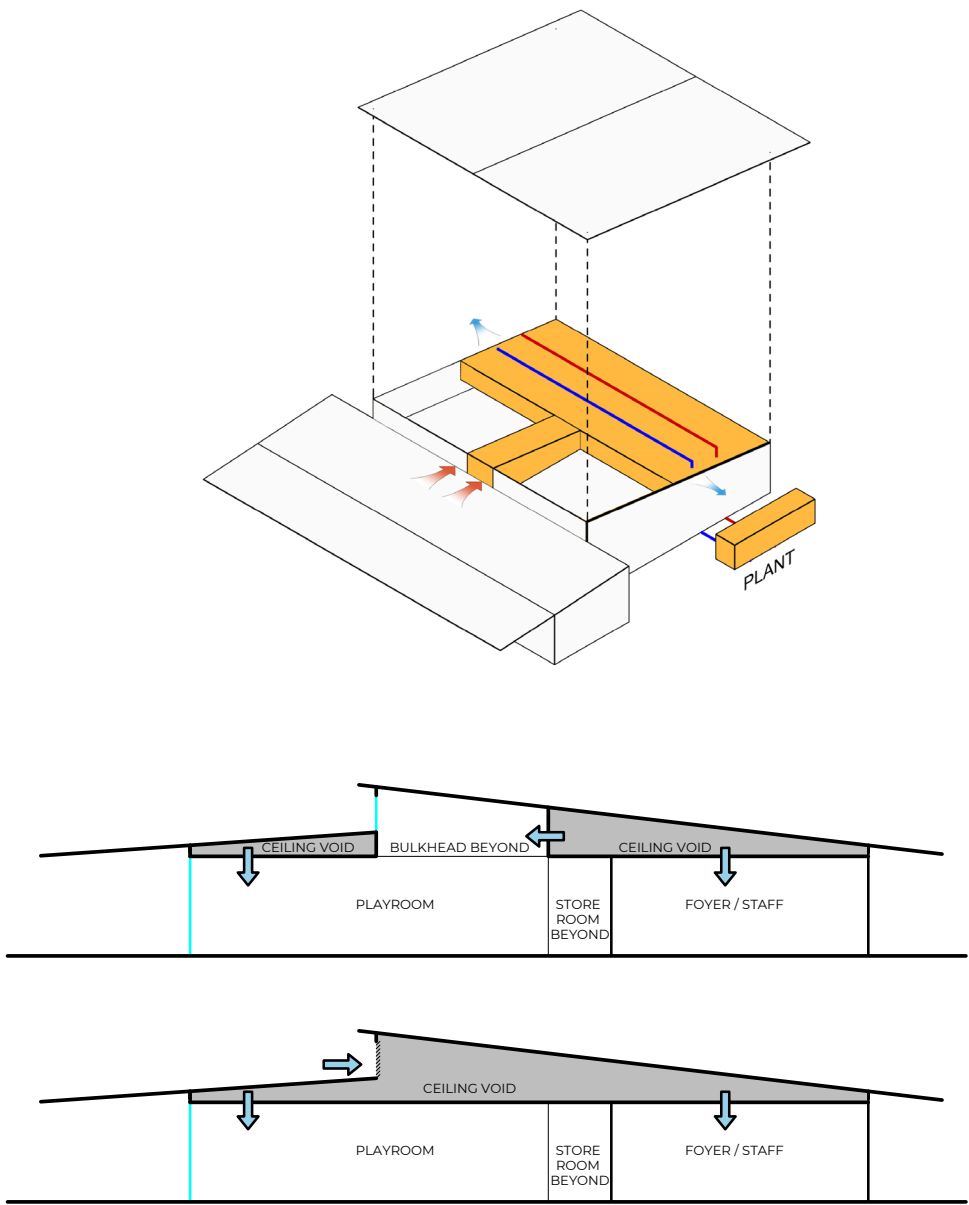
Compliance:

Further coordination between project teams and fire engineer/ BCA consultants is required.

Mechanical strategy - Stand-alone

Generally 2700mm ceiling across the facility with full height sloping ceilings in the zone near the clerestory window as indicated.

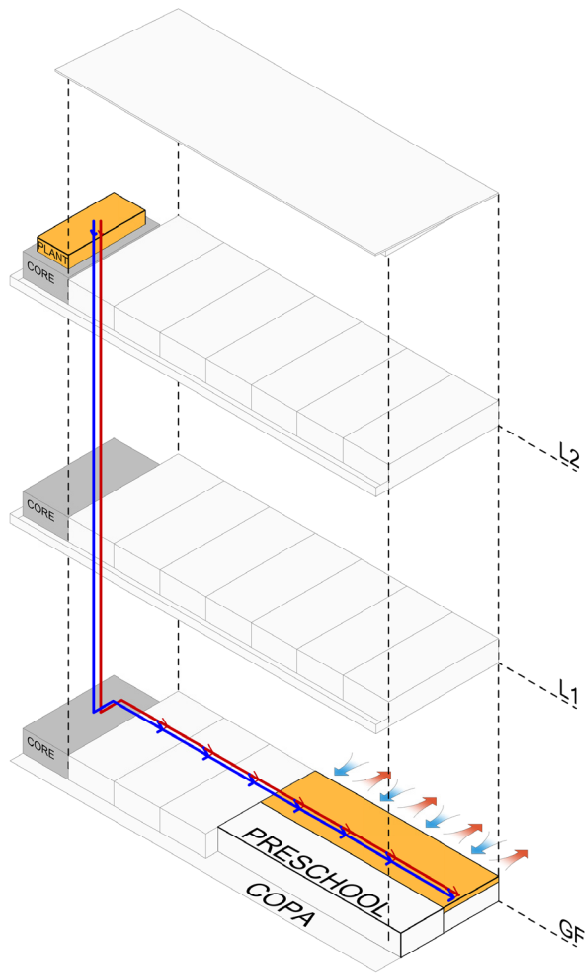
Mechanical intake and exhaust louvres are located at high level adjacent to the clerestory window reticulated back to the 2700mm ceiling zones where fan coil units can be located.



Mechanical strategy - Integrated

Generally 3200mm ceilings above finished floor level in play room areas and 2700mm in other areas where FCUs can be located.

Mechanical intake and exhaust louvres to be on street facade only.



4.3 Worked example

Stand-alone Preschool - Internal view showing skylight and service bulkhead



4.4 Comms strategy

Comms design intent

The comms strategy is designed to optimise spatial efficiency of the service core by configuring the Building Comms Room (BCR) to service multiple levels, up to maximum of 3.

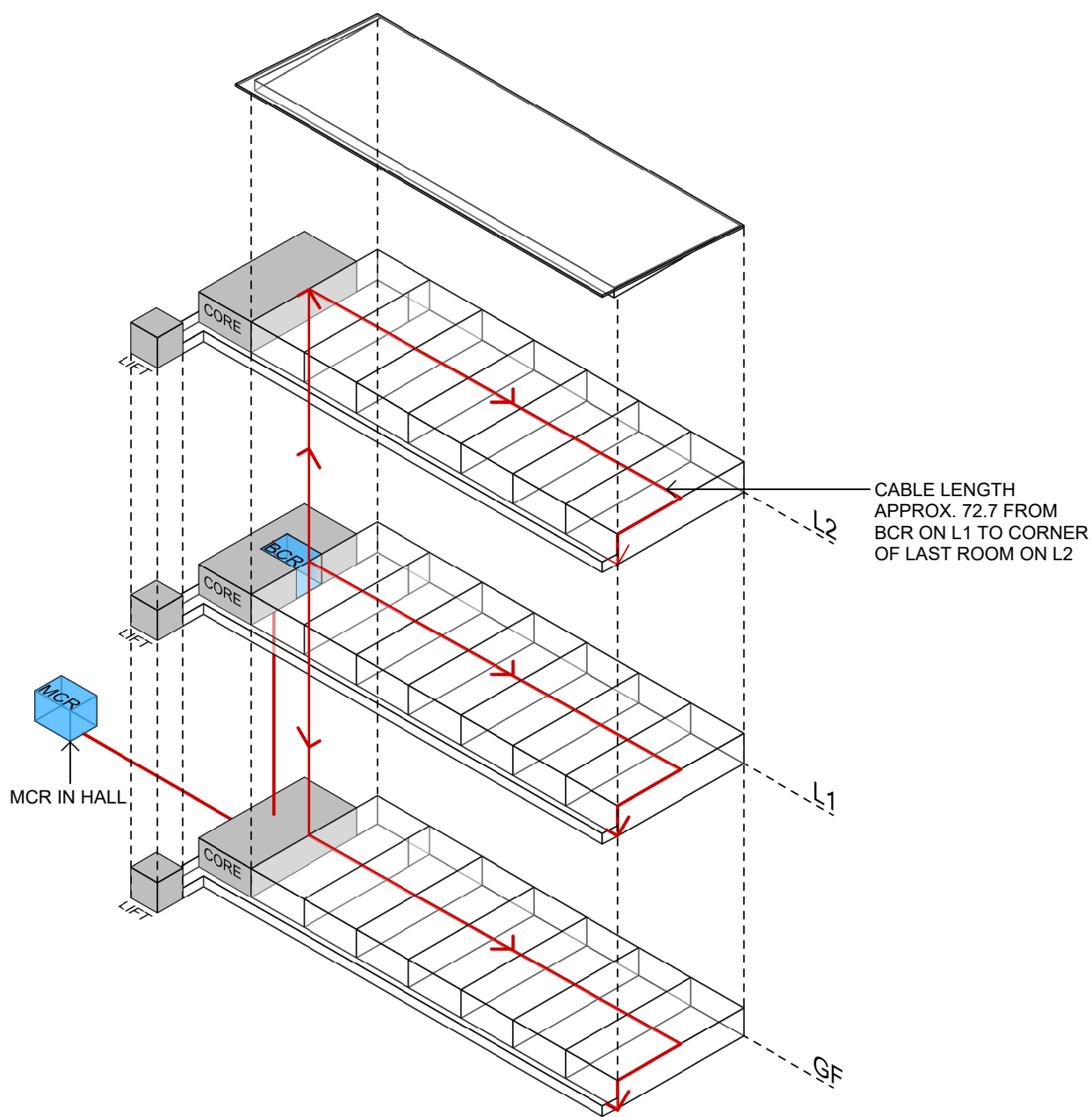
In a typical 3 storeys building, the BCR is to be located on Level 1 in the service core. With cables reticulating in the ceiling voids servicing the top and bottom floor.

For 4 storeys or above, an additional BCR to be incorporated to evenly distribute load.

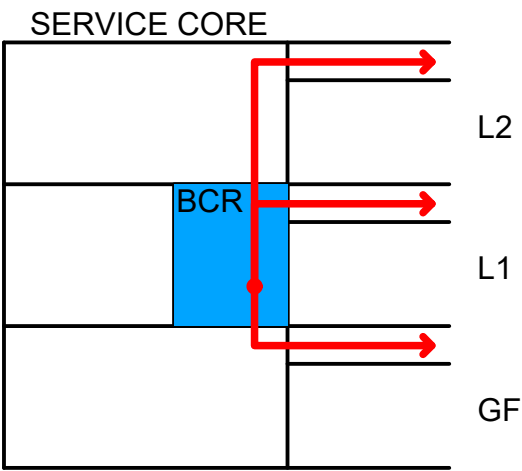
The diagram illustrates that this strategy enables the cables to remain within length limitations of 75m and be fully reticulated within internal spaces.

The Main Comms Room (MCR) is to be located within the Ground Floor Services Core of the Administration building.

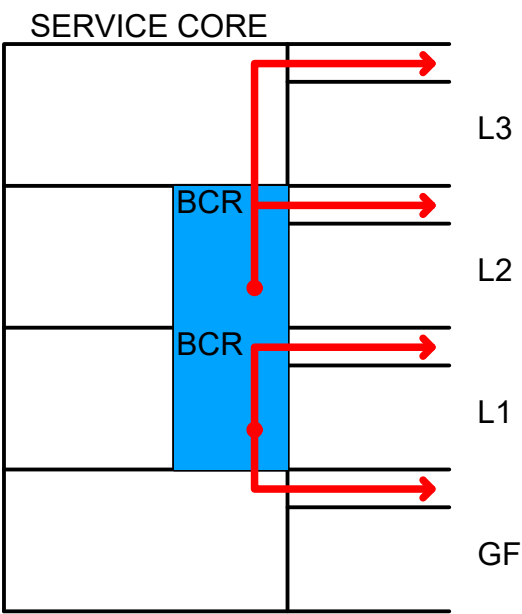
Building Comms Room (BCR) location and reticulation



Three Storeys strategy



4 Storeys Strategy



4.5 Electrical strategy

Electrical power design intent

The Main Switch Board (MSB) to be located on the ground floor of one of the service cores to enable ease of access for maintenance. Alternatively the MSB can be located in the Hall block.

Electrical Distribution Boards (EDB) Past Practice

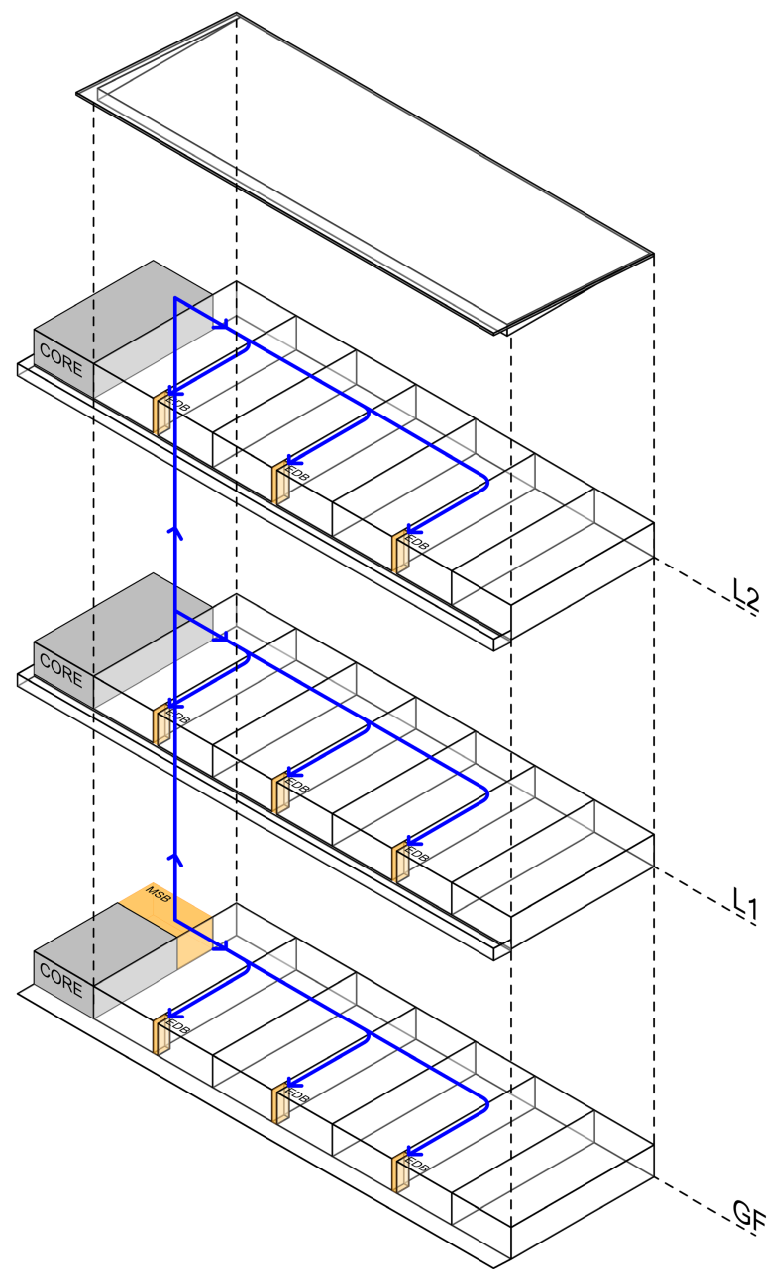
EFSG 1.0 locates EDBs across the floor plate which calls for a spacing of EDBs no greater than 30m.

Standardised EDB Strategy

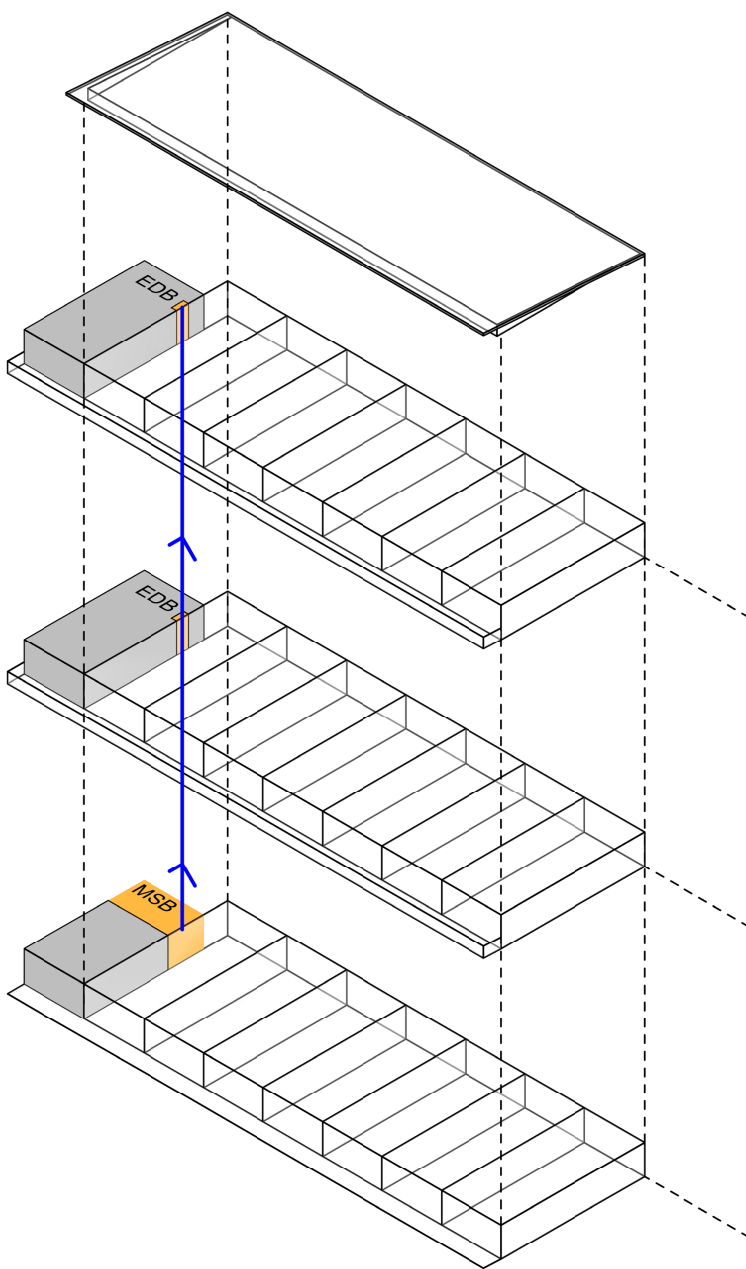
The Electrical Distributed Boards (EDBs) are to be located within the service core. This places them away from student areas for better maintenance personnel separation from students, and enables clutter-free learning spaces and façades. This is so that the facade can remain flexible for future refurbishments to enable the Expandable Schools strategy.

Note this is a departure from the current EFSG.

