

Sydney Olympic Park New High School

SSDA Architectural Design Report





Acknowledgment of Country

The SOPHS Precinct is on Wangal Country. The area is at the intersection of Burramattagal and Wangal Country, with Duck River widely accepted as the border between the two.

We would like to acknowledge the Burramattagal and Wangal People, the traditional custodians of this land and pay our respects to the Elders both past and present.

Each and every project is an opportunity to engage and respond to Aboriginal cultural connections to Country. By respecting and celebrating the value and significance of both Aboriginal heritage and contemporary Aboriginal culture our built environment is enriched and anchored into its specific location, its stories and varied experiences.

Contents

Purpose of document

This report forms part of the Environmental Impact Statement as part of the State Significant Development Application for the Sydney Olympic Park High School project on behalf of School Infrastructure NSW.

The proposed school is a new 1530 student high school to service population growth in the area, and follows on from the recently completed primary school on the adjacent site.

The proposed school is planned to utilise a proposed new road and parking to the east of the site and a new sports field to the north. These are both excluded from this application and part of a separate planning pathway.

Core Project team

School Infrastructure NSW	Principal
Roberts Co	Main contractor
Woods Bagot Design	Architecture and Urban
Mecone	Planning Consultant
Urbis	Landscape Design
Taylor Thomson Whitting Engineering	Structural & Civil
Stantec Engineering	Multi-disciplinary

01_Project Overview

02_Place

03_Pedagogy and Planning

04_Architectural Expression

Appendices:

Appendix A: Options Analysis

Appendix B: Floor Plans

Appendix C: Design Response to GANSW



Project overview

Introduction

Proposal

The proposed development is for the construction of a school whereby the project is known as Sydney Olympic Park new high school. The school is to be developed in two stages. The SSD application will seek consent for both Stage One and Stage Two. While Stage Two is submitted as part of this proposal, construction is subject to approval of additional funding.

Stage One will provide for a Stream 5 high school, catering for up to 850 students. Stage Two will bring the school up to a stream 9 school capability catering up to 1,530 students.

The design features a six storey building. To the north of the site, a hall building (for sports and performance) is proposed.

The play space required to meet the need of students for Stage One can be generally accommodated onsite, within the 9,511sqm available. Additional play space may be required to accommodate the increased student numbers anticipated during Stage 2. The proposed adjoining play space comprises an area of around 8,800sqm. The future Wentworth Point Peninsula Park will result in an open space area of approximately 4ha.

The remainder of the peninsula (TfNSW land) is under review and will be subject to a separate approval process. Redevelopment of this land will include the new access road proposed off Burroway Road along the eastern boundary of the subject site and is proposed to include car parking, drop-off zones and delivery zones.

Site description

The proposed development is located within the peninsula of Wentworth Point at 7-11 Burroway Road, Wentworth Park across parts of three lots; Lot 202 DP1216628, Lot 203 DP1216628 and Lot 204 DP1216628. The site forms part of the Wentworth Point Planned Precinct, which was rezoned in 2014 for the purposes of high density residential, public recreation, school and business purposes.

The site is approximately 9,511sqm in area, with a frontage of approximately 91m to Burroway Road. It currently contains vacant land, which is cleared of all past development, and almost entirely cleared of native vegetation.

The surrounding area is generally characterised by high rise residential and mixed-use developments. The site is directly adjacent to the Wentworth Point Peninsula Park and immediately east of Wentworth Point Public School.



Project principles



Pedagogy First

Enable flexibility and the best possible teaching outcomes, now and in the future.

Increased building efficiency: larger teaching spaces, more outdoor space, less circulation.



Resilience & Wellness

*Adapt for a changing climate.
Change the focus to the wellness and best possible teaching and learning environment for student and teacher.*



Investment & infrastructure

Enable all construction methods from off-site volumetric to conventional to secure quality and program, and maximise use of budget.

*Establish demand to grow NSW manufacturing capacity.
Drive lower construction costs per sqm.*



JOY

Places and spaces to inspire happiness, wonder and joy for learning



Equity

Consistency across all schools.

Ability to deliver the same level of education, design, layout and joinery across the state.



Kit of Parts

A single universal education planning grid.

Interchangeable module for all primary, high school and special education teaching spaces.

*Enables state-wide spatial and social equity.
School building as a learning opportunity.*



Whole of life thinking

Shift the discussion on capital cost to encompass whole-of life cost, flexibility, durability and maintenance.

Put in place easy to use performance guidelines that set simple rules and allow for innovation.

School building as a learning opportunity.



Connection to Nature

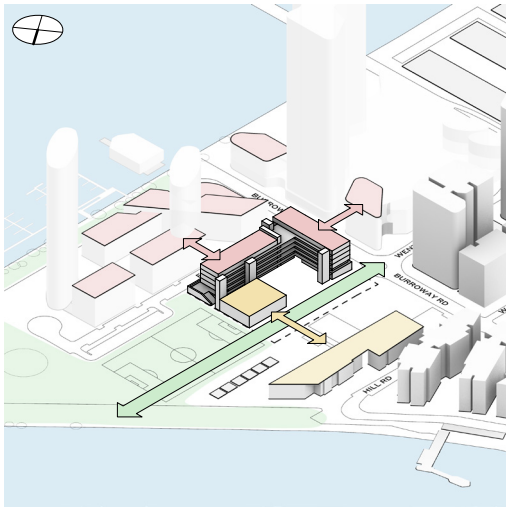
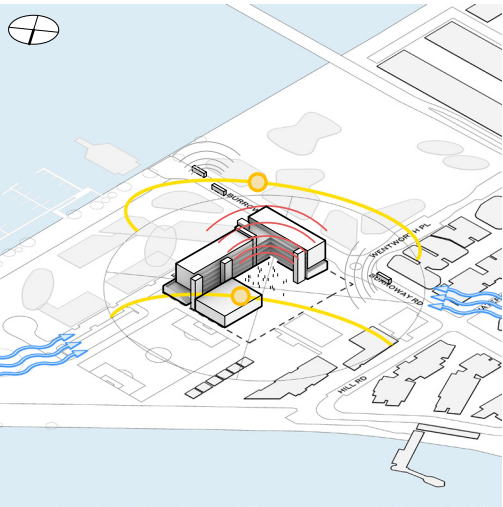
Framing the natural world as nurturing, as well an asset we must protect

Connecting to Country - a deeper understanding of place and history

Bringing the outdoors in

Design Approach

Place



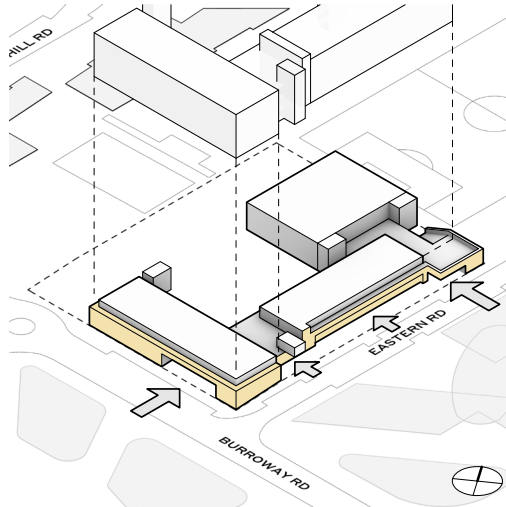
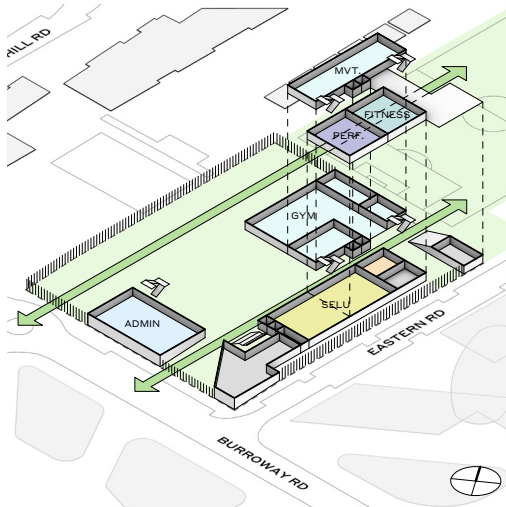
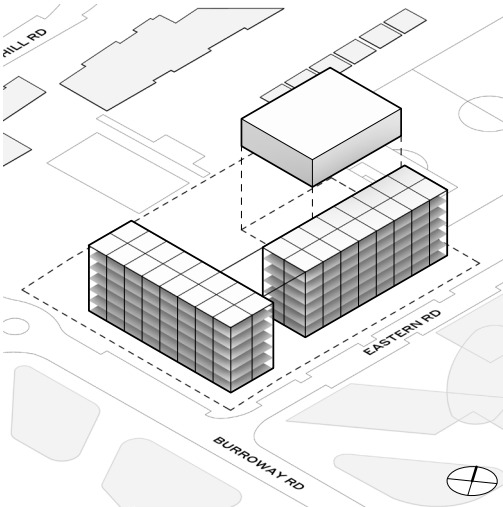
Nature & Environment

The school site is situated on the lands of the Wann, or Wangal, people. Located towards the northern tip of Wentworth Point on the southern bank of the Parramatta River, the site is expansive, exposed and low lying. Formerly an intertidal mudflat zone, the tip of Wentworth Point is reclaimed land. Buildings are located to the southern and eastern boundaries to maximise solar access to playspace and attenuate the prevailing winds. A smaller block containing the hall to the north of site shelters the central play space from cold winter easterly winds from across river.

Urban Form

Wentworth Point is an area of dense mid- and high-rise residential development. The school is as low as possible to connect students to ground level while maximising available playspace. The siting of the building respects the viewing corridor linking Burroway Rd to the river and parklands. The building defines the Burroway Road streetline and sets back along the narrower Eastern Road with a landscape buffer zone. Refer to Appendix A: Options Analysis for description of site masterplan options considered during the design process.

Pedagogy First



Enabling MMC (DfMA)

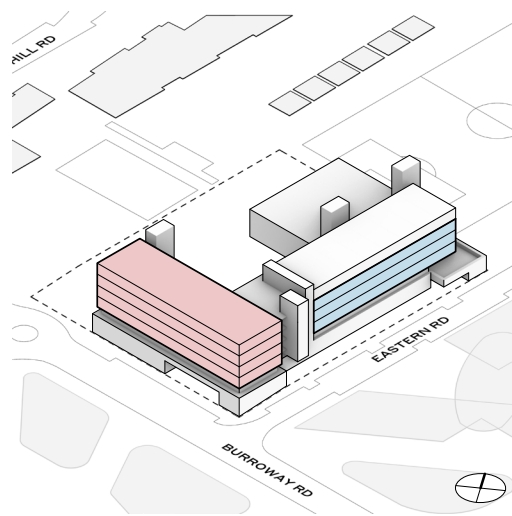
The SINSW MMC (DfMA) teaching and building pedagogical model encompasses a whole of life approach to sustainability, social and economic infrastructure, climate resilience and wellness that places pedagogy always first. The proposal embodies and enables this approach with two equal wings of contiguous teaching spaces that are configurable for every subject, providing flexibility now and for coming generations. The taller volumes of the hall and movement studio that do not fit within the MMC grid are located adjacent to the teaching spaces.

The Community Base

Addressing the community. The Administration wing holds the Burroway Road street edge, providing passive surveillance to the street. The library sits above this, allowing future secure use out of hours by the students. The SELU support unit on the Eastern Road is set back, providing direct level access from school and street if it is required. The Hall, Movement Studio, Performance and Fitness Learning Units are co-located to encourage cross-collaboration and allow secure separate community access if desired.

Welcome

Remove fences wherever possible. The buildings form the perimeter to north and south, while the east face steps back to create landscaped buffer. The school entrance on Burroway Road provides a clear, safe, sheltered and equitable welcome to the school. Community access is provided to the north adjacent to the playing fields and park, with its own entrance and facilities. Servicing is along the Eastern Road with direct level on-street access to lifts and stores.

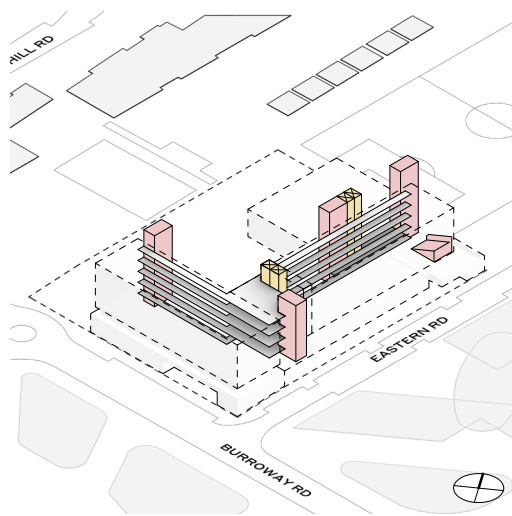


The Teaching Spaces

All specialist spaces are located into a wing facing Burroway Road. The stacking consolidates their servicing and operation, but also presents an ever-changing and varied face to the main street showcasing the education within.

The general learning spaces (GLS) are located in the school's eastern wing, spanning three floors. This grouping minimises circulation and allows the creation of subject departments if desired.

The top floor is used for seniors and staff areas, offering views and relative seclusion from the movement and noise of the main school.



Circulation

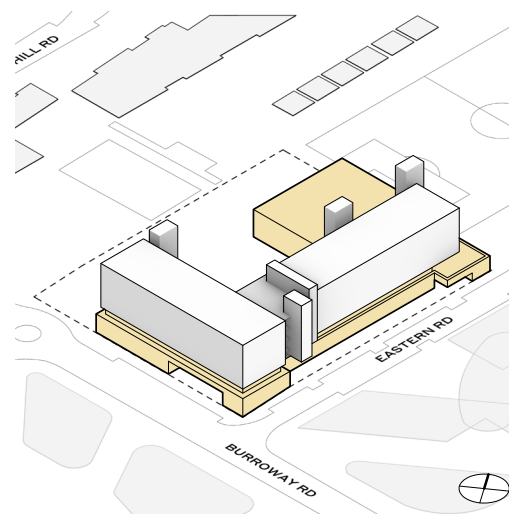
Designing circulation for efficiency, enabling serendipity and casual unplanned learning.

An urban vertical school requires students to move quickly and safely, and provides the opportunity to design the circulation to create additional teaching spaces and space for the students to interact and play.

The central stair and lifts join the two wings and are configured to look into each specialist wing and provide space to expand the teaching space out.

To the north, generous auditorium stairs and lifts create a sports and performance hub for formal and informal occupation.

Architectural Expression



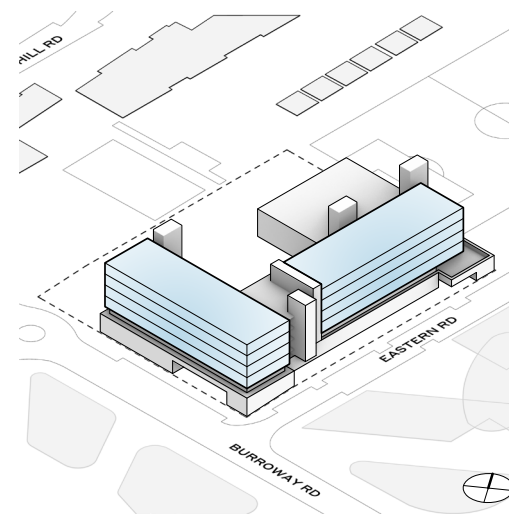
The Base

Anchoring into site.

A masonry base visually and physically locks the school to its site.

Of the earth, the brick provides both a strong, durable form that gets better with age and signals long term investment in the community and building.

The first floor is set back and expressed as the horizon- a place of mediation between land and sky- occupied by the library, movement, fitness and performance spaces.



View from Land

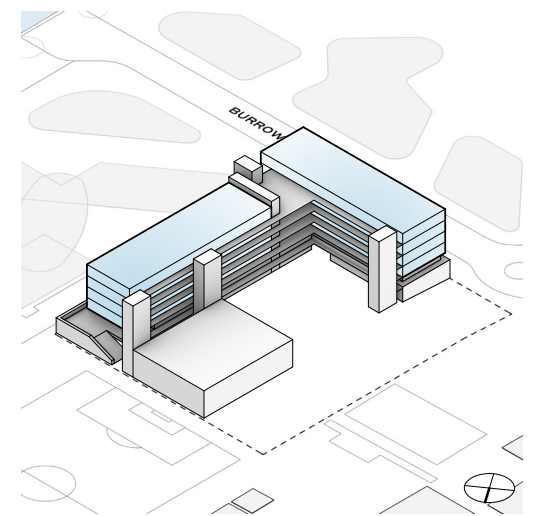
The view from the neighbourhood - A big sheltering shifting sky.

The teaching space wings sit above the first floor horizon, occupying the space previously held by the sky.

The expression is formed of a kit of parts that are configured to the use internally and adapted in response to environment.

Textured, subtly reflective metal screens change in response to the shifting colours and patterns of the sky.

The composition seems at first random, but the observer will find their own meanings and connections- as we do in the clouds.



View from the Water

Nature's strata- land, river, sky

The hall, movement studio, fitness and performance workshops connect visually and materially to the earth.

The teaching spaces above are rendered in the colour spectrum by floor of the sky and river, from the lightest almost translucent pale blue to the stormy indigo. This provides clear integrated wayfinding and celebrates the great courses of river and sky that define this location.

Arrangement

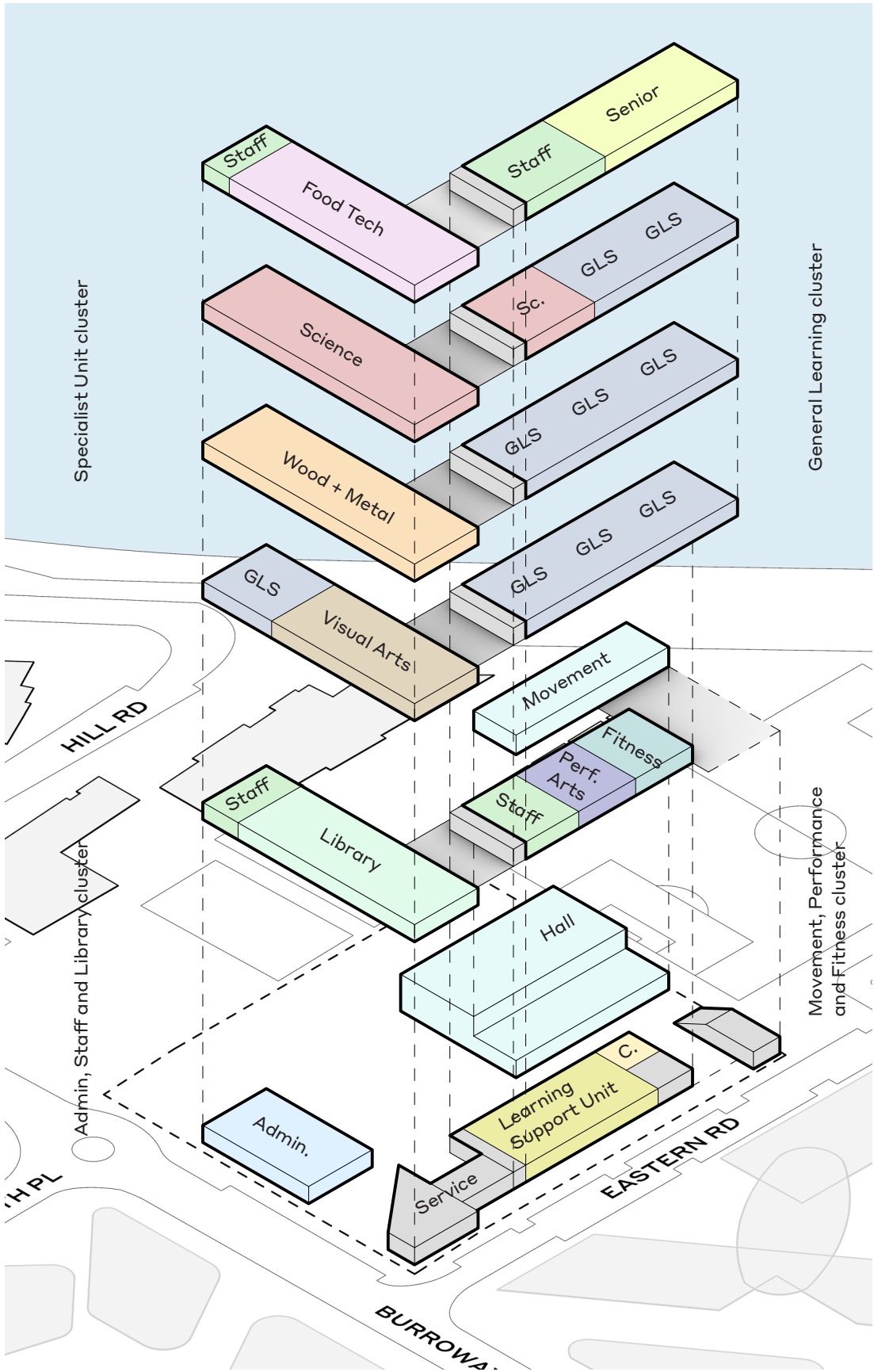
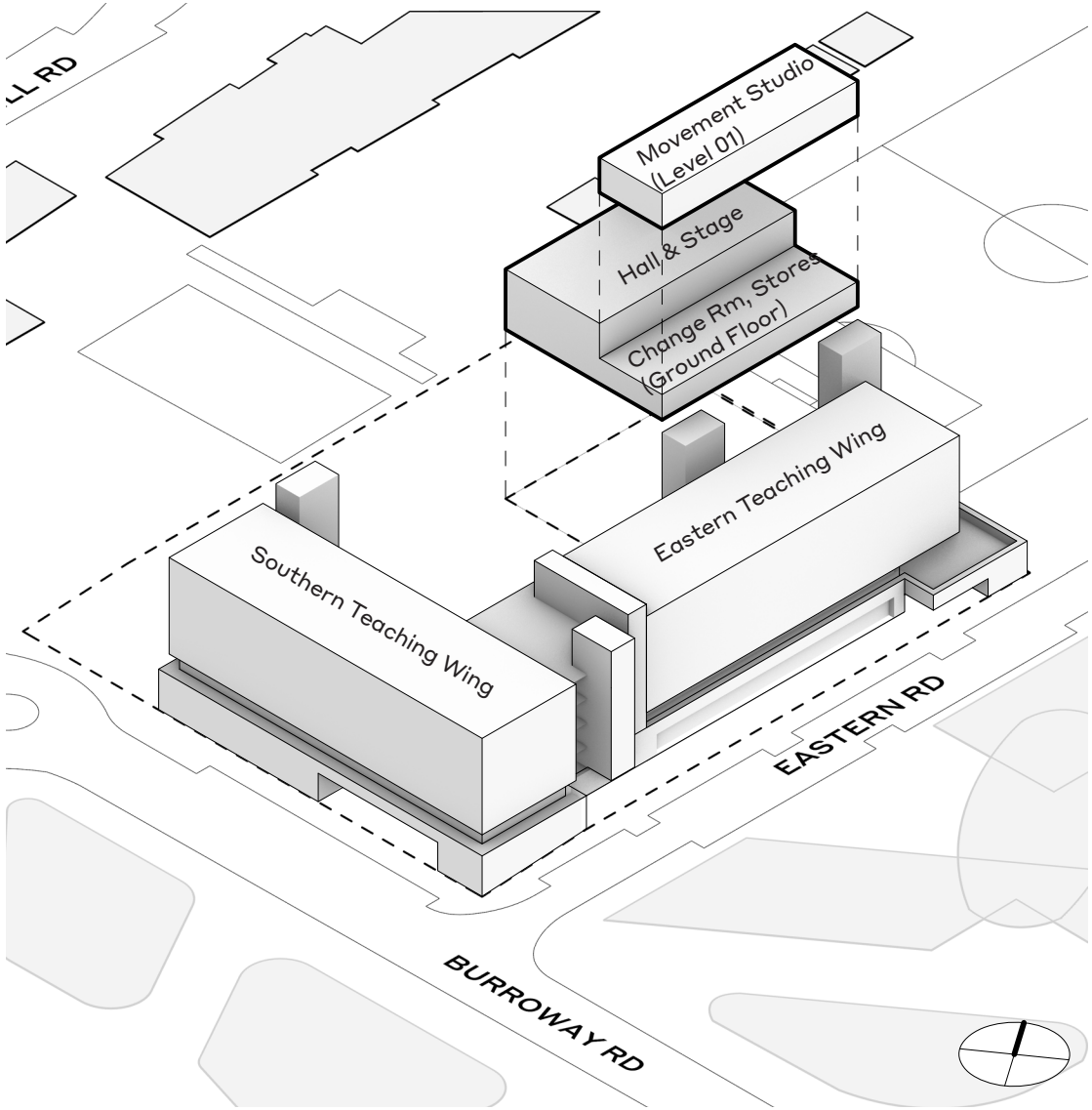
Metrics

Site area	9,511 sqm
Open space (on-site)	6738 sqm
Open space per student (on-site)	4.40 sqm
Adjacent Joint Use Agreement Playing Field	8,834 sqm

Gross Floor Area	14,418 sqm
------------------	------------

Heights

Six Storeys (Ground + 5)	
Ground level	RL 4.000
Floor to floor	4.00m
Key RLs:	
Roof	RL 29.200
Top Plant Enclosure	RL 31.700
Lift Shaft	RL 33.200



Response to SEARS

The Architectural Design Statement and associated Architectural Plans are required to meet the Secretary's Environmental Assessment Requirements (SEARS).

The table on this page provides a reference to each of the requirements and where this has been responded to in this document.

SEARs addressed in the Architectural Design Statement	Sections in which SEARs are addressed
2. Built Form and Urban Design:	
Address the height, density, bulk and scale, setbacks and interface of the development in relation to the surrounding development, topography, streetscape and any public open spaces	02_Place
Address design quality and built form, with specific consideration of the overall site layout, streetscape, open spaces, façade, rooftop, massing, setbacks, building articulation, materials and colour palette	02_Place 04_Architectural Expression
Address how good environmental amenity would be provided, including access to natural daylight and ventilation, acoustic separation, access to landscape and outdoor spaces and future flexibility	02_Place 04_Architectural Expression
Address how design quality will be achieved in accordance with Schedule 4 Schools – design quality principles of State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 and the GANSW Design Guide for Schools (GANSW, 2018)	Appendix C: Design Response to GANSW
Address how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development	03_Pedagogy and Planning
Provide a detailed site and context analysis to justify the proposed site planning and design approach including massing options and preferred strategy for future development	02_Place Appendix A: Options Analysis
Provide a visual impact assessment that identifies any potential impacts on the surrounding built environment and landscape including views to and from the site and any adjoining heritage items	04_Architectural Expression
Provide illustrated materials schedule including digital samples board with correct proportional representation of materials, nominated colours and finishes and keyed to each building elevation	04_Architectural Expression
4. Environmental Amenity	
Assess amenity impacts on the surrounding locality, including solar access, visual privacy, visual amenity, overshadowing, wind impacts and acoustic impacts. A high level of environmental amenity for any surrounding residential land uses must be demonstrated	02_Place
Provide shadow diagrams	Architectural Drawings
Provide a view analysis, where relevant, of the site from key vantage points and streetscape locations and public domain including photomontages or perspectives showing the proposed and likely future development	04_Architectural Expression
Provide a view impact assessment that has been prepared in accordance with the established planning principles	04_Architectural Expression
Consultation	
Summary of feedback provided by GANSW and NSW State Design Review Panel (SDRP) and responses to this advice	Appendix C: Design Response to GANSW



02

Place

Location

Overview

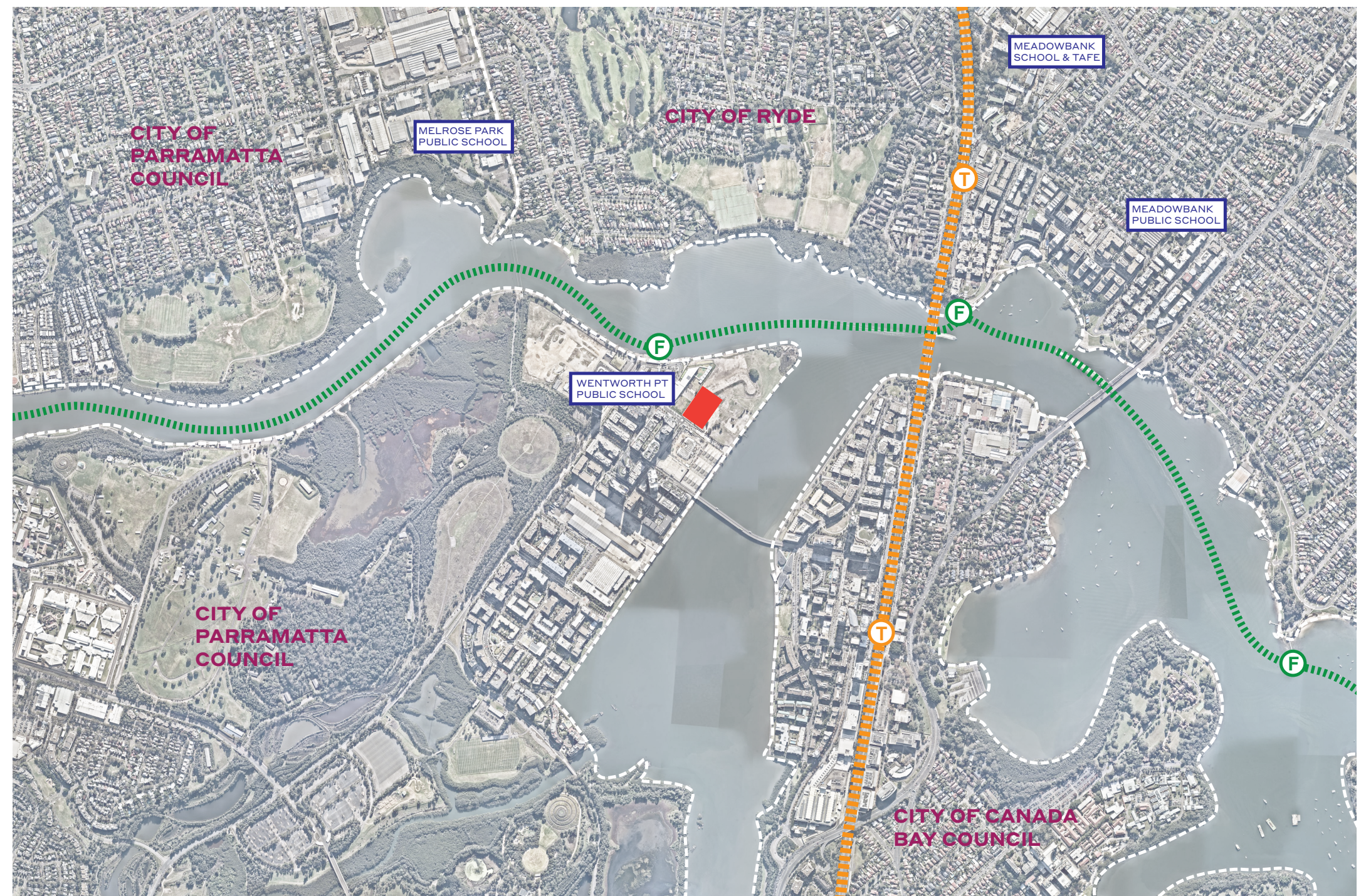
The site, in what is currently called Wentworth Point, is situated on Wann or Wangal Country. The traditional lands of the Wann extended along the southern shore of the Parramatta River, between the Gadigal land of Cockle Bay/ Darling Harbour and Burramatta land to the west.

The site is located towards the tip of a wide peninsula of low lying reclaimed land defined by the Parramatta River to the north and Homebush Bay to the south.

The site enjoys incredible open views of sky and nature, with the northern bank's vegetation almost completely concealing all built form.

The Olympic legacy has gifted large areas of amenity space, parks and facilities that provide a counterpoint to the dense mid-and high-rise residential development of Wentworth Point.

The closest rail station is Rhodes and the Sydney Olympic Park ferry station is adjacent to the site. Both are augmented by local bus services.



Evolution of Place



Origins

Wann, or Wangal Country. A place of fishing, food and travel.

Originally a saltmarsh fringe to the river as part of an estuarine eco-system.

In 1789 the organic, undulating river's edge of these inter-tidal mud flats was mapped, and the drawing above overlays that with the straight lines of the reclaimed land found today.

These reclamation works removed any artefacts of the area's ancient occupation.

Industrialisation & the man-made

Wentworth Point was subject to extensive land reclamation and dredging to facilitate industrialisation and allow larger ships to navigate the western extents of the Parramatta river.

The land was formed principally from contaminated fill from nearby petroleum storage.

Decline and neglect

On the edge of the Homebush Bay industrial area, the site has never had a permanent structure, but has been used for short term storage and staging.

The last industrial building- a plywood factory built in the 1940's- to the immediate south is currently being demolished for new development.

Post WWII, the whole area began a period of neglect exacerbated by pollution and environmental neglect.

Olympic Games & legacy

The 2000 games provided an opportunity to repair the area as an amenity for Sydney.

Ecologies were restored, and the transformation begun to a place of living and recreation.

Extensive remediation works in Wentworth Park were completed in 2011, and the area was rezoned to allow residential development in 2013.

A new community

Wentworth Point is developing rapidly with new residential buildings of mid and high rise form. The quality and aspiration of the developments is increasing, in part due to the adjacency of the extensive parks and sports amenity.

It is appropriate that this site, that has been exploited and despoiled over generations, will now become a place of nurturing, stories and learning. The new Sydney Olympic Park High School.

The site

Constraints

01_Viewing Corridor

There is a so-called "viewing corridor" along the western boundary of the site. It is a remnant of a previous urban plan, intended to maintain visual connections from Burroway Road to parkland and the river's edge.

02_Easements

An earlier development plan involved a new road as a continuation of Wentworth Place. Although the road is no longer relevant to the precinct, the earthworks for the road took place and key services were located underground along its axis. Due to the presence of these services, the road zone is considered an easement on which no development is to occur.

03_Future Developments

Mixed-use developments are planned or expected in the precincts directly to the south and east of the school site.

04_Relationship to Primary School

Wentworth Point Public School is located to the west of the site. Though there is not likely to be any physical connection between the two schools and they will operate independently, a coherent education precinct with strong visual connections is desired.



Physical context

The road network and hierarchy.

Due to the relatively long walking distance to the closest rail station, there is still evident extensive car use within Wentworth Point, with each development having extensive parking provision.

The main N-S access is along Hill Street connecting the M4 in the south. The benefit of its peninsula setting is the lack of through traffic, and consequent low traffic speeds.

