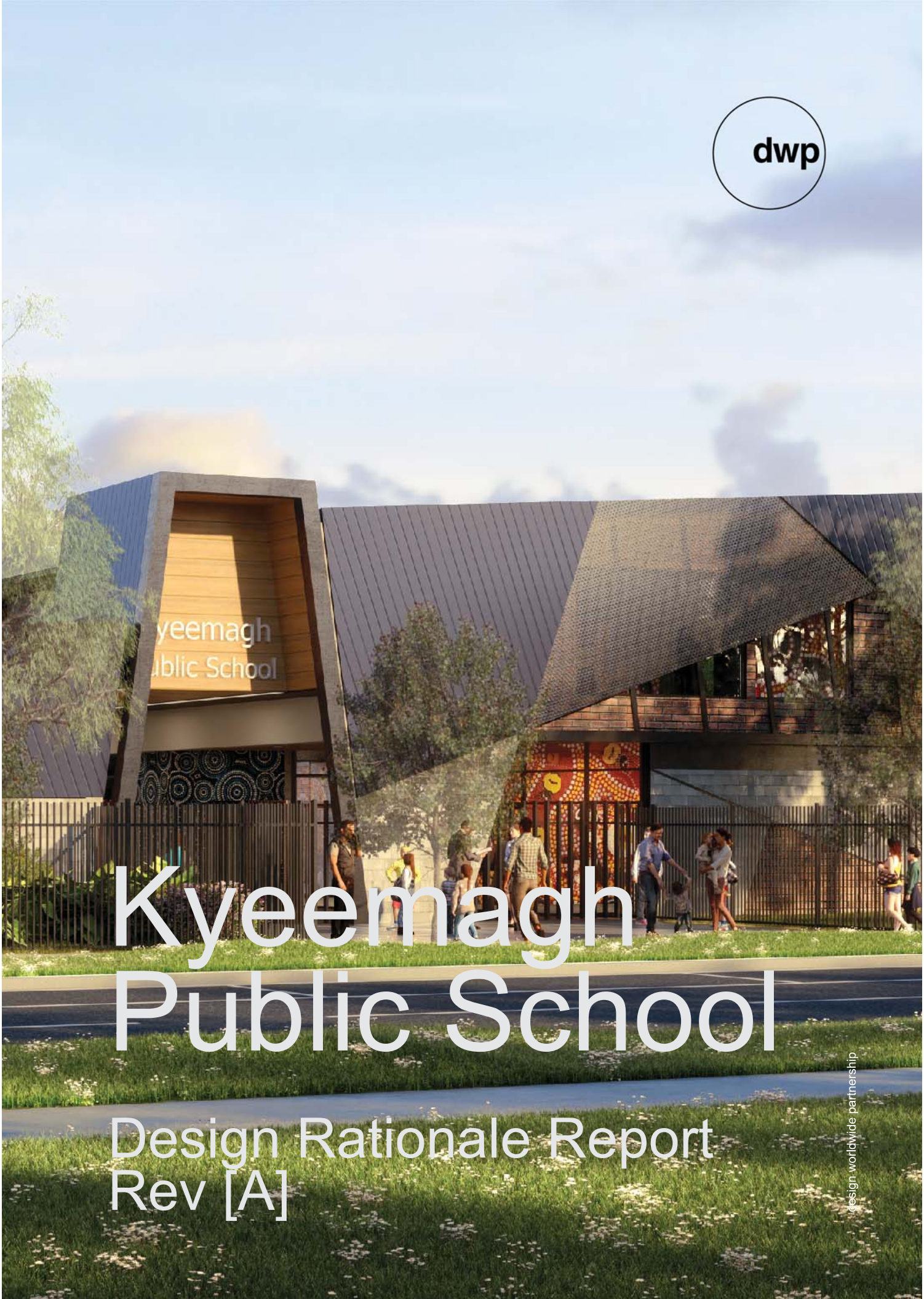


Kyeemagh Public School

Design Rationale Report Rev [A]

design worldwide partnership

Contents

Bentleigh Secondary College, Bentleigh

Project Description

Project Overview

Project:	Kyeemagh Public School
Client:	NSW Department of Education & Communities
Budget:	$24 mil.
Site Area:	10,827m² (overall plot excluding childcare center)
Total GFA:	3700m²
Current School:	K-2 (4 Homebases) 61 Students 7 Staff
Approved School:	Core 21 K-6 (26 Homebases) 600 Students 45 Staff
Revised School:	Core 14 K-6 (17 Homebases) 500 Students 40 Staff

The Design Report has been prepared for the NSW Department of Education (the Department) for the redevelopment of Kyeemagh Infants School, a K-2 school located at the corner of Jacobson Avenue & Beehag St, Kyeemagh NSW 2216. This report shows a revised version of the previous design, to account for a reduction in forecast accommodation needs. The report identifies similarities and differences between the original and revised designs, and improvements made as a result.