EFSG 1.0 requirement



Standardised Electrical Distribution Board strategy



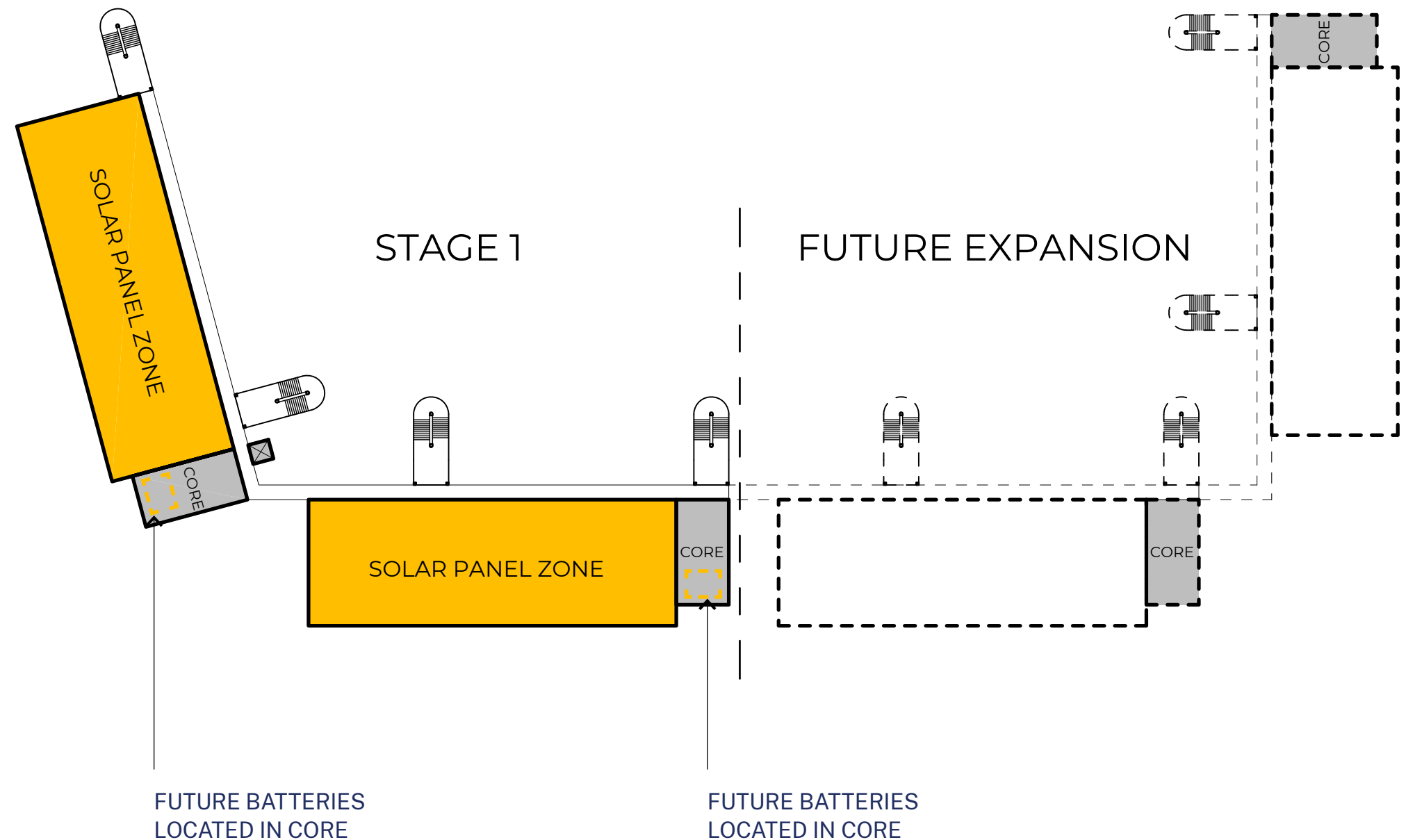
4.6 Photovoltaic solar power

Photovoltaic design intent

A photovoltaic (PV) solar power grid-connect rooftop system shall be provided to offset power consumption at the school.

Requirements:

- The PV system must be designed and installed in accordance with the most recent Australian Standards and Clean Energy Council guidelines
- System size to be designed as per EFSG according to school size
- In expandable schools, PV system to be installed in the first stage buildings.
- Provide suitable space in the MSB and a dedicated circuit(s) as required for future.
- Batteries may be incorporated in the service core and in location that is inaccessible to students. Refer to Chapter 2.8 for services core worked examples.



4.7 Services & Amenities strategy

Design intent

Student amenities are not a “one size fits all” approach. A strategy has been developed to provide safe, equitable, environmentally clean and appropriately configured toilets for all students, located in the areas of most demand, with a scaffolding level of pastoral care provided by staff passive surveillance.

Student toilets are to be configured with the majority located on ground floor (and in the hall) where they are used most during recess, lunch, and before and after school.

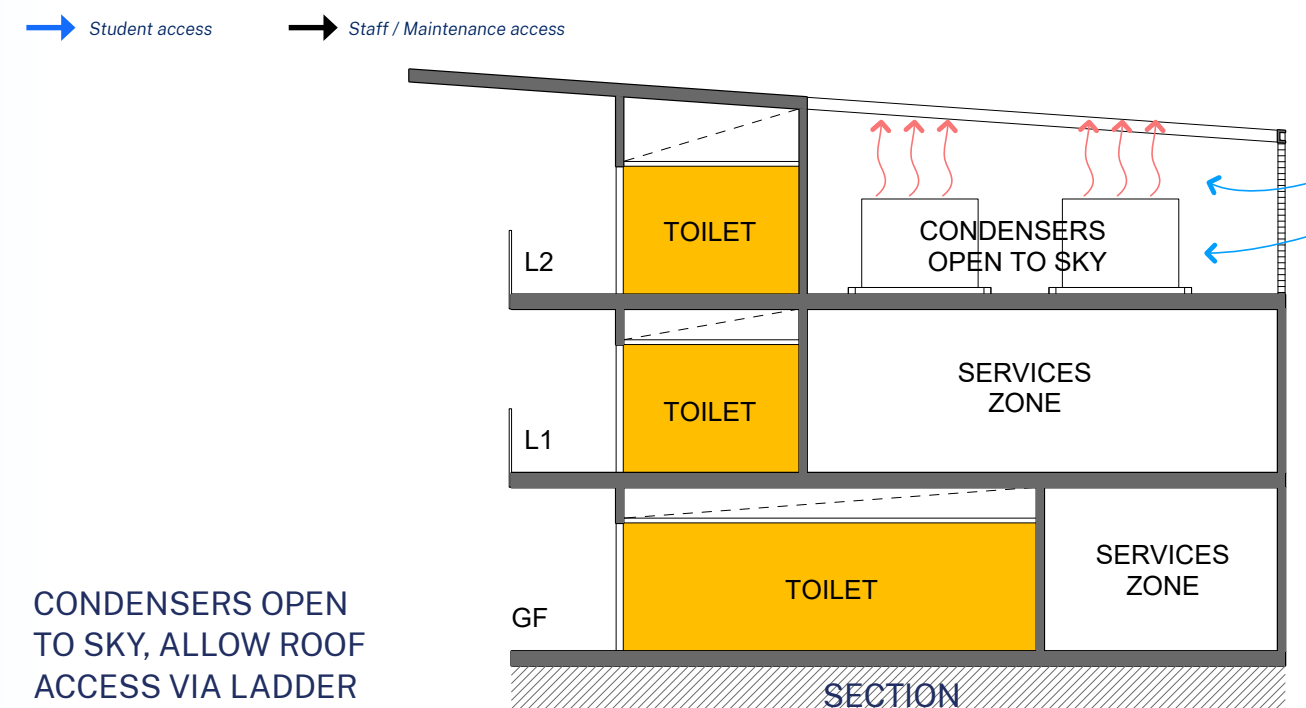
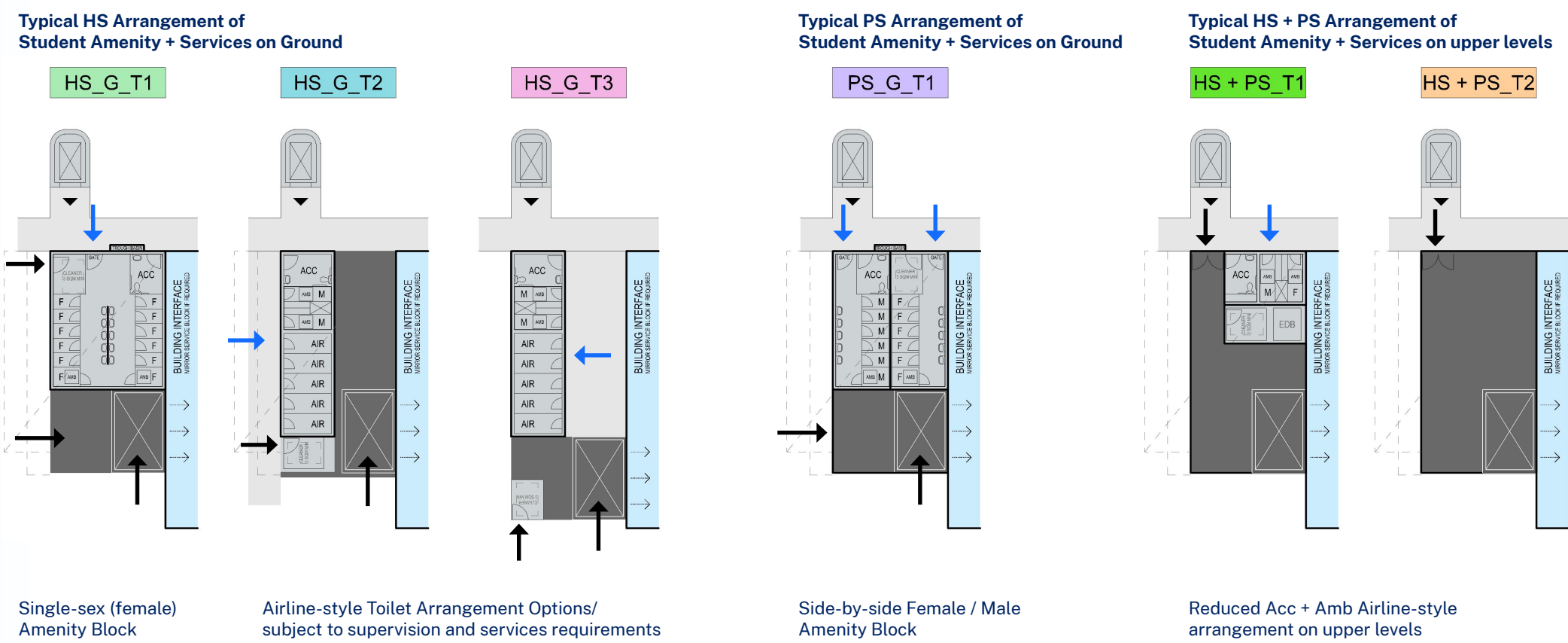
The standardised service core provisions gender specific amenity layouts and accessible (including ambulant) toilets on the ground floor. On upper levels a small amount student amenities are provided to meet BCA requirements.

This arrangement allows for the efficient use of space for the core to also accommodate the required mechanical and electrical services, staff end of trip facilities, cleaners and store room.

Fundamental Principles to comply with:

- 1. Passive surveillance from Admin and staffed areas and visual and acoustic privacy to be provided
- 2. Student Amenity numbers and Toilet configurations to suit population
- 3. Environmental Considerations impacting adjacent spaces
- 4. Provision of a variety of amenity types, located to respond to site specifics

Student amenity + Services arrangements



5

Envelope

- 5.1 Overview
- 5.2 Facade fundamentals
- 5.3 Preschool facade
- 5.4 Preschool worked example
- 5.5 Facade fundamentals for PS & HS
- 5.6 Street facade
- 5.7 Walkway facade
- 5.8 End facade
- 5.9 Preschool roof
- 5.10 Roof
- 5.11 Worked example

5.1 Overview

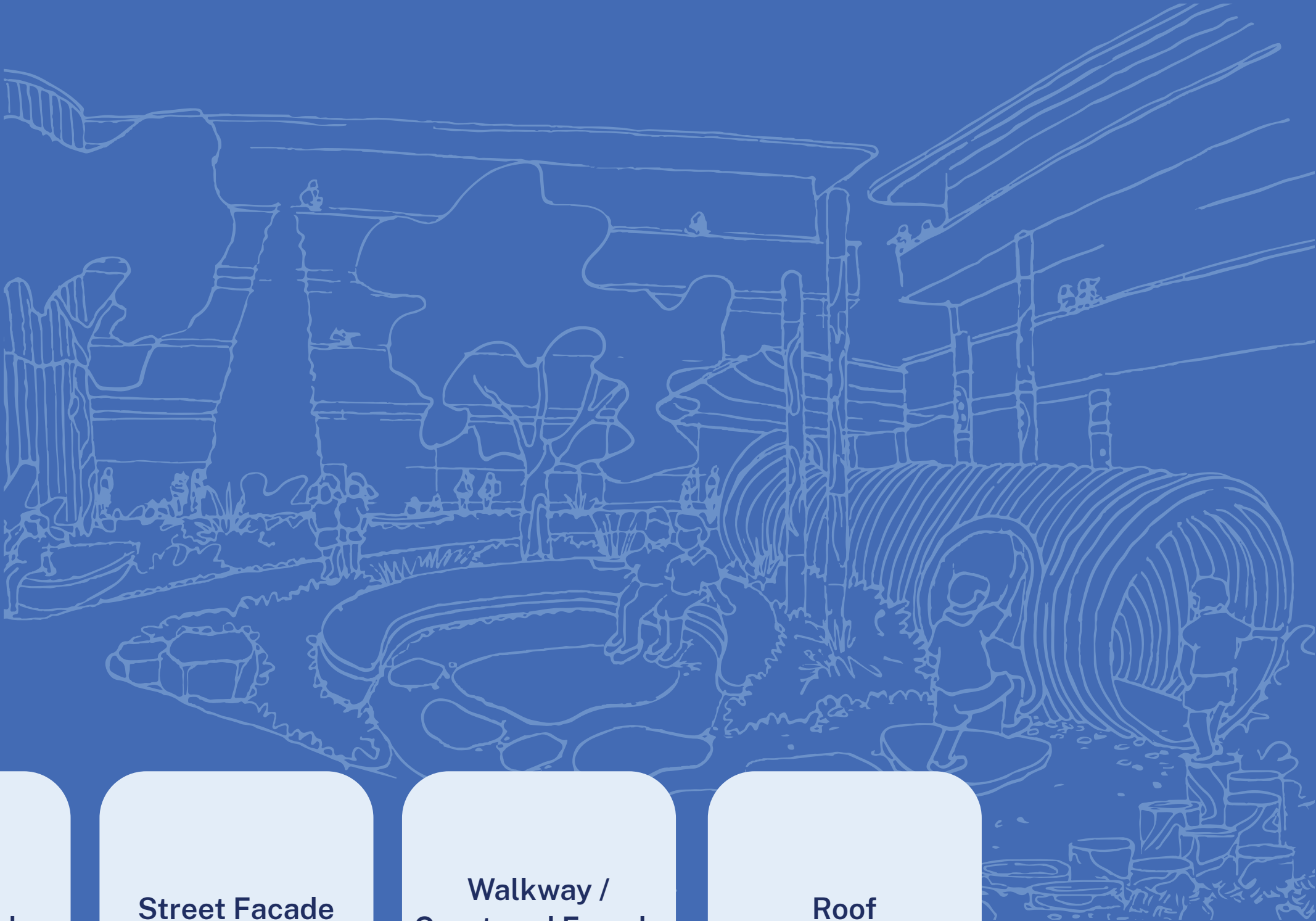


Components

This section of the Pattern Book covers the facade and roof design of standardised schools, as well as Preschools.

This document contains a summary of worked examples of a 40-student stand-alone and an Integrated Preschool.

Refer to Preschool Design Brief for greater detail.



Facade
Fundamentals

Street Facade

Walkway /
Courtyard Facade

Roof



5.2 Facade fundamentals

Facade design intent

The Pattern Book facade is specifically designed to achieve an efficient and high performing building, targeting a net construction cost which is aligned with project budgets.

The façade is a very important element both in terms of the thermal performance of the building and the resultant indoor environment quality, as it related to daylight, ventilation and a biophilic connection to the outside.

It is also central to the presentation to its surrounding context and the internal character to the school.

The design incorporates key metrics for façade glazing and natural ventilation which underpin the design of the two main types of the façades (street side and walkway side).

The facade design also incorporates student safety and security as well as reducing long term maintenance requirements.

The façades are standardised where possible to meet GLS requirements, but must be configured by project teams to meet the various requirements of specialist spaces.



5.3 Preschool facade

Design intent

The Preschool facade design is based on the principles set out in the Preschool Functional Design Brief.

The concept is to create a fun and appealing introduction to school for young children with emphasis on the following design considerations:

Colour:

Use of nature and context inspired colours

Texture and Shape

Differentiating the Preschool from Primary and Secondary Schools and breaking up the scale by using a contrast in material and playful shapes

Graphics:

Use of appealing and playful graphics

Scale:

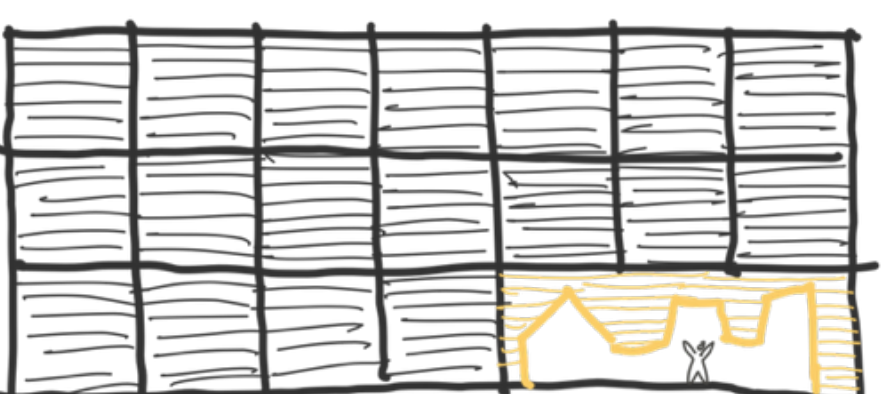
Meeting the child’s age and stature with appropriately scaled components

Creating a fun and appealing introduction to school for children

Stand-alone



Integrated



* Landscape & siteworks components, refer to Preschool Design Brief

5.3 Preschool facade



Preschool facade components

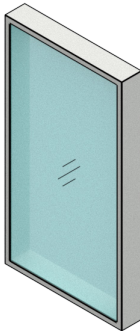
The façade consists of typical components that represent the minimum design requirements. Project teams may modify the composition and finishes to suit specific project needs; however, all variations must maintain a sense of playfulness and align with the design principles outlined in the Preschool Design Brief.