Bennelong Bridge is closed to private vehicles and provides a key pedestrian, cycle and bus link to Rhodes and its station.

Burroway Road is a key east-west local connector, and will form the main drop-off and entrance for the new school. The street will be upgraded with street trees, wider pavement and a bus turnaround at the eastern end.

The proposed new eastern road will serve new development along the bayside, the new park and the school. This will be built in line with the schools construction but is not part of the submission.

Open space

A new playing field to the north of the site will be delivered in parallel but independent of this project. The field will be subject to a Joint Use Agreement with Parramatta City Council (its intended future landowner) and available for public use outside of school hours.

Wentworth Point is being redeveloped as a new park within which the playing field will sit. The park may also be linked to the Parramatta River Walk, connecting Parramatta CBD to Ryde Bridge and beyond. At present, the River Walk circumvents Wentworth Point between Archer Point and Shipwreck Refuge in Homebush Bay.

The expanses of the Millennium Parklands lie to the west of the site.

SITE PLAN LEGEND

Primary connective street

Secondary street - public

Secondary street - T-Way

Future road

Future Riverwalk



Shaped by Nature and Environment

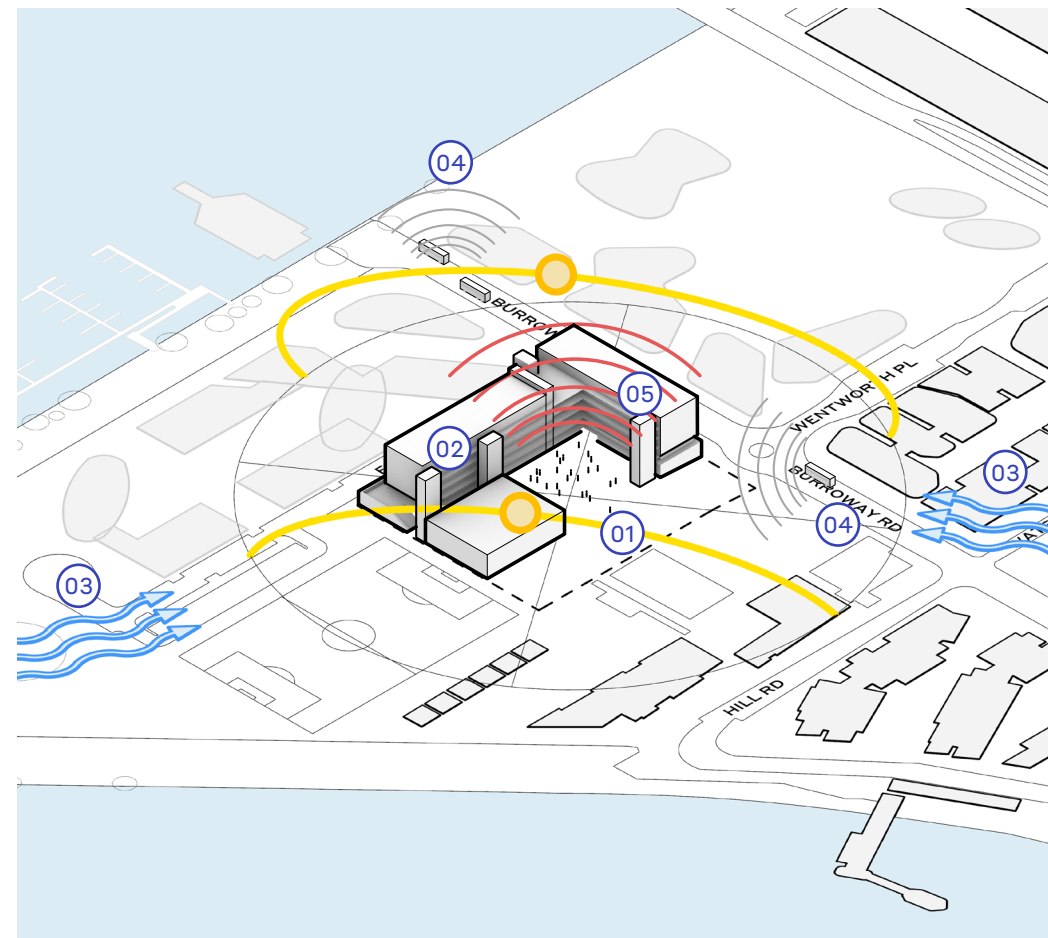


The Site

An area of reclaimed, riverside land, the site is characterised by the big vistas it offers across its flat topography. Vegetation and biodiversity are likely to have been affected by decades of industrial use of the land.

Although the Parramatta River flows to the north, with lush mangroves lining its northern bank, it is not clearly visible nor its presence "felt" from the site.

That said, the proximity to the river, flat topography and lack of tree cover leave the site exposed to wind and the beating sun.



01_Maximising solar access to play space

The proposed school buildings hug the south and east site boundaries, allowing unobstructed solar access from the north and west.

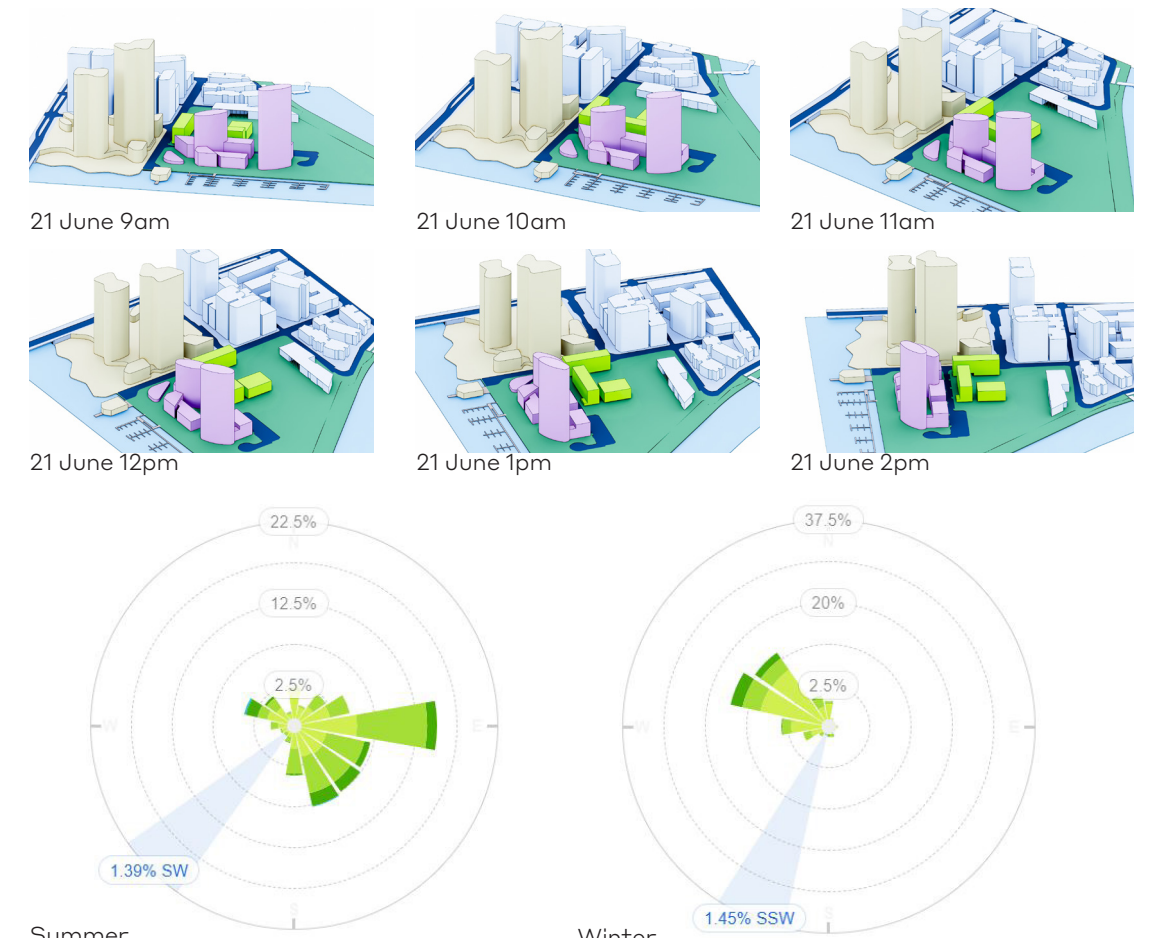
This configuration maximises solar access to play space, which is especially important during the winter months.

Active and passive shading systems, both in the architecture and landscape, provide sun protection when required.

02_Building orientation to provide shading & maximise daylight

External walkways are an integral feature of the SINSW education model, and are located on the inner façades facing north and west. These deep canopies provide passive shading in summer while allowing the welcome winter sun deep into the floor plan. Additional shading is built into the facade where required.

Workshops and labs are positioned with south glazing, permitting controlled access to indirect daylight.



03_Protection from the wind

The two teaching wings and hall form a protected courtyard, providing protection from harsh winter breezes and winds.

04_Atmospheric pollution

The building mass is positioned to shield the play space and teaching areas from pollution created by traffic along roadways bordering the site.

Teaching spaces overlooking Burroway Rd are largely activity-based and therefore conditioned environments.

05_Acoustics & noise

As hives of activity during the day, schools are sources of significant noise.

The building itself acts as a barrier, protecting neighbours from noise generated in the playground.

The Hall and Movement Studio open inwards, minimising disturbance should they be used after hours.

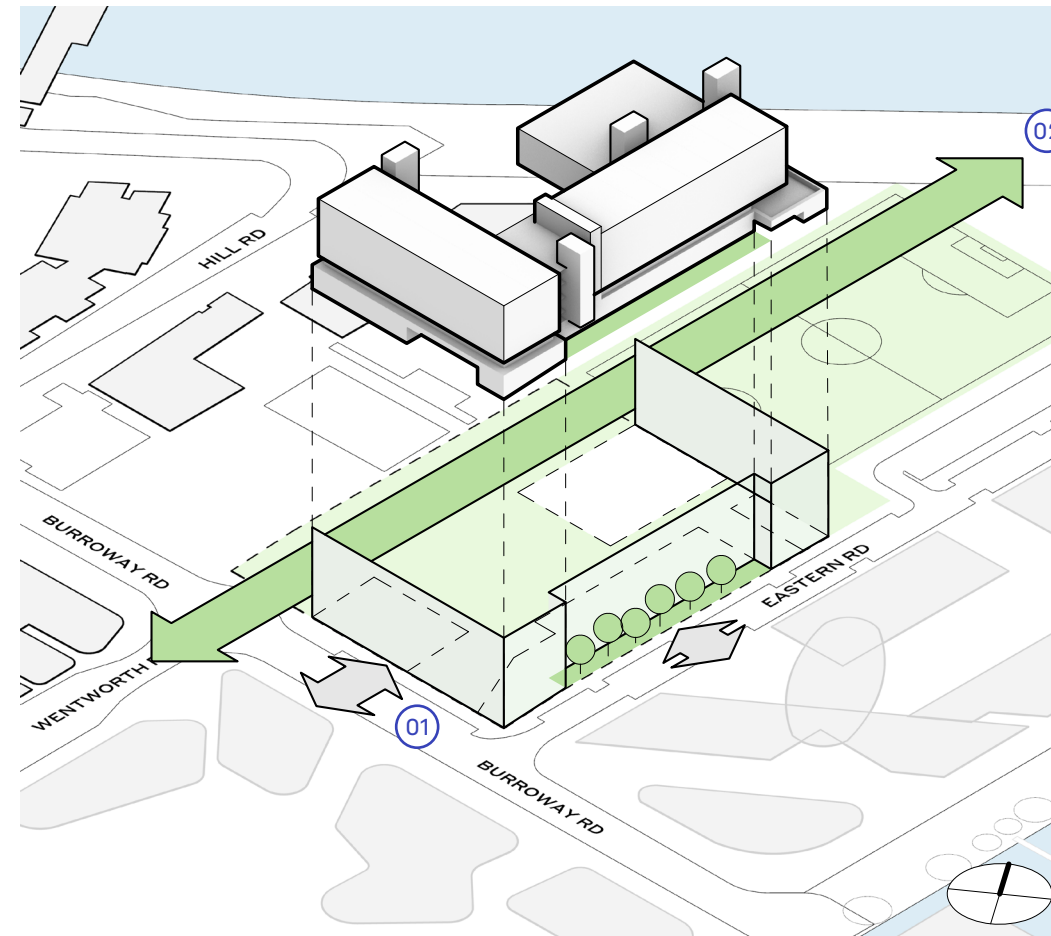
Shaped by Urban Form



Evolving context

Original development was mid-rise up to 8/9 storeys, but with the opening of Bennelong Bridge development density was increased in line with the public transport access.

To the south the former plywood factory is being demolished to build a new development with twin 50+ storey residential towers, a marina and river side swimming pools.



01_Defining the street

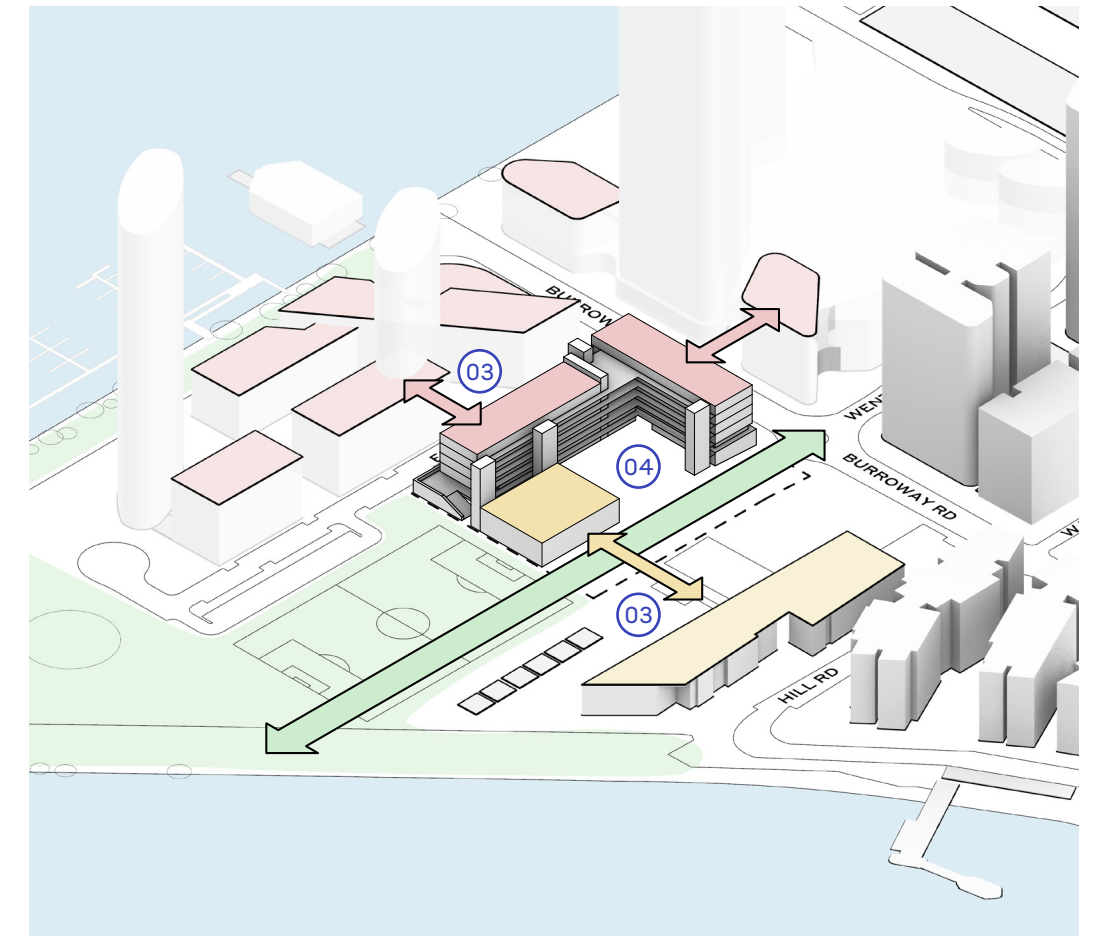
In a precinct that has been developed rapidly with inconsistent setbacks and streetwalls, it was important to carefully consider the building's relationship to the street.

The building is pushed to the Burroway Road boundary to create a confident streetwall and urban presence befitting of the wide street.

The building holds the corner, but sets back along the narrower eastern road with a landscape buffer zone.

02_Securing the visual river vista

The western edge of the southern teaching wing and the Hall frame the viewing corridor, permitting uninterrupted views from Wentworth PI and Burroway Rd to the river and parklands to the north.



03_Scale

Wentworth Point is characterised by the rapid proliferation of dense mid and high rise residential developments.

The teaching wings match the mid-rise buildings of adjacent developments to the south and east. The Hall steps down, linking in scale to the Primary School to the west.

The proposal balances the competing demands of a). maximising ground level play space on a small site, and; b). minimising building height and average distance from ground.

04_Privacy & Play Space

The school buildings create a protected courtyard of play space, ensuring the privacy of both students and neighbours.

Designing with Country

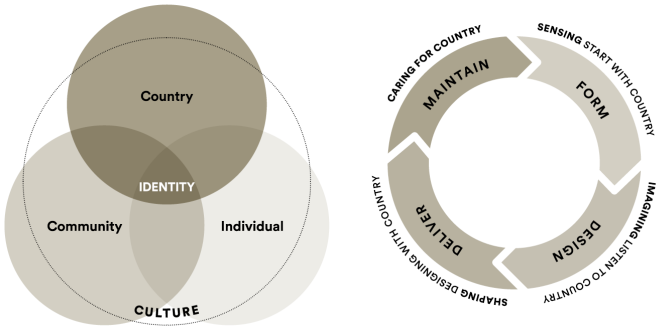
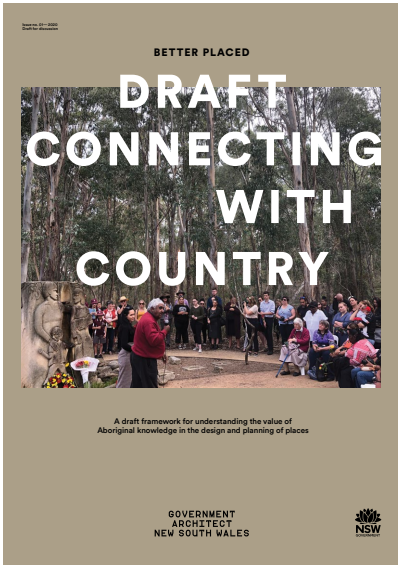


People and Place

Wann, or Wangal Country

The school's site was once inter-tidal mudflats - saltmarsh ecology, mangroves - a place to hunt and fish

From saltmarsh to bare, contaminated, industrial land to a new place of nurturing and learning - the first permanent building in this location



Connecting with Country

A design approach underpinned by the guidelines established by the GANSW in the Draft Connecting with Country and the Designing With Country discussion paper.

We are continually learning and developing understandings of Country and how these may inform our design process.



Bid Stage

Authentic engagement must be there from the outset.

To guide, inform and challenge the design team, Roberts Co and Woods Bagot worked with Balarinji during the bid stage only.

This formed the foundation for the next design evolution.

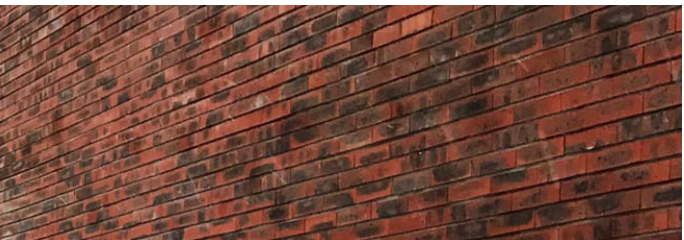
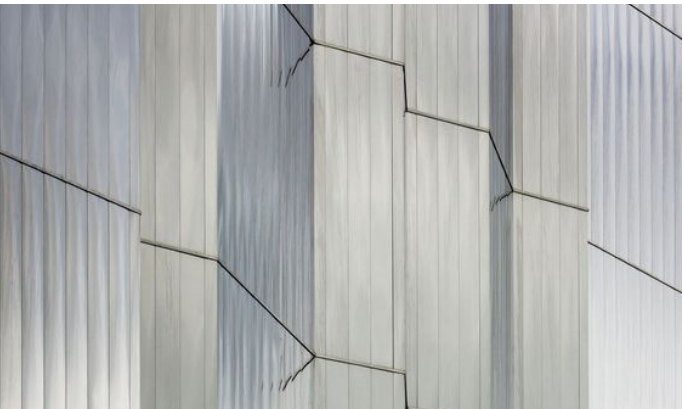
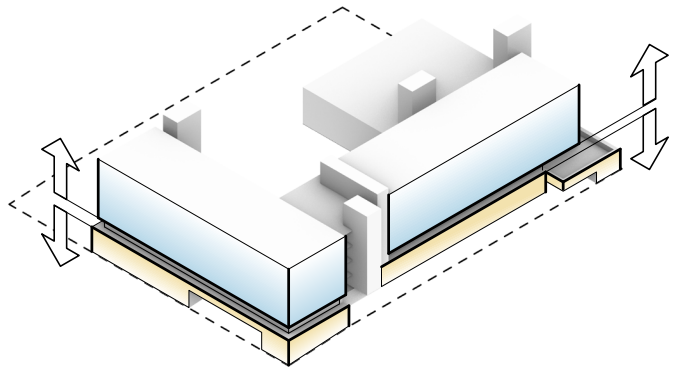


Design and Delivery

SINSW have established an engagement and review process with the Burramatta AECG that will now inform the design.

While the AECG welcomed the new designs, they asked the team to:

- reinforce the importance of the gathering spaces- large and small- where generations and peers can help, teach and support each other
- create a softer building where it meets people
- celebrate the local indigenous planting and production gardens for play, food and learning
- explore the explore and integrate local significant forms and symbols into the landscape design



Materials

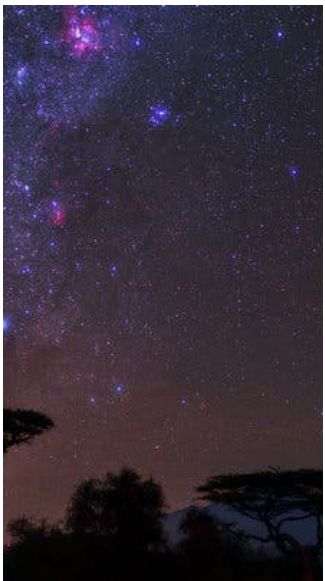
The natural and the man-made

Landscape: a planting palette to restore local ecologies

Brick: from the earth, formed by fire, the scale of a hand

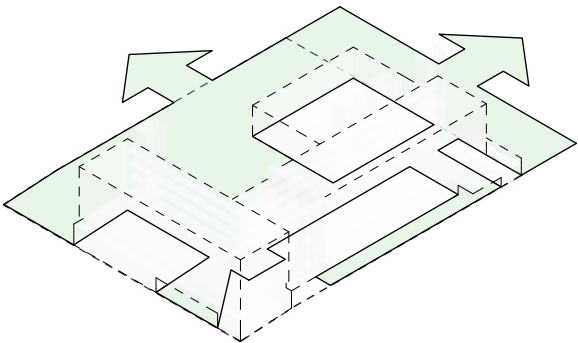
Metal: echoing a shimmering, shifting sky

Connecting to Country



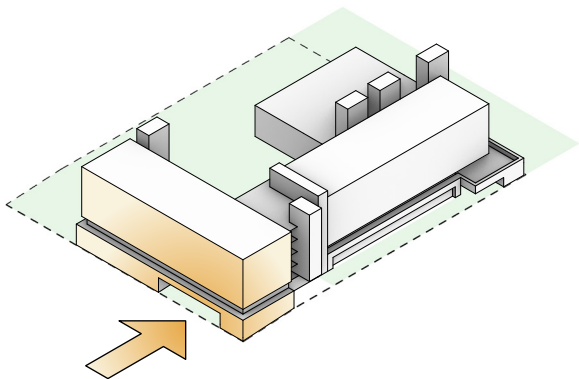
Country and Place

The earth upon which we walk, imbued with stories
Animals, insects, plants - our companions and our equals in this world
The winds, rains, sunshine, stars to guide us
A place for new stories



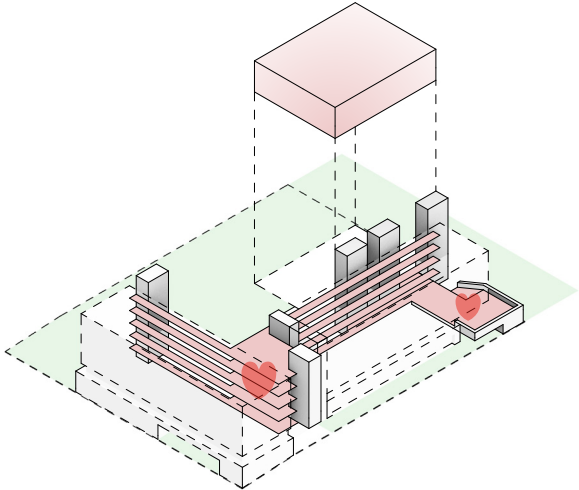
Ecological healing and restoration

The use of plant species to revive saltmarsh and other local ecologies
Building over contaminated land - a restorative landscape



Welcome

The school entrance
A place of compression, shelter and nurturing
A significant, symbolic location for public art



Connect & Gather

Designing to engender connection between ages and generations - the building's connective tissue and its gathering spaces
Instilling a idea of community based on helping each other, helping your family



$\Delta t = \gamma \Delta t_0$
 $\Delta t_0 = \text{proper time}$
 $L = \frac{L_0}{\gamma}$
 $L_0 = \text{rest length}$

Lorentz transformations
 $x' = \gamma(x - vt)$
 $t' = \gamma(t - \frac{vx}{c^2})$
 $y' = y$
 $z' = z$

velocity transforms
 $u_x' = \frac{u_x - v}{1 - \frac{vu_x}{c^2}}$
 $u_y' = \frac{u_y}{1 - \frac{vu_x}{c^2}}$
 $u_z' = \frac{u_z}{1 - \frac{vu_x}{c^2}}$

acceleration transform.
 $a_x' = \frac{a_x}{\gamma^3(1 - \frac{vu_x}{c^2})^3}$

Doppler shift:
 $f_{obs} = f_{source} \sqrt{1 - \beta^2}$
 $f_{obs} = f_{source} (1 + \beta \cos \theta)$
 $f_{obs} = f_{source} \sqrt{1 - \beta^2}$
 $f_{obs} = f_{source} \sqrt{\frac{1 - \beta}{1 + \beta}}$

momentum
 $p = \gamma m u$

Energy
 $KE = E_k = \gamma m c^2$

Quantization
charge/mass
 $q_u B = q_e E$
 $U(f) =$

photoelectric
 $E_k = hf - \phi$
compton
 λ_2

Hydrogen
 $\frac{1}{\lambda_{min}}$

03

Pedagogy and Planning

Future Schools_ the MMC (DfMA) Guidelines

MMC (DfMA)

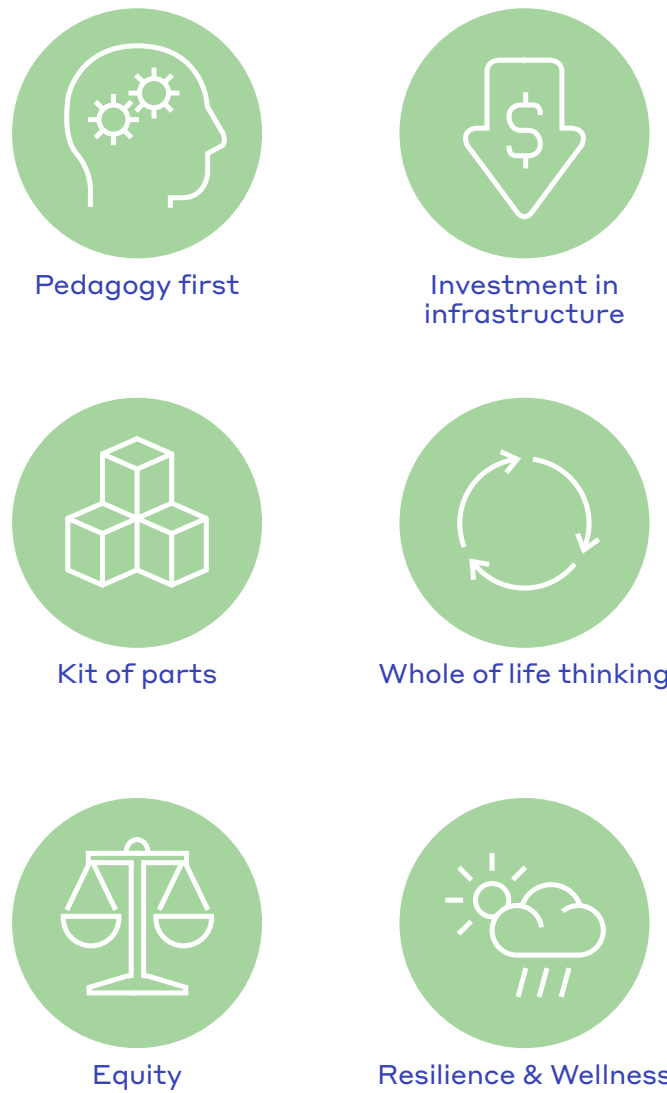
This opportunity presents itself as a product of significant population growth and aging school assets. The challenge the NSW government faces is to meet its obligation to provide a school place for every child. This means significant investment in school infrastructure via expansion, upgrade and new school projects and to deliver these to keep up with demand while offering a standard of schooling.

The role of schooling is in rapid change following recent social and technological upheaval. In the past a teacher would be mainly imparting knowledge. Today, with the free availability of knowledge, the aim is to provide guidance on use of this knowledge and to harness skills in critical thinking, problem solving, collaboration skills as well as the more traditional skills in numeracy and literacy.

We are already seeing the adoption of co-teaching and open learning, where multiple class groups learn together. In the future, it is predicted that the curriculum will shift towards a more cross disciplinary mode of learning. In meeting the challenge of DfMA schools, the spaces created will need to enable this type of pedagogy, as well as traditional modes and future flexibility

Guiding principles

Each decision along the development of the MMC (DfMA) system has been informed by these overarching principles. They address the NSW need to meet its obligation to meet the school place demand, while addressing key societal issues of wellness, sustainability and the ability to deliver new typologies in the construction industry in NSW.

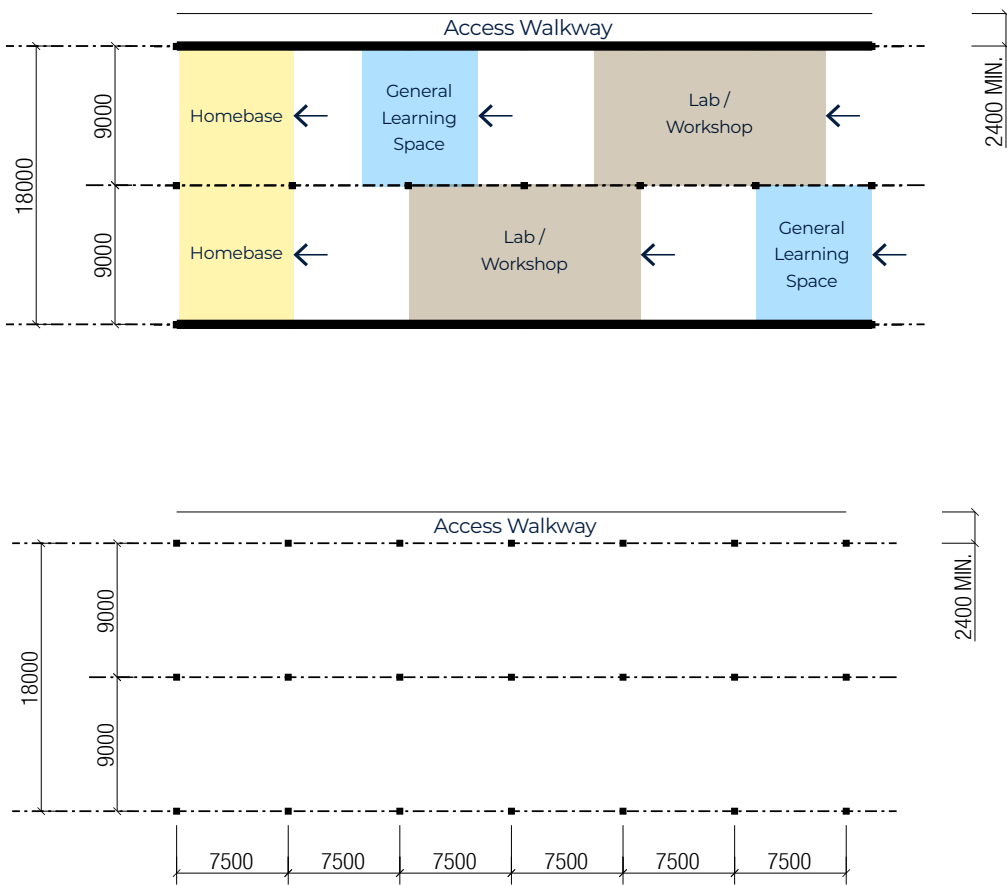


Layout and planning

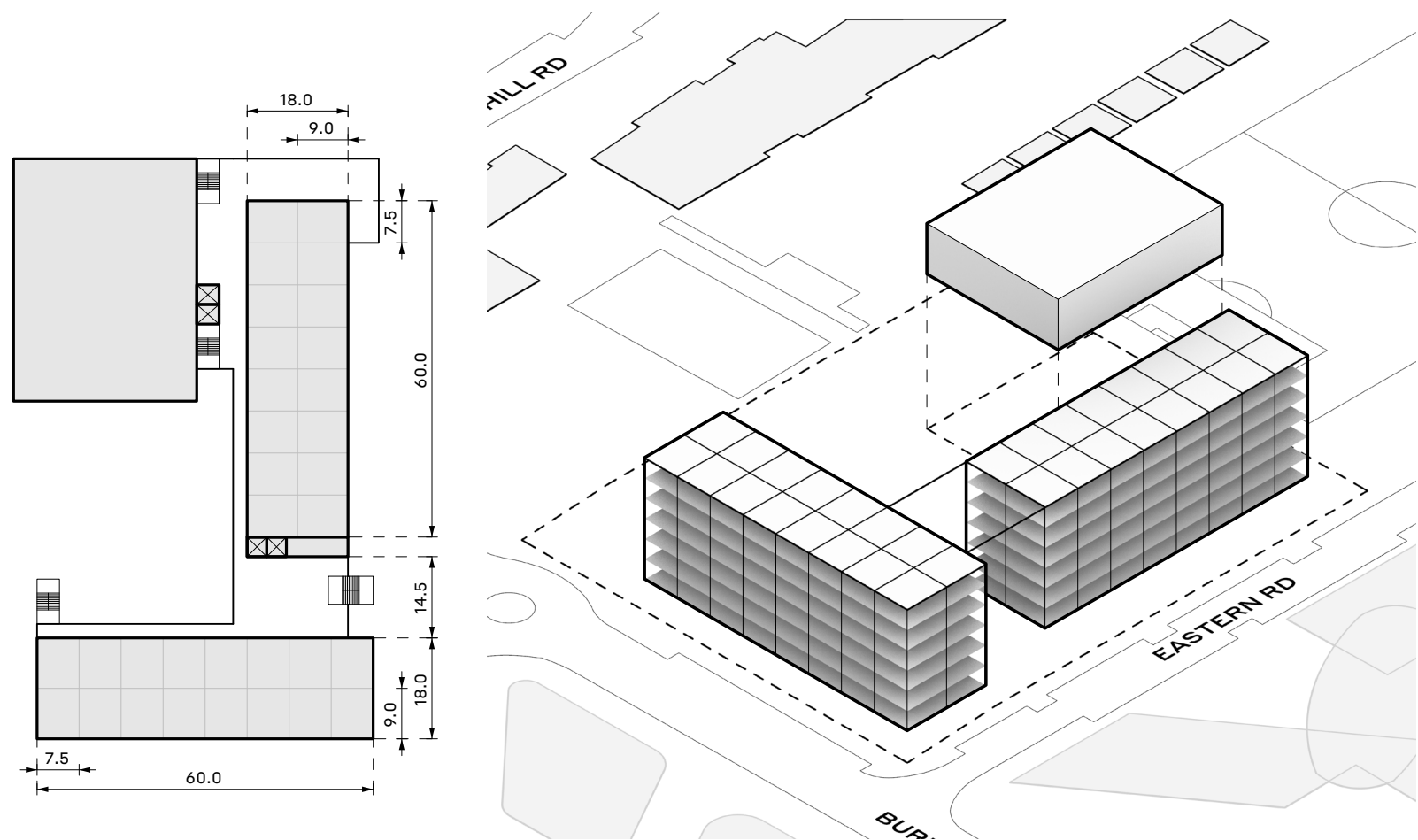
The existing EFSG Schedule of Accommodation identifies different space types required. The planning system has standardised these space types to fit within the 9m framework.

All space types can be arranged within the 9m framework as required.

By standardising space types, future flexibility is enabled as spaces can be interchanged and replaced as pedagogy and school requirements change over time.



Enabling MMC (DfMA) Guidelines



Overview

The SINSW MMC (DfMA) teaching and building pedagogical model encompasses a whole of life approach to sustainability, social and economic infrastructure, climate resilience and wellness that places pedagogy first.

The two teaching wings

The principles of the MMC underpin the scheme, with two equal wings of contiguous teaching space based on a consistent structural grid and floor-to-floor height.

These wings provide the framework for every learning environment to be fitted-out with modular components.

This approach ensures flexibility now and for coming generations, with the building designed to adapt as needs inevitably change.

The non-MMC spaces

The Hall and Movement Studio require large, open-plan spaces that do not fit within the MMC grid.

These are located in a separate building adjacent to the teaching wings.

Thus every component can be configured to its optimal performance.

Lessons learnt from Meadowbank

Item 01_ Thin slabs and beams creating reticulation issues across multiple and complex uses (laboratories, workshops, etc) hindered the creation of off-site service units and reduced clear ceiling heights.

Likely Solution_Flat slabs

Item 02_ Expensive and time consuming transfer to accommodate tall and wide span non-DFMA spaces

Solution_Locate non-DfMA spaces separately to maximise future flexibility of the teaching wings and optimise structures

Item 03_ Staggered external covered learning spaces connected to landscape routes but compromised insulation and risers.

Solution_Align all external spaces and risers

Item 04_ Off-site manufacture of all walls, sliding doors, joinery and ceilings allowed inspection and QA remote to site, improving quality, reducing transport, time on site and using less materials

Solution_Spend time at outset to set a consistent grid and kit of parts to allow all internal walls to be fabricated without a minimum of wet trades on site.



Pedagogical model



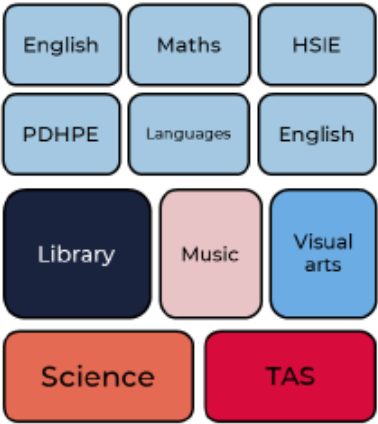
The Education rationale for the project, and most NSW state schools, is built on principles of effective learning to:

- Support existing practices;
- Reveal new opportunities;
- Support ongoing evolution of educational spaces;
- Engage with a diversity of users

Spaces enable a variety of learning modes including collaboration, discussion, feedback and reflection, guided and explicit demonstration, experiential and independent learning.

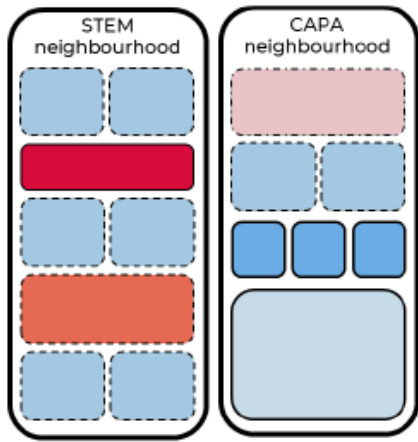
Spaces are adaptable through operable walls to enable a variety of configurations across the spectrum from enclosed, traditional spaces to open plan and co-teaching opportunities.

The school is arranged by Learning Unit (i.e. Science, Materials, Performance etc.) and configured in neighbourhoods that group together units with synergies such as performance with fitness and movement (CAPA (Creative and Performing Arts)); and materials with science (STEM (Science, Technology, Engineering and Maths)).



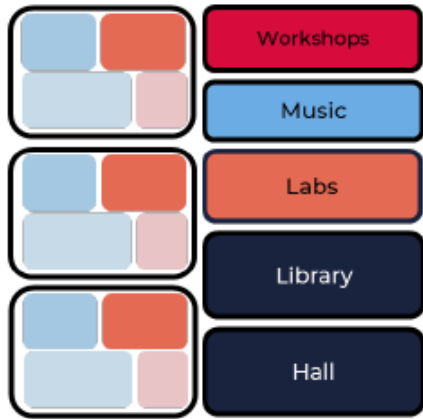
Discipline-Based (Learning Units)

Firstly, EFSG standard Learning Units form discipline-based faculties.



Neighbourhoods (STEM/ CAPA)

These are then arranged in neighbourhoods, such as CAPA (Creative and Performing Arts) and STEM (Science, Technology, Engineering and Maths) neighbourhoods to enable educational synergies and future adaptation of curriculum.



Community/Communal Areas

The possibility of community access is enabled by locating the Hall and other communal facilities such as the canteen and library in easy-to-access locations, close to school entries.

Pedagogy First

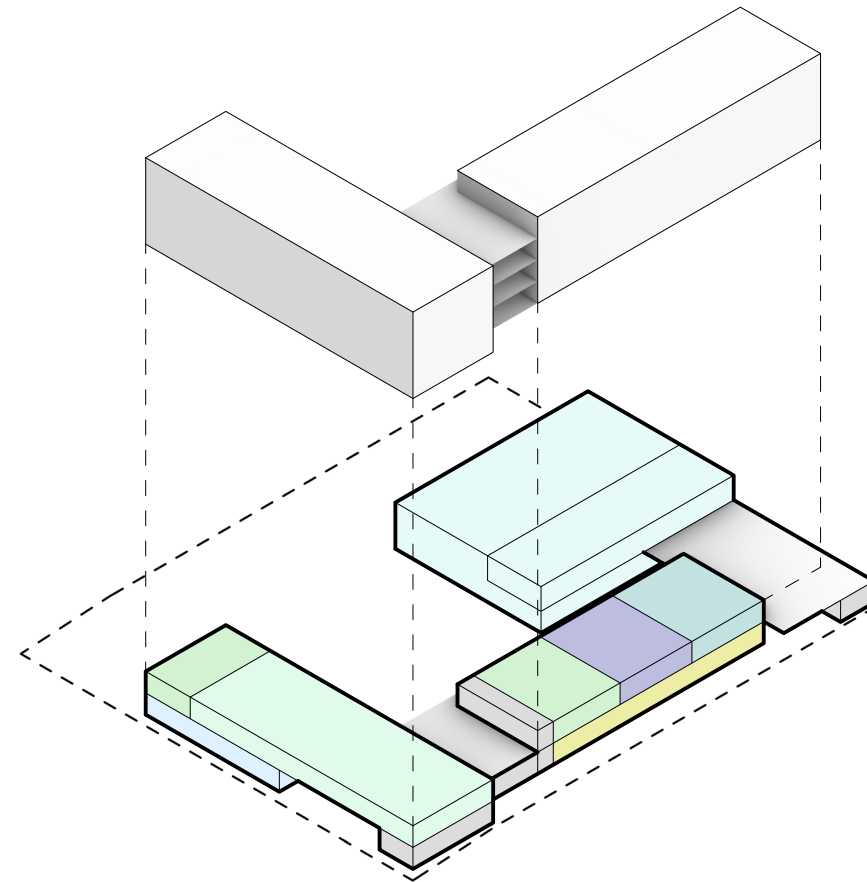
The community base

Addressing the community.

The administration wing sits on the site boundary to Burroway Road, providing passive surveillance to the street and as first welcome to the school. The library sits above this, allowing future secure use out of hours by the students.

The SELU support unit on the Eastern Road is setback with own playspace, providing direct level access from school and street.

The hall, movement, performance and fitness studios are co-located to encourage cross-collaboration.

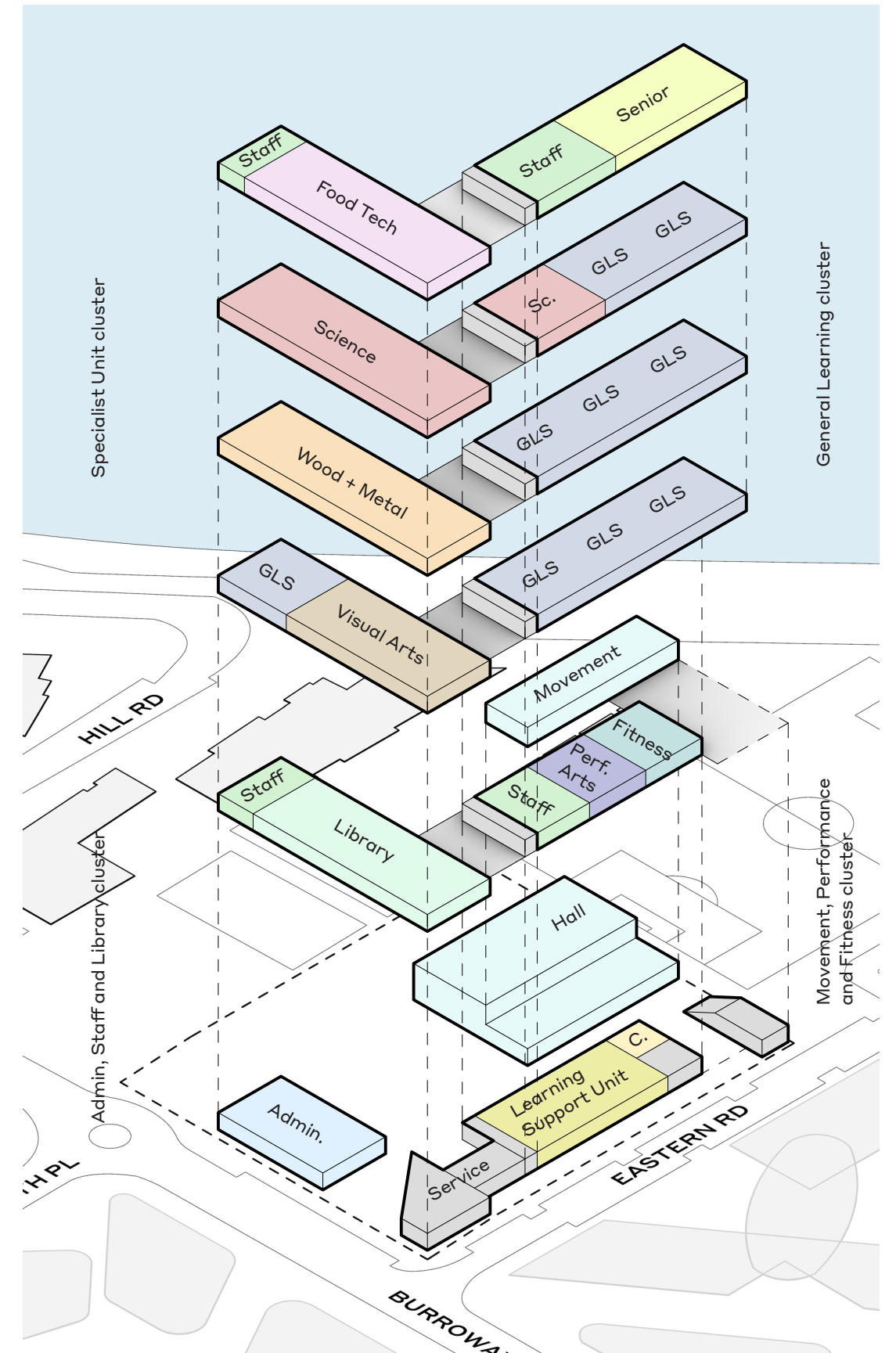
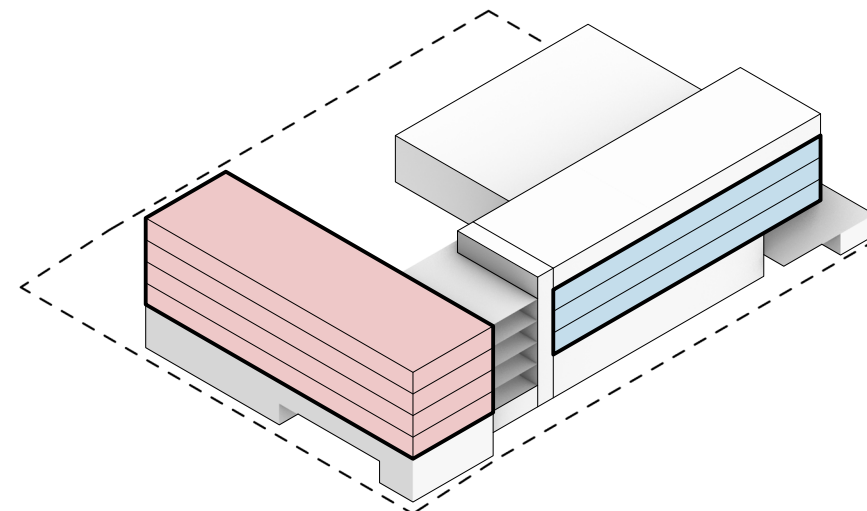


The teaching spaces

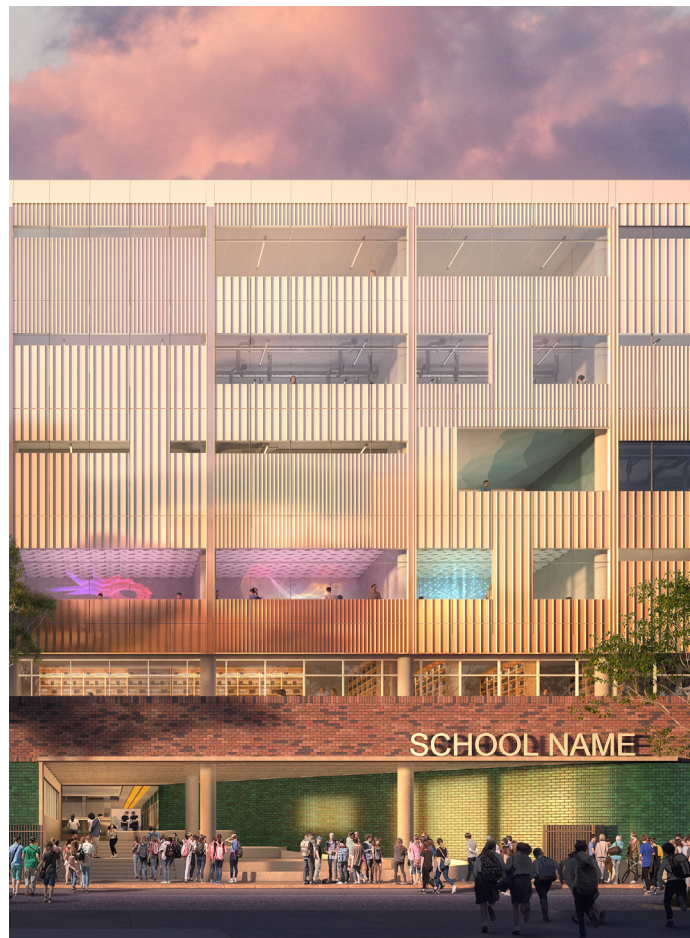
All specialist spaces are located into a wing facing Burroway Road. The stacking consolidates their servicing and operation, but also presents an ever-changing and varied face to the main street showcasing the education within.

The general learning spaces (GLS) are located in the school's eastern wing, spanning three floors. This grouping minimises circulation and allows the creation of subject departments if desired.

The top floor is used for seniors and staff areas, offering views and space away from the movement and noise of the main school.



Interfaces

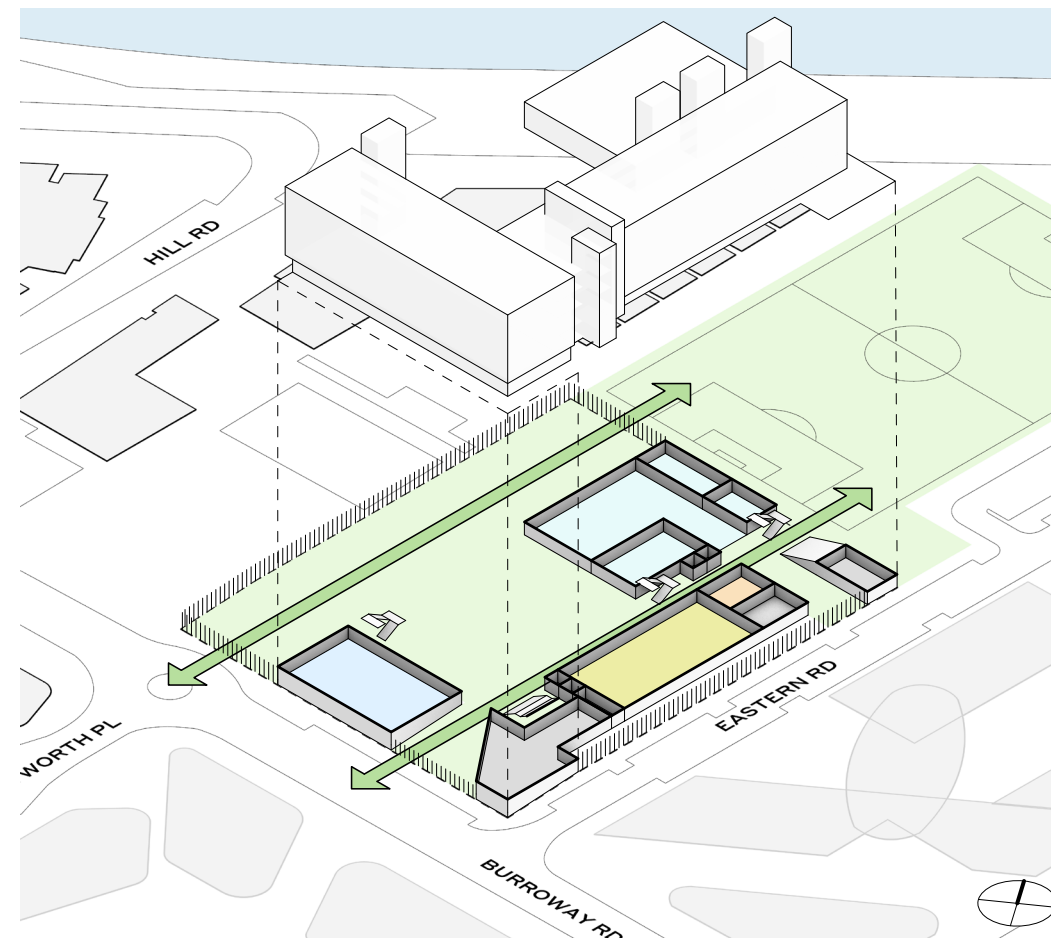


Welcome

The school entrance on Burroway Road provides a clear, safe, sheltered and equitable welcome to the school.

Adjacent to the bus drop-off and facing to the community, the covered entrance provides space for students to wait for transport and also to informally congregate before and after school.

While the SELU unit is integrated into the main school, independent level access is possible from the Eastern Road if required



01_Remove fences wherever possible

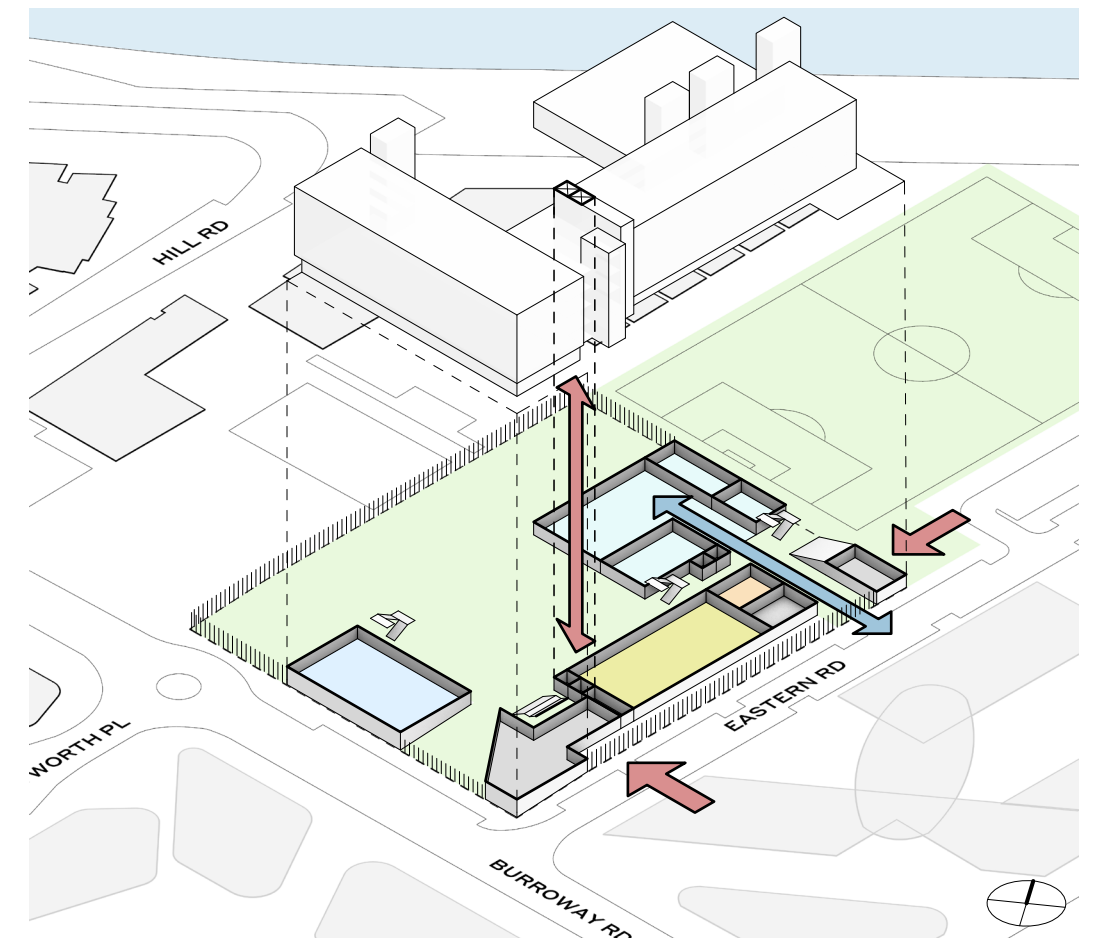
The school buildings line the site boundary to north and south, while the east face steps back to create a landscaped buffer.

By avoiding any unused, unsupervisable frontier spaces between fences and buildings, the central area available for play space is maximised.

The building's outward-facing materiality must be both practical- robust, graffiti resistant- and beautiful, as the element defining the link between the school and public domain.

02_Connection to playspace and river

Two wide north-south routes connect the street to river and playing fields. The viewing corridor, lines the western site boundary, and another visual link is framed by the eastern teaching wing and Hall.



03_Facilitating community use

Community access is provided to the north adjacent to the playing fields and park, with its own entrance and facilities.

A two storey stack of hall/stage, performance, fitness and movement studios are set out to allow secure isolation from the main school, to provide out-of hours access to students, and the community for particular events.

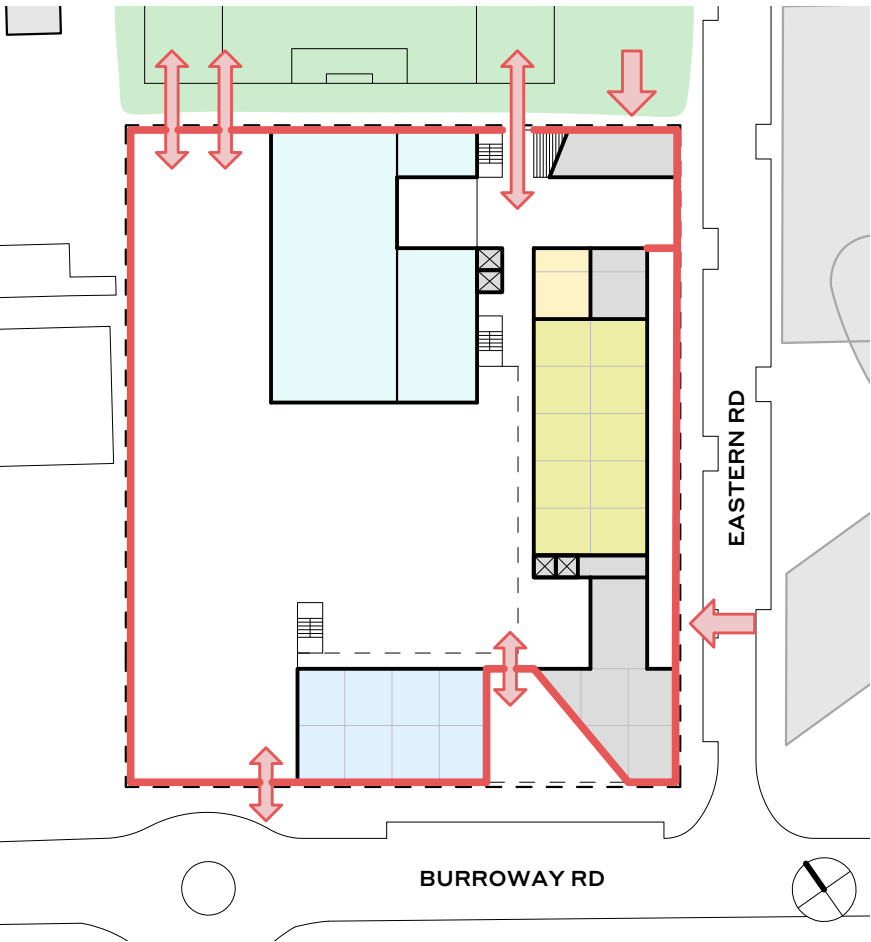
Utilising the space above the bin stores, generous auditorium stairs provide space for formal and informal occupation.

04_Efficient servicing

Servicing is along the Eastern Road with direct level on-street access to lifts and stores.

The bin stores are located to the north, with direct access to both the school and the northern pick-up point from the carpark adjacent to the playing field.

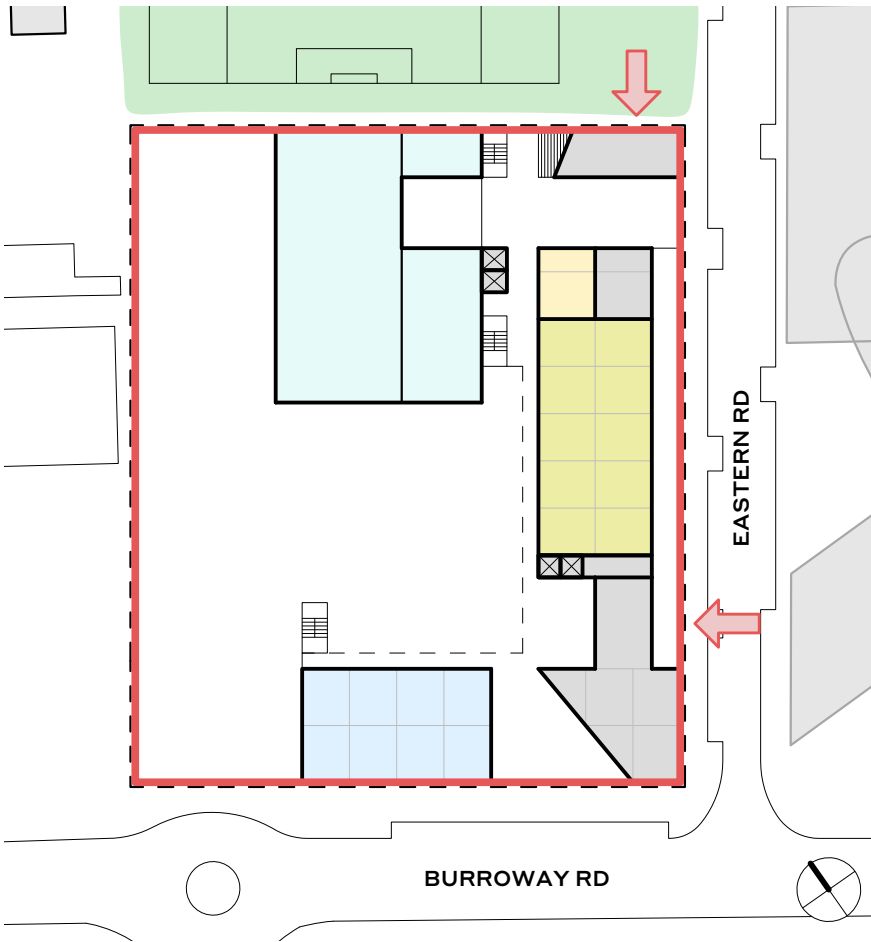
Modes of Operation



During School Hours / General Operation

The gates at the main entry are opened during school hours, and a secondary gate where the entry-way narrows allow school staff to monitor and control student and visitor access.

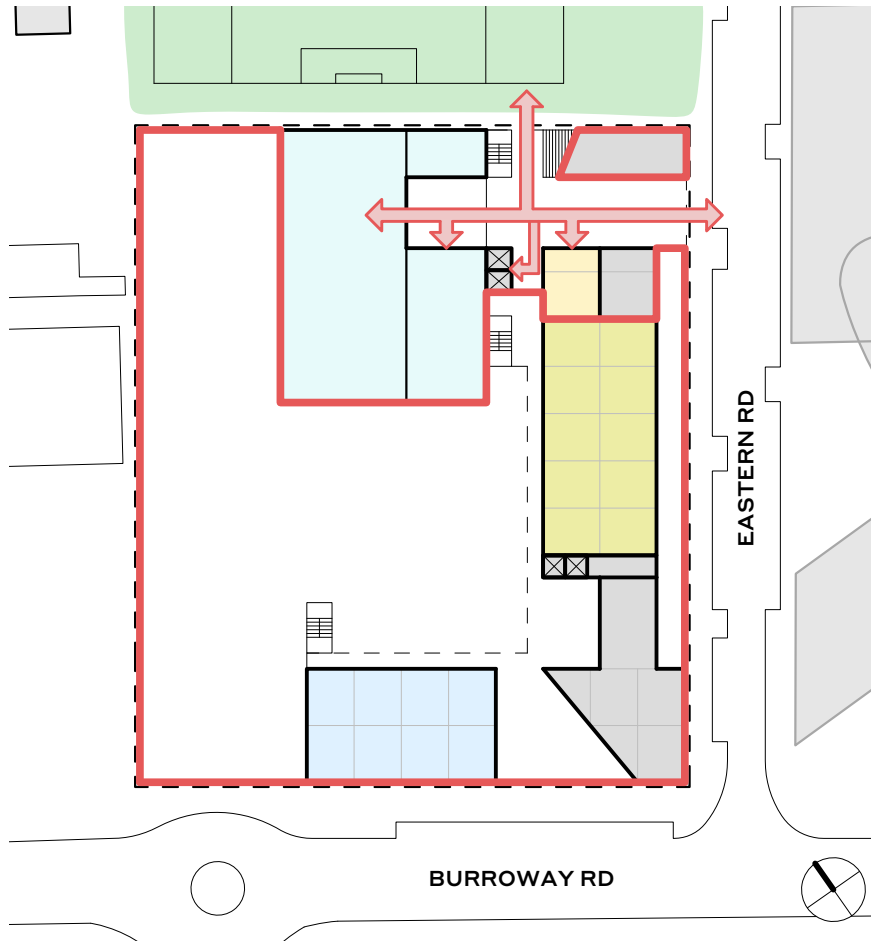
The northern playing field is subject to a Joint Use Agreement, and it is anticipated that gates will be installed on either side of the Hall along the northern boundary. This would allow students to access the playing field during play time, where it would form an extension of the school's on-site play space.



After Hours

When the school is closed, the perimeter is entirely secured. Where possible, the building itself forms the secure line.

Secure access points at various locations will allow any after-hours staff and service access to take place.



Community Use

Outside of school hours, it is anticipated that several of the school's facilities will be made available for student extra-curricular activities and possibly by the community for particular events.

A cluster of such facilities located at the north-east corner of the site can be readily secured from the rest of the school. Changerooms can service the playing field; the Hall may be used for events, performances or civic gatherings (supplemented by the Canteen if food service is required); studio spaces can meet the needs of drama, fitness and musical groups.