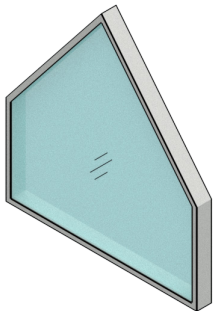
Cladding 1
Corrugated Metal Cladding



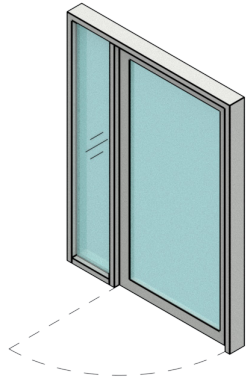
Cladding 2
Compressed Fibre Cement Sheet or Brick



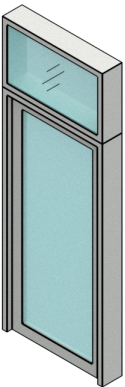
Fixed Glazing
Single glazing



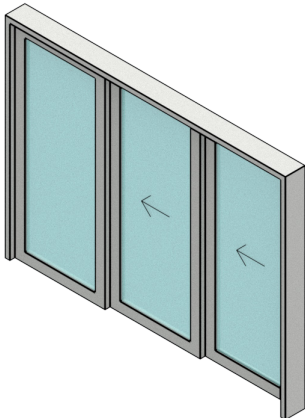
Shaped Fixed Glazing
Single glazing



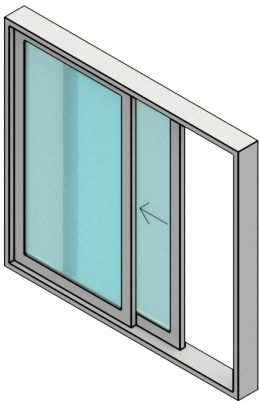
Entry Glazed Door
Powder-coated Aluminium



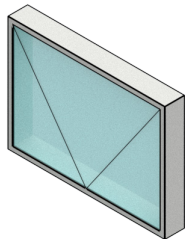
Single Glazed Door with Highlight Glass



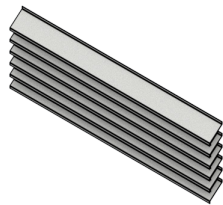
3-Panels Sliding Door



Sliding Window
Fly screens required to all operable windows



Awning Window
Fly screens required to all operable windows



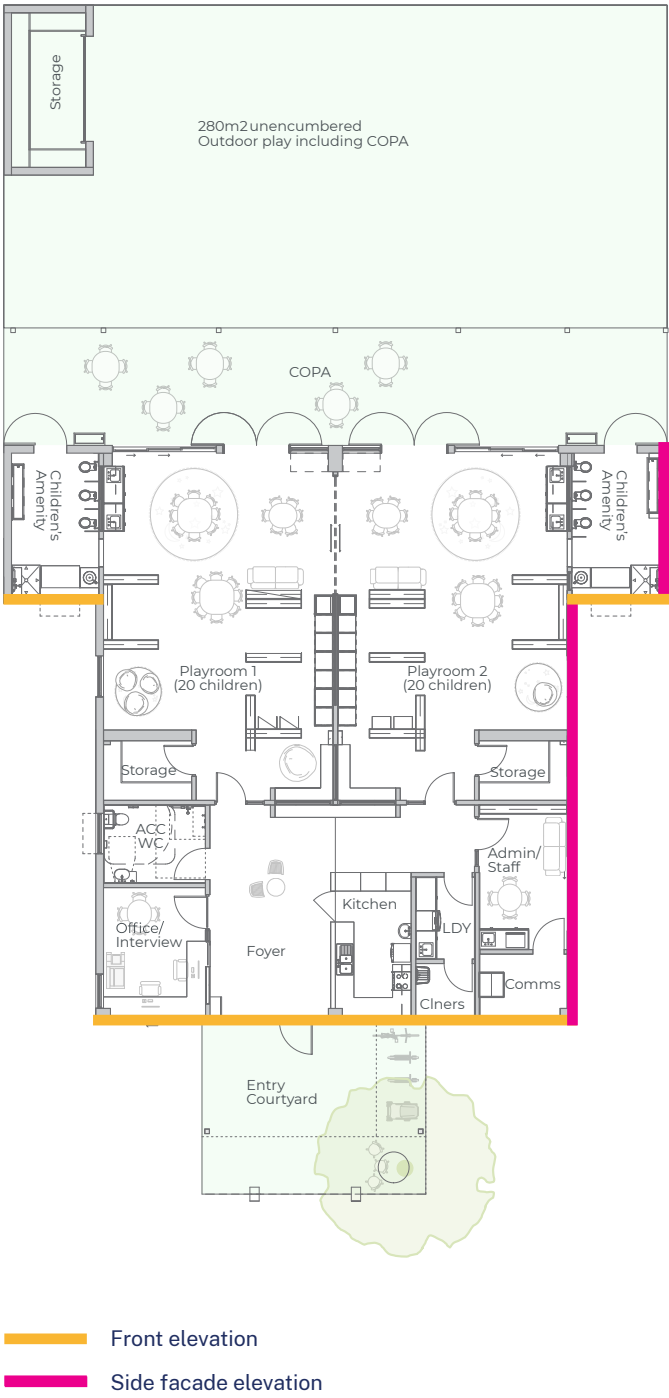
Mechanical Fixed Louvre

Refer to Preschool Design Brief

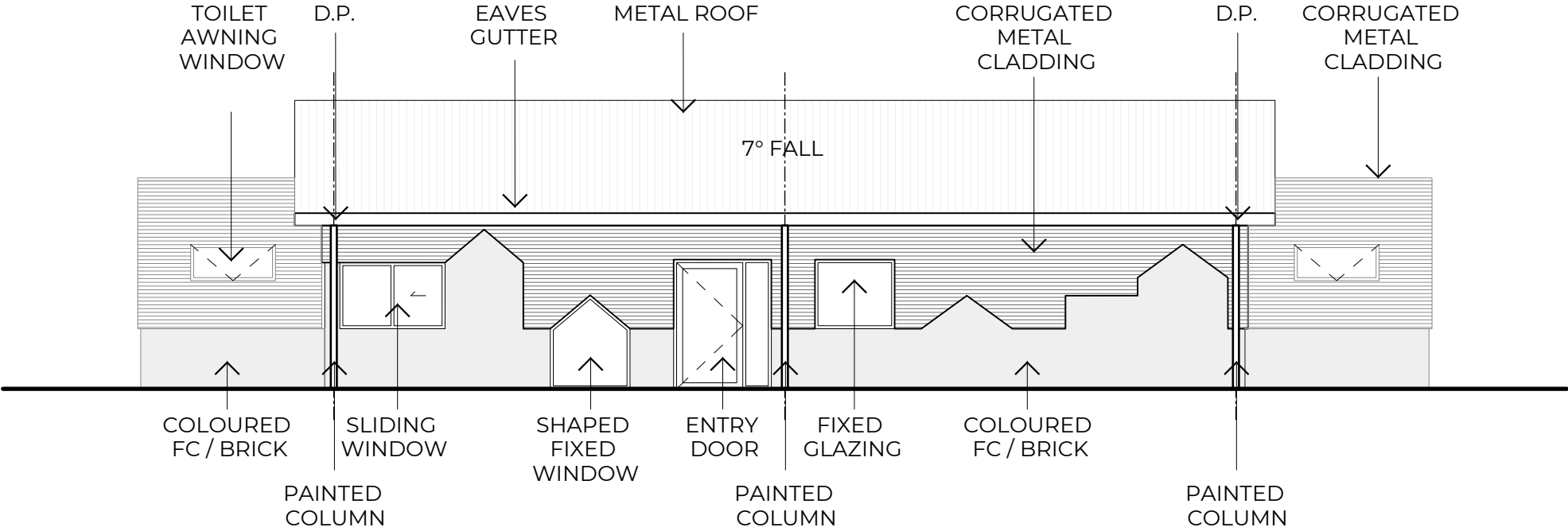


5.4 Preschool worked example

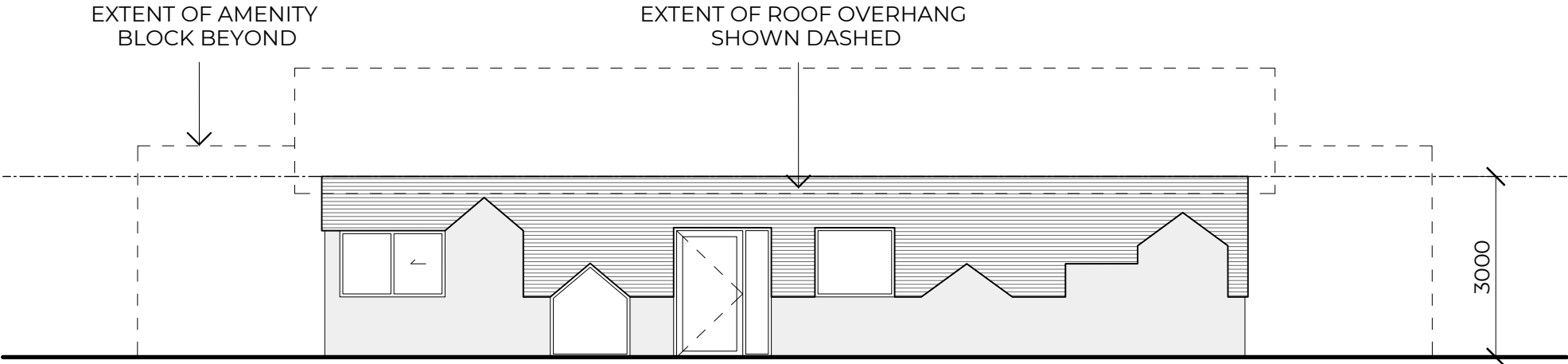
PreK 40 - Stand-alone - Front & Side elevations



Front elevation

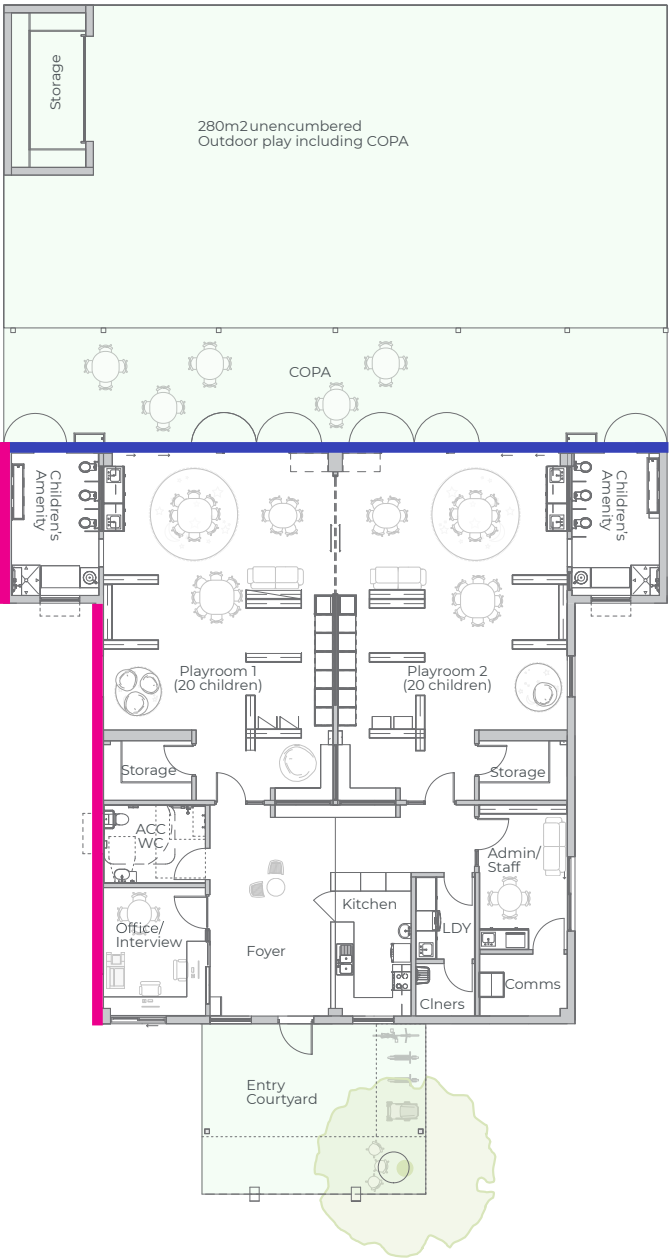


Side facade elevation



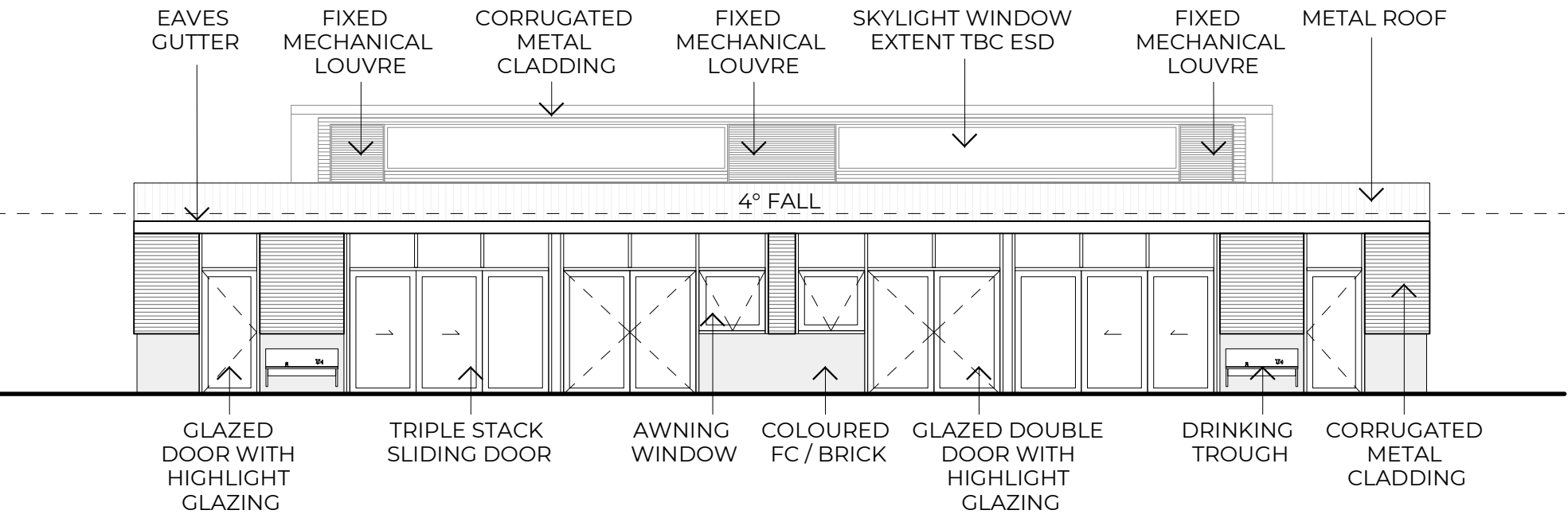
5.4 Preschool worked example

Preschool 40 - Stand-alone - Courtyard & Side elevations

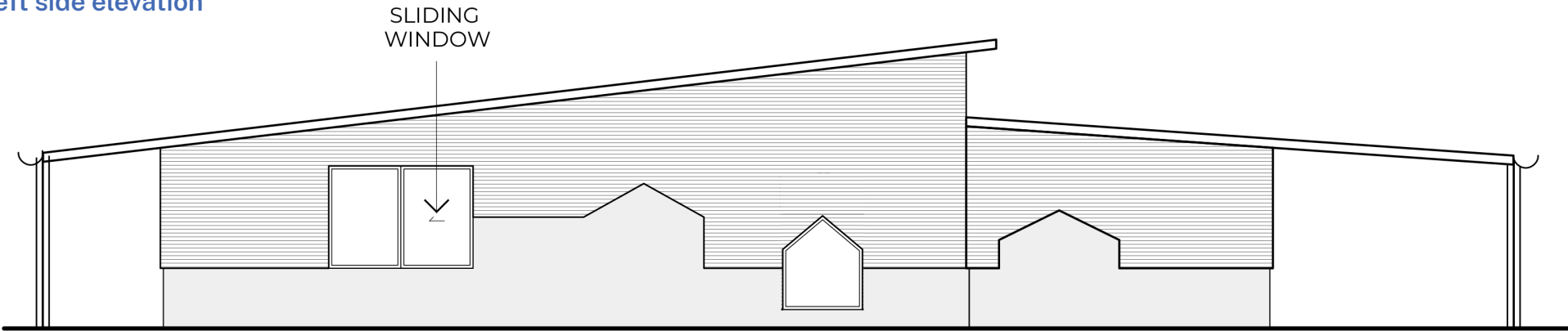


- Back elevation
- Side facade elevation

Back elevation



Left side elevation



5.4 Preschool worked example

Stand-alone - Front entry



* Landscape & siteworks components, refer to Preschool functional design brief

5.4 Preschool worked example

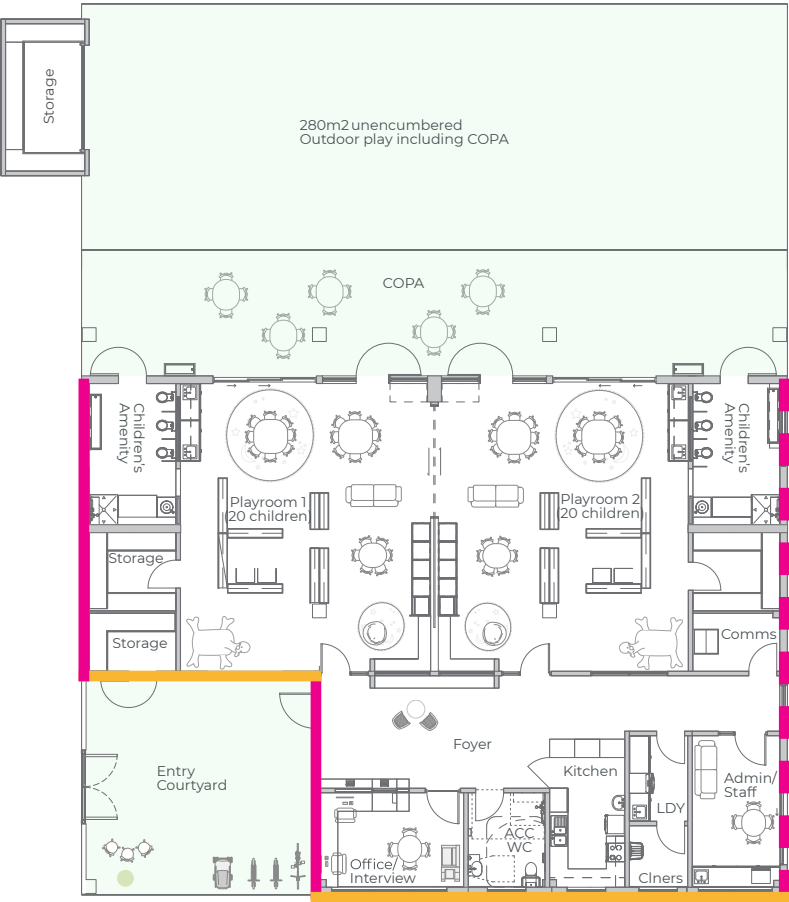
Stand-alone - COPA & outdoor play space



* Landscape & siteworks components, refer to Preschool functional design brief

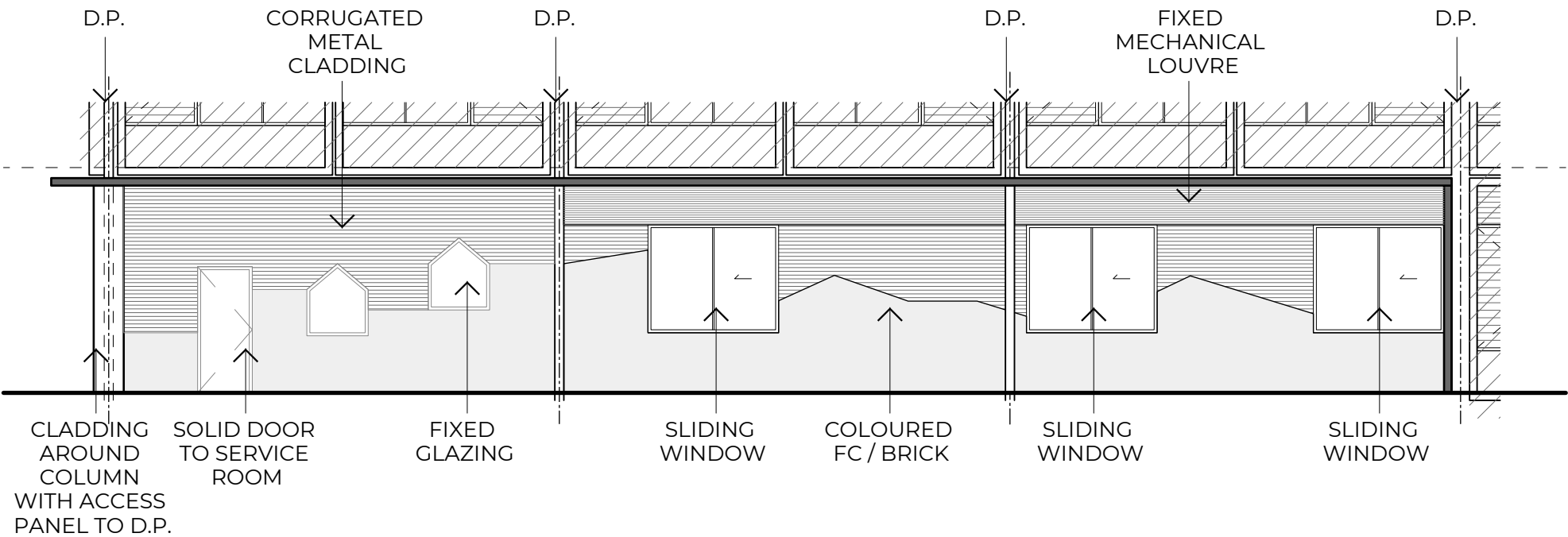
5.4 Preschool worked example

Preschool 40 - Integrated - Street & Side elevations

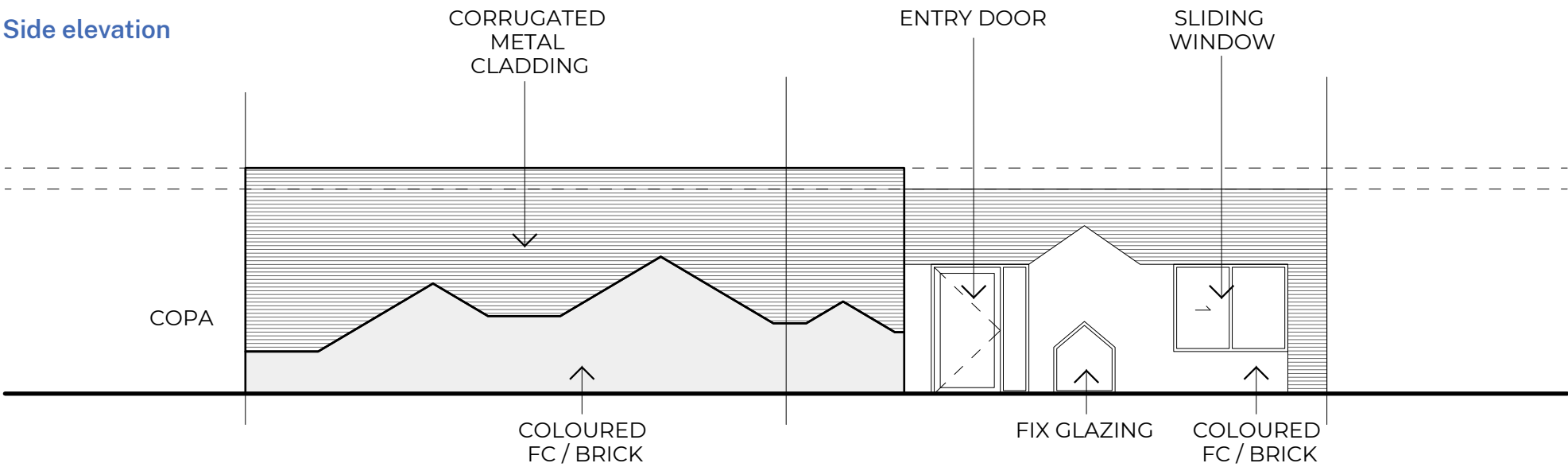


- Front elevation
- Side facade elevation
- Assume integrated, public school beyond