Building setbacks

01_Setback from Burroway Rd boundary:
600mm

02_Setback from eastern road boundary to eastern end of southern wing:
600mm

03_Setback from eastern road boundary to Loading point:
3400mm

04_Setback from eastern road boundary to Bulk Store
2800mm

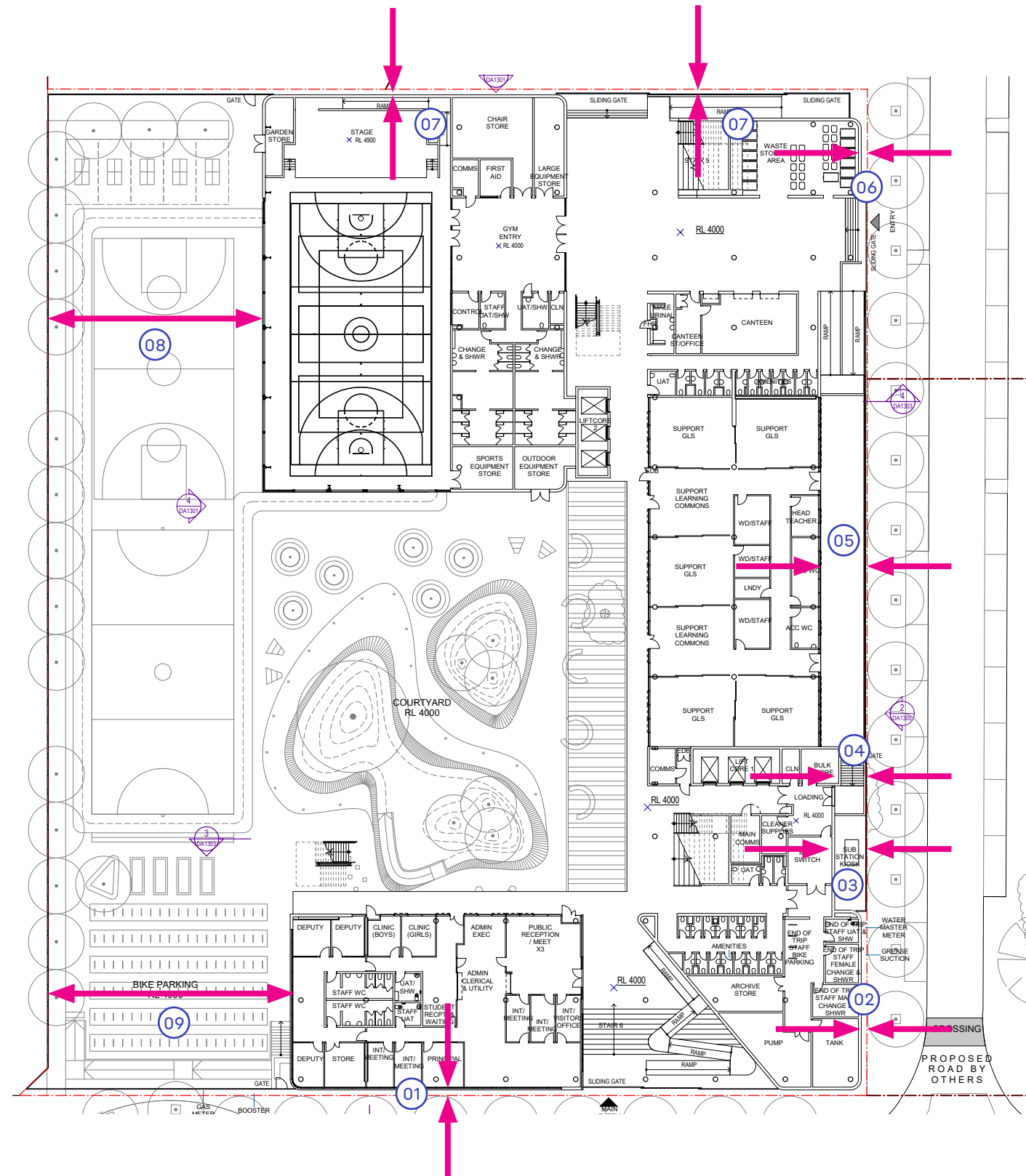
05_Setback from eastern road boundary to SELU
5000mm

06_Setback from eastern road boundary to WSA:
600mm

07_Setback from northern boundary to WSA and Hall
600mm

08_Setback from western boundary to Hall
23,000mm

09_Setback from western boundary to southern wing
26,000mm



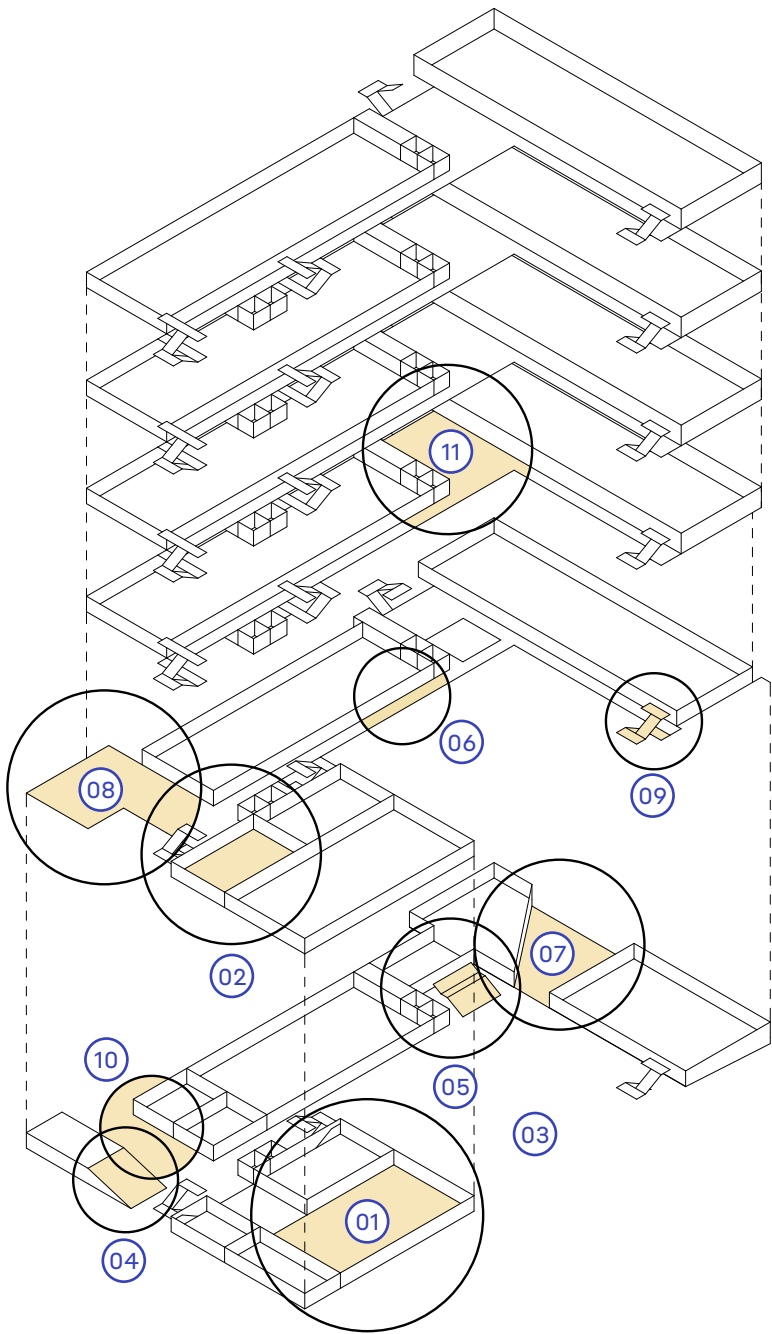
Civic Presence - Burroway Road



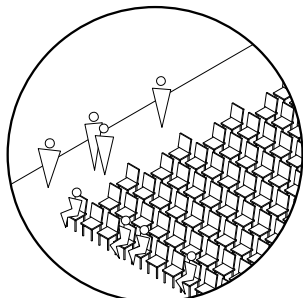


Gathering spaces

Formal and Informal

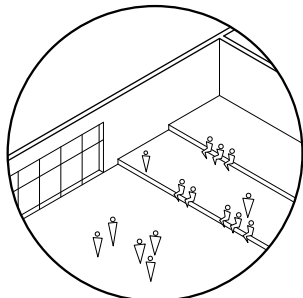


FORMAL SPACES



01_Hall

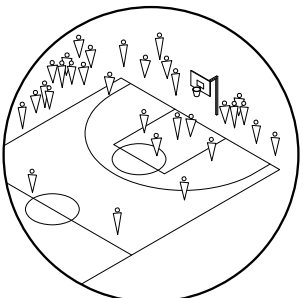
A multi-purpose gathering space for the whole school



02_Studios

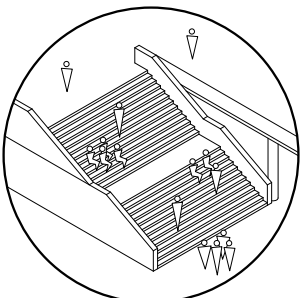
Smaller, flexible gathering spaces, typically for rehearsal and performance

FORMAL/INFORMAL



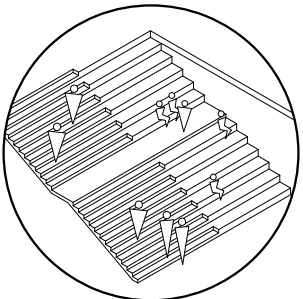
03_Playground

Packed with different places for different tribes



04_Northern Stair

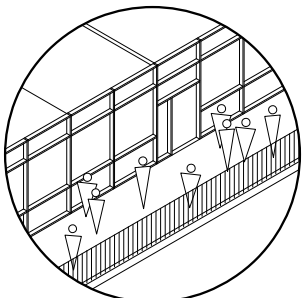
An amphitheatre-like setting allowing generous space to circulate between levels



05_Knuckle Stair

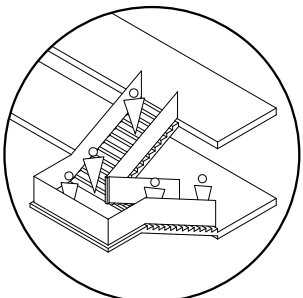
A gathering place adjoining the main entry - the main route to the upper levels

INFORMAL SPACES



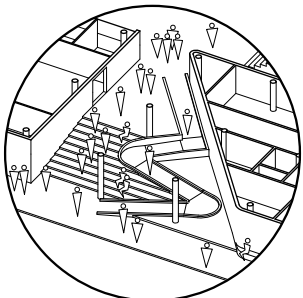
06_Walkways

The spines of the school - a place for chance encounter



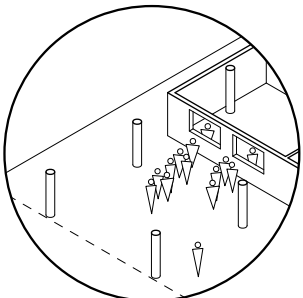
09_Stairs

Moving between levels



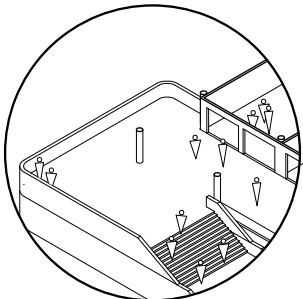
07_Main Entrance

The threshold of the school - a place to linger in and to pass through



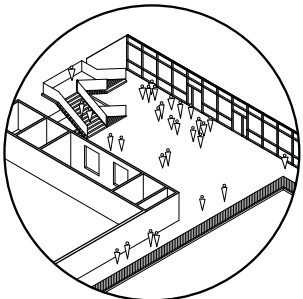
10_Canteen Undercroft

A generous covered space adjoining the hall, canteen and school toilets



08_Northern Terrace

School studios and workshops spill out onto this expansive terrace

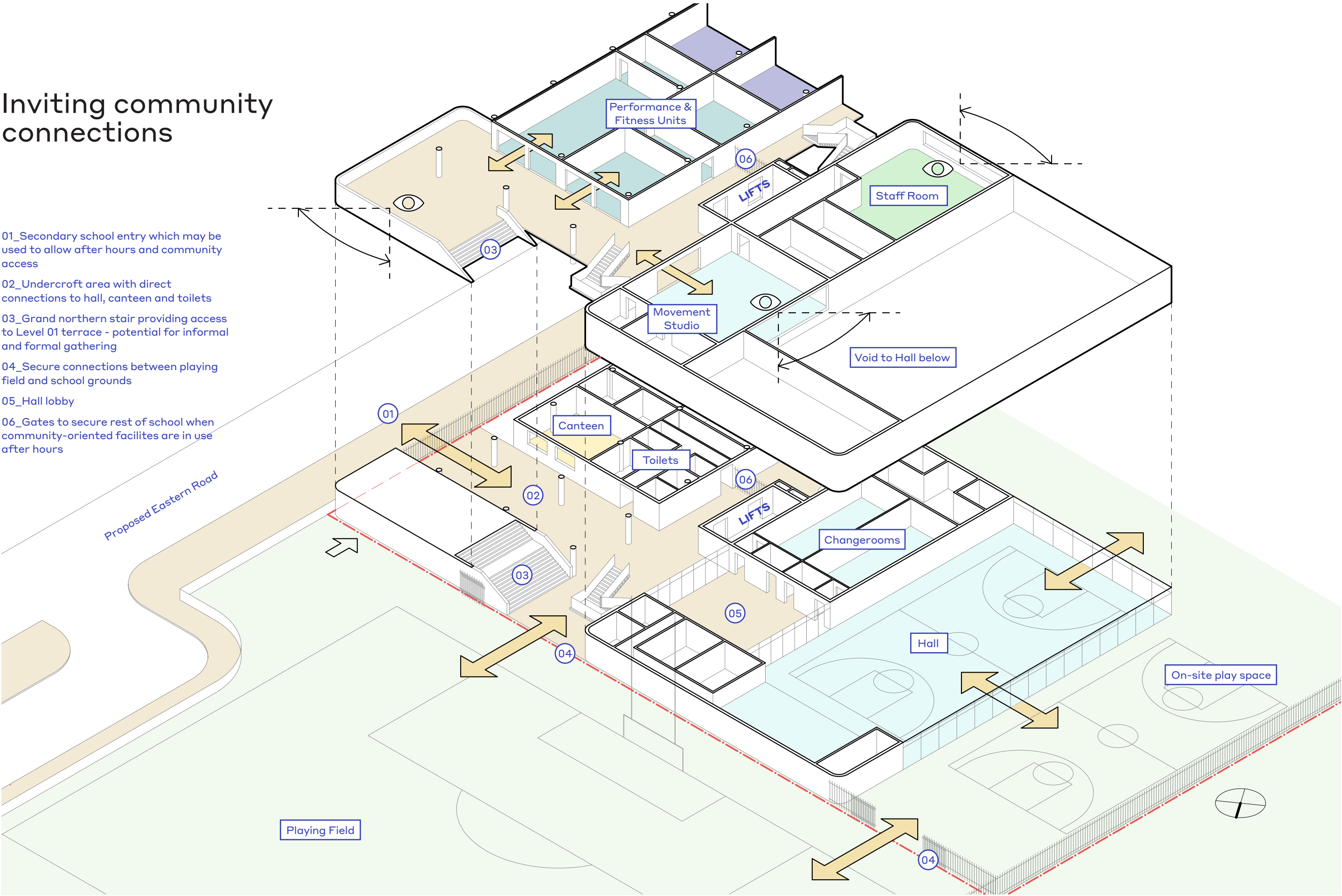


11_Knuckle Terrace

The heart of movement within the school, providing spill-out space for specialist units

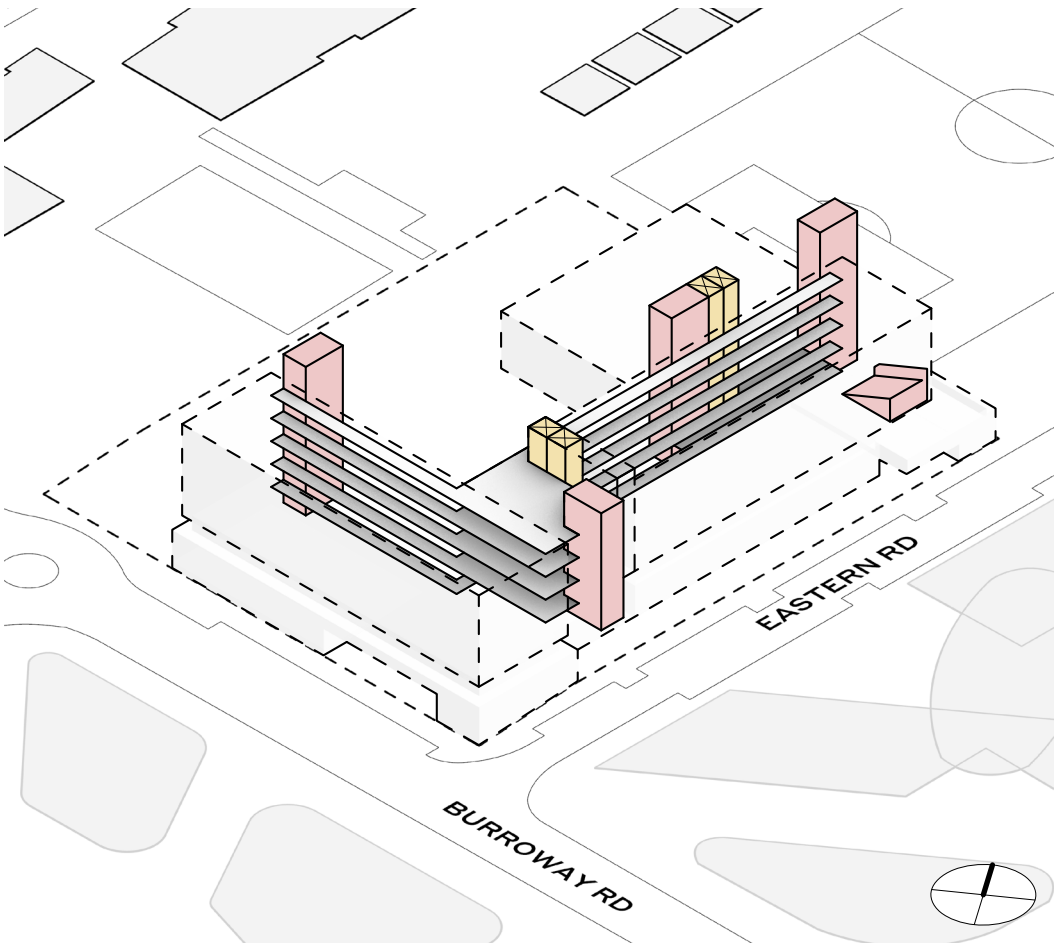
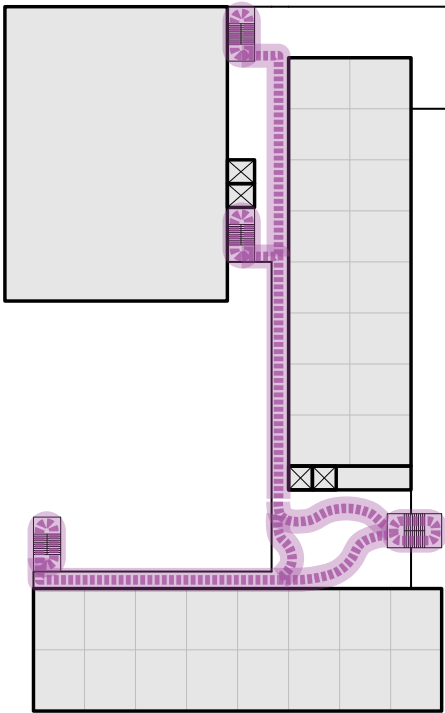
Inviting community connections

- 01_Secondary school entry which may be used to allow after hours and community access
- 02_Undercroft area with direct connections to hall, canteen and toilets
- 03_Grand northern stair providing access to Level 01 terrace - potential for informal and formal gathering
- 04_Secure connections between playing field and school grounds
- 05_Hall lobby
- 06_Gates to secure rest of school when community-oriented facilities are in use after hours



Circulation

Stairs and Lifts



Circulation

Designing circulation for efficiency, enabling serendipitous encounters and casual learning.

An urban vertical school requires students to move quickly and safely, and provides the opportunity to design the circulation to create additional teaching spaces and spaces for students to interact and play.

Passive surveillance of all circulation is integrated as a baseline requirement.

Staircases

Four staircases are positioned strategically to promote efficient circulation and egress during an emergency.

Three are located at the end of each walkway, with the fourth located mid-way along the eastern teaching block.

The northern and western-most stairs provide service access to the roof.

To the north, generous auditorium stairs and lifts create a sports and performance hub for formal and informal occupation.

Lifts

Two pairs of passenger lifts supplement the staircases in facilitating vertical circulation through the school, and provide level access to the upper levels for those who require it.

One pair is positioned at the fulcrum of the two teaching blocks, adjacent to the central stair.

The other is located adjoining the Hall, where it may be used to access the Movement hub on Level 01 after hours.



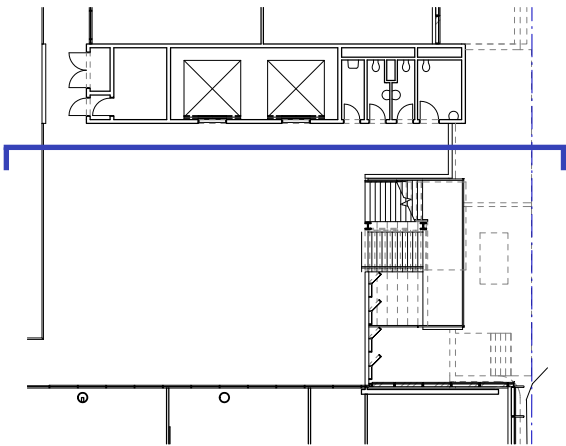
Section

The central stair

A central stair joins the two teaching wings, anchoring an open, flexible space on each level used for informal learning and play.

A grand stair from Ground to Level 01 becomes an auditorium-like space, adjoining the school entry.

Though this stair is singular in importance, its size and componentry from Level 01 to 05 is equivalent to the other stairs.



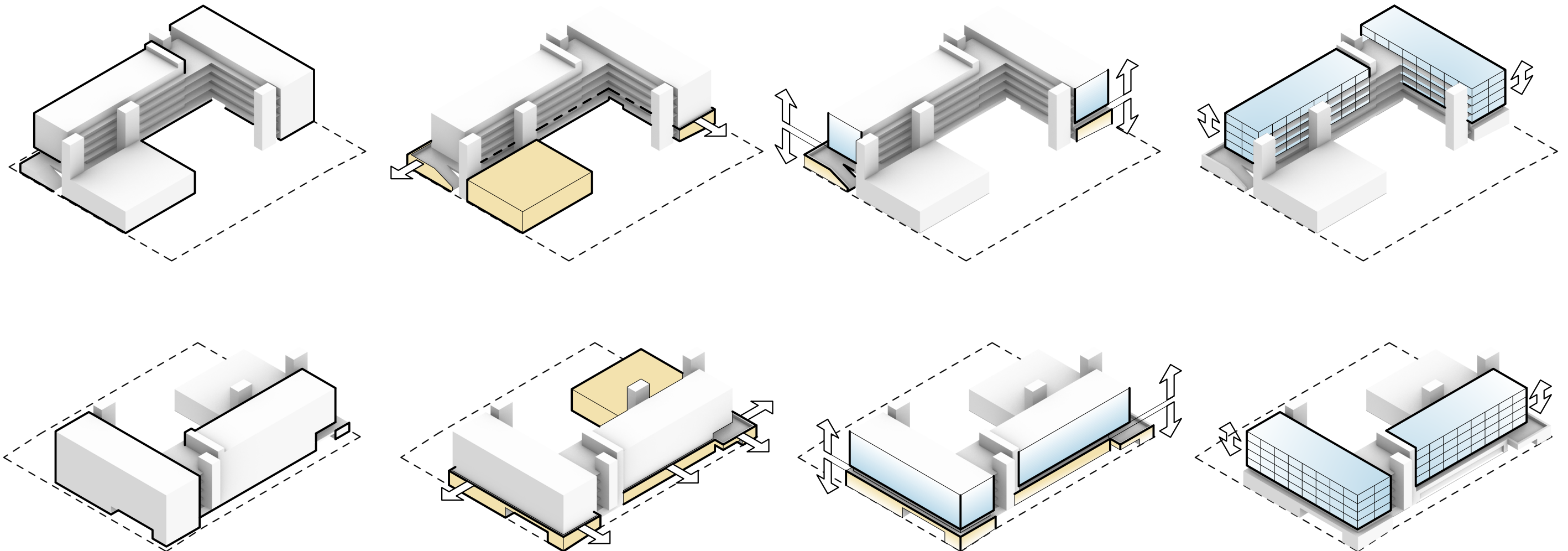
Plan indicating stair setout



SCHOOL NAME

Architectural expression

Massing evolution



Starting point

Two 6-storey teaching wings and a 2-storey hall and movement studio.

Linked by a central "knuckle" stair, two pairs of lifts, three additional escape stairs and a service core.

Building pushes to site boundary on north, south and corners to define streets in area requiring stronger urban form.

A Setback along the eastern edge provides a landscaped buffer to the narrow eastern road, housing SELU teaching spaces.

Anchoring the base

The ground level activities are raised 1.2m above street level where a new ground floor datum is created above contaminated soil.

These activities are expressed as single form, breaking down the scale of the building to the pedestrian while providing a robust secure building line for security.

The base rises to 1.30m above the first floor to provide balustrade and protection to this level. At 6.5m in height, the datum of the top of the base wraps around the entire building.

Recess, providing shelter & space

The first floor houses library, performance, movement and fitness- places to exercise the mind and body.

The first floor is recessed back from the base, to allow articulation of upper and lower levels, and removing a whole storey from the expression to reduce the apparent height when viewed within the neighbourhood.

The teaching space

The teaching spaces are expressed as four storey wings that appear to hover above the base. The upper levels are set in from the line of the base so that from street level they appear to push back and recede, maintaining emphasis on the solid base.

The inward-facing corridors unify the composition, wrapping around the north and western facade.

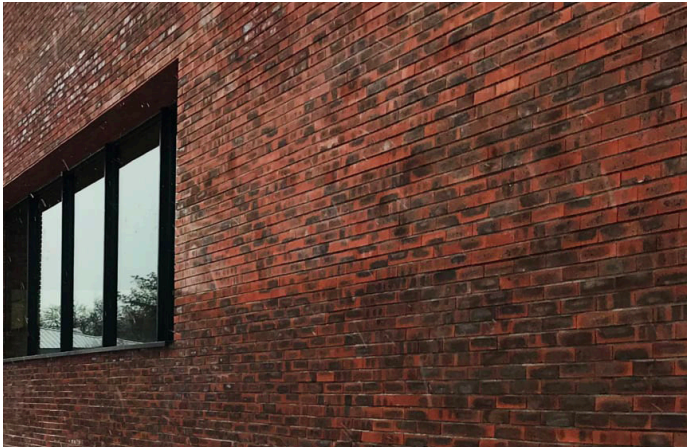
Considerations



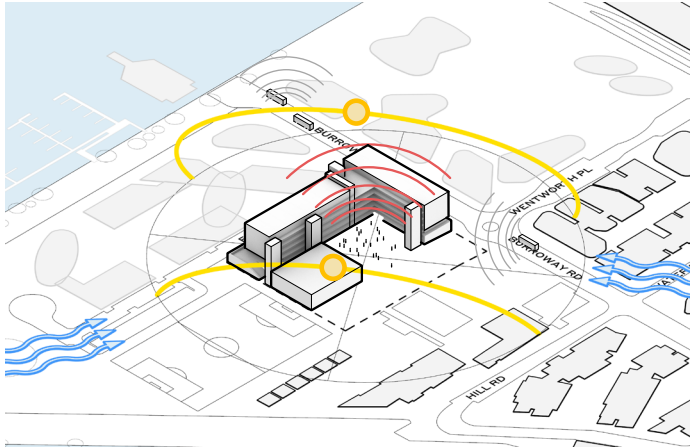
Proven Technology
Systems and methods of manufacturing and assembly that are tried and tested in local markets



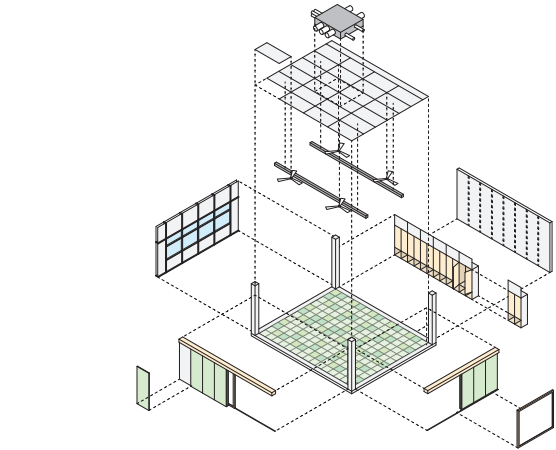
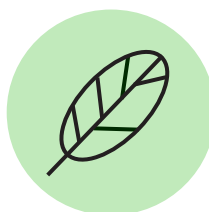
Prioritise Australian Suppliers
Materials, practices and methods that have been tried and tested to ensure long-term durability



Durable
Materials and components that can be knocked around and still stand the test of time.



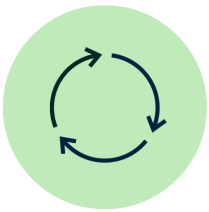
Climate Responsive
Materials, practices and methods that have been tried and tested to ensure long-term durability



Cost-effective - now and in operation
Affordable building products without compromising on quality, durability or beauty



MMC (DfMA)
Modular building components allow rapid, efficient construction and re-use in the future



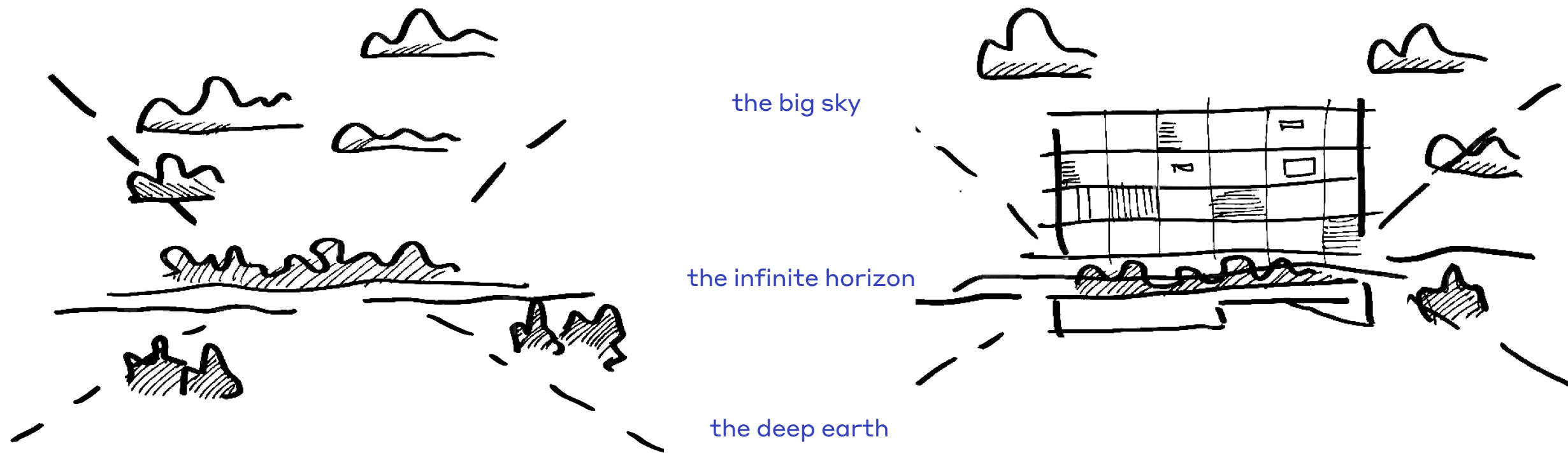


the big sky

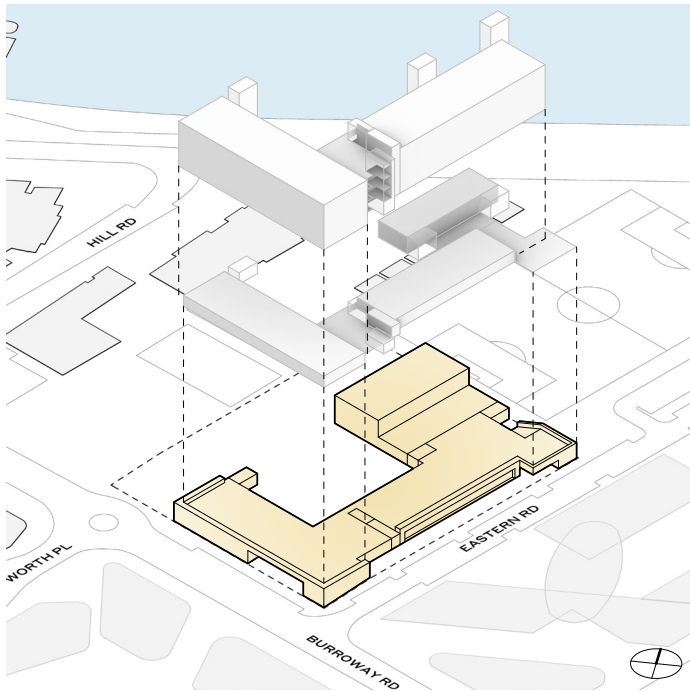
the infinite horizon

the deep earth

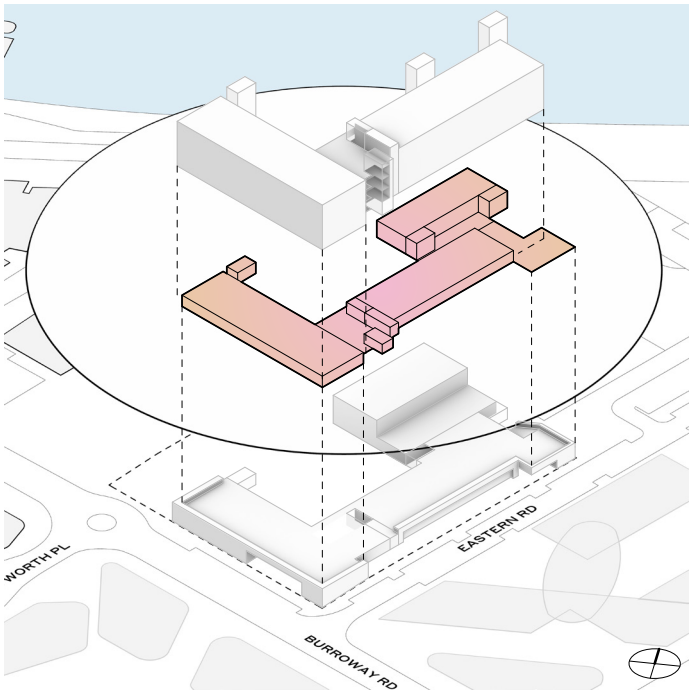
Concept



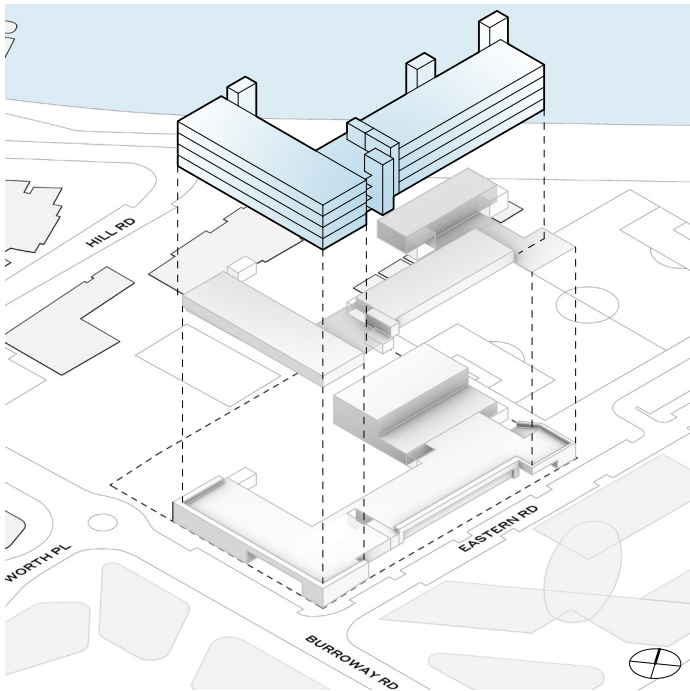
Architectural Massing



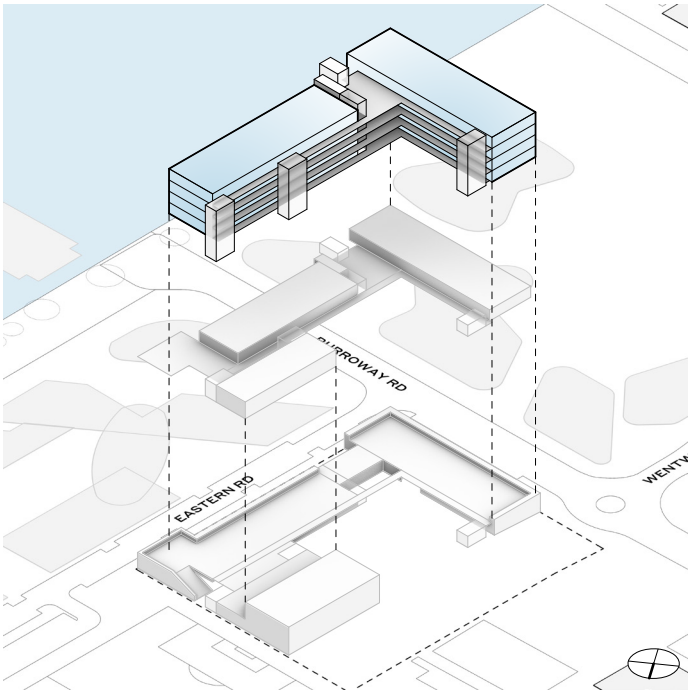
The Deep Earth



The Infinite Horizon



The Big Sky



The View from the Other Side

The Deep Earth

Anchored into the community

The base

A masonry base visually and physically locks the school to its site.

Of the earth, the brick provides both a strong durable form that gets better with age and signals long term investment in the community and building.

The ground floor windows are recessed to accentuate the massive reading of the base. The base of the windows to Burroway Road is 2.5m above the street (1.2m change in ground level and 1.3m high balustrade) to provide security.

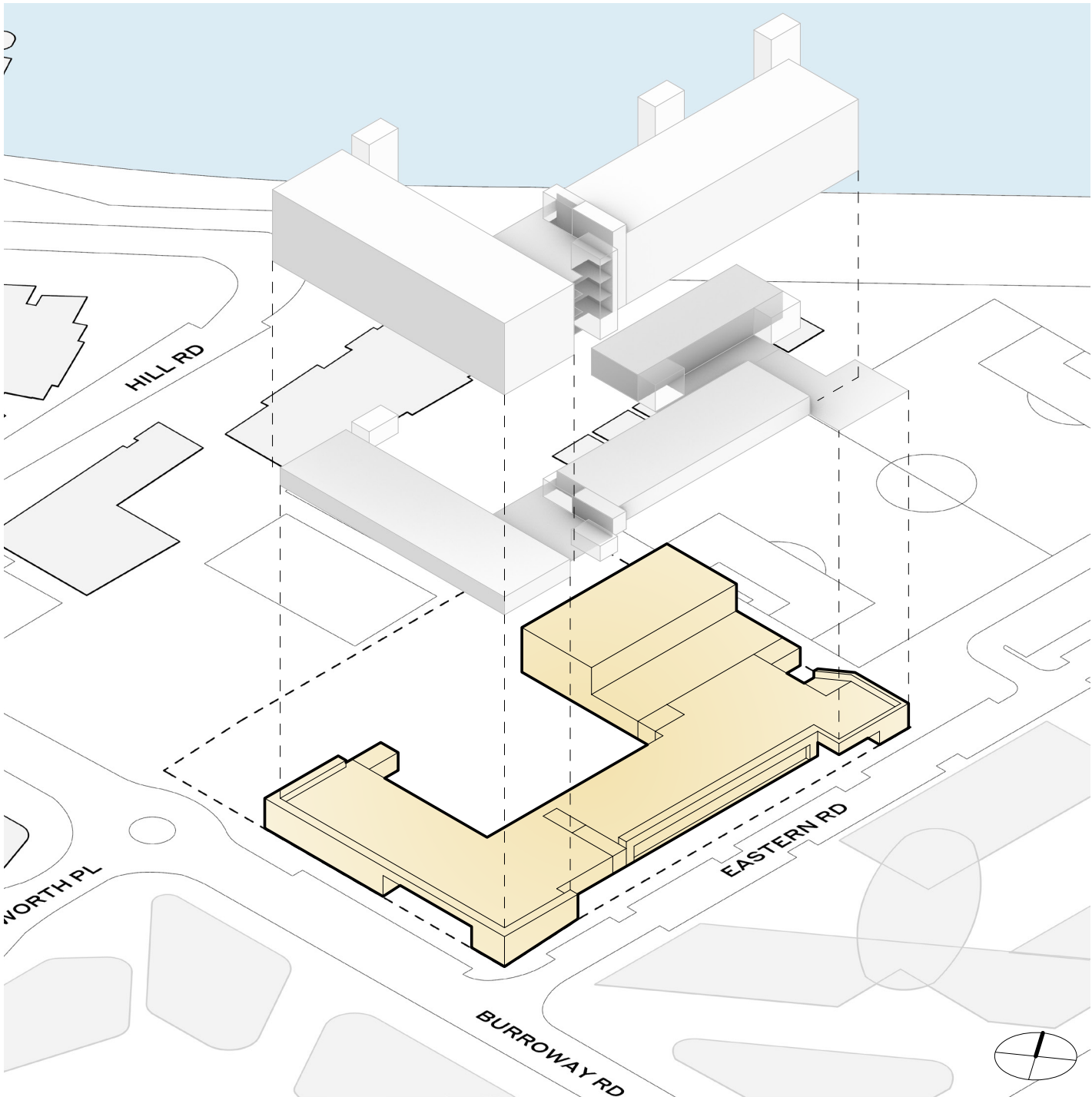
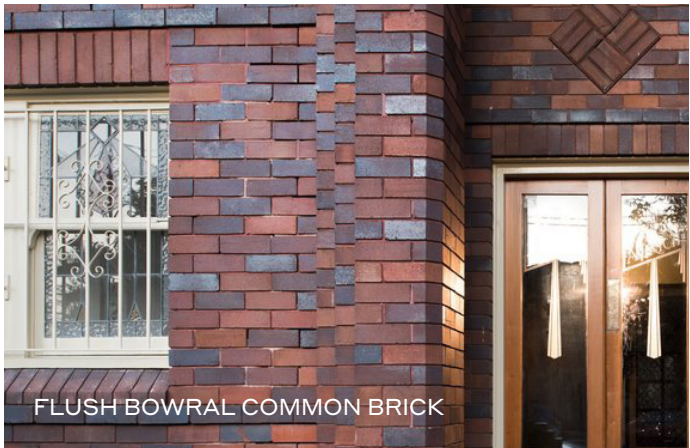
Materials

A flush concrete frame and base provides a robust base of the brick and allows tolerances in the pavements and gradients to be handled.

The base level is a glazed brick, flush and with a deep green glaze. These tiles have been used traditionally in Sydney to provide robust surfaces that have stood the test of time.

The upper section is flush brickwork, with a mix of the earth-tones and varying surface found traditionally in the bowral commons brick type.

No special bricks are used. The corners will be softened with a radius to both protect them, provide human scale and reference the historic street level use of brick.



- C** GLAZING
CLEAR, GREEN FRAME
- D** CONCRETE
- G** BASE - BRICK
TWO COLOURS:
1 - FLUSH BOWRAL BRICK
2 - EMERALD GLAZED BRICK

The Infinite Horizon

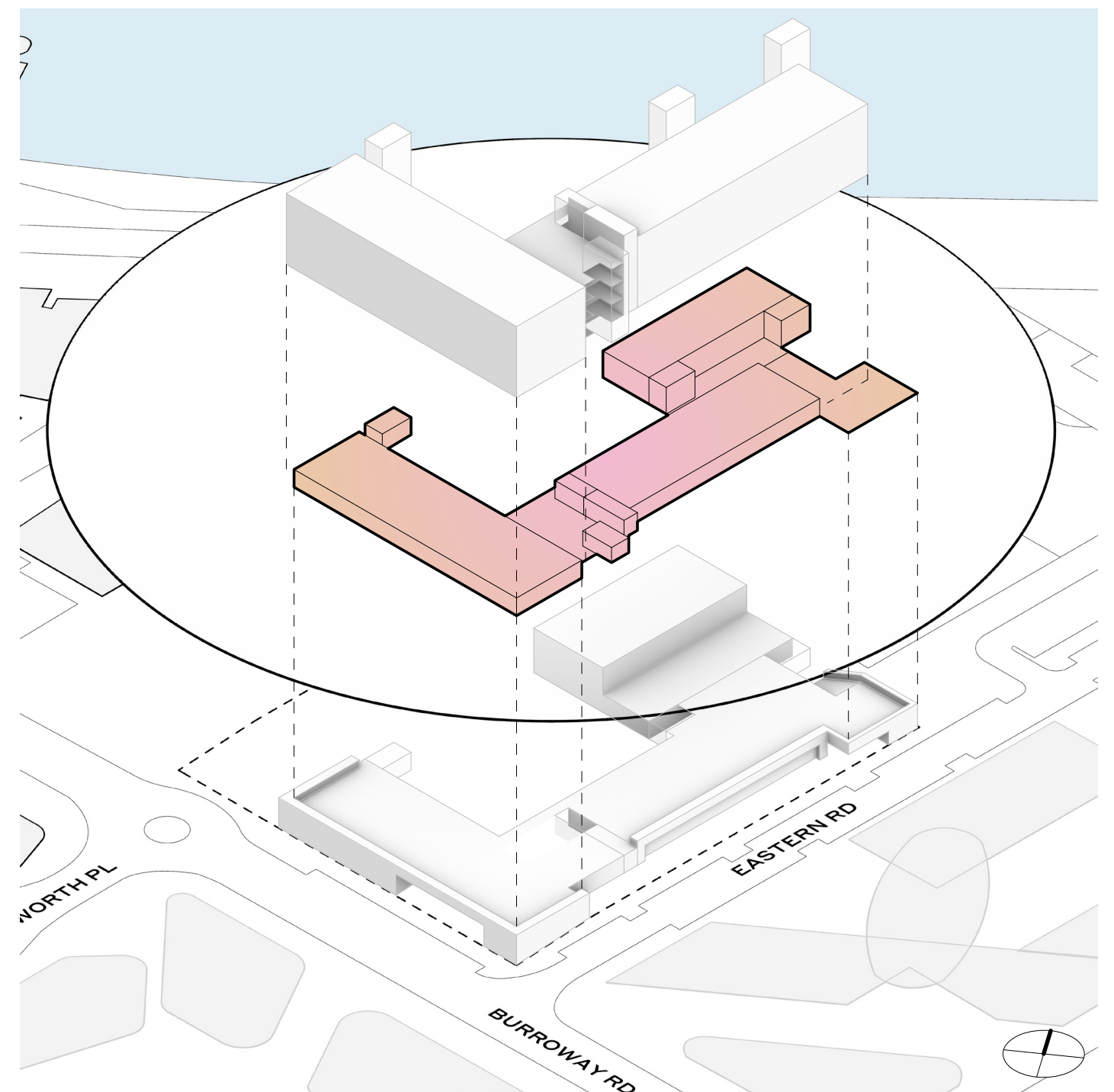
The boundary between two domains

The horizon

A place of reflection, stories and performance.

The street and the daily life are below with the teaching spaces and specialist labs and workshops above. This is a place of possibilities.

The first floor is setback, and expressed as the horizon- a place of mediation between land and sky- occupied by library, movement and performance spaces.



The Big Sky

A sheltering, shifting sky

View from land

A place to listen, reflect and grow

The teaching space wings sit above the first floor horizon, occupying the space previously held by the sky.

The expression is formed of a kit of parts that are configured to the use internally and adapted in response to environment.

Textured, subtly reflective metal screens change in response to the shifting colours and patterns of the sky.

The composition seems at first random, but the observer will find their own meanings and connections- as we do in the clouds.

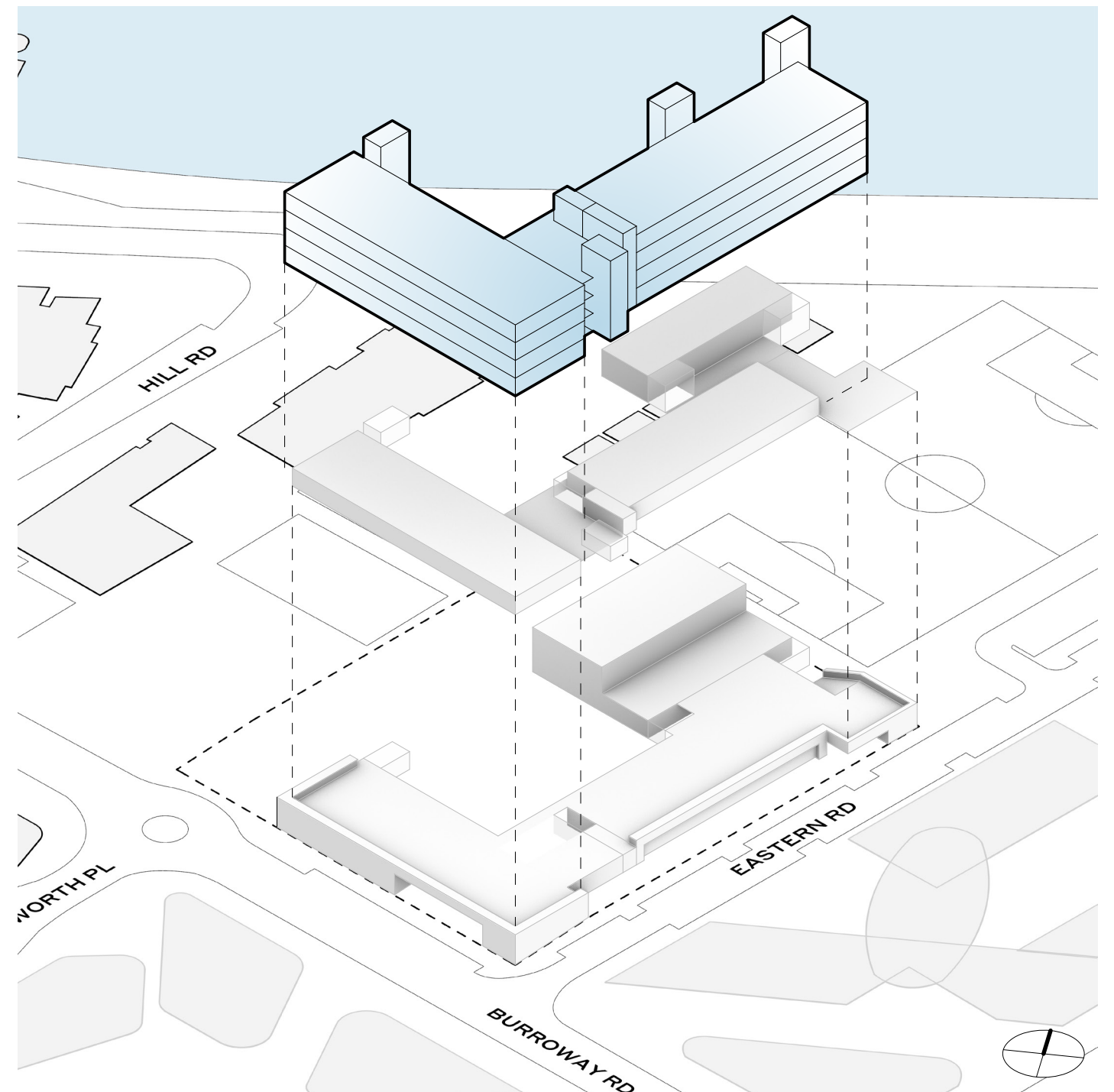
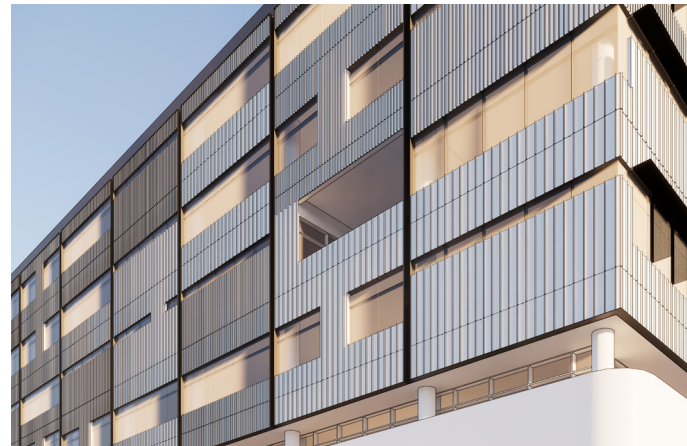
Materials

The high degree of solidity where windows are used only where required and to maximise daylight, allows for a very clear double glazed unit.

The spandrel panels are formed of vertical ribbed natural anodised aluminium panels. Two widths will be used to amplify the play of light and shifting nature of the sky.

Any sunshading required will be applied only the window areas needed. An folded natural anodised expanded metal fin, integrated into the curtain wall system.

Top-hung awning windows will be installed where required to enable mixed mode and natural ventilation.

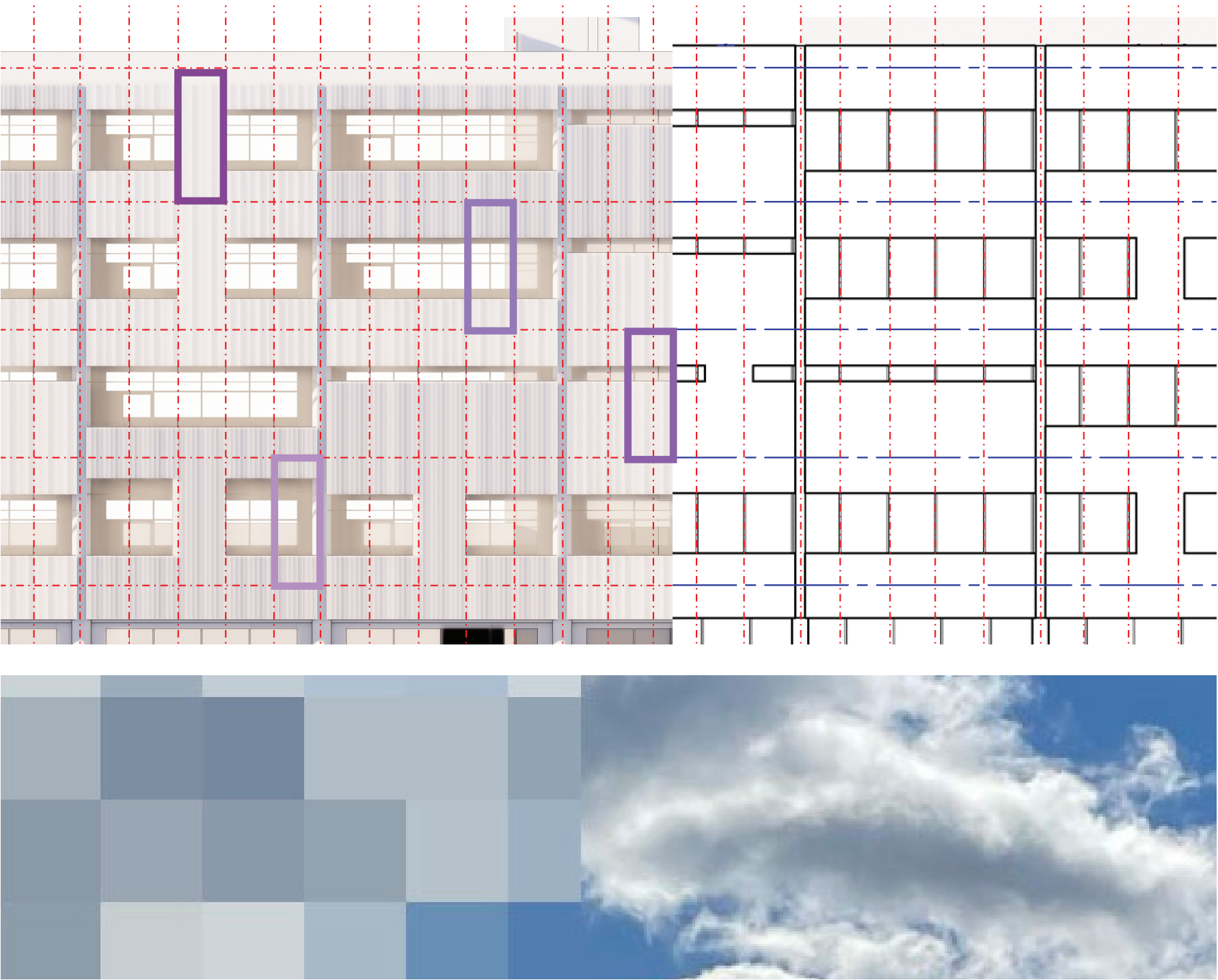
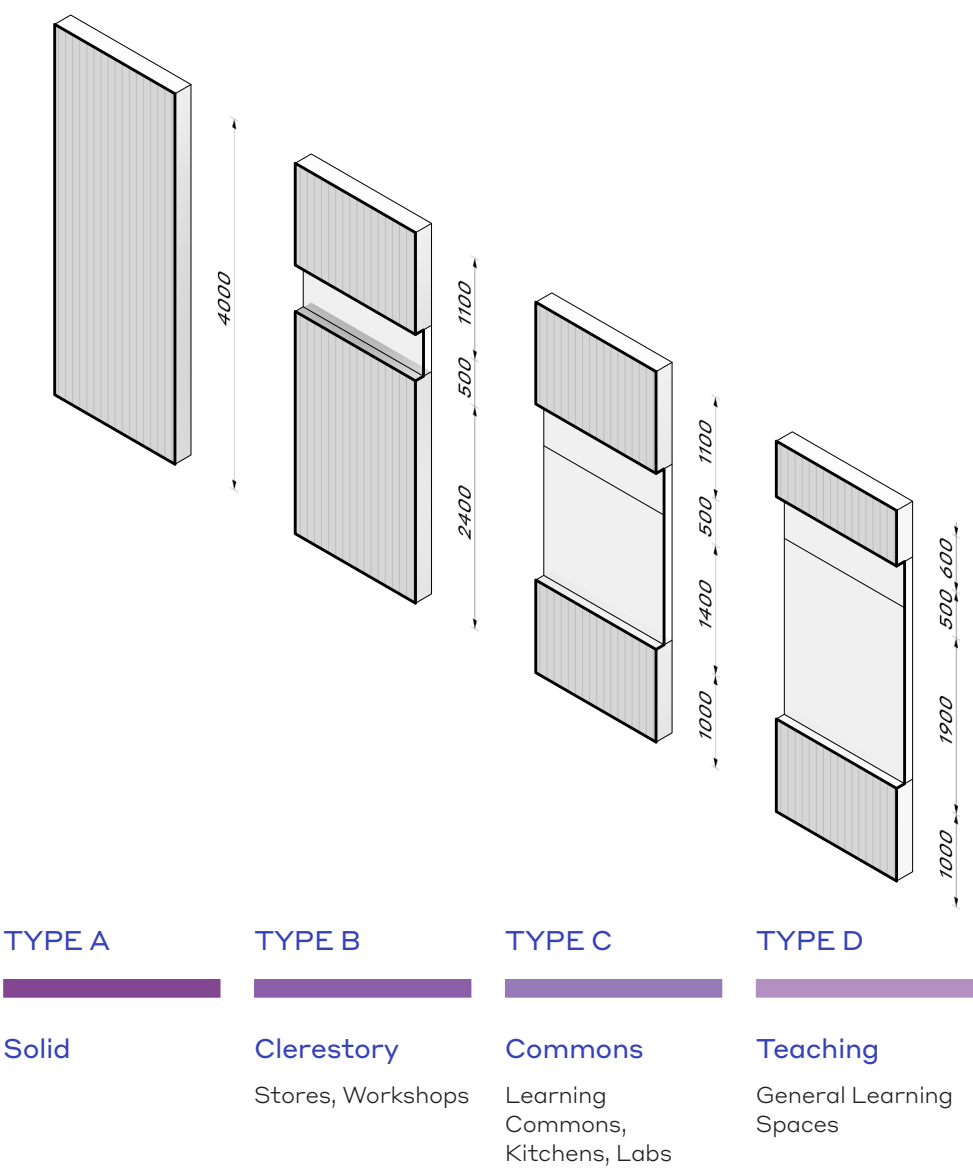


Kit of Parts

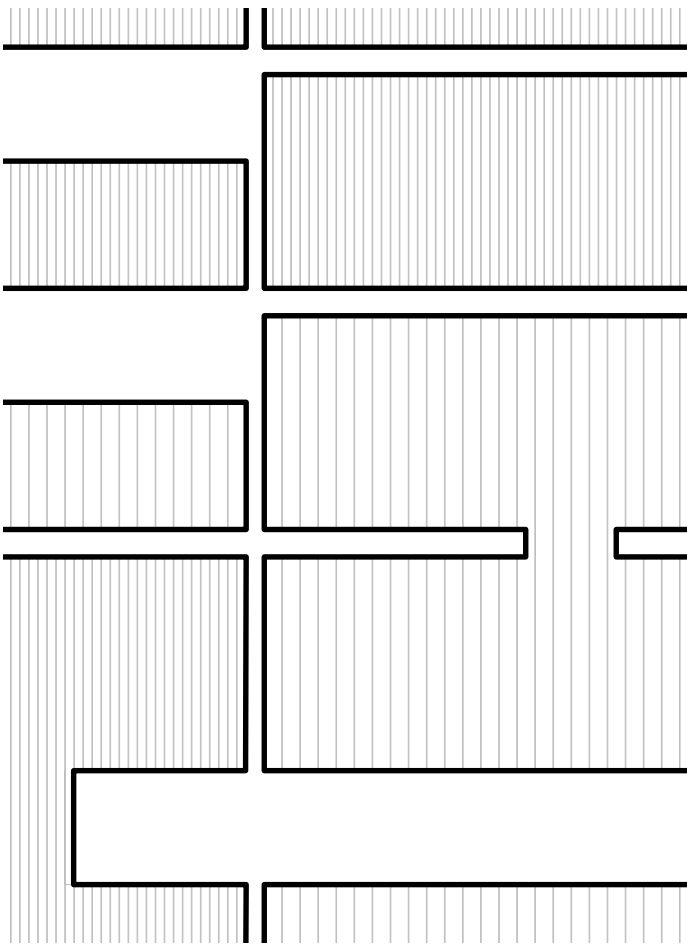
Facade modules

Kit of parts

A curtain wall facade composed of a kit of four modular parts that align with the requirements of the differing teaching spaces.

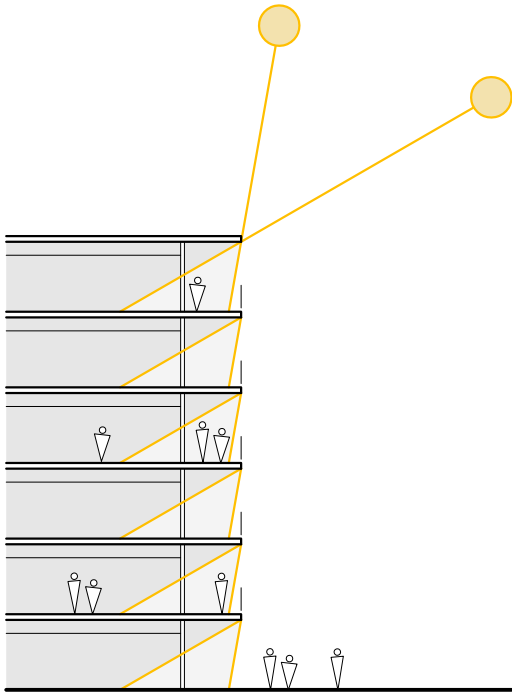


Solar Protection Principles



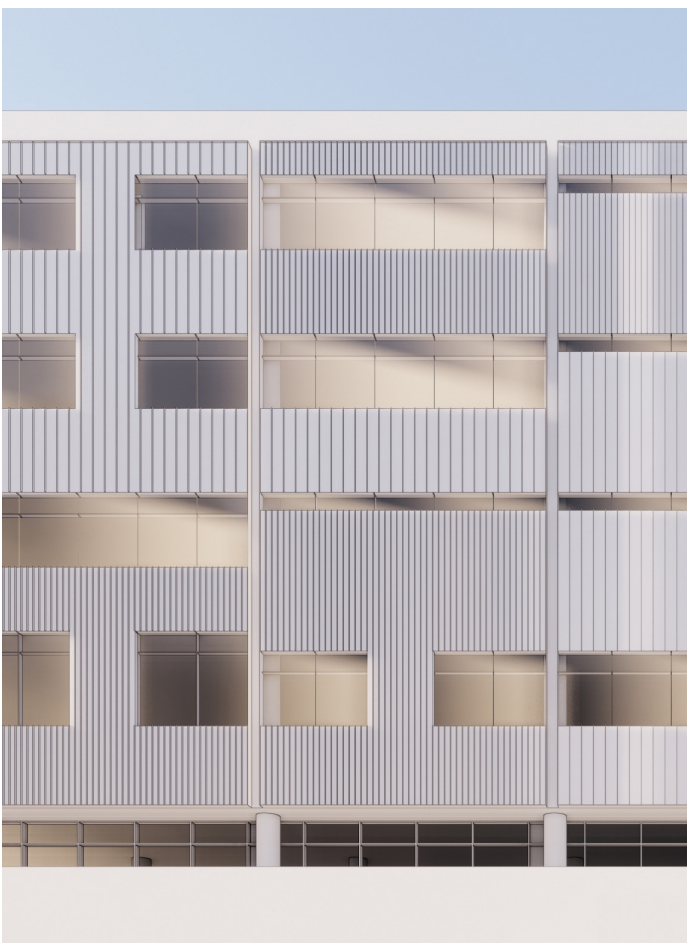
Glazing with purpose

The placement and sizing of openings in the facade is linked directly to the needs of the teachings spaces within.



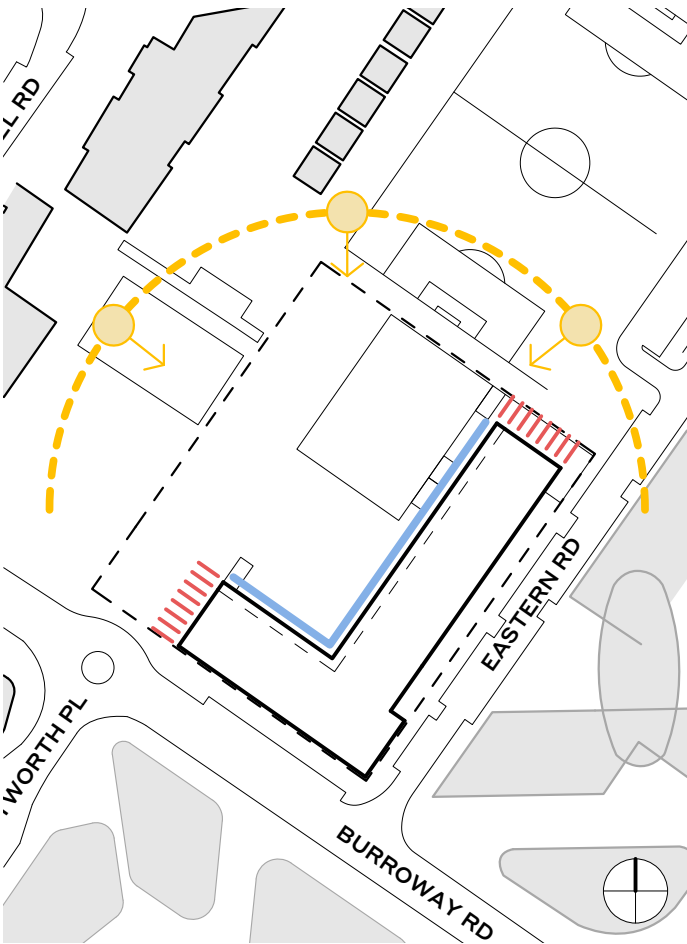
Orientation - North & West aspects

External walkways act as deep shading devices to the northern facades. Exemplifying passive design principles, they provide shelter from the harsh summer sun, keeping teaching spaces cool. In colder months, they allow the lower-angled sun to bring warmth deep into the floor plan, supplementing mechanical heating systems.



Orientation - South aspect

The southern facade along Burroway Rd is free of protruding shading elements, thereby maximising indirect daylighting to labs, workshops, kitchens and other specialist learning spaces.



Minimise exposed facade

The majority of facade oriented towards north is well protected by the external walkways.

The only portions of facade that remain exposed to direct sunlight during the middle of the day are the western and northern extents of each teaching wing.

Facades in these locations are treated with horizontal and vertical shading fins.