Front elevation

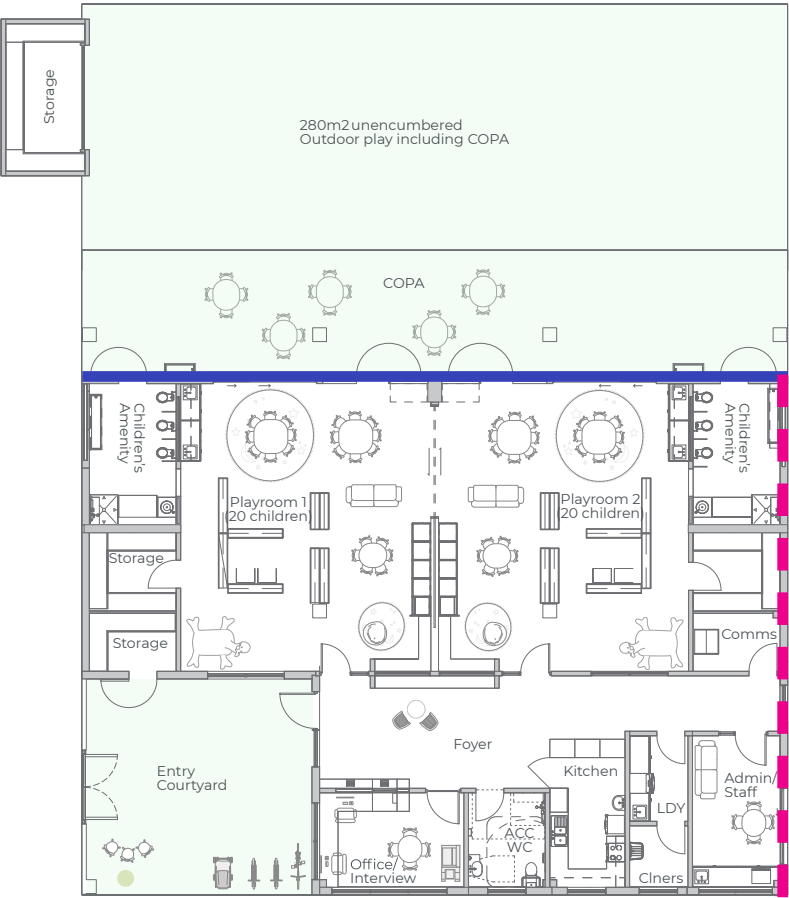


Side elevation



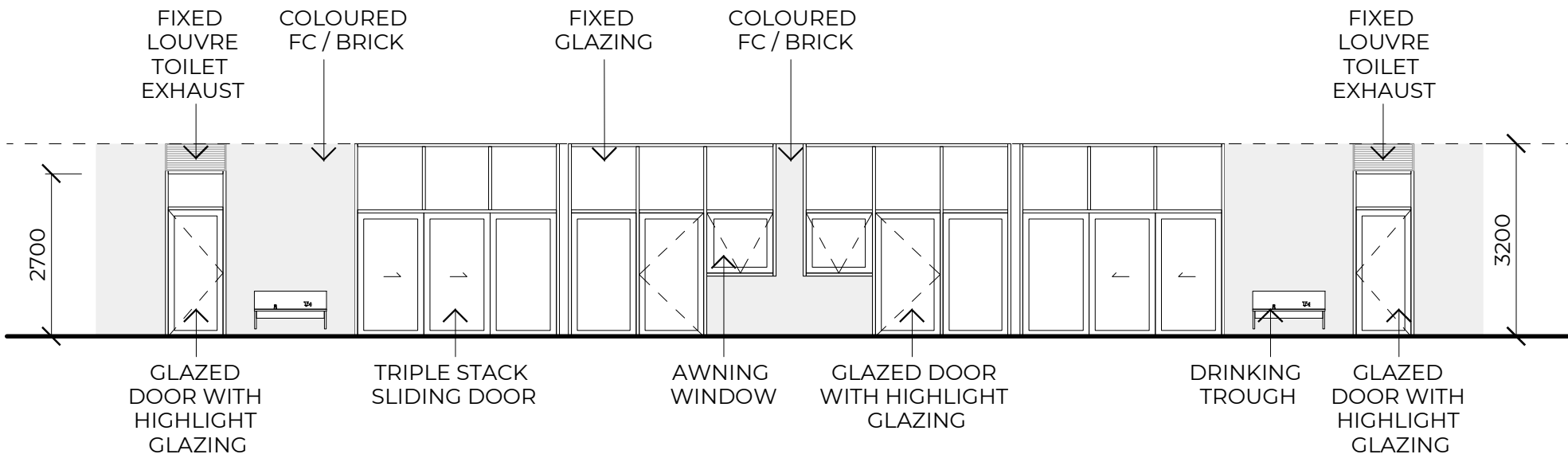
5.4 Preschool worked example

Preschool 40 - Integrated - walkway elevation

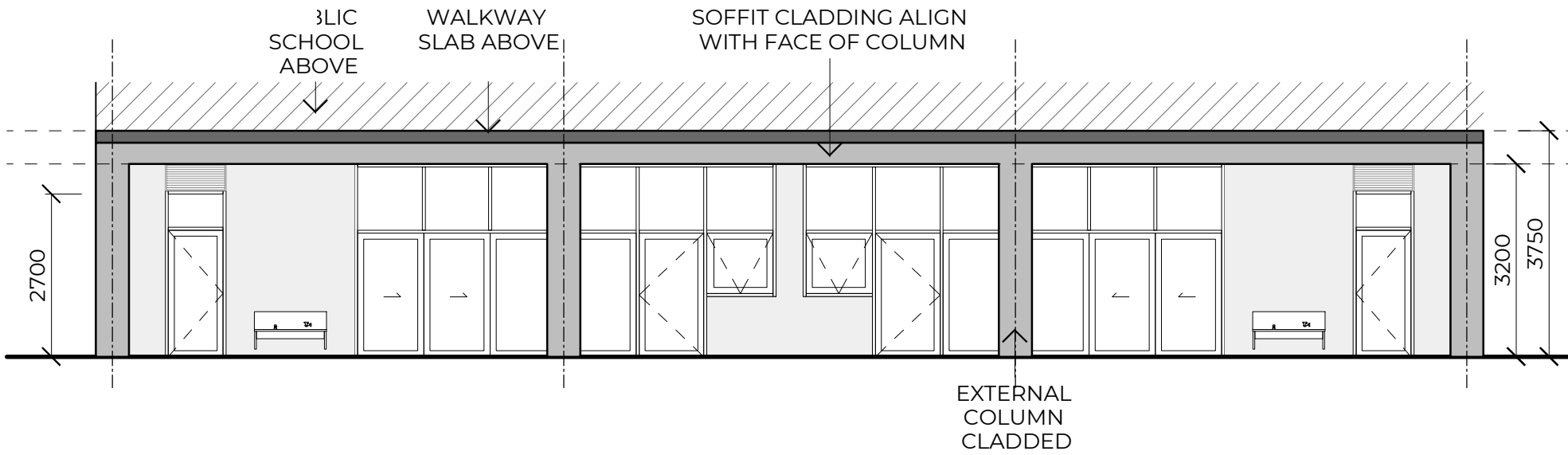


- COPA facade elevation
- Assume integrated, public school beyond

COPA facade elevation



Back elevation



5.4 Preschool worked example

Integrated - Front entry



5.4 Preschool worked example

Integrated - COPA & Outdoor play space

SOFFIT BULKHEAD TO ALIGN
WITH FACE OF COLUMN



5.4 Preschool worked example

Integrated - COPA & Outdoor play space

OUTDOOR PLAY AREA*

COLOUR FENCE*



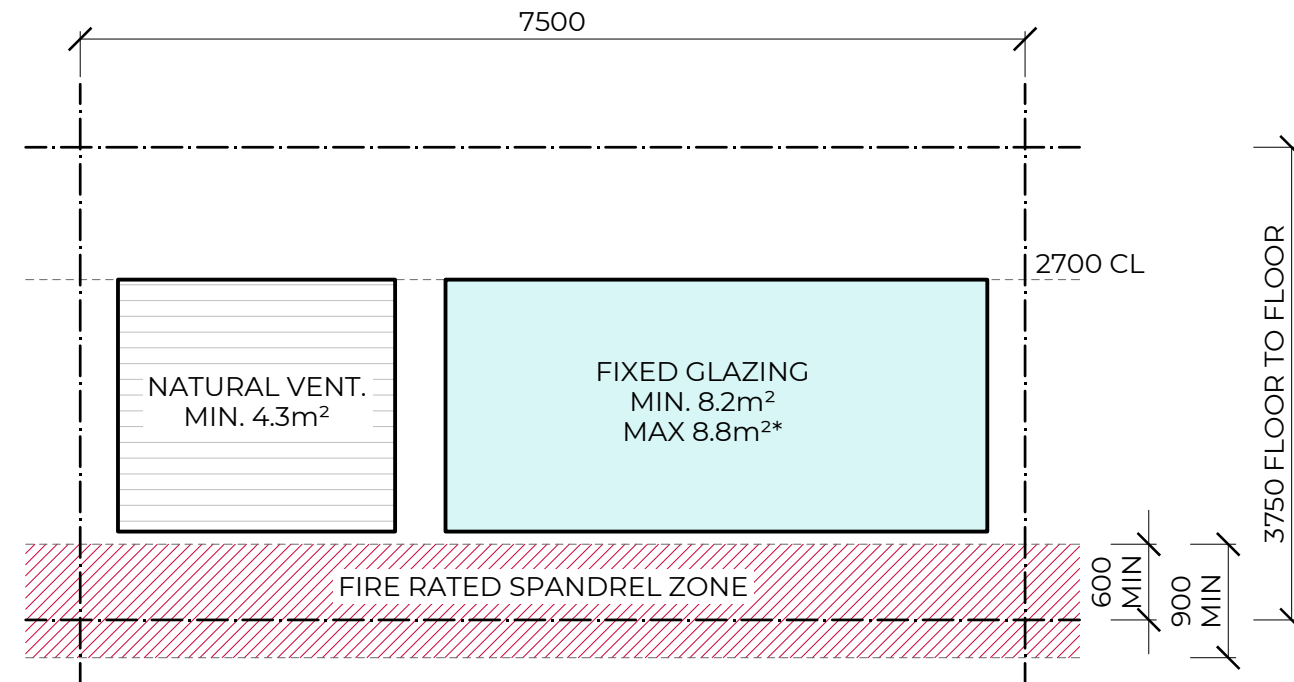
* Landscape & siteworks components, refer to Preschool functional design brief

5.5 Facade fundamentals for PS & HS

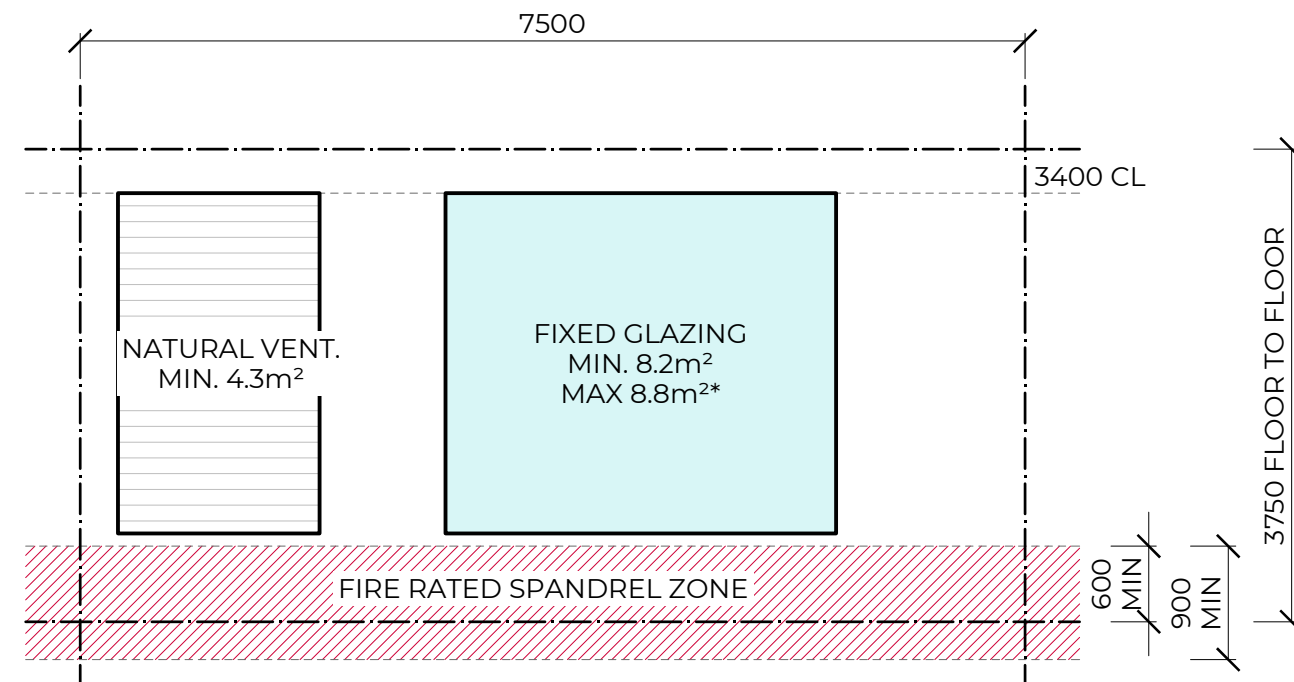
Performance guideline

The facade design is based on the following assumptions and parameters for a typical GLS:

- Minimum glazed area of 8.2 m² per classroom for daylight purposes.
- Minimum grille of 4.3 m² per classroom for natural ventilation purposes. Refer to section 3.3 for natural ventilation requirements.
- Wall R-value 1.4 (all Climate Zones).
- Roof R-3.7 (all Climate Zones, except 6 with R-3.2).
- Slab R-2.0 (all Climate Zones).
- Single-glazing with an overall U-value of 6.2, SHGC of 0.55 and VLT of 0.6, including framing.
- Vertical and horizontal fins of max 600 mm for street-facing façades towards North, East and West, around each of the 4 panels.
- Mechanical system of a VRF type system with individual fancoil units per space, such as LG or Daikin. Classroom cooling capacity of approximately 15 kW with a FCU fan power of approximately 250 W per classroom.
- Temperature setpoint of 20°C to 25°C.
- Lighting wattage of 4.5 W/m².
- Glare control to be managed via internal blinds.
- Louvres or grilles to allow air and/ or light to pass through should be selected to have appropriate levels of sealing, water tightness and acoustic performance.
- DTS fire separation spandrel requirement



FR Spandrel required on street side only



*Approximate facade calculation method (may vary based on whole project Section J modelling)

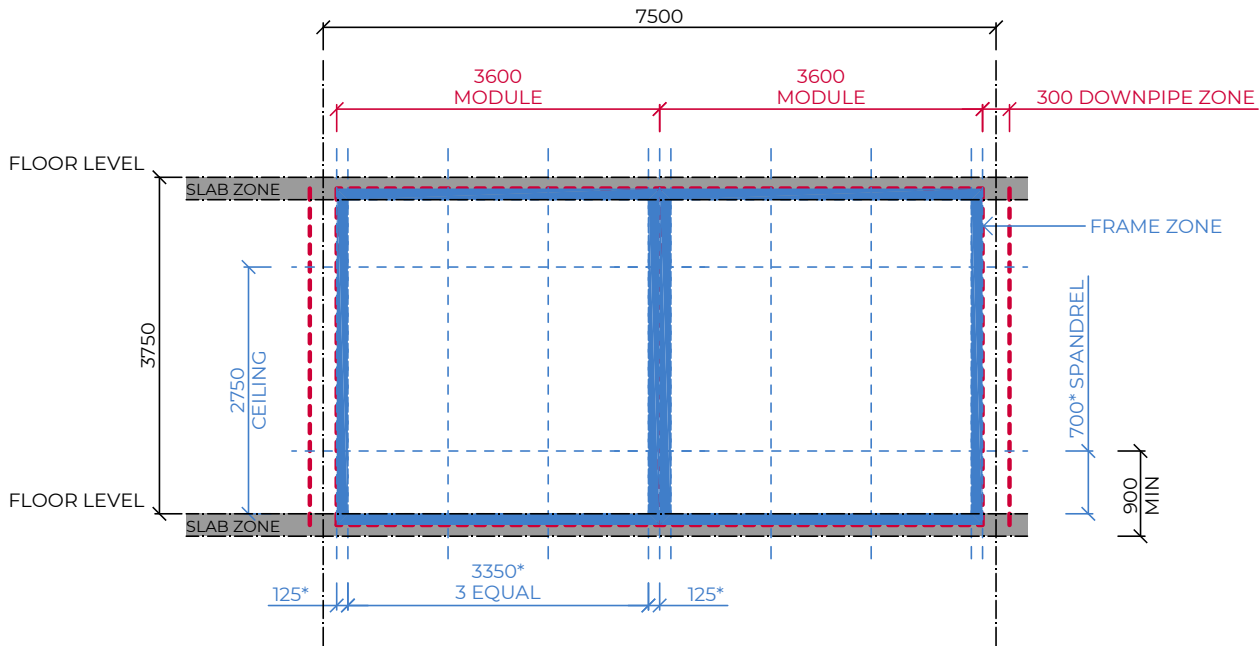
5.5 Facade fundamentals for PS & HS

Facade system

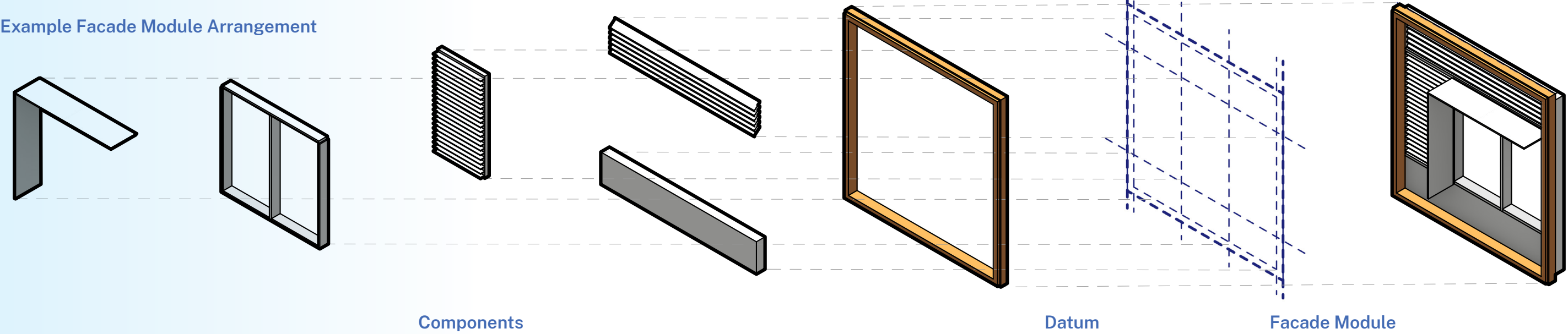
The design is based on a modular system aligned with the school’s standard grid and incorporates a ‘kit of parts’ approach. This enables building components to be selected and configured as required, offering project teams the flexibility to adapt and reconfigure the design to meet specific project requirements.

Grids & datum

The system is based on the building grid. Each 7.5m bay comprises a 300mm recessed zone for downpipe and two 3600mm modules.



Example Facade Module Arrangement



Components

Datum

Facade Module

5.5 Facade fundamentals for PS & HS

Facade components

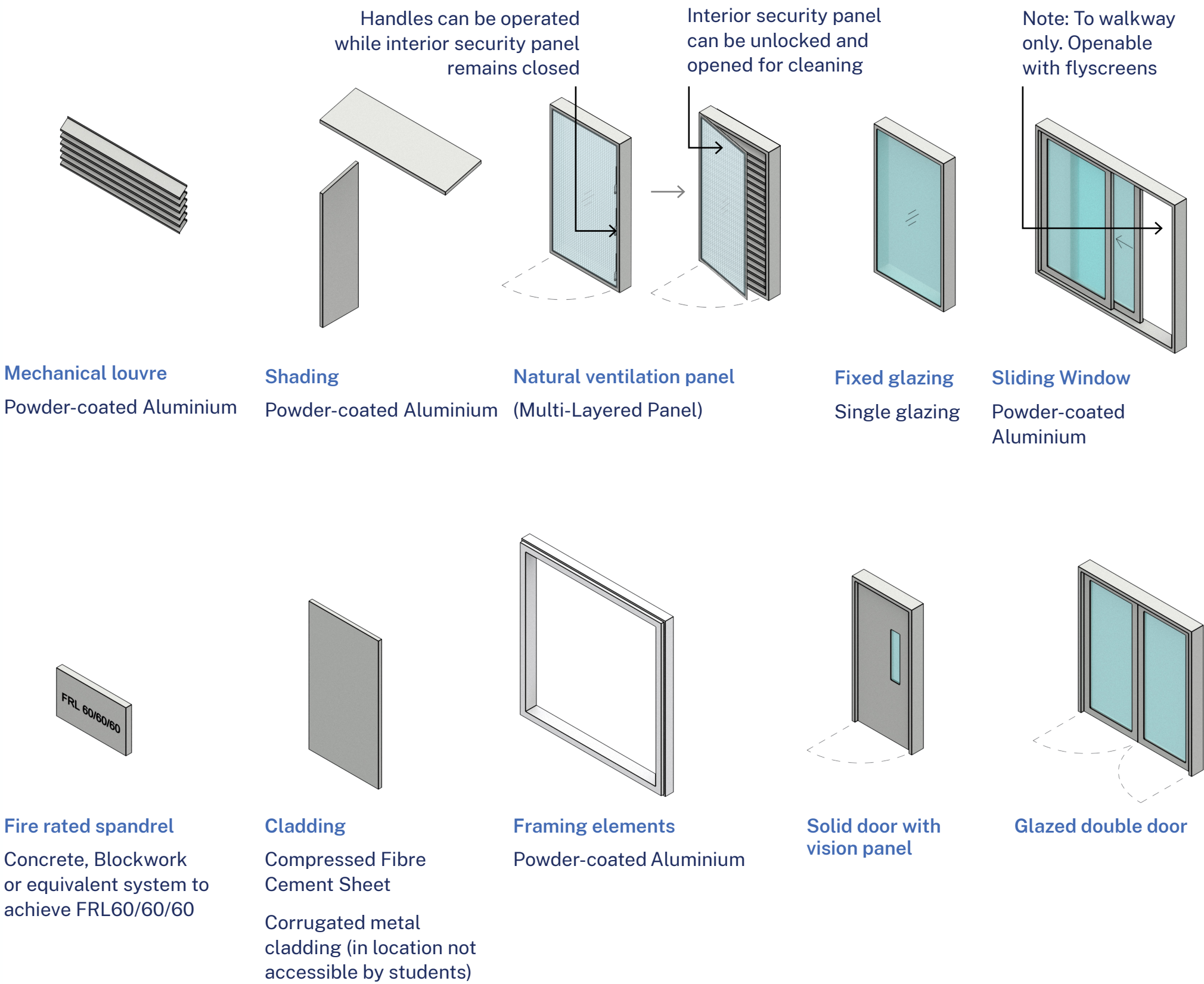
The facade comprises typical components which are interchangeable depending application and type of internal space use. Project teams may vary the composition and finish of these components based on project needs.

Where required, full width louvres can be used at high level for mechanical connection.

Shading fins are used using frameless folded aluminium sheets, sloping to negate bird roosting.

Natural ventilation fixed louvres or grilles are to be used in lieu of operable windows (on the street facade) with insulated doors on the inside.

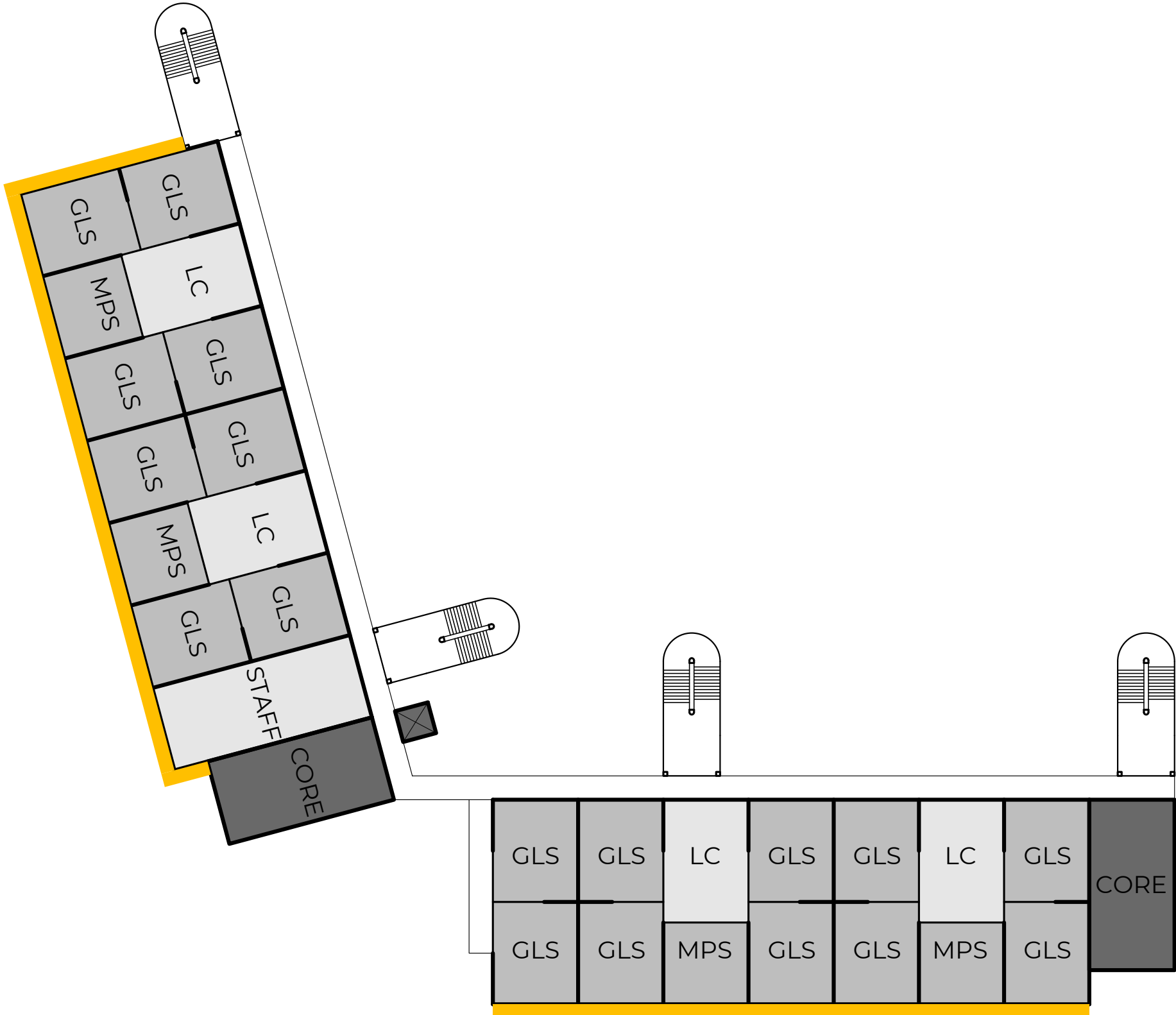
Glass louvres are not permitted as they pose security, safety and maintenance risks and perform thermally poorly.



5.6 Street facade

Street facade design intent

- Generally facing site boundaries
- Fire rated spandrel
- Shading design according to building orientation
- Project teams to design window and louvre arrangement in accordance with the relevant internal space
- No glass louvres permitted



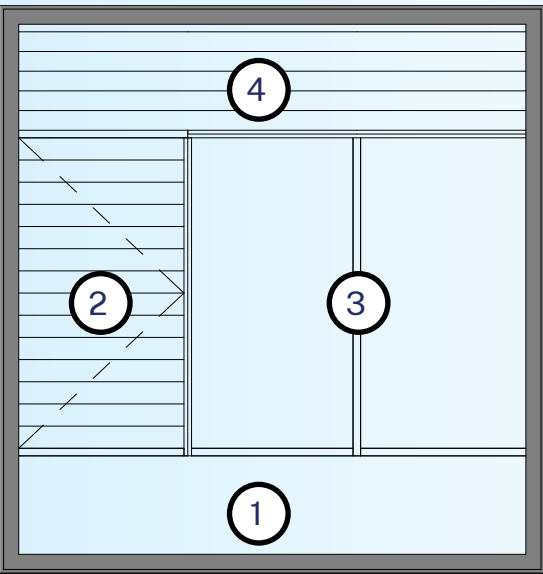
5.6 Street facade

Street facade panel types

The following panel types are assembled using the standard facade components. Project team may vary the composition based on project requirements to create other panel types to suit project needs.

- 1. Solid cladding
- 2. Natural ventilation panel
- 3. Fixed glazing - Sun shading as required
- 4. Mechanical louvre
- 5. Framing element

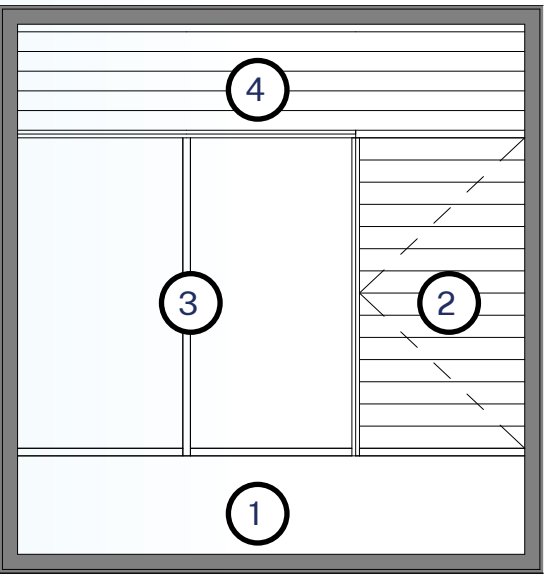
Panel Type 1



Potential applications:

- GLS
- Multipurpose Space
- Staff room
- Admin

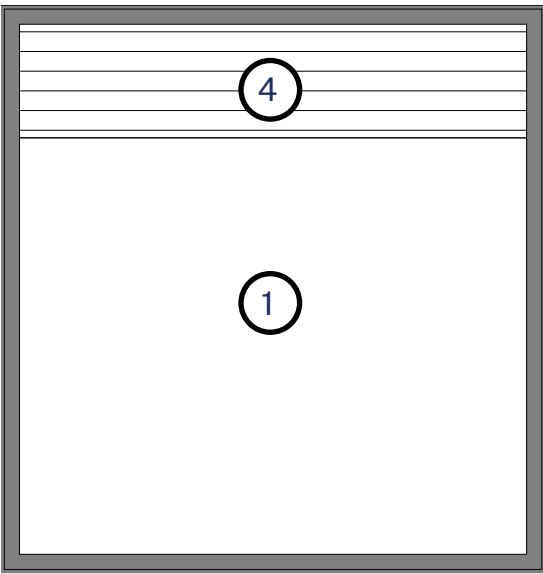
Panel Type 2



Potential applications:

- GLS
- Multipurpose Space
- Staff room
- Admin

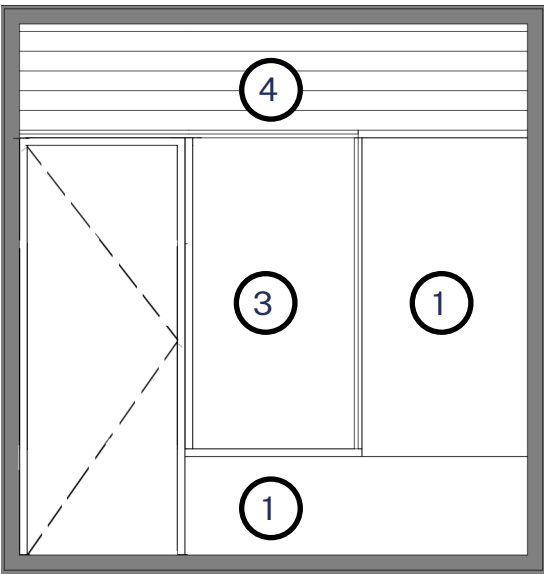
Panel Type 3



Potential applications:

- Change room
- Storage room

Panel Type 4



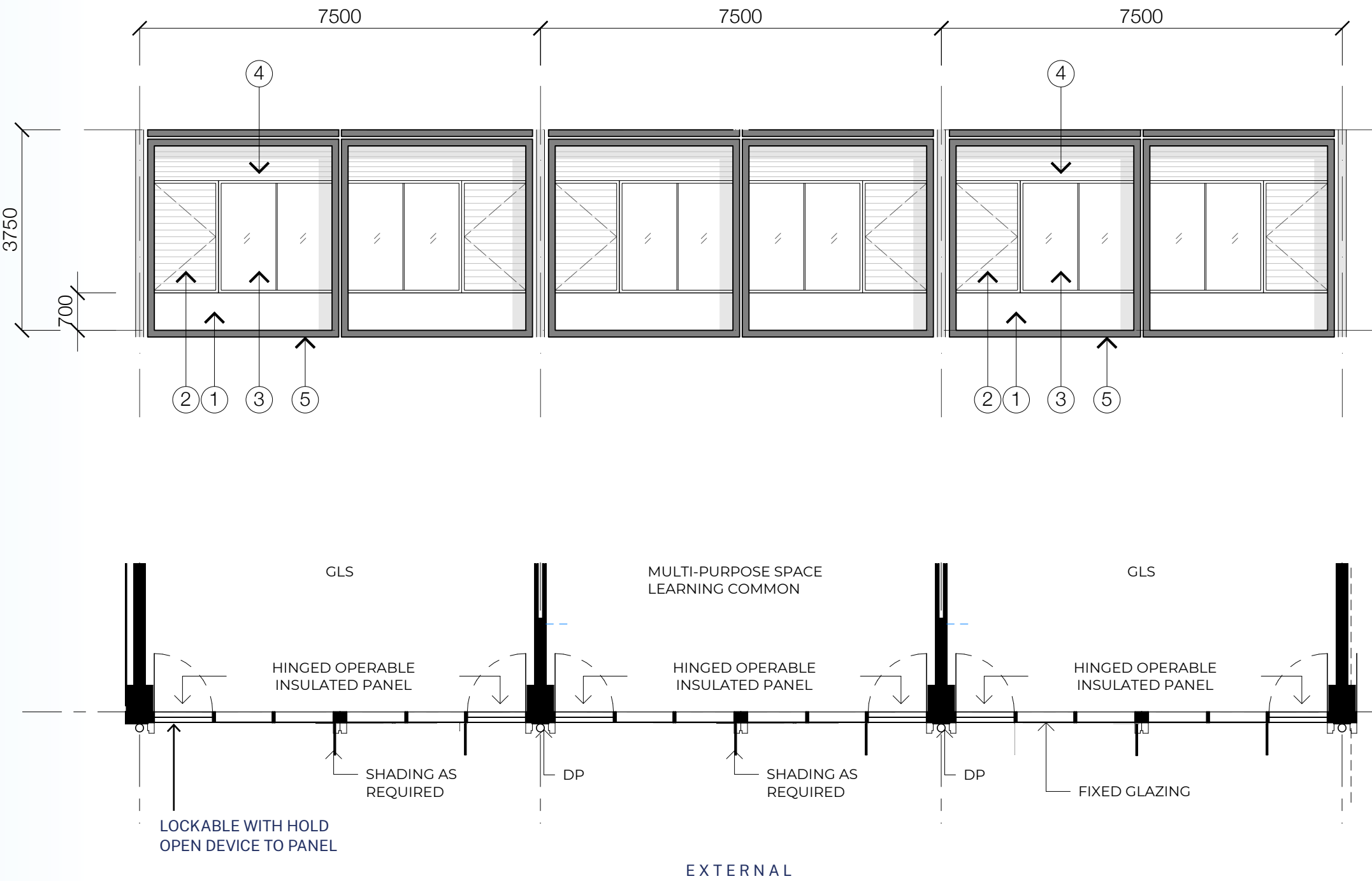
Potential applications (Ground Floor only):

- Library
- Admin
- SLU

5.6 Street facade

Street facade typical elevation

- 1. Solid cladding
- 2. Natural ventilation panel
- 3. Fixed glazing - Sun shading as required
- 4. Mechanical louvre
- 5. Framing element