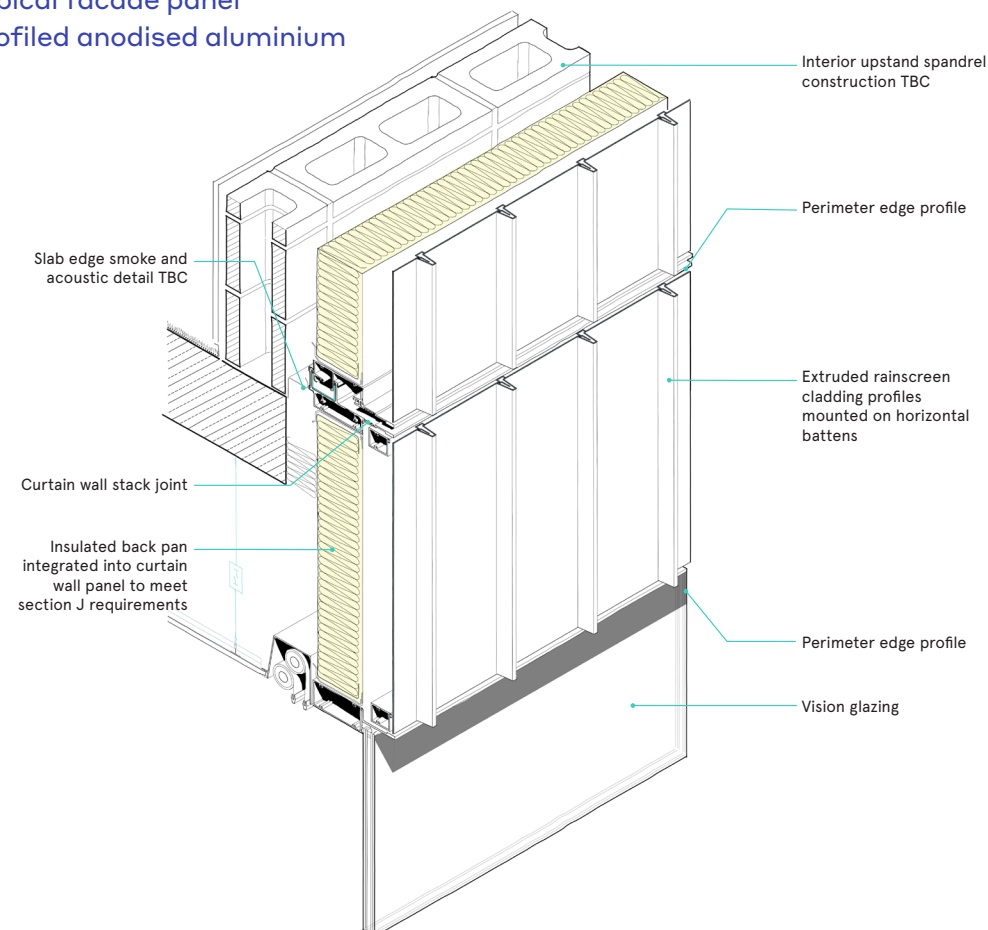
The northern tip of the eastern wing receives sweeping views to the parkland and river, so it was considered especially important to maintain some glazing here.

Kit of Parts

Materials & Components

- A** CLADDING - ANODISED METAL PROFILE
- B** FRAME- METAL (GREY OR DARK)
- C** GLAZING - CLEAR - SLIGHTLY REFLECTIVE
- D** CONCRETE
- E** FINS - EXPANDED MESH

Typical facade panel
Profiled anodised aluminium



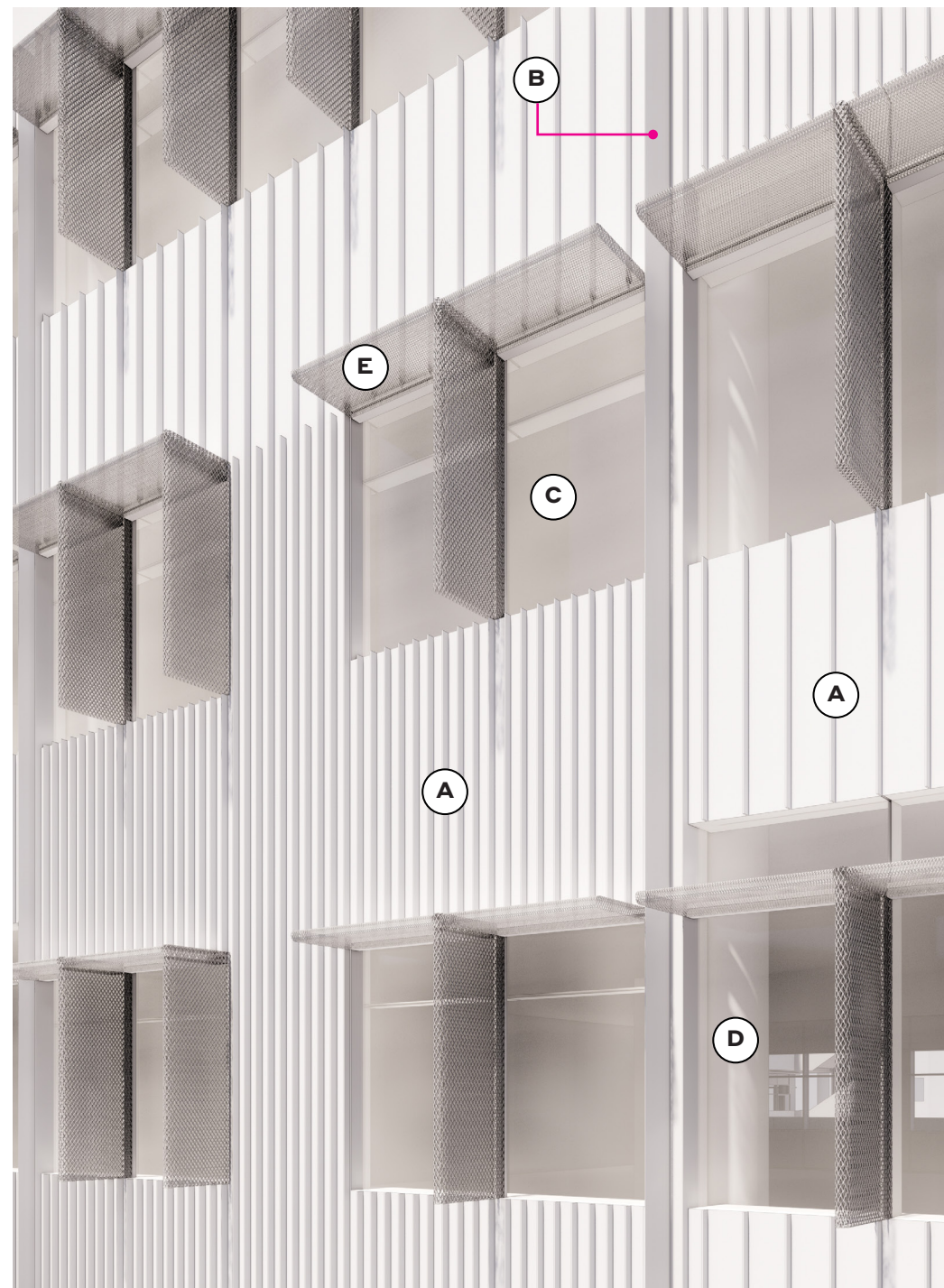
Anodising is an electro-chemical process used to create a protective film of aluminium oxide on the surface of aluminium extrusions or sheet. As the aluminium oxide film is created from the aluminium itself, it is integral to the underlying aluminium and cannot crack, peel, flake or pit, unlike paint or powder coatings.

The oxide coating is translucent, giving the aluminium an extremely durable, deep metallic lustre. The oxide layer is extremely hard and can be applied up to 25 microns in thickness, making it ideal for more severe building environments such as ocean and harbour frontages.

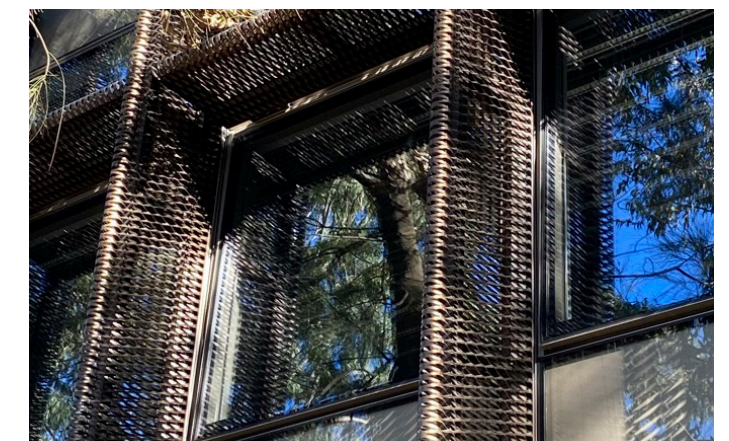
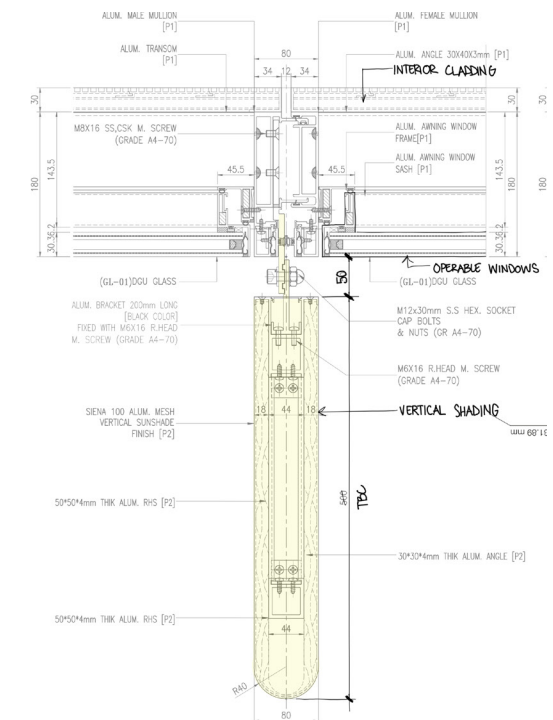
Natural anodising enhances the base aluminium colour, while a range of other colours can be achieved through various methods, the most durable of these being integral, electrolytic and interference colouring,

Anodised products have an extremely long life span and offer significant economic advantages through maintenance and operating savings.

The final anodised finish is chemically stable, will not decompose and is non-toxic. Because the anodising process is a reinforcement of a naturally occurring oxide process, recycling of anodised aluminium is also more efficient and cost effective than that of paint and powder coated products and is almost "recycle-neutral" with minimal use of VOCs and heavy metals



Shading fin (horizontal & vertical)
Expanded Mesh





view from the river



The View from the Other Side

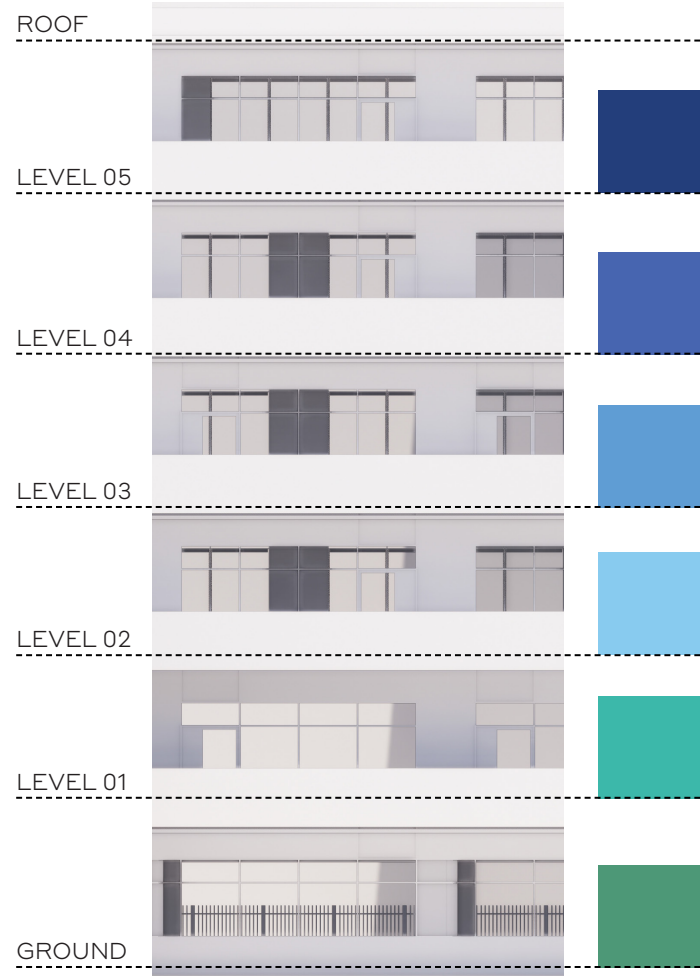
Nature's strata - land, water, sky

View from Water

The fresh air and warm sun: connection to the natural world

While the southern and eastern façades of the teaching block have a decidedly urban presence, the northern façades that open out to the play space and walkways are porous, joyful and fun - befitting the myriad activities happening within the teaching spaces.

A gradient from earthy green to deep sky blue, reflecting the palette of the ground to sky, distinguishes each level to aid with wayfinding. Colour theory affirms the calming, grounding effect these colours will exert on the school population.



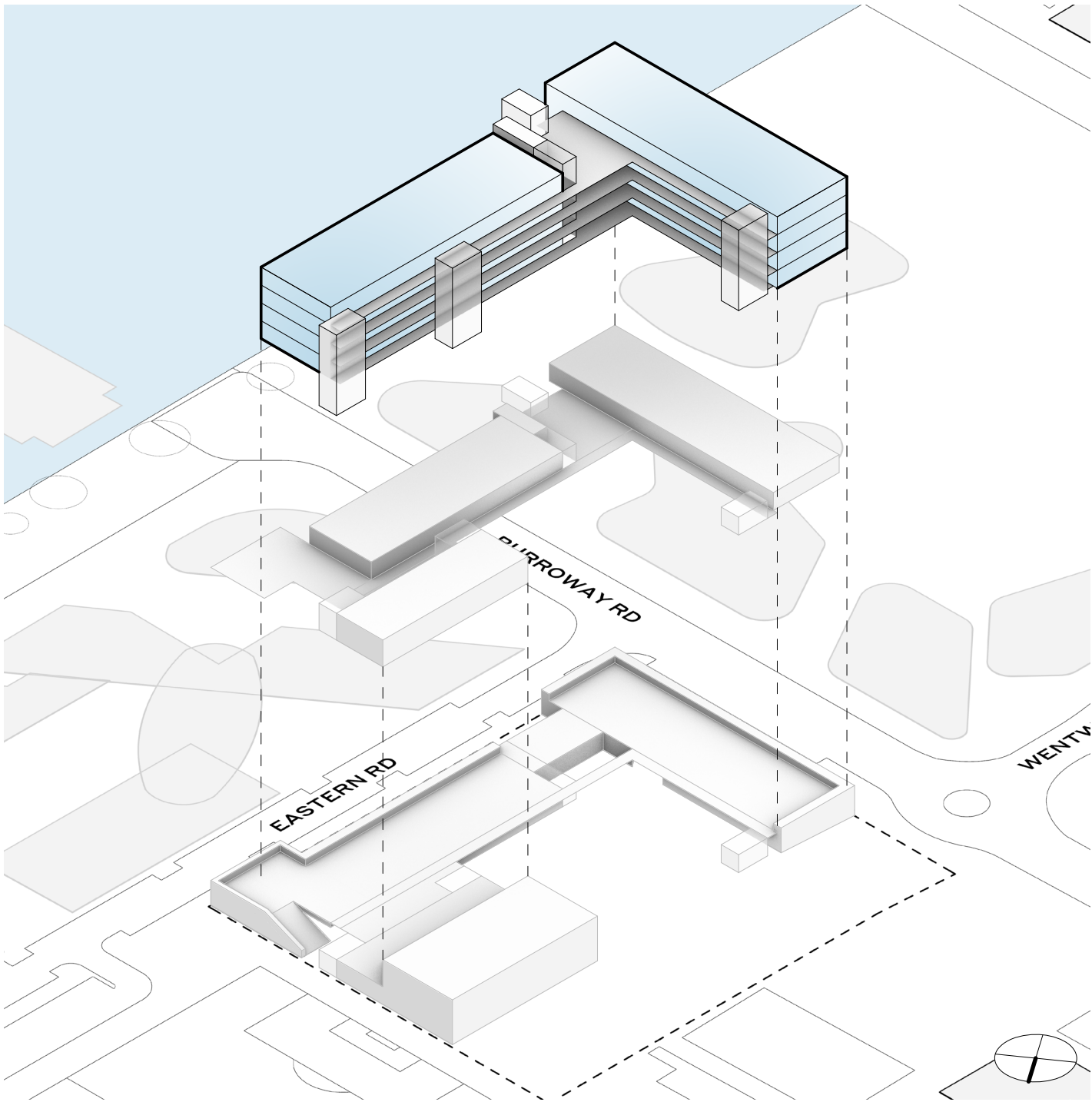
Materials

The northern façades use a simple window wall system, comprising glazed vision panels, opaque panels finished in colourback glass and perforated metal panels where required for ventilation.

Doors, frames and soffit-mounted cable trays are coloured in a bold (but not jarring) orange - blue's complementary on the colour spectrum. The contrast produced not only adds visual interest, but ensures that doorways are clearly legible.

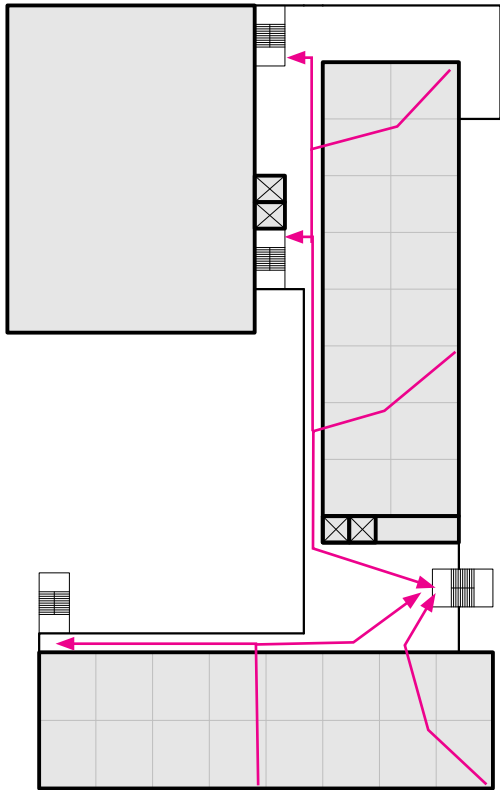


View along typical external walkway - note cable tray above and doorway to right in orange



Vertical Circulation

Stairs and Lifts



Prioritise student safety

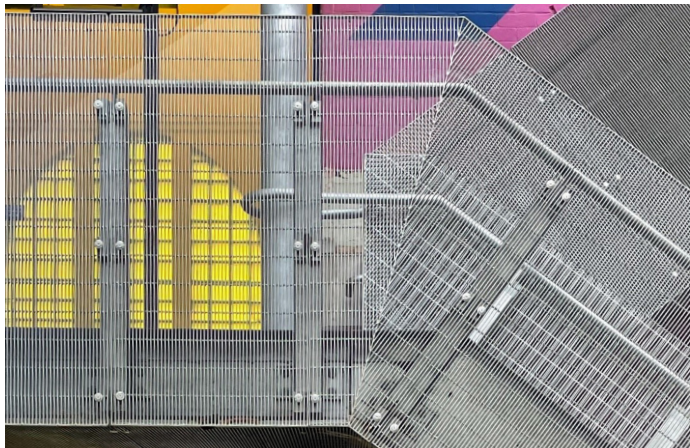
Four stairs are integrated into the scheme, allowing efficient circulation throughout the school and ensuring that travel distances for fire egress are comfortably met.

Note: Diagram above is indicative only - refer to Fire Eng. report for detailed description of fire egress.



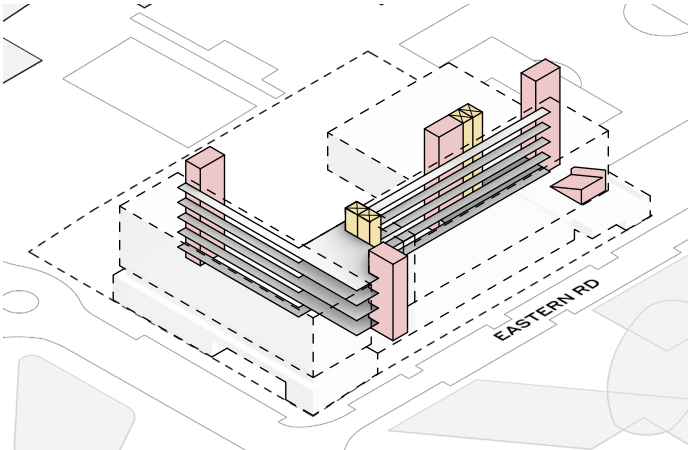
Passive Surveillance

Stairs are configured so that they may be easily overseen by supervising teachers - there are no nooks or crannies for students to conceal themselves.



Simple, Modular, Durable componentry

Stair components are consistent across all four stairs for ease of construction. Balustrades are made from panels of galvanised steel mesh or web-forge - extremely durable and requiring no maintenance.



Big lifts

Four large passenger lifts are provided in two pairs. Lift shafts are constructed from off-form concrete - simple, durable and attractive.



Sustainability Objectives



A holistic approach

Minimising consumption and waste is integrated into design decision-making at every level

Not simply ticking the boxes - a whole of project, whole of life approach

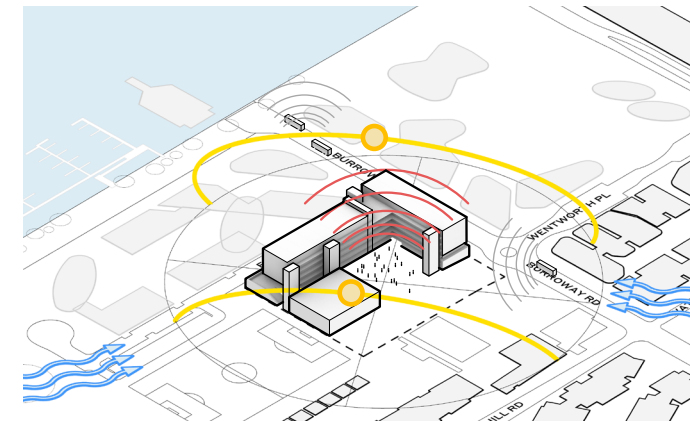


Reducing emissions during construction

Modular configuration allows for off-site production of building components

Shorter time spent on-site, fewer vehicle trips required

Selection of materials with low embodied energy



Climate resilience

Capacity to collect and store water onsite for reuse

Flood management measures suited to riverside location

Energy produced on-site by large PV array



Comfort and wellbeing

Biophilia embedded in the landscape strategy - teaching spaces that are connected to the environment

Emphasis on natural lighting and ventilation throughout

Long views to natural and urban environments beyond



Baseline certification

Green Star Rating (Green Building Council of Australia)

SINSW brief for 4-star certification - starting point, but not an end point

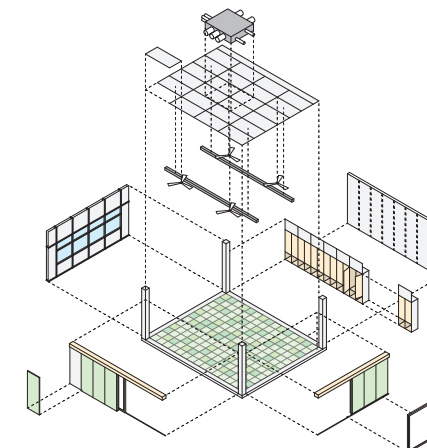
Our aim: to achieve 5-star rating involving no additional costs



Reducing emissions during operation

Passive design strategies and mixed-mode ventilation to reducing mechanical heating/cooling costs

Passive design integrated throughout - strategic solar shading, insulating green roof to hall, permeable ground surfaces proliferate the outdoor space



Designed to adapt and evolve

4.0m floor-to-floor heights designed to suit a variety of different uses

Modular classroom layouts can be reconfigured as needs change

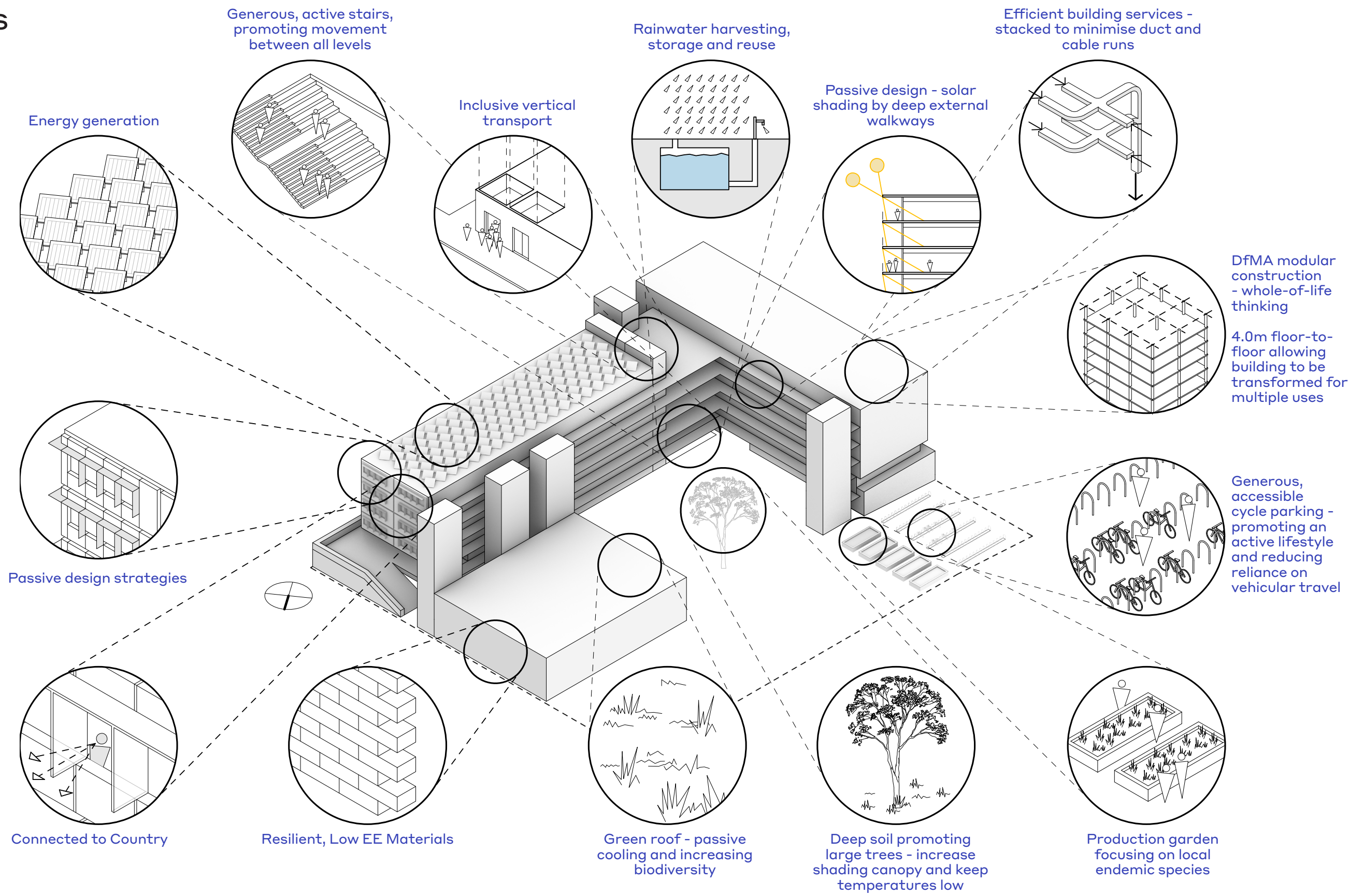


Deep-rooted social infrastructure

Creating an institution that will become enmeshed into the Wentworth Point community

A school that is built to last - a local landmark for future generations

Resilience & Wellness



Building Impact View Analysis



View 01
Looking East from the intersection of Waterways St & Burroway Rd



EXISTING CONDITION

View 01 - Notes

This view is directed approximately east along Burroway Rd towards the south-west corner of the site. The building establishes a strong street wall to Burroway Rd with minimal setback, creating a prominent urban presence. As this view recreates one of the main approaches to the school, it demonstrates the the legibility of the school within its urban context.

View 02- Notes

This view looks approximately north-east from Wentworth Place, towards the Parramatta River. The western extent of the building frames the viewing corridor.



PROPOSED

View 02
Looking North along Wentworth Pl



EXISTING CONDITION



PROPOSED

Building Impact View Analysis



View 03
Looking West from the eastern end of Burroway Rd



EXISTING CONDITION

View 04
Looking west across Homebush Bay from Rhodes



EXISTING CONDITION

View 03 - Notes
This view is directed approximately north-west from the western end of Burroway Rd. Any future promenade along the water's edge would likely connect to the immediate right of view. The anticipated and proposed development of the sites on the right and left of view would almost certainly have a major impact on this view, and probably obscure much of the school building currently visible.

View 04- Notes
This view looks approximately north-west from across Homebush Bay at Rhodes. As mentioned above, anticipated future developments are likely to partially or completely obscure the school from this vantage point.

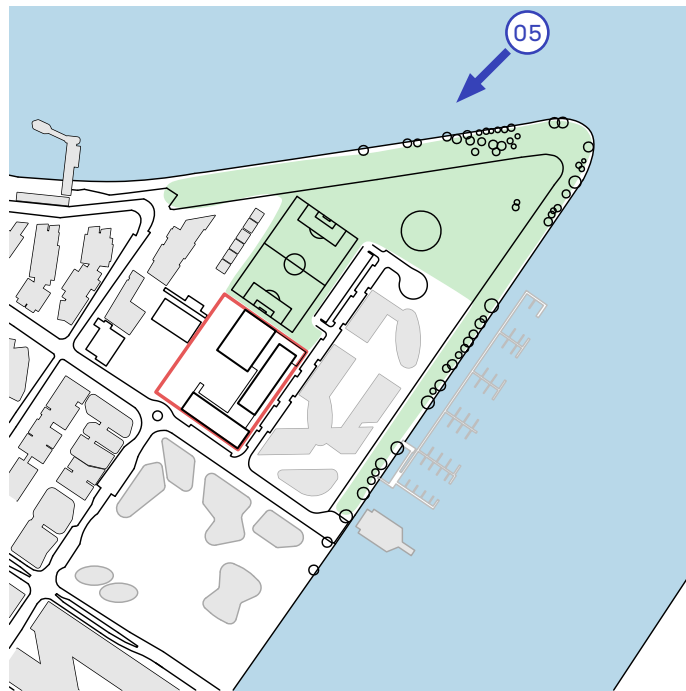


PROPOSED



PROPOSED

Building Impact View Analysis



View 05

View from Parramatta River along typical Ferry route



EXISTING CONDITION

View 05 - Notes

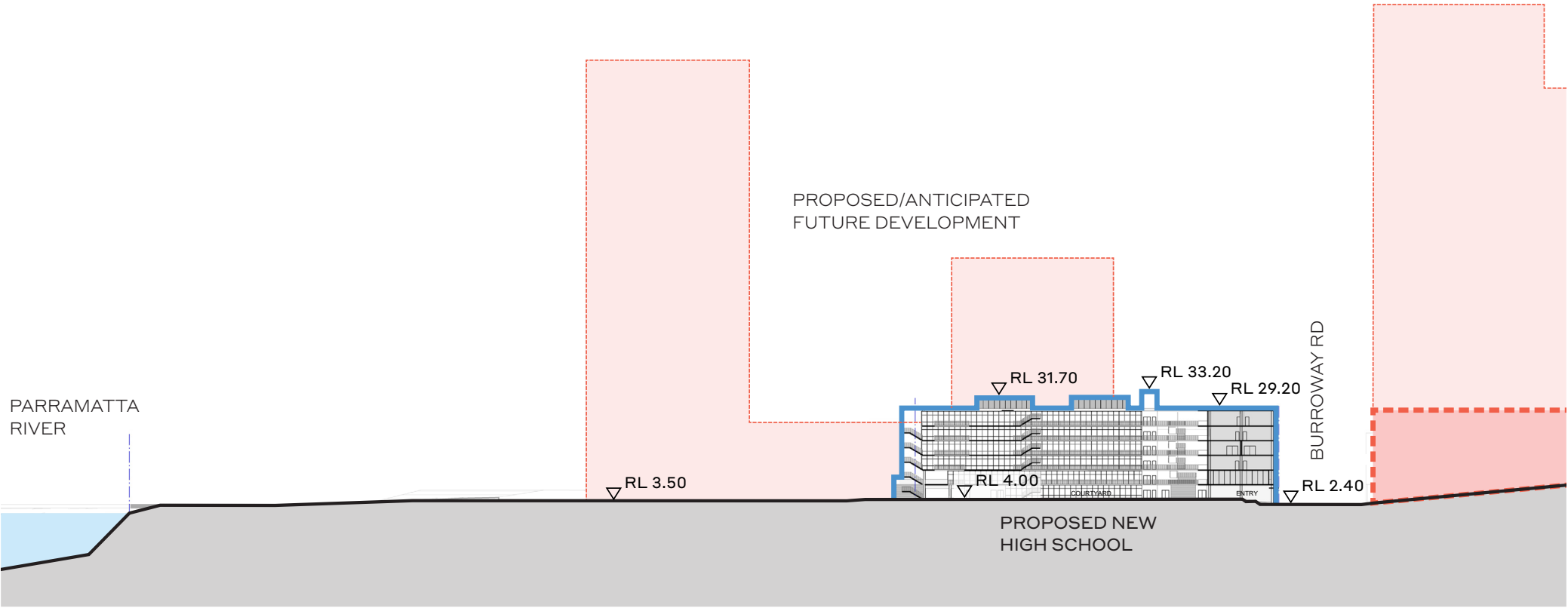
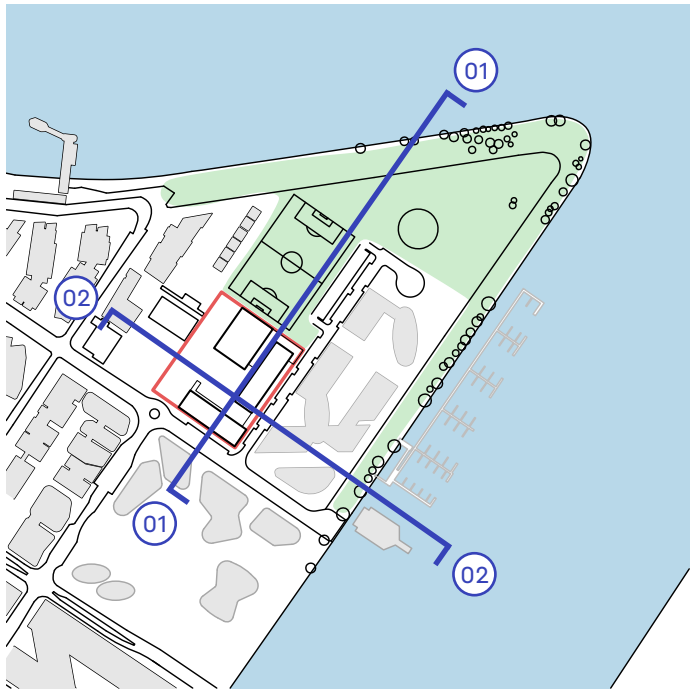
This view looks approximately south-west from the Parramatta River - the position of a Ferry arriving or departing from Wentworth Point. While the building sits prominently towards the northern tip of Wentworth Point, the placement of large, existing buildings beyond means that it has negligible impact on the skyline from the river. Its relative bulk will reduce even further should large-scale developments in adjoining sites proceed.



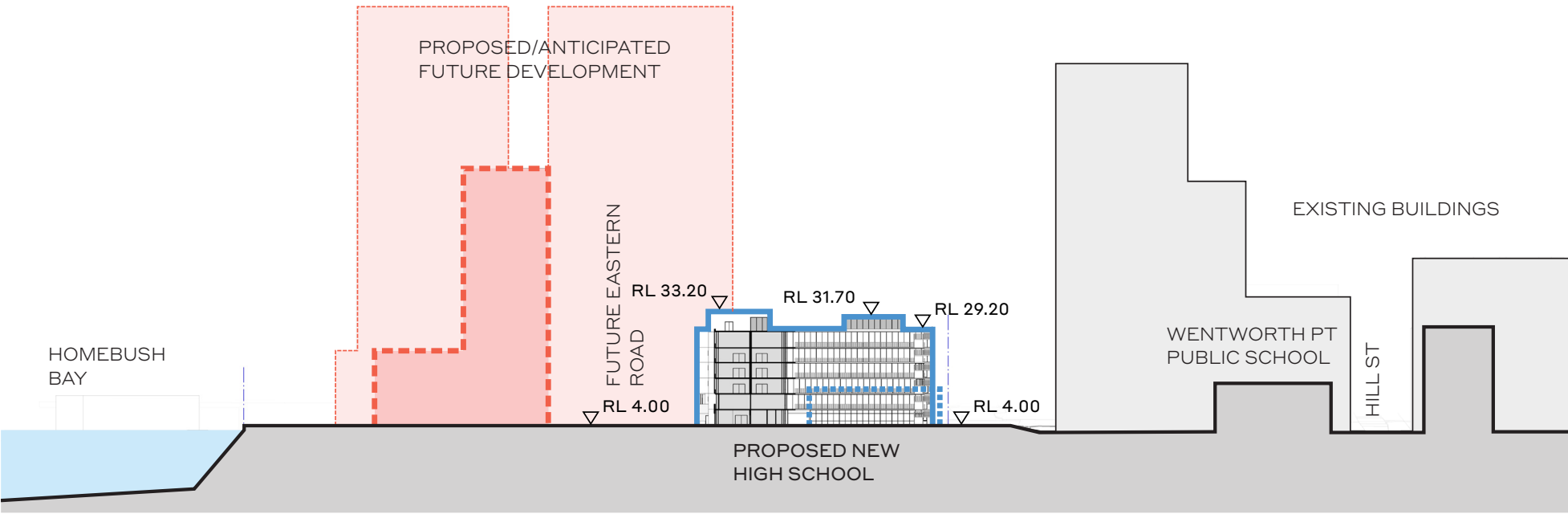
PROPOSED

Building Impact

Site Sections



01_NORTH-SOUTH SECTION LOOKING EAST



02_EAST-WEST SECTION LOOKING SOUTH

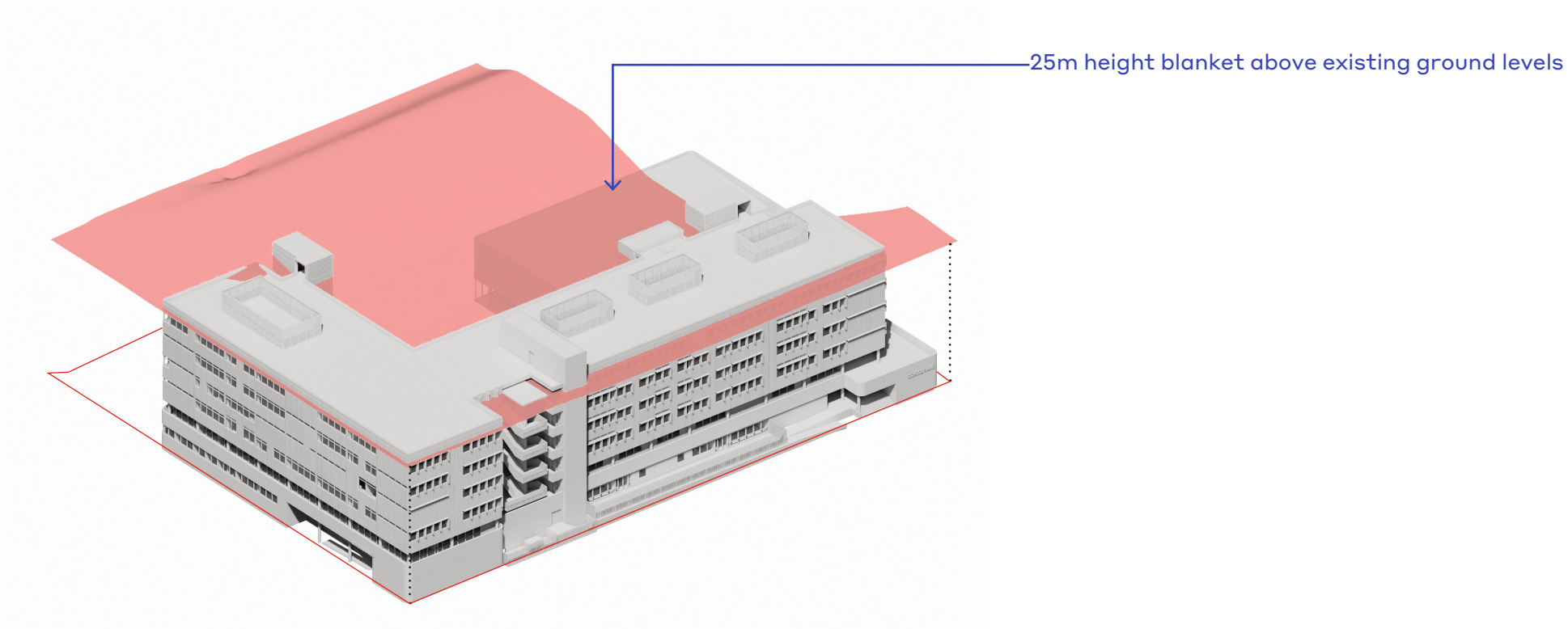
Building Impact

LEP maximum height plane

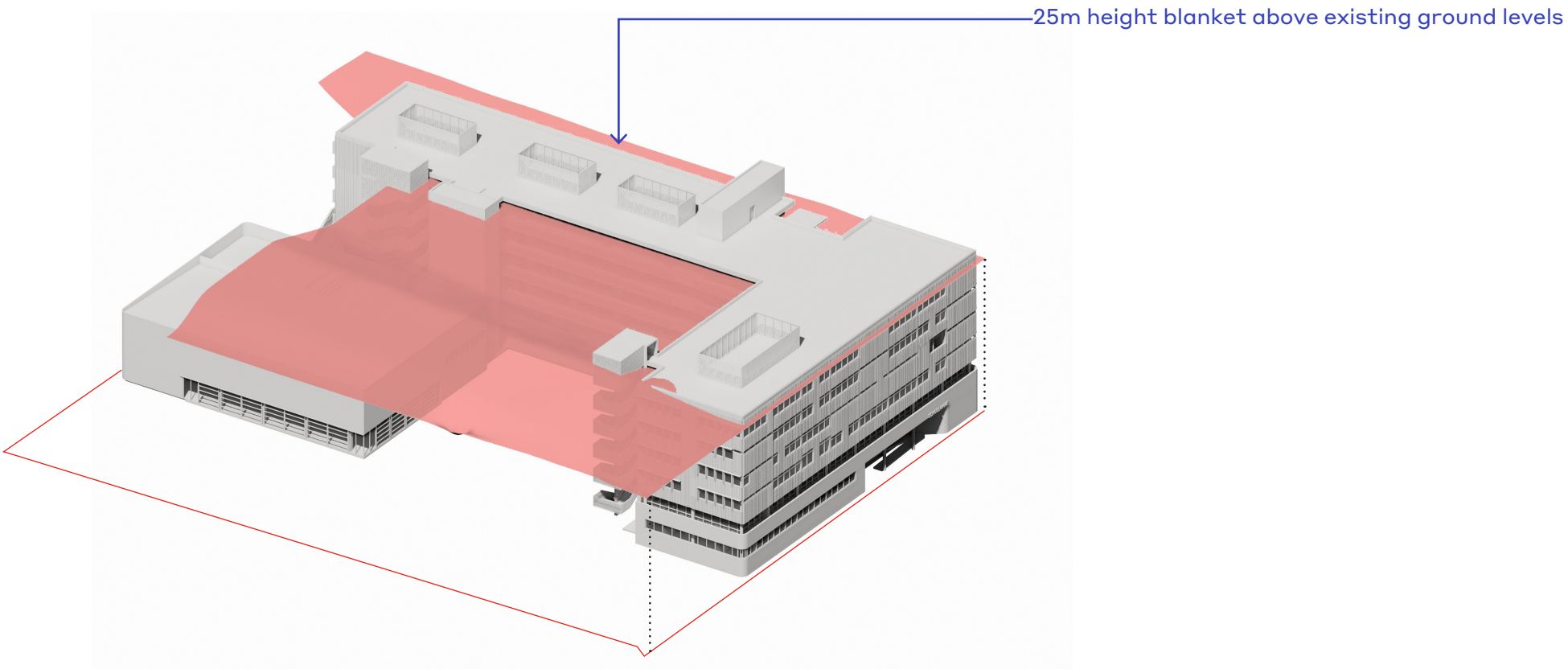
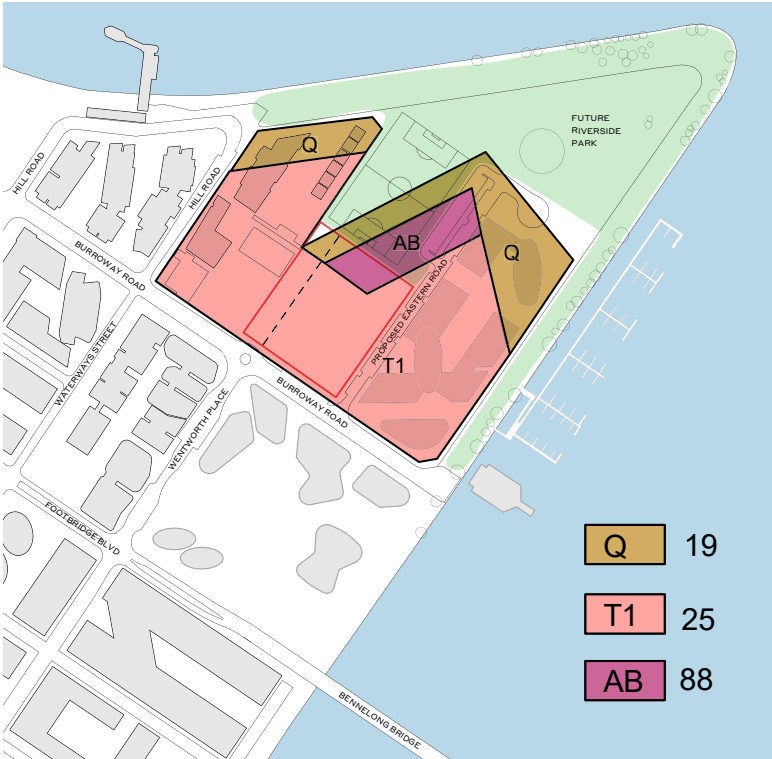
General relationship of the building to the LEP height plane

The LEP suggests a height of 25m above existing ground. The existing ground undulates. The predominant building height when measured at the parapet of the main roof is approximately 25m from the average existing ground level.

The portions of the proposed building that exceed this limit include lift overruns, rooftop plant enclosures, tops of staircases providing access to the roof. The highest point of the building is the top of main lift core overrun which reaches approximately 29.450m above the existing ground line in that location.



LEP height control (meters)



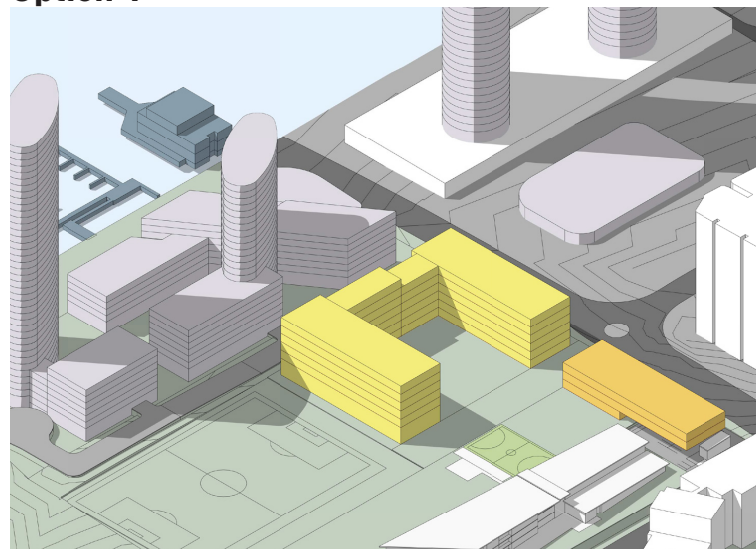
This page has been intentionally left blank

Appendix A

Options Analysis

Masterplan Options

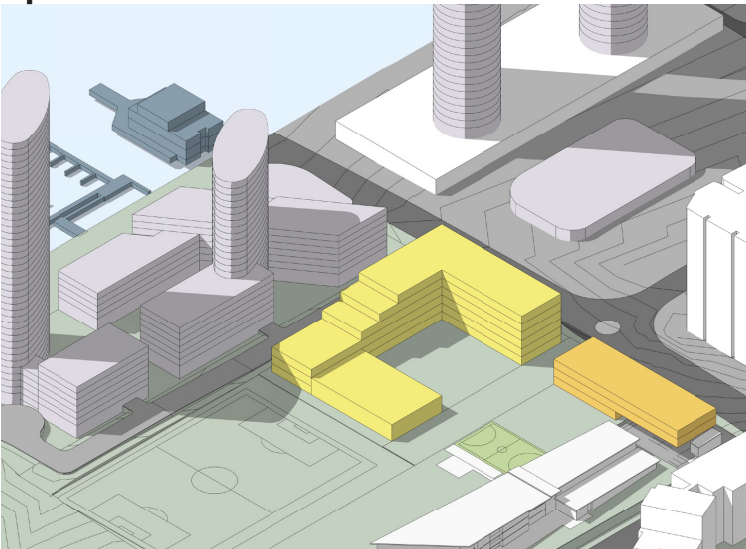
Option 1



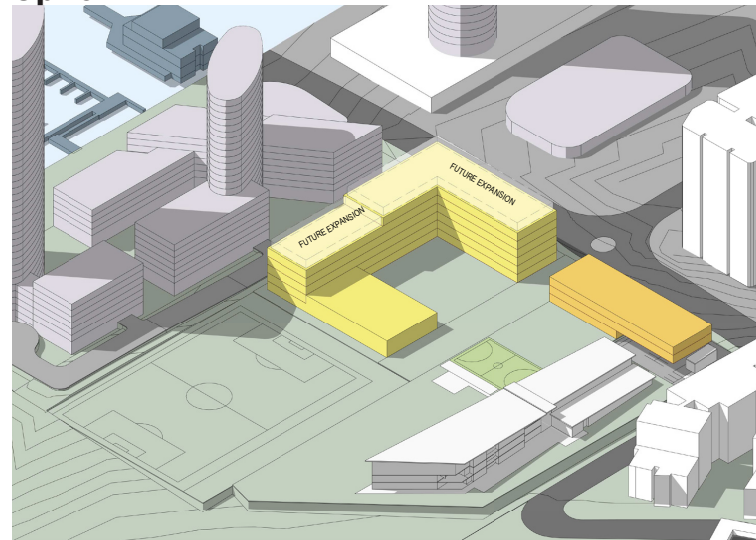
Option 1A



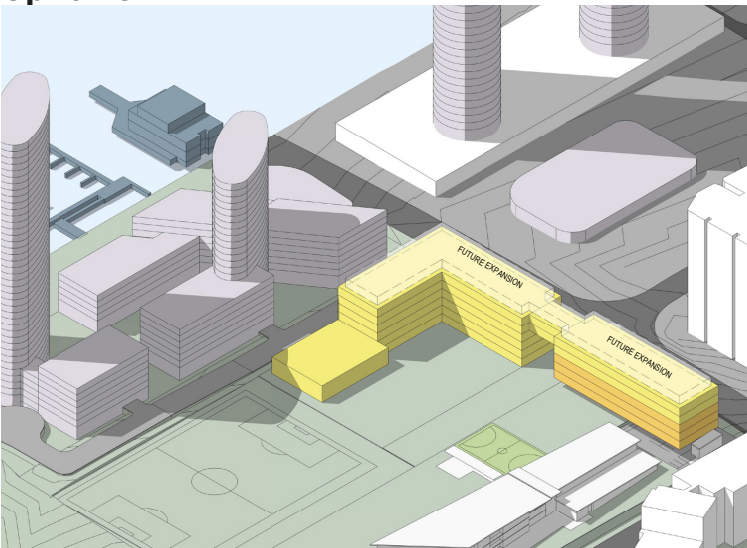
Option 2



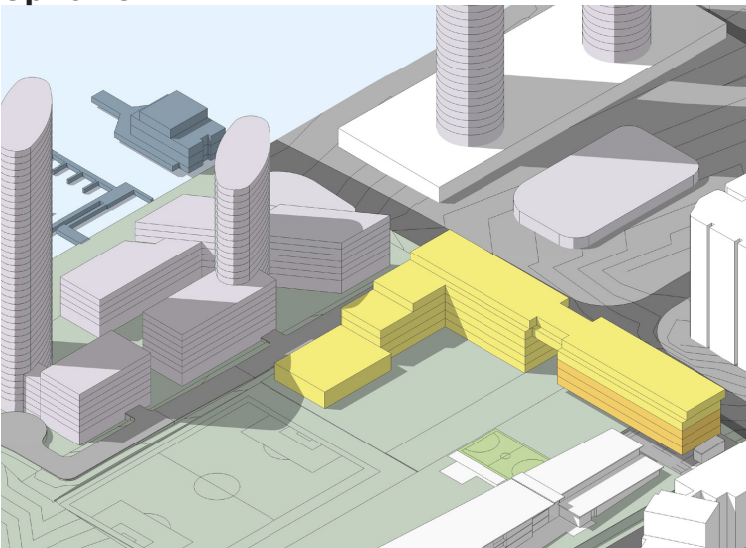
Option 2A



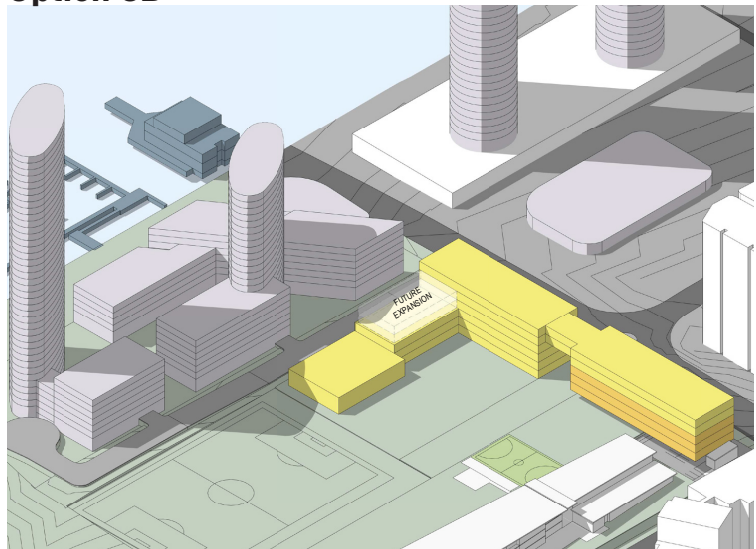
Option 3



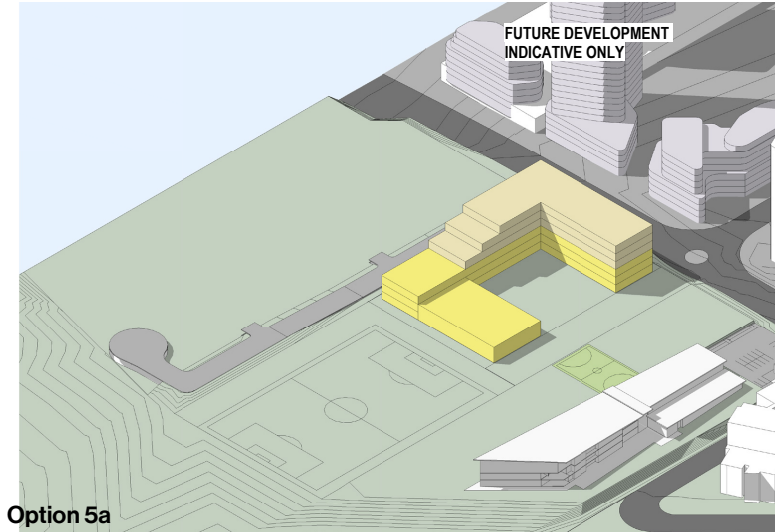
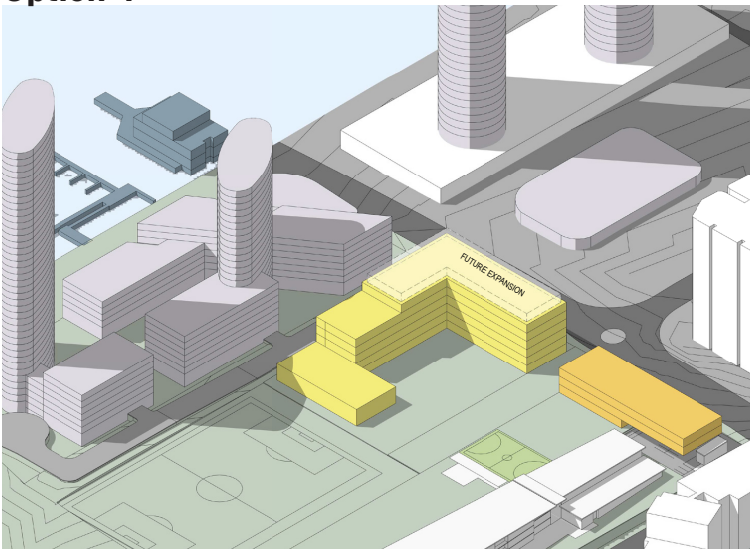
Option 3A



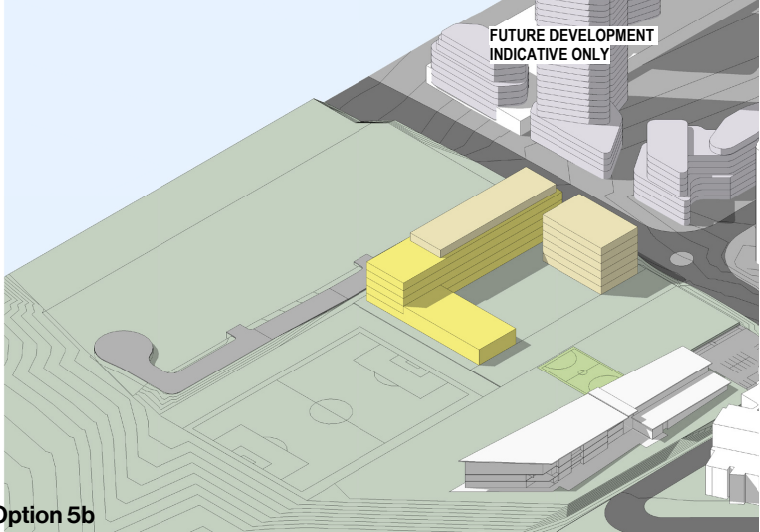
Option 3B



Option 4



Option 5a

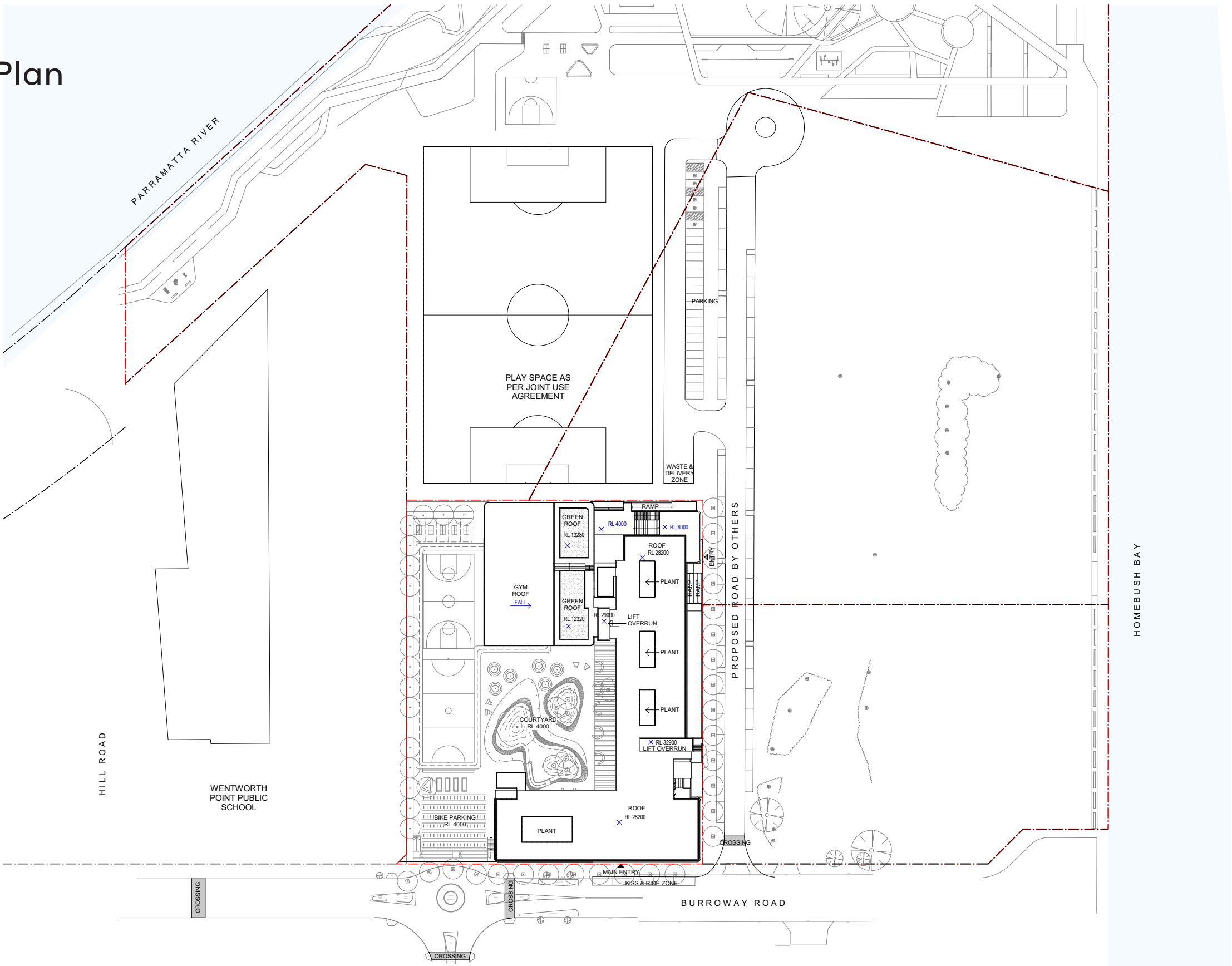


Option 5b

Appendix B

Floor Plans

Site Plan



Recent revision history			
#	Status	Description	Date
A	SSDA Draft Issue		21/08/16
B	SSDA Updates		21/08/27
C	SSDA Updates		21/08/02
D	SSDA Submission		21/08/15

Notes
Copyright © Woods Bagot 2018
All Rights Reserved
No material may be reproduced without prior permission
Contractor must verify all dimensions on site before commencing work or preparing shop drawings.
Do not scale drawings.

Project
SYDNEY OLYMPIC PARK HIGH SCHOOL

Client

Woods Bagot
W-B
WOODS BAGOT

Project number	Size check	
121566	25mm	
Checked	Approved	Sheet size
MH	CS	A1
		Scale
		1:500

Sheet title
SSDA
Site Plan Proposed

Sheet number	Revision
SOPHS-WB-AR-DA1102	D
Status	
SSDA	

Date generated 21/09/15 7:12:55 PM BM 360/121566 - SOPHS/121566_BUILDING_R21.rvt

Ground Floor Plan



Recent revision history		
#	Status	Description
A	SSDA Draft Issue	21/08/16
B	SSDA Updates	21/08/27
C	SSDA Submission	21/09/15

Notes
Copyright © Woods Bagot 2018
All Rights Reserved
No material may be reproduced without prior permission
Contractor must verify all dimensions on site before commencing work or preparing shop drawings.
Do not scale drawings.

Project
SYDNEY OLYMPIC PARK HIGH SCHOOL

Client
roberts
CO
Issue
W-B
WOODS BAGOT

Project number 121566	Size check Zone
Checked MH	Approved CS
Sheet size A1	Scale 1:200

Sheet title
SSDA
Proposed Ground Plan

Sheet number SOPHS-WB-AR-DA1200	Revision C
Status SSDA	

Date generated: 21/09/15 7:22:00 PM BM 360/121566 - SOPHS121566_BUILDING_R21.rvt

Level 01
Floor Plan



Recent revision history			
#	Status	Description	Date
A		SSDA Draft Issue	21/08/16
B		SSDA Submission	21/09/16

Notes
Copyright © Woods Bagot 2016
All Rights Reserved
No material may be reproduced without prior permission
Contractor must verify all dimensions on site before commencing work or preparing shop drawings.
Do not scale drawings.

Project
SYDNEY OLYMPIC PARK HIGH SCHOOL

Client
roberts
CO
Issue
W-B
WOODS BAGOT

Project number
121566
Checked
MH
Approved
CS
Size check
Zmm
Sheet size
A1
Scale
1:200

Sheet title
SSDA
Proposed Plan Level 1

Sheet number
SOPHS-WB-AR-DA1201
Status
SSDA
Revision
B

Date generated: 21/09/16 6:17:49 PM BM 360/121566 - SOPHS121566_BUILDING_R01.rvt

Level 02
Floor Plan



Date generated: 21/09/15 6:18:18 PM BM 360/121566 - SOPHS/121566_BUILDING_F021.rvt

Recent revision history		
#	Status	Description
A	SSDA Draft Issue	21/08/16
B	SSDA Draft Issue Updates	21/08/16
C	SSDA Submission	21/09/15

Notes
Copyright © Woods Bagot 2016
All Rights Reserved
No material may be reproduced without prior permission
Contractor must verify all dimensions on site before commencing work or preparing shop drawings.
Do not scale drawings.

Project
SYDNEY OLYMPIC PARK HIGH SCHOOL

Client
roberts
CO
Issue
W-B
WOODS BAGOT

Project number
121566
Checked
MH
Approved
CS
Size check
Zmm
Sheet size
A1
Scale
1:200

Sheet title
SSDA
Proposed Plan Level 2

Sheet number
SOPHS-WB-AR-DA1202
Status
SSDA
Revision
C

Level 03
Floor Plan



Date generated: 21/09/15 6:18:47 PM BM 360/121566 - SOPHS/121566_BUILDING_F021.rvt

Recent revision history		
#	Status	Description
A	SSDA Draft Issue	21/08/16
B	SSDA Draft Issue Updates	21/08/16
C	SSDA Submission	21/09/15

Notes
Copyright © Woods Bagot 2016
All Rights Reserved
No material may be reproduced without prior permission
Contractor must verify all dimensions on site before commencing work or preparing shop drawings.
Do not scale drawings.

Project
SYDNEY OLYMPIC PARK HIGH SCHOOL

Client
roberts
CO
Issue
W-B
WOODS BAGOT

Project number
121566
Checked
MH
Approved
CS
Size check
Zmm
Sheet size
A1
Scale
1:200

Sheet title
SSDA
Proposed Plan Level 3

Sheet number
SOPHS-WB-AR-DA1203
Revision
C
Status
SSDA

Level 04
Floor Plan



Recent revision history		
#	Status	Description
A	SSDA Draft Issue	21/08/16
B	SSDA Draft Issue Updates	21/08/16
C	SSDA Submission	21/09/15

Notes
 Copyright © Woods Bagot 2016
 All Rights Reserved
 No material may be reproduced without prior permission
 Contractor must verify all dimensions on site before commencing work or preparing shop drawings.
 Do not scale drawings.

Project
 SYDNEY OLYMPIC PARK HIGH SCHOOL

Client

 Issue


Project number
 121566
 Checked
 MH
 Approved
 CS
 Sheet size
 A1
 Scale
 1:200

Sheet title
 SSDA
 Proposed Plan Level 4

Sheet number
 SOPHS-WB-AR-DA1204
 Status
 SSDA
 Revision
 C

Level 05
Floor Plan



Date generated: 21/09/15 6:19:43 PM BM 360/121566 - SOPHS/121566_BUILDING_R01.rvt

Recent revision history		
#	Status	Description
A	SSDA Draft Issue	21/08/16
B	SSDA Draft Issue Updates	21/08/16
C	SSDA Submission	21/09/15

Notes
Copyright © Woods Bagot 2016
All Rights Reserved
No material may be reproduced without prior permission
Contractor must verify all dimensions on site before commencing work or preparing shop drawings.
Do not scale drawings.