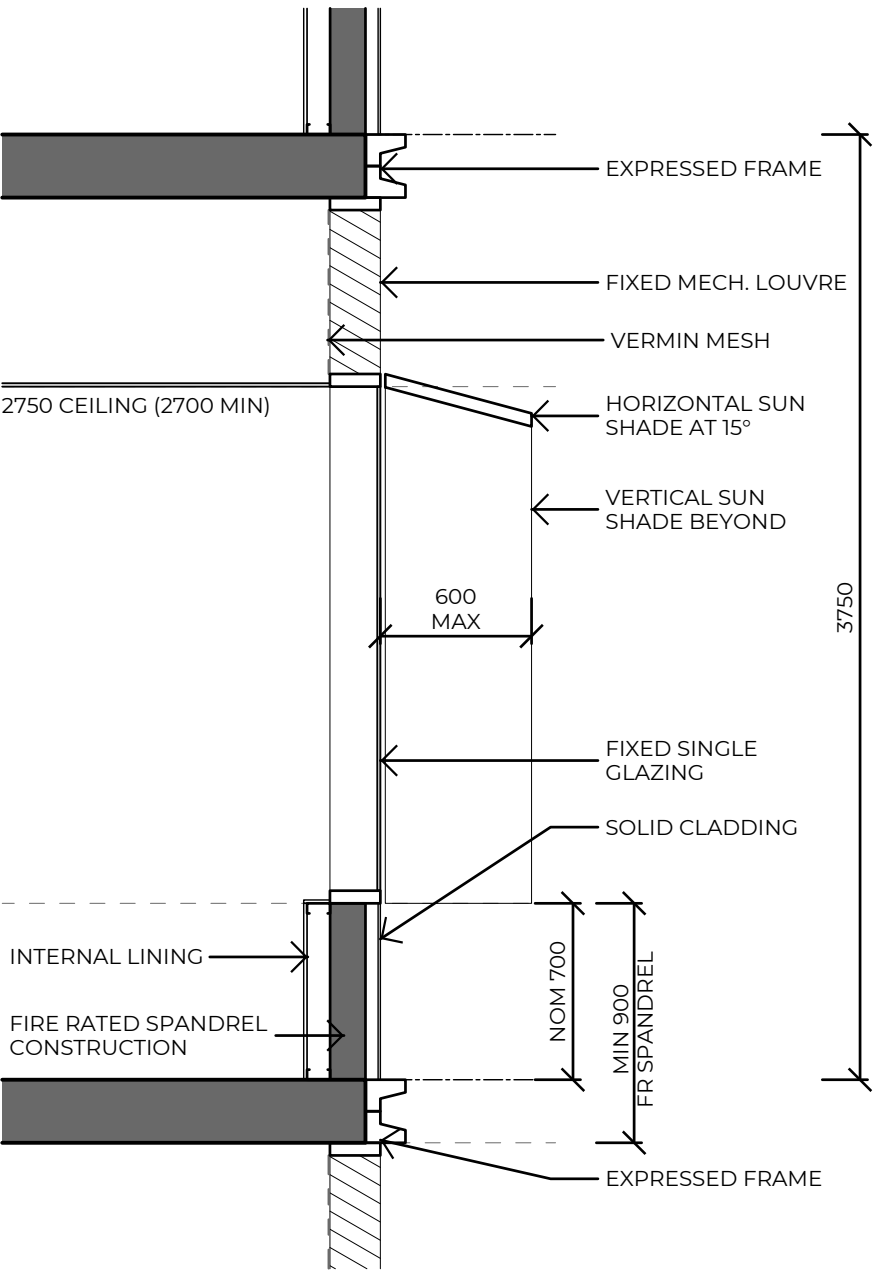


5.6 Street facade

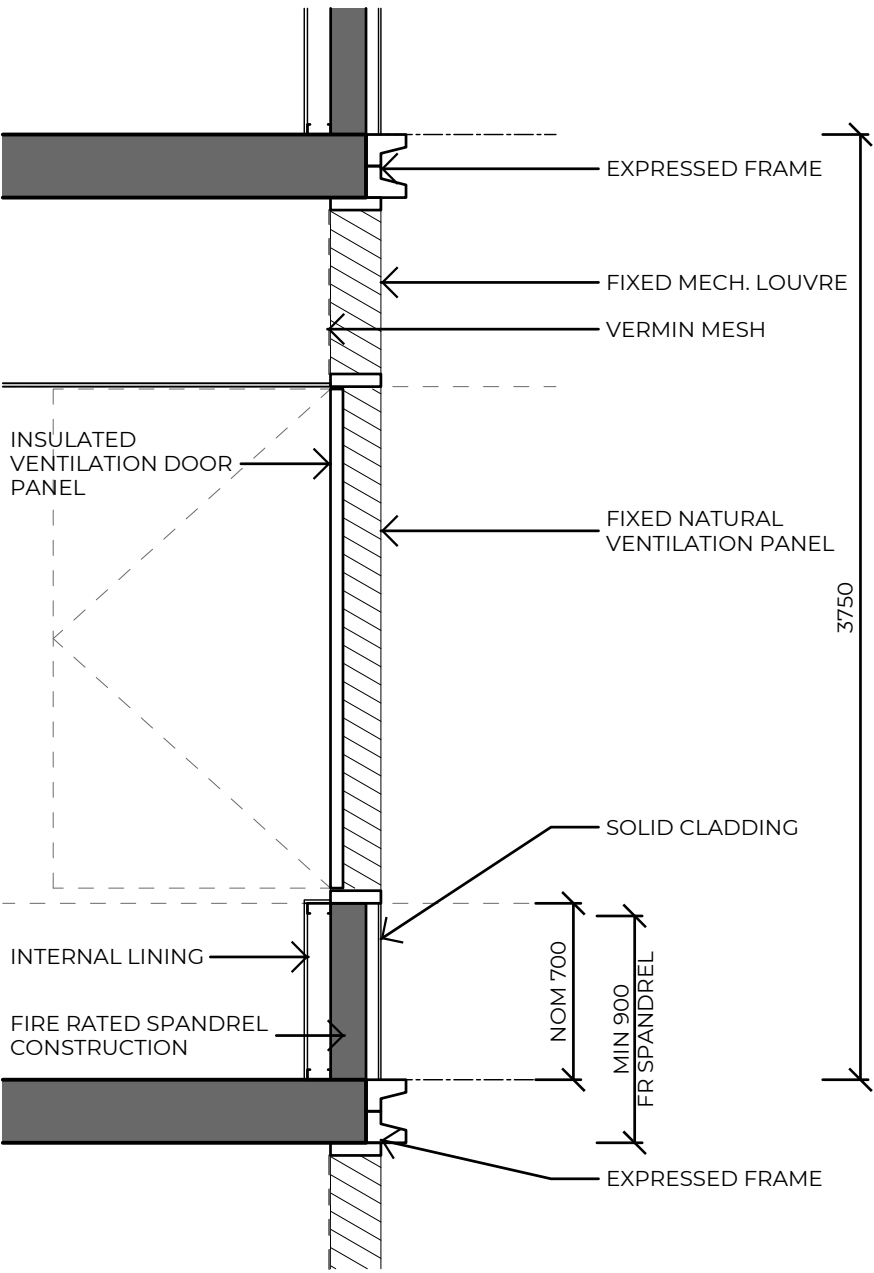
Street facade typical sections

For reference only. Project teams are to develop details based on preferred construction methodology and project specific requirements to achieve the design intent and meet project BCA, Green Star and EFSG compliance.

Street side fixed glazing section



Street side fixed louvre section



5.6 Street facade

Street facade variances

Variations can be applied for each project (refer to Introduction for table showing permitted variances).

Solar shading to be provided as required to suit the facade orientation.

Baseline design with shading
Colour option applied to service cores and solar shading



Baseline design with reduced shading
Reduced shading as required by solar design



5.6 Street facade

Street facade variances (continued)

Variations can be applied for each project (refer to Introduction for table showing permitted variances).

Solar shading to be provided as required to suit the facade orientation.

Recessed frame design

Window arrangement tailored to functional need behind



Expressed window design

Window arrangement varied to adapt to different ceiling height in GLS and Learning Common

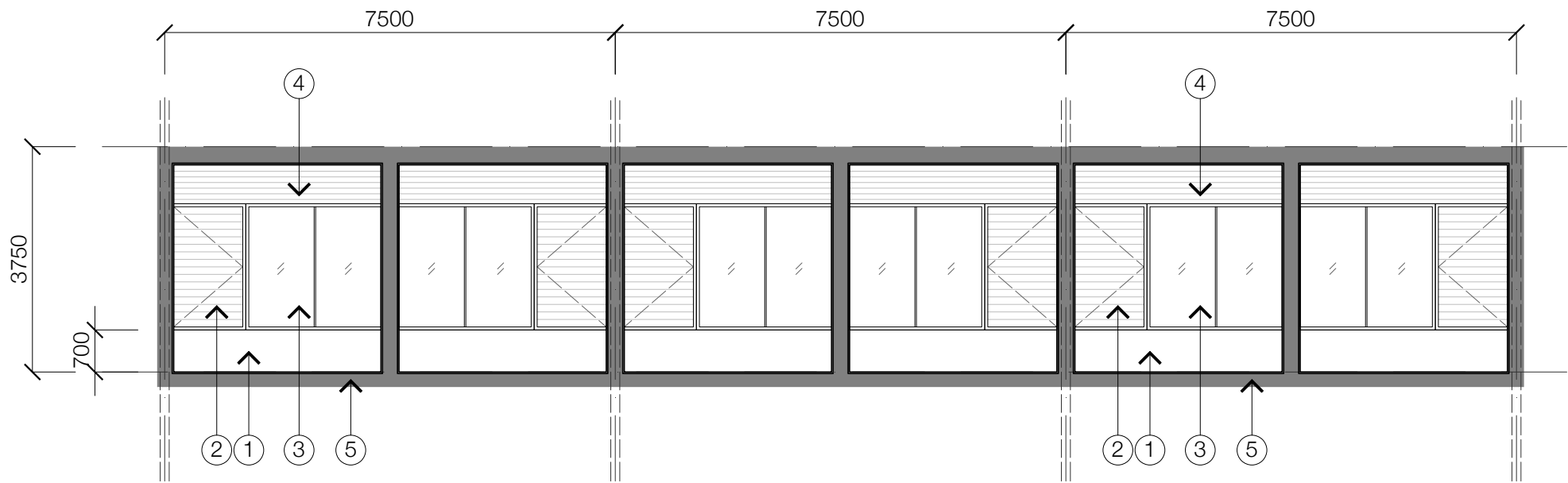


5.6 Street facade

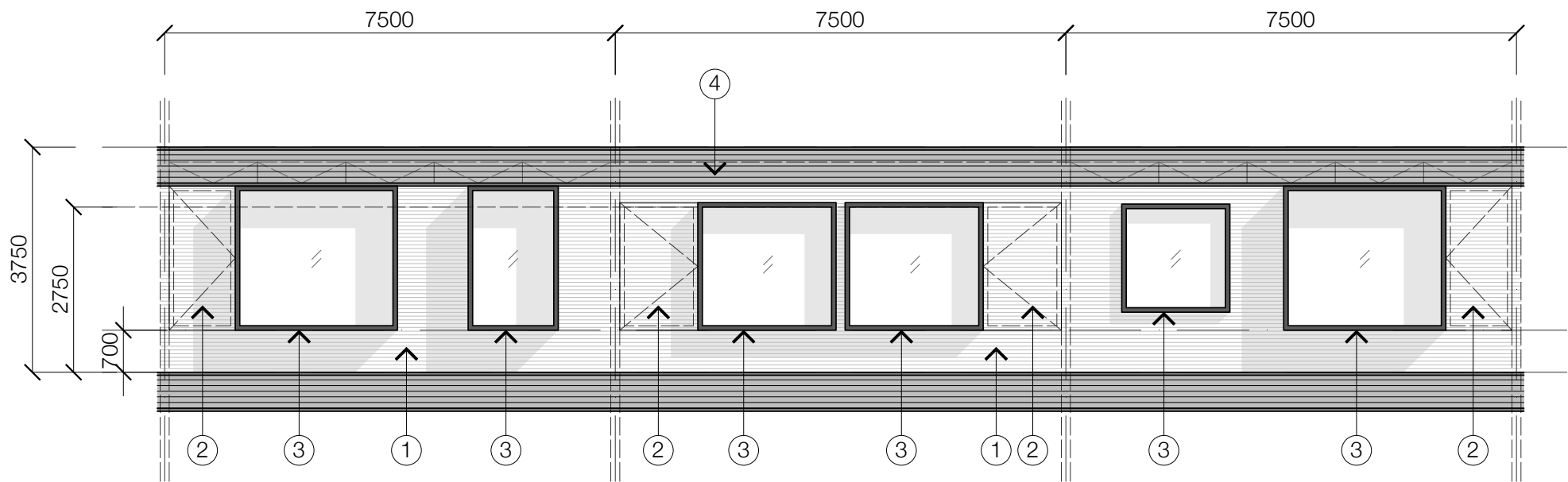
Street facade variances (continued)

- 1. Solid cladding
- 2. Natural ventilation panel
- 3. Fixed glazing - Sun shading as required
- 4. Mechanical louvre
- 5. Recessed Framing element

Recessed frame design



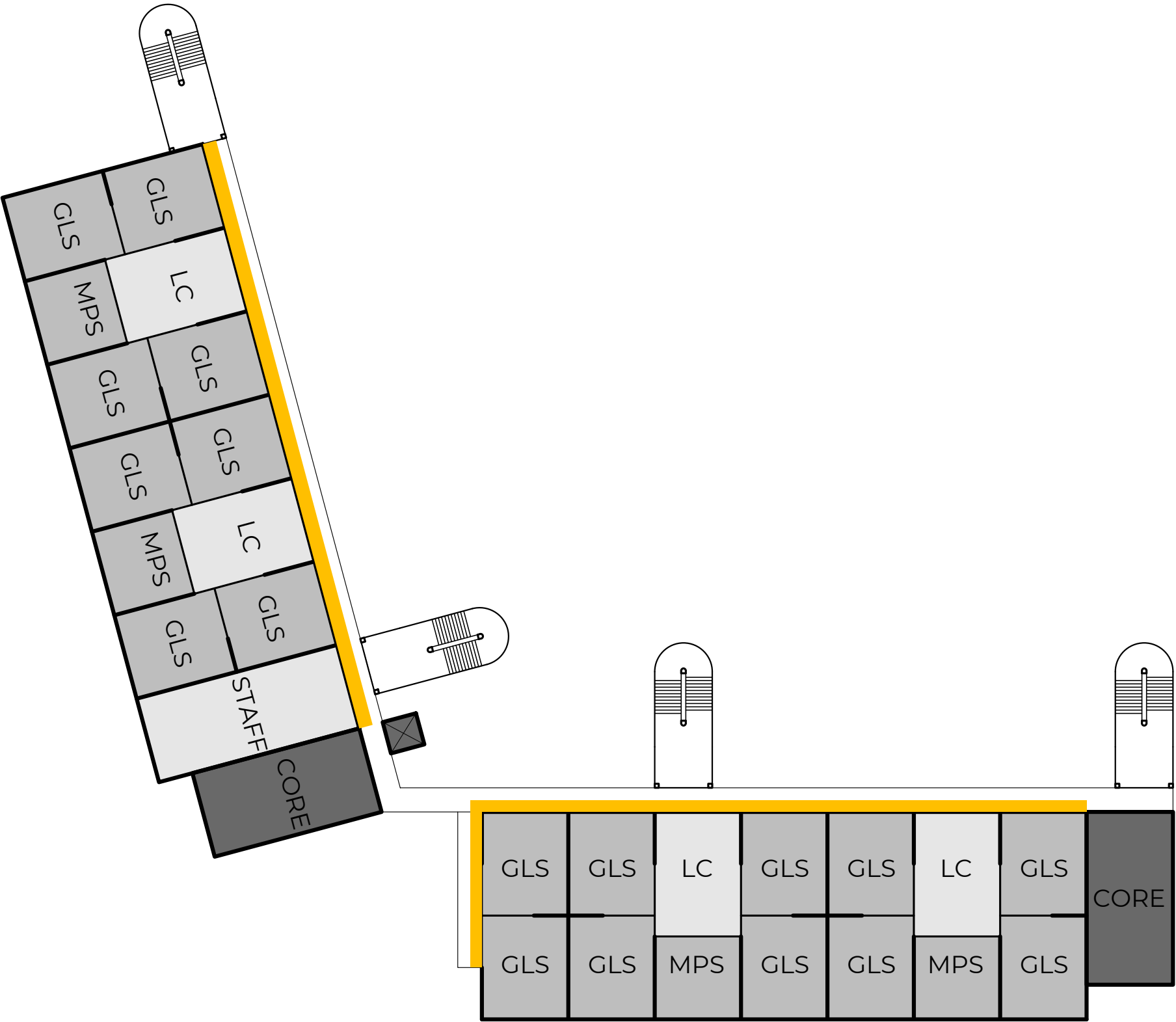
Expressed window design



5.7 Walkway facade

Design intent

- Meet performance requirements
- No fire rated spandrel required due to external walkway, however spandrel maintained with durable material such as CFC
- Sliding windows can be used along the walkway to maximise ventilation while not posing risk of falling
- No awning windows permitted on walkway side below 2100 due to safety concerns colliding with open windows
- No glass louvres permitted



5.7 Walkway facade

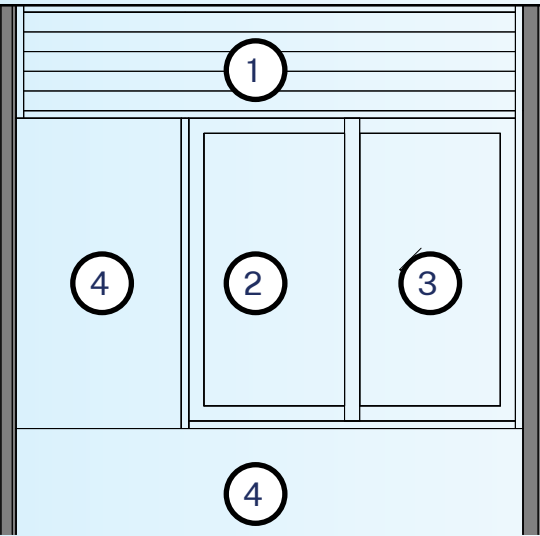
Walkway facade panel types

The following panel types are examples of assemblies using the standard facade components, which are interchangeable as needed. Project teams may vary the composition based on project requirements to create other panel types to suit project needs.

- 1. Solid cladding
- 2. Natural ventilation panel
- 3. Fixed glazing - Sun shading as required
- 4. Mechanical louvre
- 5. Framing element

Panel Type 1

Top of frame to be added for top level

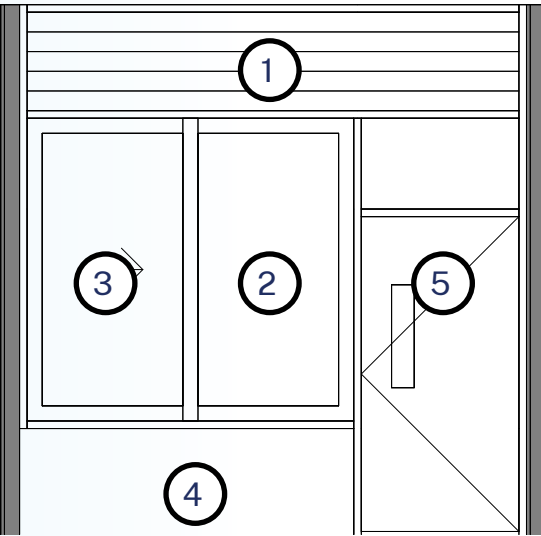


Potential applications:

- GLS
- Staff room
- Admin

Panel Type 2

Top of frame to be added for top level

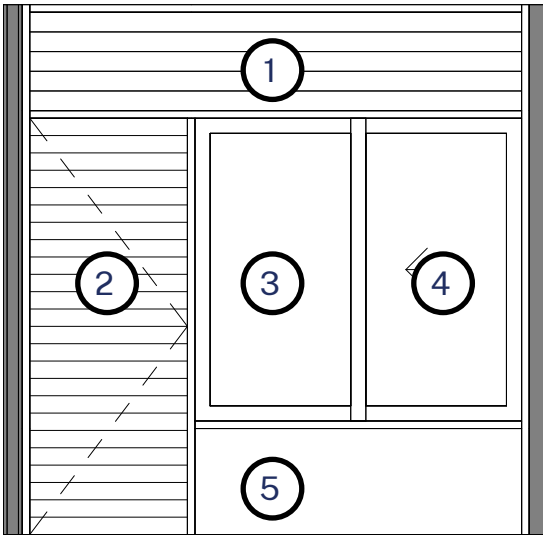


Potential applications:

- GLS
- Staff room
- Admin

Panel Type 3

Top of frame to be added for top level

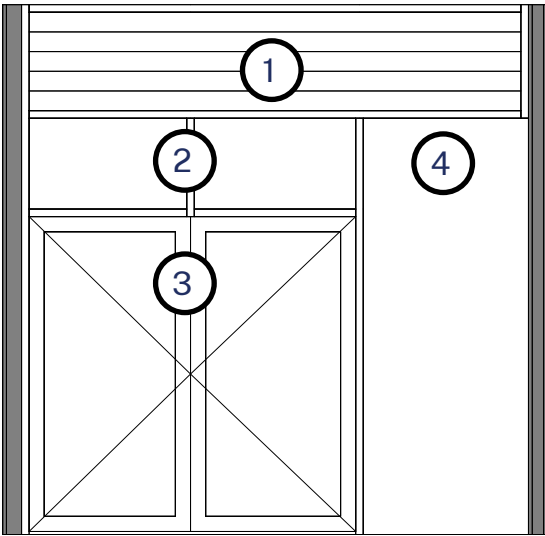


Potential applications:

- Learning common
- Workshop
- Library

Panel Type 4

Top of frame to be added for top level

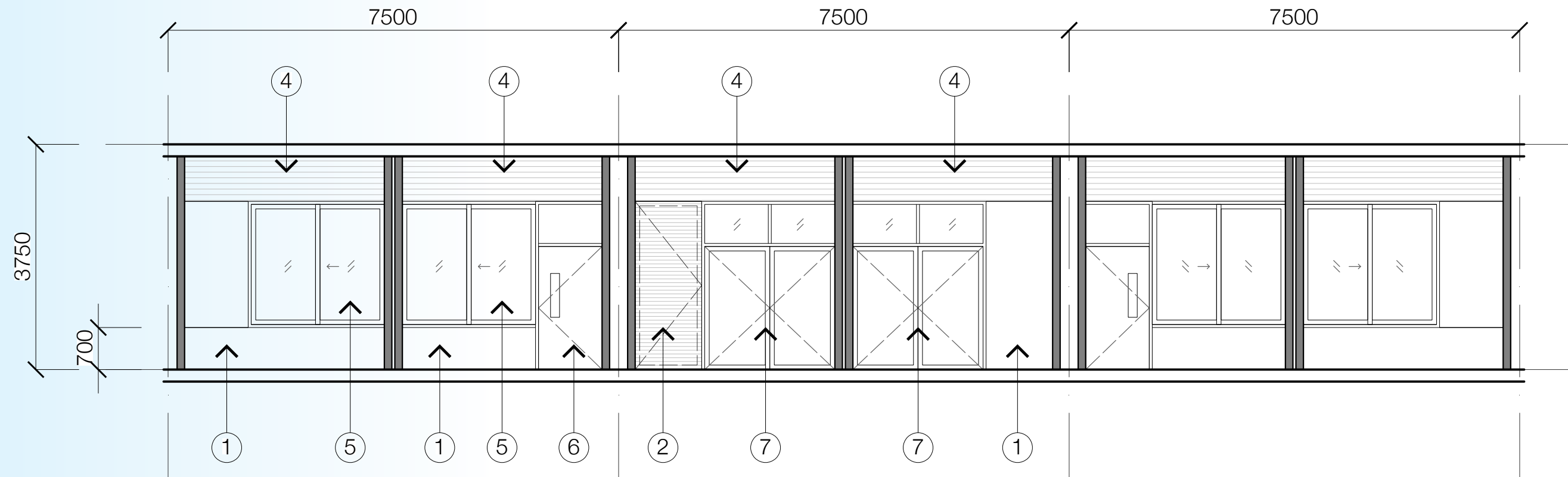


Potential applications:

- Learning common
- Workshop
- Library

5.7 Walkway facade

Typical walkway facade hub elevation



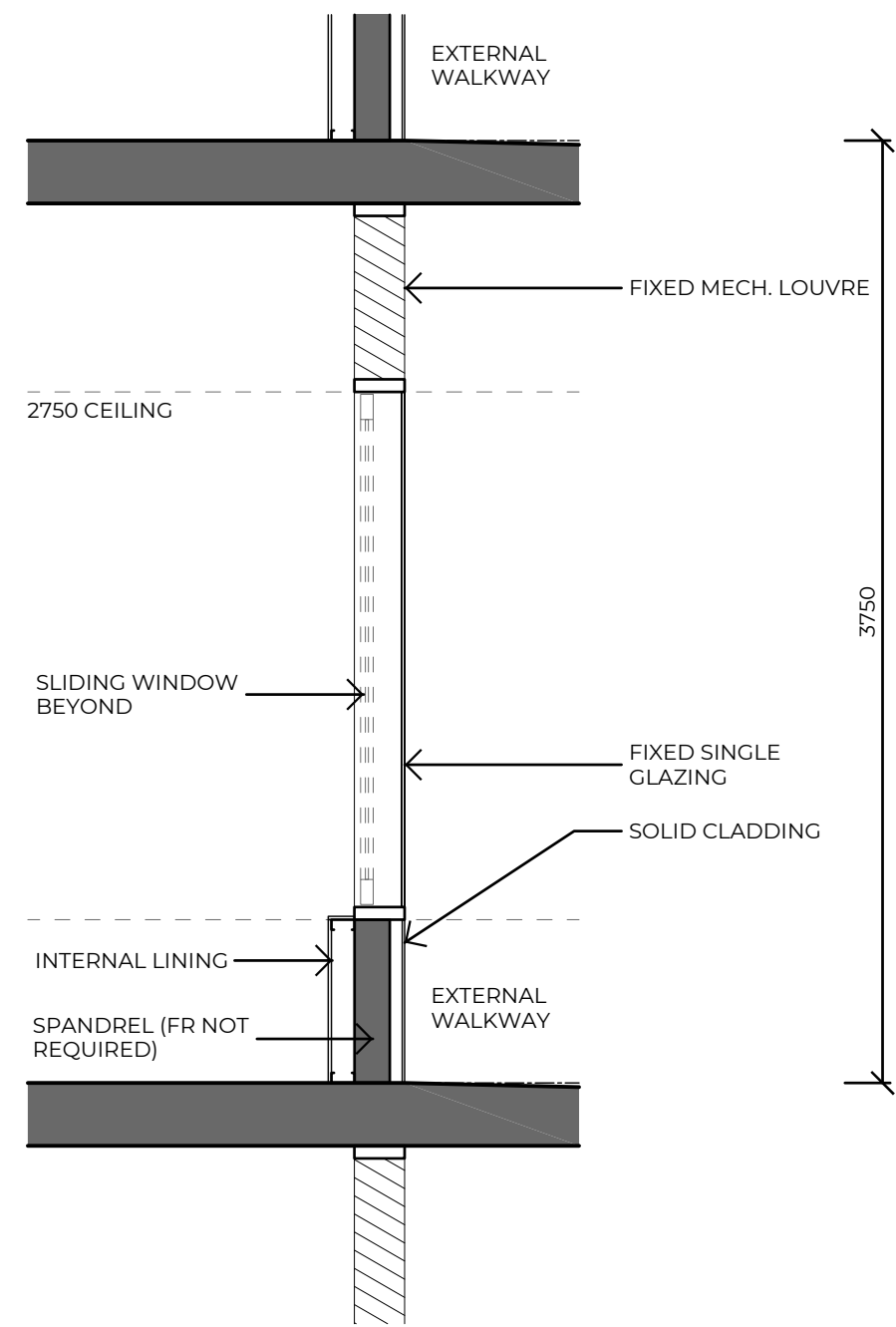
1. Solid cladding
2. Natural ventilation panel
3. Fixed glazing - Sun shading as required
4. Mechanical louvre
5. Sliding window
6. Single door with vision panel
7. Glazed double door

5.7 Walkway facade

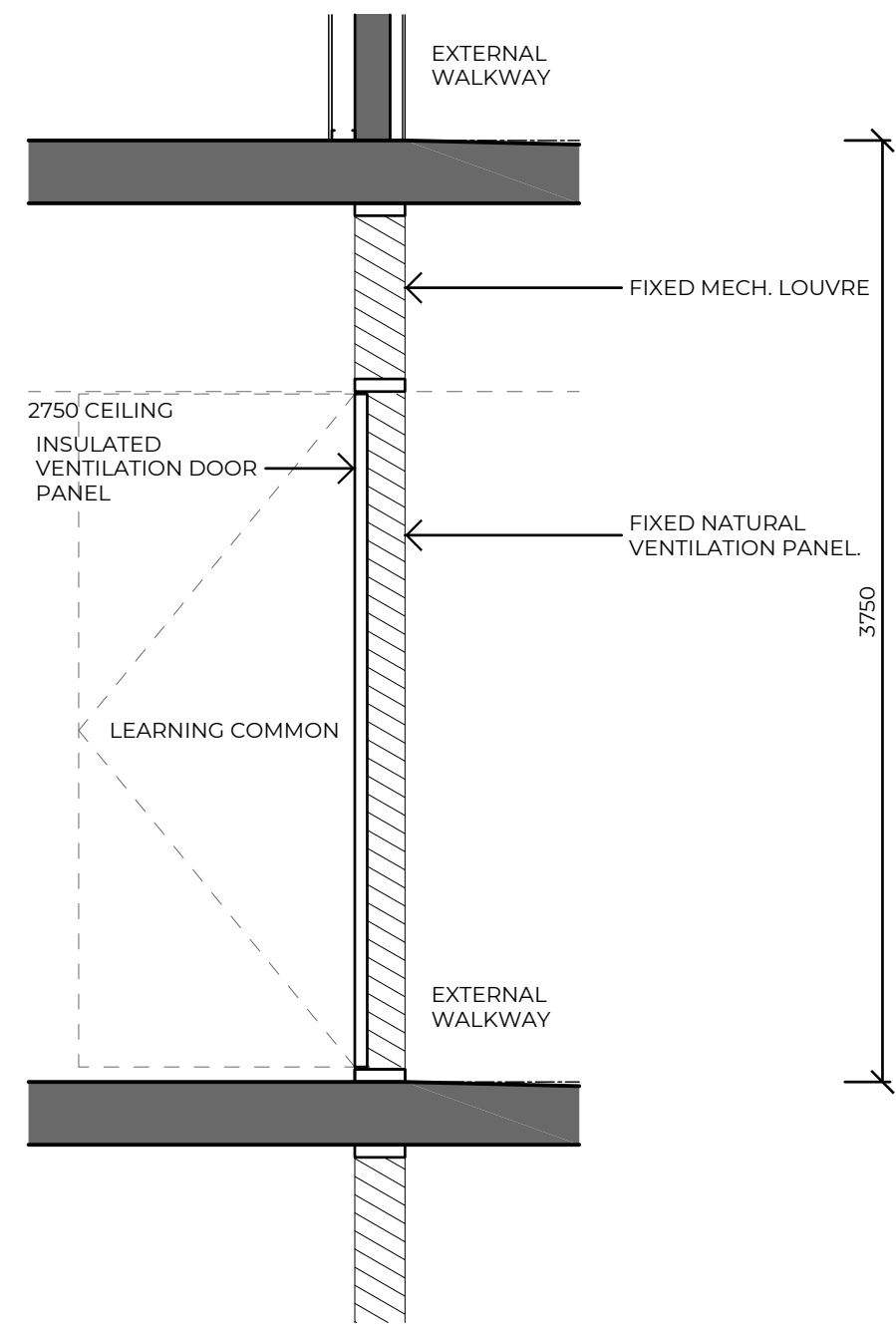
Typical walkway facade sections

For reference only. Project teams are to develop details based on preferred construction methodology and project specific requirements to achieve the design intent and meet project BCA, Green Star and EFSG compliance.

Walkway Side Glazing Section



Walkway Side Fixed Louvre Section

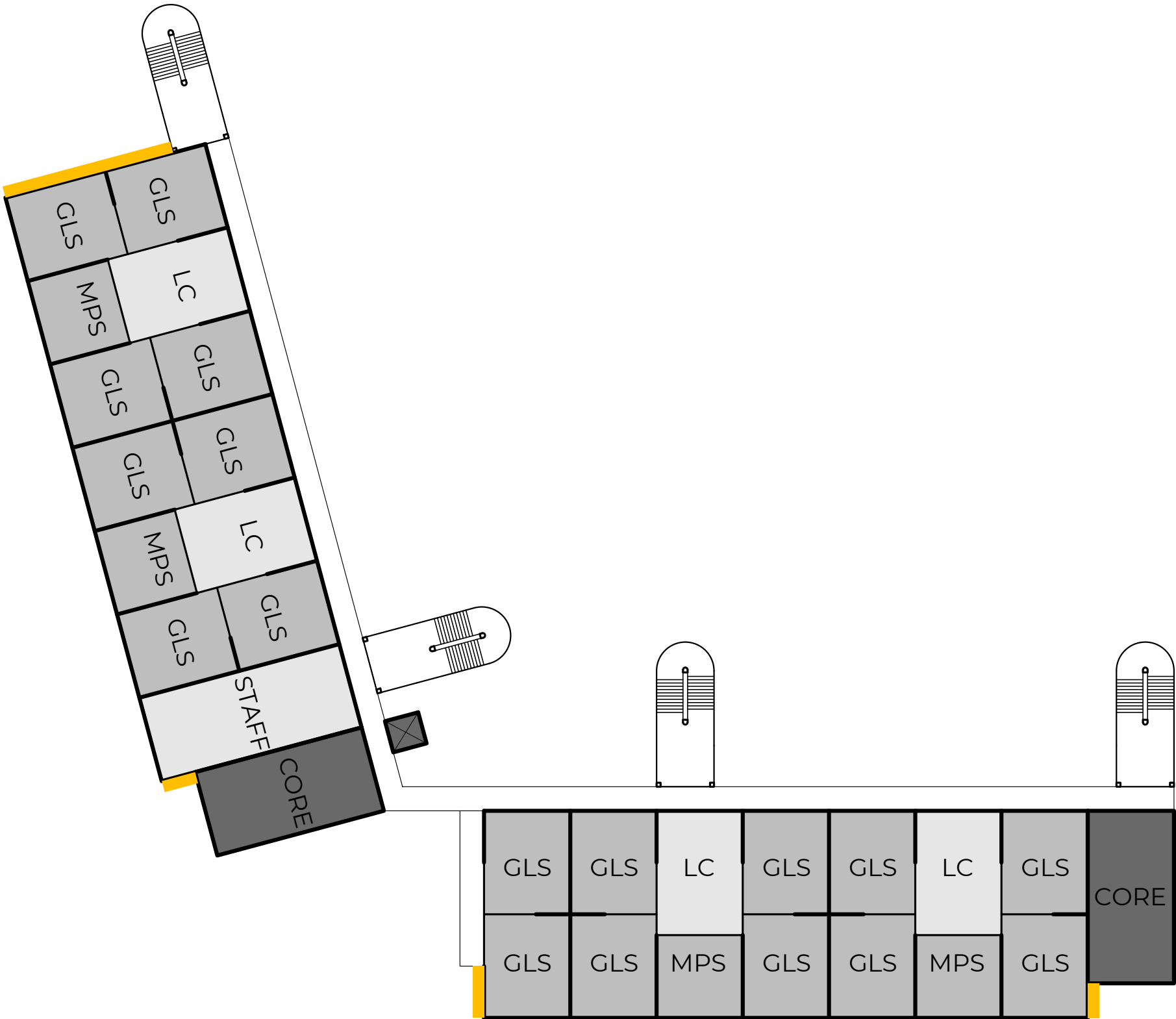


5.8 End facade

Design intent

The end facade is intended to be a continuation of the street facade, integrating with the surrounding environment.

It also provides an opportunity to incorporate Connecting With Country and school-specific artwork, fostering meaningful engagement with both the school and the wider community.



5.9 Preschool roof

Roof design intent

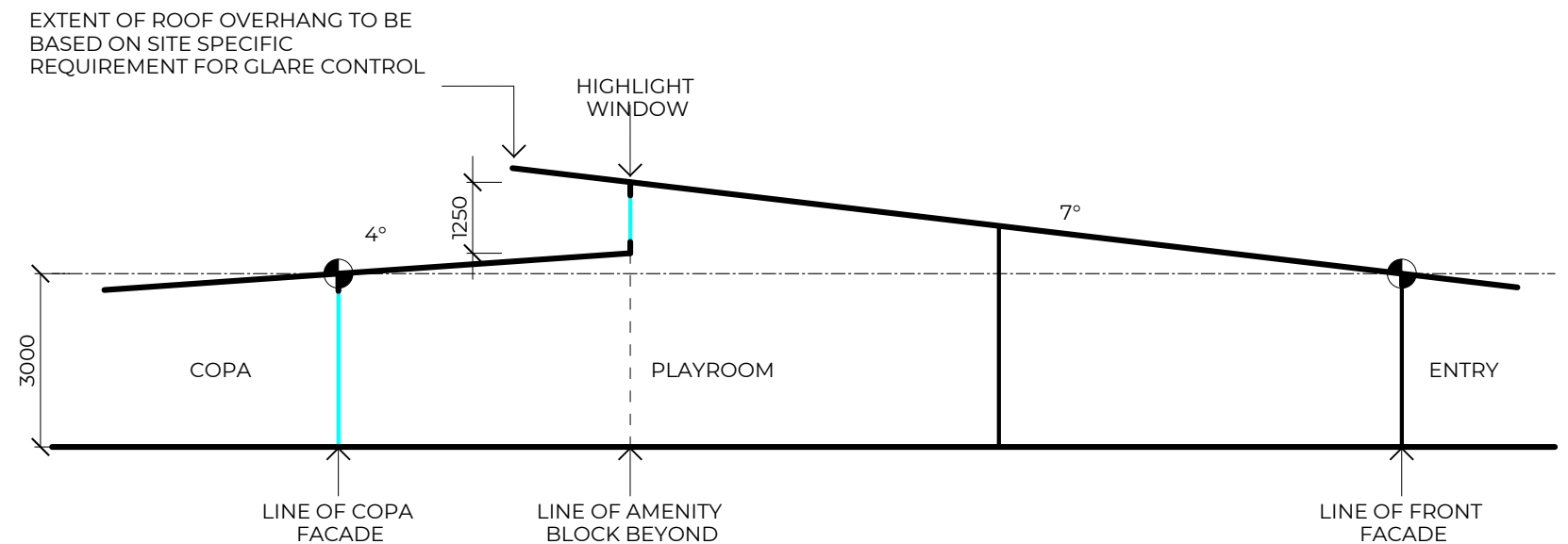
The Stand-alone Preschool design consists of a double pitched roof at minimum 4 degree fall. This reduces bulk of the building facing the street and creates a more domestic scale for young children. The roof split aligns with the amenity block to simplify the roof geometry and provide a means of structural support.

Highlight Window:

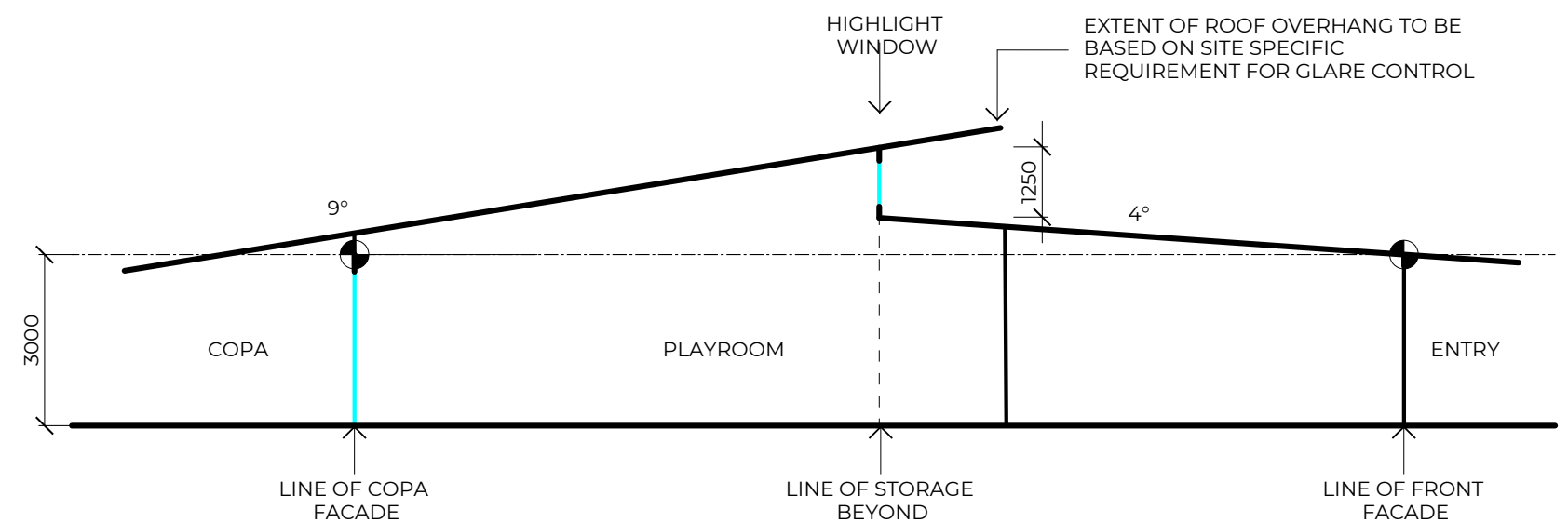
A clerestory window is located at the roof split to introduce additional daylight to the deep parts of the playrooms. The window should be openable to contribute to the natural ventilation of the space.