Project
SYDNEY OLYMPIC PARK HIGH SCHOOL

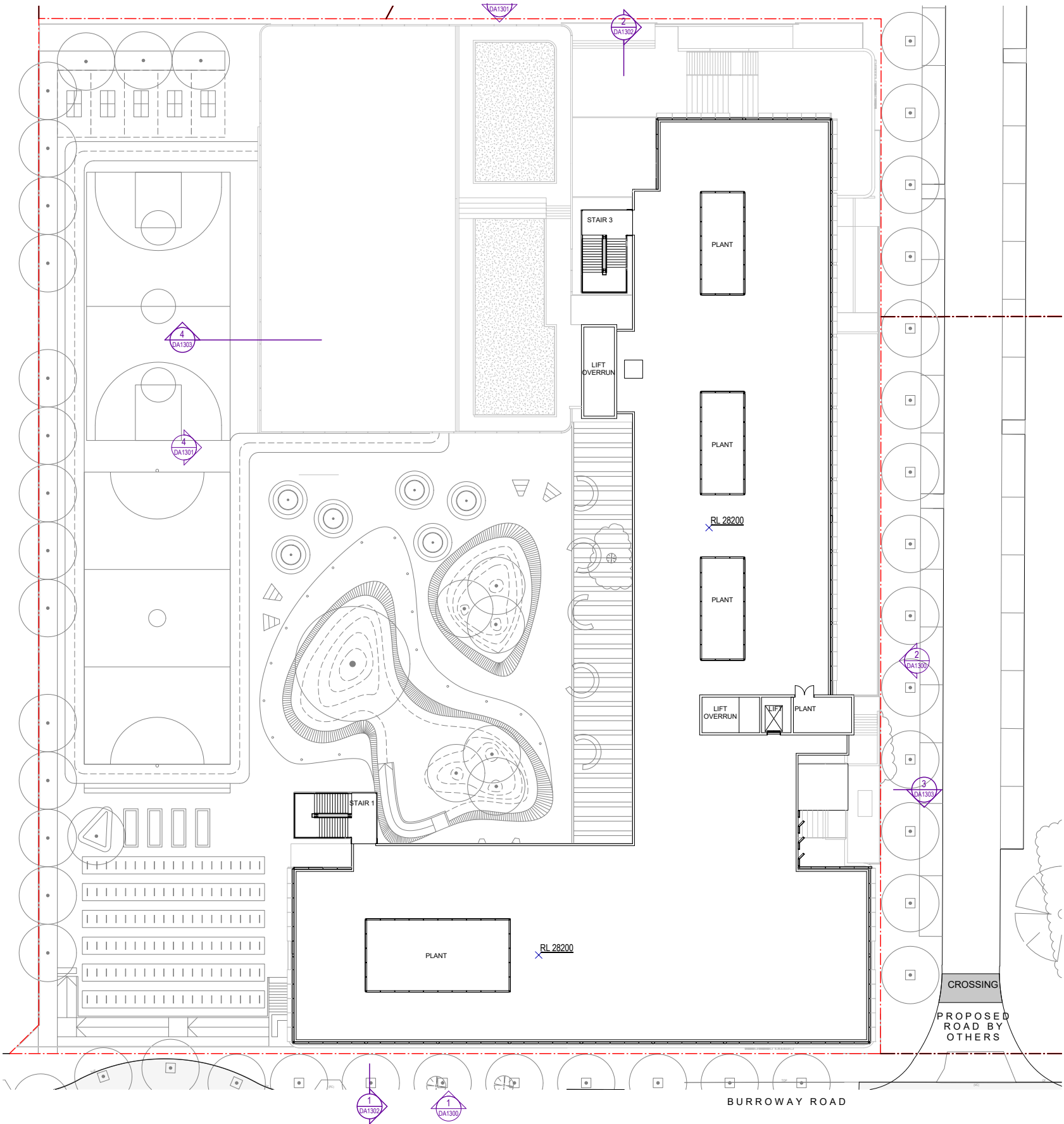
Client
roberts co
Issue
W-B
WOODS BAGOT

Project number
121566
Checked
MH
Approved
CS
Size check
Zone
Sheet size
A1
Scale
1:200

Sheet title
SSDA
Proposed Plan Level 5

Sheet number
SOPHS-WB-AR-DA1205
Revision
C
Status
SSDA

Roof Plan



Date generated: 21/09/15 6:20:07 PM BM 360/1121566 - SOPHS/121566_BUILDING_R01.rvt

Recent revision history		
#	Status	Description
A	SSDA Draft Issue	21/08/16
B	SSDA Draft Issue Updates	21/08/16
C	SSDA Submission	21/09/15

Notes
Copyright © Woods Bagot 2016
All Rights Reserved
No material may be reproduced without prior permission
Contractor must verify all dimensions on site before commencing work or preparing shop drawings.
Do not scale drawings.

Project
SYDNEY OLYMPIC PARK HIGH SCHOOL

Client

Issue
W-B
WOODS BAGOT

Project number 121566	Size check Zone
Checked MH	Approved CS
Sheet size A1	Scale 1:200

Sheet title
SSDA
Proposed Plan Roof

Sheet number SOPHS-WB-AR-DA1206	Revision C
Status SSDA	

Appendix C

Design Response to GANSW

Better Schools Design Verification Statement

Response to Education SEPP Design Quality Principles

The following statement summarises how the SEPP (Educational Establishments and Child Care Facilities) design quality principles have been applied in the proposed high school development. It adheres to the template provided in Better Placed: Design Guide for Schools (GANSW, 2018).

Sydney Olympic Park new high school

Project Overview:

Project name: Sydney Olympic Park new high school
Project address: Part 7-11 Burroway Rd, Wentworth Point, NSW, within City of Parramatta
Architect's name: Woods Bagot

Description of the project:

The proposal involves the construction of a new comprehensive high school at Wentworth Point, NSW.

01_Context, Built Form and Landscape

Located towards the northern tip of Wentworth Point, the proposed high school inhabits a site that was once mostly underwater – the shallow mudflats that lined what is now known as Parramatta River. It sits on the traditional lands of the Wann or Wangal people and was a place to visit for hunting and fishing. Following European occupation, the river was dredged to allow the passage of shipping vessels. The mudflats were reclaimed to create a flat tract of land for industrial use, leaving it significantly contaminated.

This historical narrative underpins the design of the school. As the first permanent structure to sit on this land, the proposal aspires to regenerate – both physically and spiritually – the contaminated land and provide a civic anchor for the burgeoning Wentworth Point community. A place of gathering, discussion and learning, the school will inspire connections to Country through the re-telling of old stories, and the creation of new ones.

The building comprises two 60m-long, six-storey wings, lining the southern and eastern boundaries of the site. This configuration ensures maximum solar access to play spaces and forms an internal landscaped courtyard – the heart of the school, onto which all teaching spaces open out. Given the small site area, careful attention has been paid to effectively balancing the conflicting imperatives of minimising building height and maximising play space on ground level.

The southern wing, pushed to the site boundary, establishes a confident urban presence along the key local artery of Burroway Rd. The main entry is expressed legibly in the massing as a sculpted recess. The eastern wing sets back along the narrower eastern road to create a landscaped setback and buffer. The western extents of the proposed building maintain an unobstructed viewing corridor that continues the line of Wentworth Place all the way to the River.

The architectural expression of the teaching wing derives from the flat terrain, the wide horizon, and the big sky – powerfully affective attributes of the site. The lower levels, containing the extroverted, community-inflected spaces, anchor to the ground in heavy masonry. The upper levels, containing the teaching spaces, reach up and out the sky, their subtly reflective metal cladding a canvas for the shifting sky. The two expressions are distinguished by a protective recess – the horizon line.

02_Sustainable, Efficient and Durable

The proposal espouses a multi-dimensional notion of sustainability, incorporating measures to minimise consumption and waste both now and throughout its lifespan. The long-term future of the school will hinge on its ability to become an integral piece of the local community. We believe that the building’s durable materiality, its openness to potential shared use with the community, its ability to adapt over time, and its consciously civic stature will work towards this goal.

Factors such as air quality, ventilation, natural lighting, thermal comfort and acoustic performance are known to have profound impacts on teacher and student wellbeing. Creating learning environments that deliver these qualities is a core priority of the design. All teaching spaces are naturally lit yet protected from direct sunlight. To ensure high internal air quality, each teaching space has access to operable windows as part of a mixed-mode approach to ventilation.

Passive design strategies are fundamental to the school's configuration. The majority of façade oriented to the north is protected by the deep, external walkways providing shading during warmer months, while allowing passive heating in winter. Elsewhere, exposed façades are protected by integrated external shading fins. The façade design strives to provide glazing only where required for natural lighting and ventilation. Keeping glazing to a minimum is not only cost-effective but enhances the building’s thermal qualities.

The materials selected for the project are intended to be robust, durable and suited to the particular challenges of a school environment. The base of the building is clad in masonry – a combination of glazed and dry-pressed bricks. Where the building sits on the site boundary, glazed brickwork up to a certain height provides a resistant, easy-to-clean external surface. External balustrades, handrails and other metal components are made from highly durable galvanised steel. Equally, the durability of internal fixtures and finishes is considered.

Materials and systems use are to be tried-and-tested, rather than experimental, to ensure reliability, and there will be an emphasis on supporting local manufacturing and production.

03_Accessible and Inclusive

Acknowledging that schools are vital pieces of social infrastructure, careful attention has been paid to the proposed high school's external appearance and interfaces with the public domain. The southern teaching wing sits confidently along the edge of Burroway Road where it is clearly visible from all approaches. The main entrance is marked by the creation of a deep recess in the brick base that gives access to the school's protected courtyard. Along the eastern road, the brick base juts out to mark a secondary entrance which may also be used by the community to access shared facilities if appropriate.

Equal access is considered throughout the building. As Burroway Road sits 1.2m below the ground floor level, ramp access is provided at the main entry and at the bike store adjacent. The eastern road slopes up to meet ground floor level along the eastern wing, allowing level access at the northern entry point. As travel between levels will be an inevitable aspect of students' daily lives in a six-storey building, four large passenger lifts are provided for those who require them. The lifts are clustered in pairs to reduce wait times, and each pair serves a different zone within the building.

Movement through the building takes place along linear external walkways – a simple, visible, legible configuration that is replicated at each level. To aid in distinguishing one level from the next, the facades along the external walkways are coloured distinctly: shades of green for ground and level 1, and graduating tones of blue from level 2 to 5. Stairs and entrances to teaching spaces are highlighted in complementary shades of orange and red.

04_Health and Safety

The proposal seeks to provide a healthy, safe learning environment for all students, promoting active lifestyles, social cohesion, privacy and security at all times. The arrangement of the two teaching wings and school hall create a protected courtyard, ensuring privacy from the tall residential towers overlooking the site, and separating the play space and walkways from pollution generated by traffic beyond.

A diversity of places to play and gather are integrated into the building and landscape. Undercroft spaces, pergolas and tree canopies will provide opportunities for shade and protection from the elements. Play space on school grounds may be supplemented by access to the playing field, subject to a joint use agreement.

Circulation within the building takes place predominantly along external walkways that line each teaching wing; four staircases and two pairs of lifts allow access between floors. All circulation spaces are configured to promote passive surveillance and easy supervision – walkways are wide and linear, and staircases are clad in transparent metal mesh. The design of toilets and change rooms similarly integrates anti-bullying measures, including preserving sight lines and avoiding dead end corridors.

The building is used as the secure line where possible, and elsewhere fencing lines the site perimeter. Though fencing is a necessary security measure, it is anticipated that the style of fencing will permit a sense of transparency and permeability and may be softened by climbing vegetation. Consideration of the school's configuration and secure line allows for multiple modes of operation. During school hours, secure access points are provided at the main entry and bike store which may be closely monitored by the administration offices adjoining them. Facilities that may be used be the community, or in conjunction with the playing field (such as the hall, change rooms, canteen, toilets and studios) are clustered so as to contain out-of-hours access.

05_Amenity

The proposed high school strives to create a variety of flexible, engaging learning environments that instill a sense of place. To celebrate the school's unique proximity to the Parramatta Rive, internal teachings spaces offer generous views out, and the ground level play space provides strong visual connections to the playing field and beyond.

The landscape design by Urbis integrates generous planting, mature trees, sculpted hummocks, seating and various other features to producing spaces that invite a range of formal and informal uses. The landscape is inherently didactic, reproducing local ecologies and featuring Indigenous plant species and production gardens. Generous, amphitheatre-like stairs adjoining the main entry and to the hall to the north promote informal learning, supplementing the more formal teaching spaces. Similarly, specialist labs and workshops are configured to open out to the open-plan fulcrum space between the two teaching wings, allowing students to work outdoors and showcase their activities to the wider school.

The school design maintains and enhances amenity to the public domain. The placement of the southern teaching wing and hall preserves a viewing corridor from Burroway Rd through to the river foreshore, enhancing a sense of proximity to the river and parklands. The teaching wings and hall enclose a protected courtyard, preventing noise generated within the school impacting negatively on neighbours.

06_Whole of Life, Flexible and Adaptive

The design of the proposed high school is closely informed by the SINSW initiative Modern Methods of Construction (MMC): a set of guidelines for school design and construction based on a “kit of parts” approach. The two teaching wings are based on the MMC universal planning grid (7.5 x 9m) – each wing is 60m in length, or 8 planning bays. A reinforced concrete sub-structure aligned to the planning grid permits varied and flexible arrangements of teaching spaces. Overlaid building elements, from internal partitions, fixtures and services to external façade panels, are intended to be modular.

In the future, the building will be able to adapt to changing needs – teaching spaces can be refreshed or re-configured as required. Similarly, as building components reach the ends of their lifespans, they may be simply replaced without compromising the overall structure. Should there no longer even be a need for a school in this location, the structural grid is equally suited to commercial, residential and other uses.

07_Aesthetics

The elemental articulation of the building is based on an interpretation of the site and local landscape. The six-storey teaching wings are broken into three components: a solid brick base, united with the earth, a wide horizon expressed as a sheltering recess, and a metal-clad upper portion reflecting the sky. Breaking up the building in this way creates a pleasing composition of elements that engage the building in a dialogue with its urban and natural context.

The inward- and outward-facing elevations are expressed deliberately differently. The southern and eastern facades, facing Burroway Road and the eastern road respectively, are consciously urban in presentation. Arrangements of façade panels that vary based on the needs of different teaching spaces within form a serendipitous composition – an abstraction of the clouds floating beside them – celebrating the different learning activities taking place within.

By contrast, the northern facades that are continuously animated by the movement of students along external walkways are distinctly joyful and fun. Here, the window walls are saturated in calming tones of green and blue, with circulation elements and entryways defined in complementary oranges and reds.

State Design Review Panel

Response to SDRP feedback - Session 01

Note: the SDRP comments from session 01 relate to the reference scheme by GroupGSA. The responses provided are by WB in relation to the current proposal. Although the comments were directed towards a different scheme, most are still valid

SDRP Feedback

WB Comments

1.0	Master planning	
1.1	The river foreshore – provide clear north-south visual and pedestrian connections from the playing field to the foreshore's public open space and clear east-west connections to the foreshore. Provide a comprehensive landscape and ecological response that includes level transitions/equitable access, resilience for flooding and relationship to the waterline.	The playing field and its interface with the foreshore now falls outside the scope of the project.
	The building's public interfaces- optimise activation, interaction and engaging connections to community, including:	
1.2	– locate shared school or shared community uses at the ground floor within proximity to entrances	The proposal creates a cluster of community-oriented facilities in close proximity to a secondary entrance along the proposed eastern road. The hall, change rooms, canteen, toilets, as well as movement studio, performance and fitness workshops on level 01, may all be accessed from this entrance, while the rest of the school remains secure.
1.3	– balance and optimise security considerations with place qualities at the Burroway Road and COLA entrances, utilizing the building as the secure line where possible, minimizing fences and providing large access gates	The southern teaching wing is positioned on the boundary of Burroway Rd where it forms the secure line at ground level. A sculpted recess – the main entry to the school – is secured by large sliding gates. The southern wing holds the corner of Burroway Rd and the eastern road, while the eastern teaching wing sets back to form a landscaped buffer along the narrower street. The waste store to the north steps out again, forming the secure line. The hall is located along the site boundary to the playing field, flanked by sliding gates to the east and fencing to the west. This configuration allows the building to form a secure barrier where possible.

SDRP Feedback

WB Comments

1.4	– the northern ground floor façade should provide visual connections and passive surveillance of the playing field - full height solid walls lack visual permeability and are not supported	On ground level, two wide corridors create visual and physical links between the school and the playing field; one along the viewing corridor to the west, and one between the eastern teaching wing and hall. A large terrace on level 01 overlooks the playing field, further strengthening visual connections and promoting passive surveillance. The hall is configured so that it opens out on three sides to the courtyard play space within the school, and towards the eastern road entrance. The hall's more opaque facade, behind which is located the stage and various store rooms, presents to the playing field. Given that this façade is likely to be located directly behind a football goal, it was considered sensible for it be well protected and durable.
1.5	North-south visual corridor - Minimise visual barriers and obstructions, including obstructive planting layouts, screens, minor structures, etc	Noted. Items and planting located in this zone are consistent with maintaining a clear visual corridor.
1.6	1.8-meter-high perimeter fencing - Provide building edges in lieu of fencing as much as possible. Provide large and inviting connections between the playing field/shared community facilities and the public domain.	See response above.
2.0	Traffic and transport	
2.1	The project's traffic and transport strategy anticipates a reduction in congestion due to student travel principally contained within Wentworth Point combined with reduced car reliance/walkability. Provide transport and traffic modelling to support this assumption.	Refer to Traffic Consultant's report.
3.0	Landscape and shared community facilities	
3.1	Planting palettes -provide a palette that represents a living connection to Country, for example including species from the local salt marsh ecology. Incorporate this palette at active and passive outdoor learning spaces.	Refer to Landscape Architect's report.

SDRP Feedback

WB Comments

3.2	Facade planting – incorporate measures for long-term viability and resilience into the façade's plant selections and general landscape design. Demonstrate the resolution of façade planting with provision of solar access and daylighting.	Façade planting is no longer included in the project scope.
3.3	Shared facilities – provide a project strategy to enable a comprehensive range of community uses that support integrated social connections. Identify shared facilities across the site and include considerations for multifunctionality, arrival, car parking, pedestrian movement and security.	<p>As outlined above, the proposal integrates a coherent cluster of community-oriented facilities accessed by the entrance from the proposed eastern road. They can be secured from the rest of the school, containing any use out-of-hours. An undercroft space, running east-west from the eastern road entry to the hall, provides generous area for assembly and movement to and between the various facilities and amenities.</p> <p>The spaces included in the aforementioned cluster include:</p> <ul style="list-style-type: none">– a large hall gymnasium with associated stage and store rooms– a canteen that may double as food preparation and service during events– a bank of unisex toilets, including an accessible unit– two pairs of changing rooms– a large movement studio and two large workshops <p>Though the design of these facilities relates directly to the EFSG It is considered that they, individually and collectively, support a wide range of potential community uses, including musical/dramatic performances, rehearsals of differently sized ensembles, sporting events (hosted in the hall and neighbouring playing field), fitness classes, public gatherings and forums, and more.</p>
4.0 Façade treatments and architectural expression		
4.1	Optimise the northern facade – provide fenestration opening sizes and sunshading that better respond to the aspect's solar access and significant views.	There are two façade types within the proposal that are oriented towards the north: one that is protected by the deep external walkways, and one that is “exposed”. This latter façade type – which amounts to approximately 25% of the façade area exposed to northern sun – incorporates vertical and horizontal shading fins to protect the spaces within from direct sunlight and solar gain, without compromising expansive views to the urban and riverside context beyond.

SDRP Feedback

WB Comments

4.2	Material selection - use materials that are sympathetic to the natural landscape, to better enable a contextual fit and clear architectural expression for the buildings.	The materials that define the external expression of the proposed school buildings are drawn from an understanding of the site's urban, historical and environmental context. The brick base anchors the building to the ground, with red-browns evoking the deep earth and shimmering glossy greens picking up the hues of the natural environment. Bricks, sized to suit the human hand, help to provide a human scale to the building's public interfaces. The upper levels, clad in textured, subtly reflective anodised aluminium, serve to abstract, mirror and engage in a dialogue with the expansive sky that is characteristic of the location. Gradations of blue and green on the courtyard-facing facades further enmesh the building in its natural landscape.
4.3	Differing facades- provide a material palette and façade treatments that respond to differing solar orientations and urban conditions, including the built-form edge -south, the river - north & east and the Primary School – west.	The school buildings can be understood as double-sided, with the facades overlooking the public roads presenting distinctly from the facades oriented to the internal courtyard. The “urban” facades present an appearance of solidity at their base, creating a strong urban presence and defining the street edge. The upper levels comprise four façade panel modules arranged to reflect the activities taking place within, offering exciting glimpses to teaching spaces and creating an interesting formal composition. The inward facing facades, characterised by the presence of external walkways, are more attuned to the scale and activities of students. The window walls are coloured brightly to assist wayfinding.
5.0 Country and ecology		
5.1	Ecological healing and restoration – these ambitions are not evident in the concept design. Integrate ecological aspirations with a project-wide approach to connecting with Country. The following opportunities are recommended for their capacity to make manifest the attributes of Country: - plant species that support and restore local bio-diversity and ecology - the site's use and treatment of water.	Noted. Refer to Landscape Architect's report.

State Design Review Panel

Response to SDRP feedback - Session 01 (continued)

SDRP Feedback	WB Comments
5.2 Engagement with traditional owners – Engagement with traditional owners as part of the design process should be undertaken as soon as possible to meaningfully inform an understanding of place and the project's response to Country. Avoid relying on select information from a singular Aboriginal Heritage and Culture consultant.	Noted. During the bid stage, the project team worked closely with Balarinji to learn about the place, Country and its stories, and to investigate how these understandings might inform the design process. During the ECI phase, we have consulted with the AECG whose stories, perspectives and recommendations have further informed the process and design.
6.0 Sustainability	
The following initiatives are recommended and should be clarified:	
6.1 PV cells to roofs.	There will be a large PV array situated on the roof of the eastern teaching wing, with potential to be expanded onto areas of roof elsewhere.
6.1 Green roofs – to improve the thermal properties of the building envelope and provide shared landscape amenity for adjacent buildings which look down onto the school.	The proposal incorporates a green roof to the hall.
6.2 Materials that optimise thermal properties of the building envelope and assist 'mixed mode' operation.	Noted.
6.3 Sun-shading to the western façade that balances views and daylighting with the impacts of solar heat gain.	Noted. See responses above.
6.4 Solar-gain control to the northern façade to improve passive solar design.	Noted. See responses above.
6.5 Water handling, storage and reuse - initiatives appropriate to the riverside context, including WSUD and reuse of water for landscaping and playing field irrigation.	Noted. The proposal incorporates measures for water collection, storage and reuse.

This page has been intentionally left blank

State Design Review Panel

Response to SDRP feedback - Session 02

SDRP Feedback		WB Comments
Country		
1	Whole-project approach - Think of Connecting with Country as a whole of site and whole of project approach. Consider additional features that articulate narratives about Country aurally, through art, pedagogy, wayfinding, and always that come from engagement with Indigenous peoples.	The project team worked closely with Balarinji, our Indegenous Design consultant, to learn about the place, Country and its stories, and to investigate how these understandings might inform the design process. Further, a consultation with the AECG whose stories, perspectives and recommendations have further informed the process and design. Throughout this Design Statement and the Landscape Design statement, commentary is given about incorporation of gathering spaces, indigenous planting, and how the building has used tactile and natural materials that reflect the place – the sky and the horizon.
2	Planting - Expand the use of endemic Indigenous plants beyond the single First Nations productive garden to be throughout the site. This is an opportunity for the landscape to be part of the pedagogy.	Refer to Landscape Architect's report.
3	Green roof - Integrate endemic and Indigenous plants into the green roof and consider enabling monitored access to this area so that it can become part of the school.	Refer to Landscape Architect's report.
Landscape Strategy		
4	Communal courtyard – The practicality of using movable tree planters to create spatial flexibility is questioned and the creation of a sufficiently large outdoor gathering space is recommended.	Refer to Landscape Architect's report.
5	Treecover - Provide detail on the proposed canopy cover percentage to provide comfort in relation to heat and other biophilic benefits.	Refer to Landscape Architect's report.

SDRP Feedback		WB Comments
6	Planting palette – Provide more detail on plant selection at the next review.	Refer to Landscape Architect's report.
Streetscape & Urban Context		
7	Civic presence – The size and scale of this public building produces an expanded responsibility to produce good outcomes for its emergent urban context. There is currently insufficient detail to evaluate whether the building is fulfilling its civic promise and value to the community. Provide detailed elevations, detailed sections of the buildings' interface with the public domain, material selections and renders in context at follow up meetings.	Since the SDRP review, renderings, elevations, explanatory diagrams and sections have been added to the report for evaluation. Careful selection of tactile materials and a breaking down of scale allow the building to deal with the level changes and provide an anchoring of the building into the streetscape. The scheme seeks to break the typical street edge treatment of the area which uses setbacks, and instead meets combines meeting the boundary edge with a tactile brick material, and setbacks to provide variety and relief. The edge is permeated with entrances on three sides, inviting the community to participate in the school when the security fences and gates are opened to invite it.
8	Length of block – Consider the 60m of the long north-south edge and how this may be further articulated through interfaces, circulation, entries, courtyards, façade treatment, or planting.	The school block is arranged to allow for maximum flexibility through a regular grid system, developed by the designers of this scheme, and is now a standard school planning grid. In order to achieve learning units (science, wood and metal, etc) these units are best arranged in blocks of 8-9 to keep all the classrooms and labs together. The scale of the building is broken down by a variety of façade panel types that reflect the usage behind them, and through penetrating with the entrance on Burroway Road and the setback and secondary entrance on the eastern road. A recess at level 1 helps to break down the scale and separates the ground-anchoring brick at ground floor from the metal panelling of the upper levels.

SDRP Feedback

WB Comments

9	Public Primary School – Recommned the inclusion of a strategy to enable long-term connections with the adjacent public school.	The masterplan of the high school has been arranged to create an enclosure through a courtyard that captures both public school and high school play spaces. For the foreseeable future, these will remain separate through tree planting and a fence line between the two schools. However the opportunity to join or connect the schools can be easily achieved through the configuration provided.
10	Community space – The fence and gateway entry to the community spaces appear unwelcoming. Recommend further design development to make this visually and functionally welcoming for community members.	Security during school hours and community access after hours is a careful balance. The scheme has created openings in the eastern façade to allow access to the gym, canteen and performance spaces at level 1. It is announced by the building stepping out to the boundary giving a point of difference in comparison to the rest of the eastern façade which sets back away from the boundary. A large sliding gate will create a wide opening on school entry time and after hours. The space that is entered is an outdoor covered space servicing the canteen but also creating a wind-down and ante-space for the gym that can be serviced by the canteen. On the northern boundary, there is community access, again, through sliding gates, to allow ease of access to change room, canteen and the gym. The spaces feature amphitheatre seating adding great character and highly engaging facilities for the community to enjoy.
Entry & Movement		
11	Undercroft entry – The current proposal for the entry undercroft is considered too low, narrow, and tight and is not supported. Explore options to optimise amenity of access, acoustics, and visual connection by making this less compressed and more generous both horizontally and vertically.	The material finish to the entrance soffit will be a perforated metal with mirror finish, in a wavy or corrugated profile. The reflective surface will help to bring natural light deep into the recess and contribute to a sense of height and depth and wonder at the interesting material. The tapered opening is directive, and creates the drama of aperture, where the entrant is greeted by the opening up of the courtyard space and the double high pergola that runs through the courtyard.
12	Pinch points - Review the space allocated to critical areas of movement on the ground plane including near the canteen and lift areas as they appear insufficient at present.	The pinch points create control points where gates are added to prevent community from entering the courtyard space. During school hours, these gates are open, leaving a 4-5m width, which is generous for ease of circulation.

SDRP Feedback

WB Comments

Facade Treatments & Architectural Expressions		
13	Aluminium cladding – The use of aluminium cladding, its longevity and visual appearance over time is problematic in this coastal environment and requires reconsideration. Illustrate an alternate design approach or provide evidence to back up the design intent.	<p>Please refer to the following statement on anodising provided by the Façade Engineer, which is also integrated into the body of the report:</p> <p>Anodising is an electro-chemical process used to create a protective film of aluminium oxide on the surface of aluminium extrusions or sheet. As the aluminium oxide film is created from the aluminium itself, it is integral to the underlying aluminium and cannot crack, peel, flake or pit, unlike paint or powder coatings. The oxide coating is translucent, giving the aluminium an extremely durable, deep metallic lustre. The oxide layer is extremely hard and can be applied up to 25 microns in thickness, making it ideal for more severe building environments such as ocean and harbour frontages. Natural anodising enhances the base aluminium colour, while a range of other colours can be achieved through various methods, the most durable of these being integral, electrolytic and interference colouring.</p> <p>Anodised products have an extremely long life span and offer significant economic advantages through maintenance and operating savings. The final anodised finish is chemically stable, will not decompose and is non-toxic. Because the anodising process is a reinforcement of a naturally occurring oxide process, recycling of anodised aluminium is also more efficient and cost effective than that of paint and powder coated products and is almost "recycle-neutral" with minimal use of VOCs and heavy metals.</p>

State Design Review Panel

Response to SDRP feedback - Session 02 (continued)

SDRP Feedback	WB Comments	
14	<p>Courtyard facades – Ensure the interior elevations are appropriately scaled and have a softer edge in relation to human scale and material selection, incorporating the use of narrative and art to inform these spaces.</p>	<p>The façade along the external walkways consists of a modular window wall system, acting as a threshold between circulation and teaching spaces. At each level, this façade is brought to life by constant movement and activity of students inside and out. Generous windows (many operable) and doorways provide strong visual connections when desired, allowing classrooms and corridors to animate each other. The window wall panels – colourback glass, others perforated metal – are coloured in bold and subtle hues of graduating blues and greens. This colour scheme assists in wayfinding and constitutes a joyful expression of the building's relationships to its natural environment and to Country. Cable trays, doorways and other key elements are highlighted in complementary tones of orange, adding to a sense of both playfulness and legibility. A visualisation from the school's inner courtyard, looking east towards the eastern teaching wing, provides some clarity as to the window wall's expression.</p>
15	<p>Southern edges – Include sunshading considerations in the development of the southern façade, noting the need to mitigate strong and low sunlight for morning classes.</p>	<p>Shading elements are incorporated into all building facades except the southern façade overlooking Burroway Rd. This facade is oriented almost due south. In response to concerns of direct sunlight exposure to this façade during the late afternoon, solar analysis indicates that it does not receive any direct sunlight during school hours (i.e. to 3.30pm). In addition, the presence of tall neighbouring buildings to the west, combined with the deep reveals of the façade's section profile, combine to effectively protect and shield the façade at later times during the afternoon.</p>

SDRP Feedback		WB Comments	
Sustainability			
16	Green Star - The goal of 4-star Green rating is low considering the advantages of the site and association with Sydney Olympic Park. Consider implementing further sustainability strategies in line with a 6-star rating.	The project's baseline goal set by Schools Infrastructure NSW is to achieve 4-star Green Star accreditation, however it is anticipated that a higher rating will be achieved as the project progresses into detailed design phases. Despite the green star rating, the scheme incorporates passive measures as described in this report.	
17	Green roofs – Consider the wider application of green roofs for the scheme, with particular focus on the increased efficacy of solar panels when combined with green roofs.	increasing the area of green roof is constrained due to the additional costs that would be involved in construction and ongoing maintenance. The distribution of the project's budgetary resources prioritises the spaces with which students will have direct contact. The green roof on the gym block is now arranged to be accessible by students and features endemic and indigenous species as described within the Landscape report. As the green roof is restricted in size, priority has been given to the plants over solar panels. Solar panels remain on the main roof which is inaccessible by students and therefore no green roof is planned for the main roof.	

This page has been intentionally left blank

Australia & New Zealand

Adelaide

Level 14,
11 Waymouth Street
Adelaide SA 5000, Australia
T +61 8 8113 5900

Auckland

Level 3,
106–108 Quay Street
Auckland, New Zealand
T +64 9 979 9490

Brisbane

Level 3,
262 Adelaide Street
Brisbane Qld 4000,
Australia
T +61 7 3308 2900

Melbourne

Mezzanine,
498 Little Collins Street
Melbourne, Vic 3000,
Australia
T +61 3 8646 6600

Perth

The Palace,
108 St Georges Terrace
Perth WA 6000, Australia
T +61 8 9322 0500

Sydney

Level 2,
60 Carrington Street
Sydney NSW 2000,
Australia
T +61 2 9249 2500

China

Beijing

Level 5, Building 15
Taikoo Li Sanlitun North,
No.11 Sanlitun Road
Chaoyang Beijing,
China 100027
T +86 10 6419 8555

Hong Kong

Level 22, The Centrium
60 Wyndham Street
Central Hong Kong
T +852 2526 6308

Shanghai

Plaza 336, 9F
336 Middle Xizang Road
Huangpu District
Shanghai, China 200001
T +86 21 6023 1968

Shenzhen

Unit 781, 7/F, Tower A,
SCC Financial Centre,
88 First Haide Road,
Nanshan District, Shenzhen
China 518054

Middle East

Abu Dhabi

Suite 1413 MBC,
Makeen Tower,
Corner 9th & 10th Street
Abu Dhabi,
United Arab Emirates
T +9712 657 3450

Dubai

Level 3, Suite 313,
Emarat Atrium
Sheikh Zayed Road
Dubai, United Arab
Emirates
T +971 4 404 1600

North America

Los Angeles

Bradbury Building,
304 South Broadway,
Floor 2,
Los Angeles, CA 90013 USA
T +213 766 0445

New York

30 Broad Street, 7th Floor,
New York NY 10004, USA
T +1 646 756 3300

San Francisco

88 Kearny Street, Floor 19
San Francisco CA 94108,
USA
T +1 415 277 3000

South East Asia

Singapore

77 Duxton Road
Singapore 089536
T +65 6800 0900


UK & Europe


London


75 Riding House Street,
London W1W 7EJ
United Kingdom
T +44 20 7637 6880


Follow us


 facebook.com/WoodsBagot

 @woodsbagot

 @woods_bagot

 linkedin.com/company/woods-bagot

 pinterest.com.au/woodsbagot

 woodsbagot 伍兹贝格

WWW.WOODSBAGOT.COM

Contacts

Ian Lomas

ian.lomas@woodsbagot.com
T +612 9 249 2682 M +61 450556253

Chris Savva

chris.savva@woodsbagot.com
T +612 9249 2663 M +61 452 229 531