Glare Control:

Controlling direct sunlight into spaces is necessary to reduce unwanted heat gain. Project team must seek to exclude direct sunlight from all learning spaces, administrative offices and staff studies for the period of 9.00am to 3.30pm including Eastern Daylight Saving Time between 21st September to 21st March (equinoxes).



ROOF CONFIGURATION 1



ROOF CONFIGURATION 2

5.10 Roof

Multi-storey roof design intent

The standardised design includes a monopitch roof at 4 degrees with eaves overhangs.

Safety consideration:

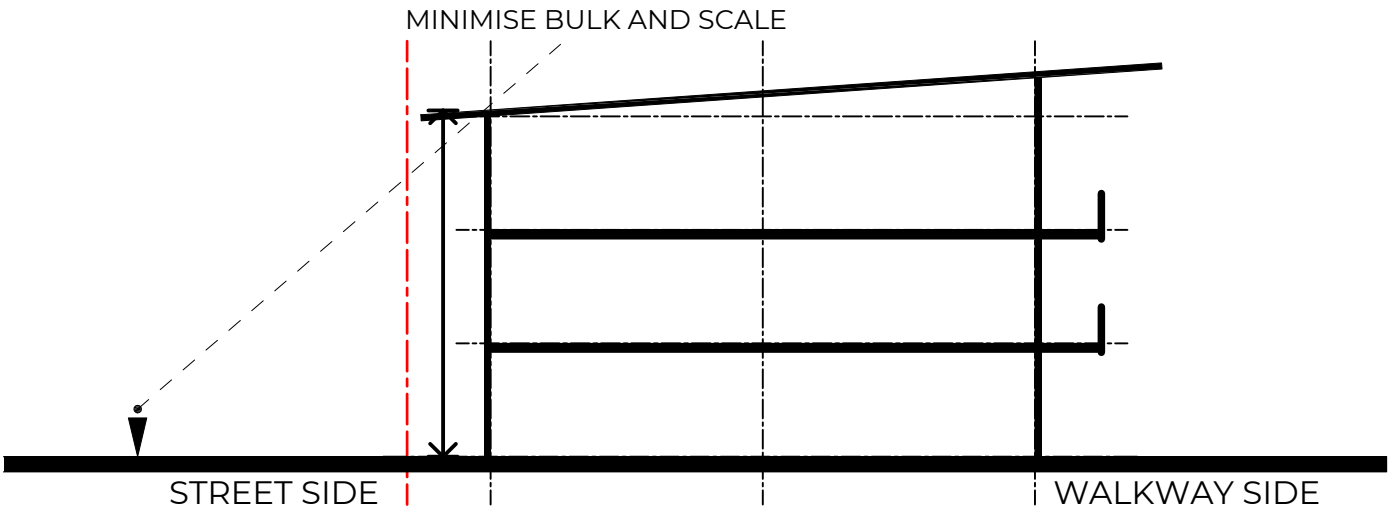
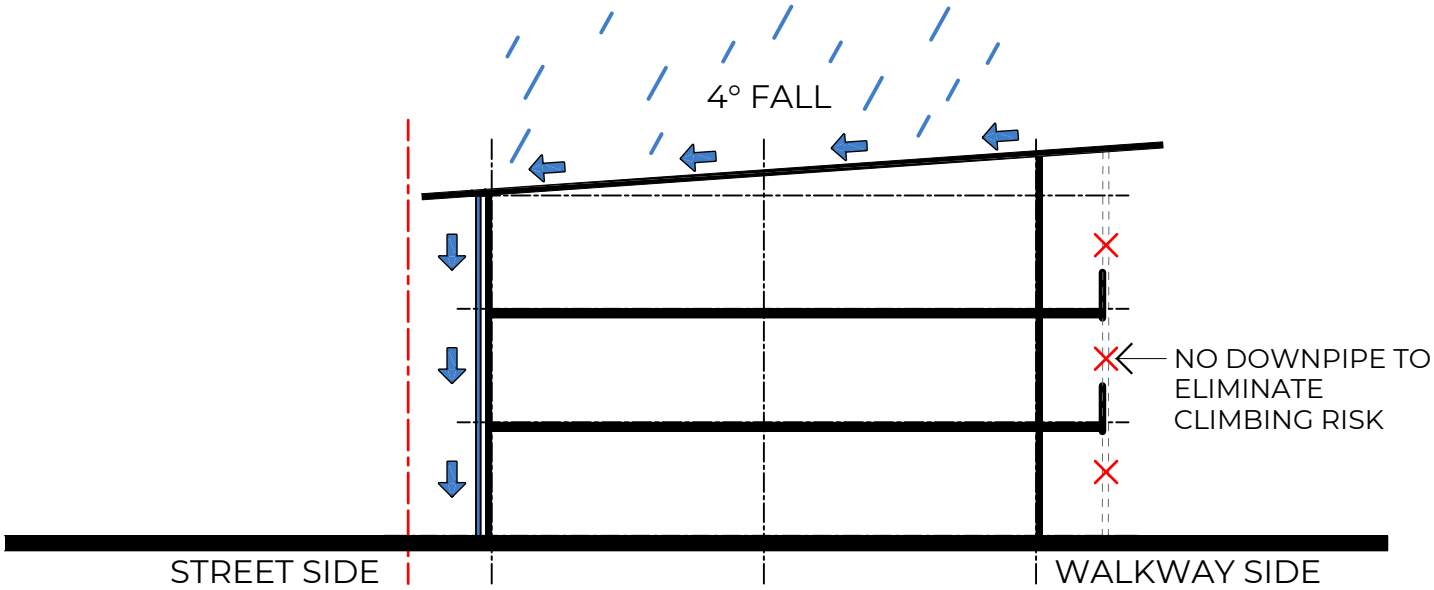
The roof is designed to fall towards the street side in order to eliminate risk of climbing downpipes along the walkway side. Gutter and downpipes have been designed to be an integral part of the street side facade.

Bulk and scale:

Sloping to the street side reduces bulk and scale to the streetscape and neighbouring properties.

Downpipe:

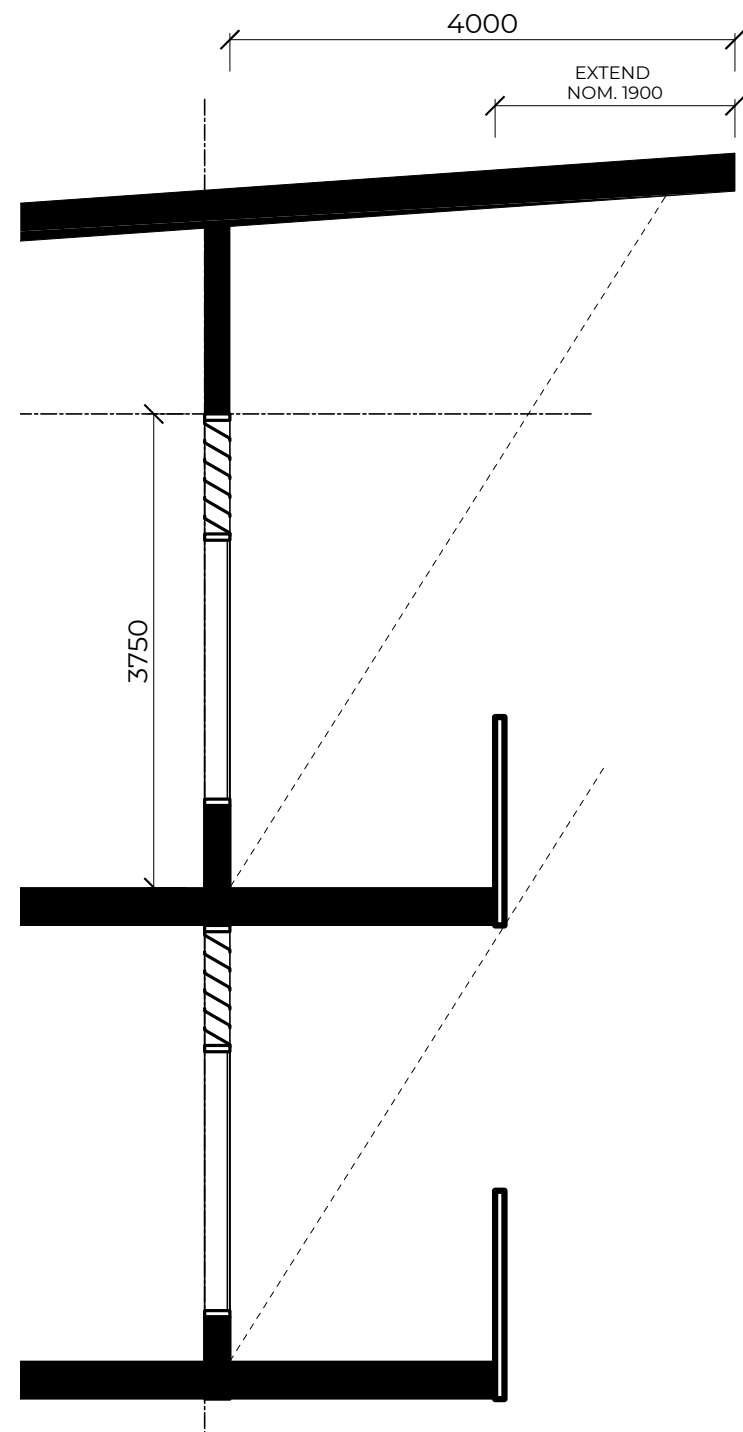
Downpipe generally to be located at each grid on street side facade, services consultant team to specify size and frequency as required by site specific climate conditions.



5.10 Roof

Roof overhang

The roof eave extends beyond the walkway to provide weather protection to the top floor walkway and the levels below. The eave extension past the walkway also further mitigates climb ability issues by preventing students from climbing onto the roof from the walkway.



5.10 Roof

Roof flexibility and Add-on components

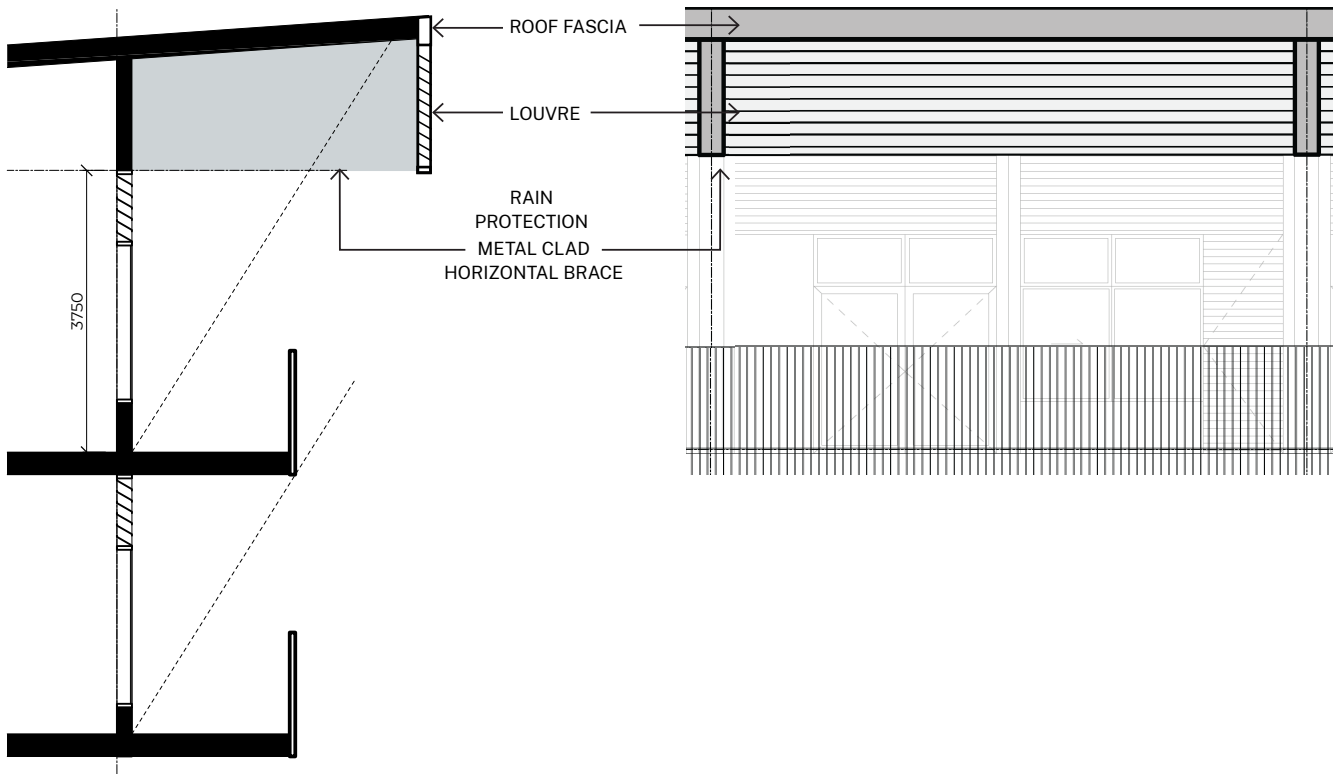
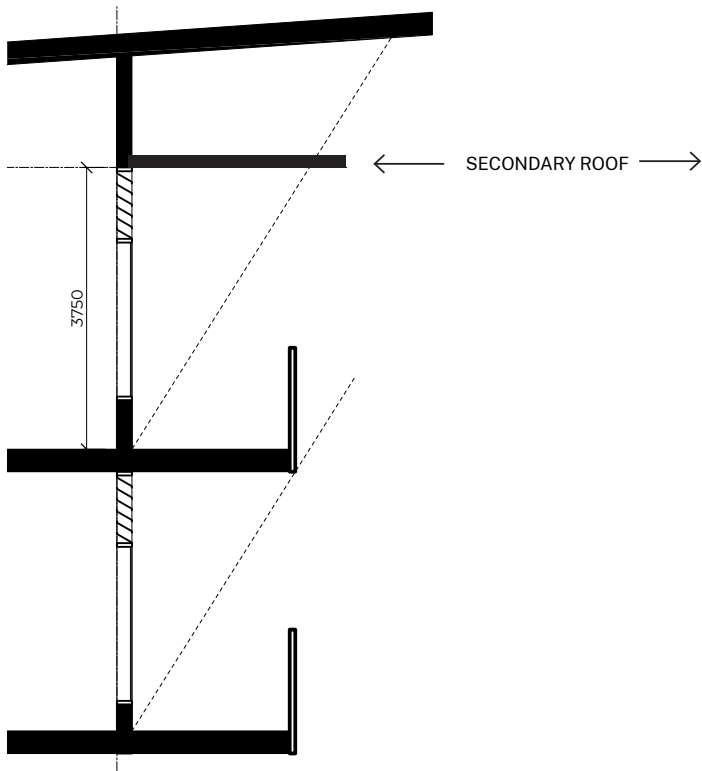
Additional elements may be added to the baseline design to respond to functional and environmental site conditions, and to ensure each school presents a unique identity.

Add-on 1 - secondary roof

A canopy roof can address heavy rain issues. Extent and fixing detail to suit the facade orientation and application. It is critical to avoid any possibility for climbing.

Add-on 2 - vertical fascia

A downturn added to the roof overhang can address high wind issues and provide increased sun protection. Extent and fixing detail to suit the facade orientation and application. It is critical to avoid any possibility for climbing.



5.11 Worked example



5.11 Worked example



6

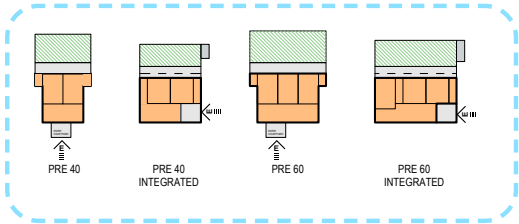
Layouts & Data Sheets

6.1 Overview of Hub Layout & Room Data Sheet

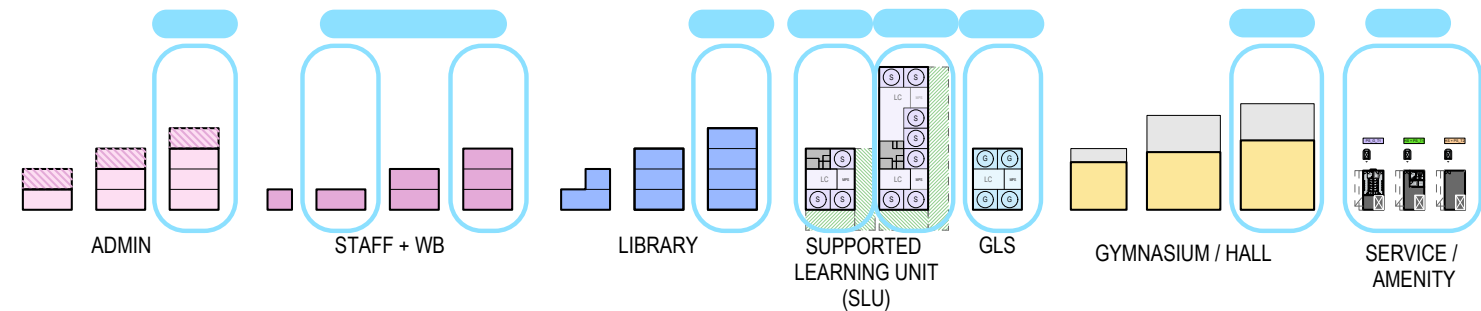
6.1 Overview of Hub Layout & Room Data Sheets



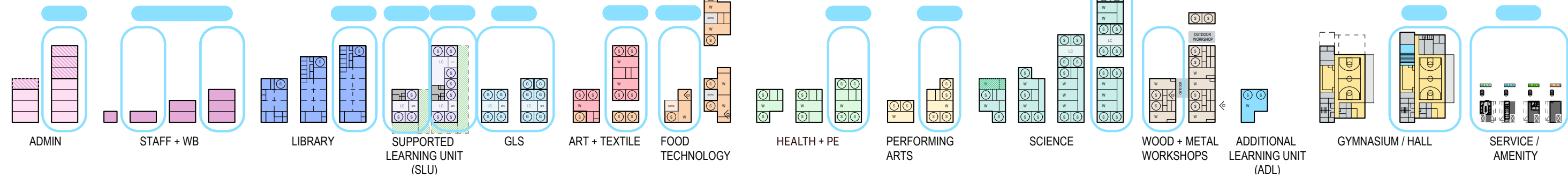
Preschool



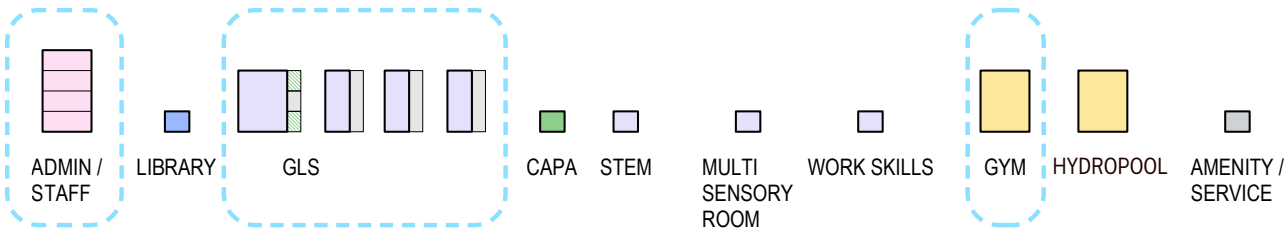
Public School



High School



School for Specific Purposes



- Included in this version of Pattern Book (Hub Layout and RDS available as PDF)
- Included in this version of Pattern Book (Hub Layout and RDS available as BIM model)
- Included in this version of Pattern Book (Hub Layout available as PDF only)

*Note: All other Layout Types are under development for inclusion in future release