Project Brief

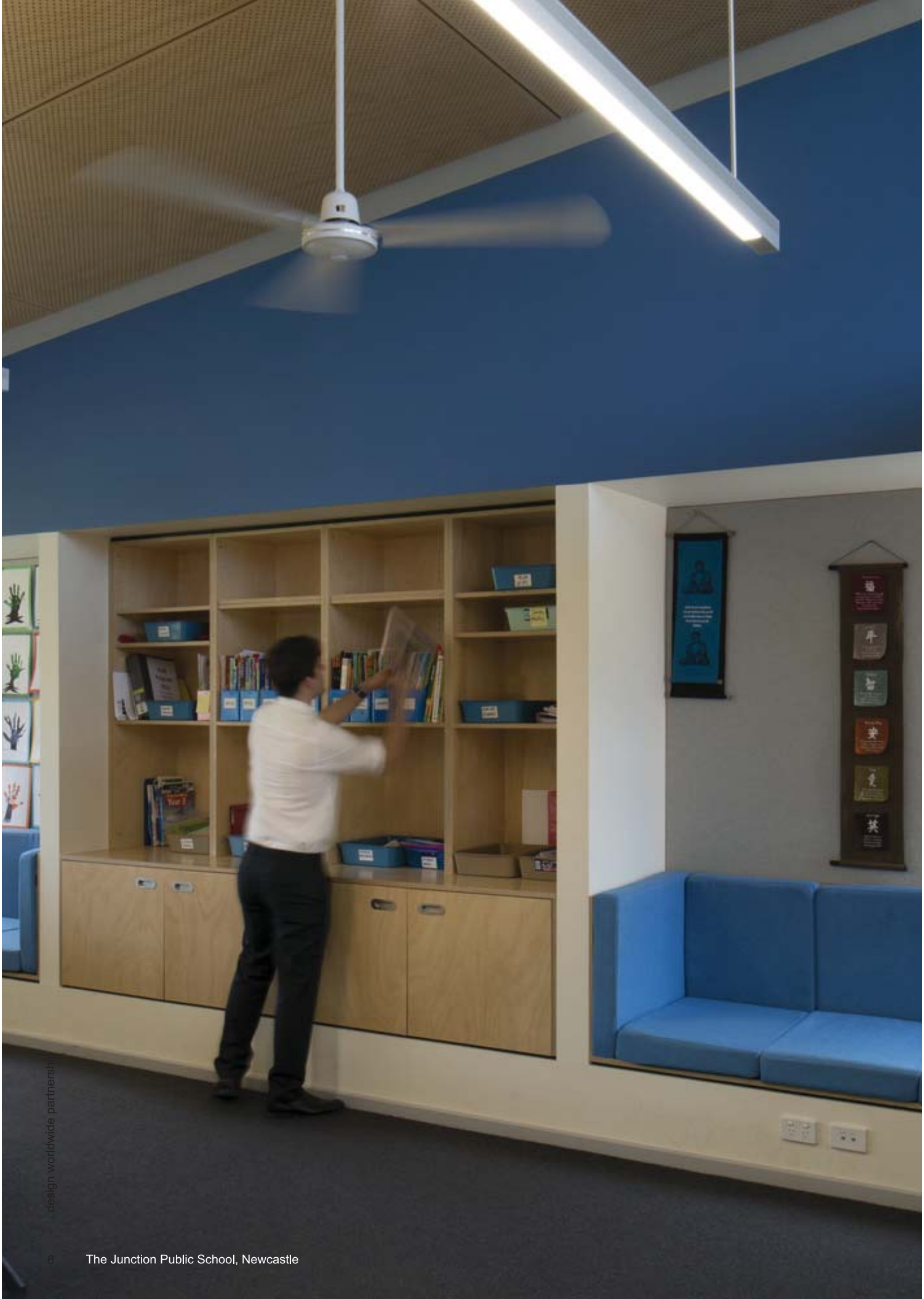
The amended redevelopment of Kyeemagh Infant School is programmed to expand the capacity of the existing K-2 Infants School to that of a Core 14 public school as defined under the Educational Facilities Standards and Guidelines (EFSG) documentation in order to address established demographic pressure within the Kogarah Primary Cluster.

The Department's Scoping Document outlines the requirement for 17 home bases and 2 special programs rooms to initially accommodate 500 students along with support spaces required for a Core 14 school.

The new Kyeemagh Public School will be a future focused school, developed in alignment with the Department's General Educational Principals that will:

Focus on the needs of the learner and the learning

- Build community and identity and create a culture of welcome
- Be aesthetically pleasing
- Provide contemporary and sustainable learning environments; and
- Embed the potential for re-configurability, both in the present for multi-purpose use and over time for changing needs.



The Junction Public School, Newcastle

Staging

All buildings currently on the site are to be demolished as part of the redevelopment. However, the existing Infants School is required to continue operation throughout the design and construction process until such time as the new buildings are ready for occupation.

Given the scale of redevelopment and the constrained site size, it is likely that a staged construction process will be needed.

Once an agreed range of facilities have been completed there will be a plan to transfer existing students into the new buildings to allow for demolition of the existing buildings and completion of the final stages of the redevelopment.

The option to temporarily utilise demountable classrooms to facilitate this transition will be investigated if construction efficiencies arise from their use. At this stage it is not envisaged that demountables will be required.

State Significant Development

This design report presents an amendment to the approved design in response to a change in the brief, wherein the school size is reduced from Core 21 to Core 14.

The Kyeemagh Public School project has previously been assessed under State Significant Development (SSD) legislation. This design report presents an amendment to the originally assessed design.

Refer to the initial planning advice outline contained within the appendix.

Project Aim

- Create an inspiring educational facility
- Provide future focused learning spaces
- Allow for spaces that cater for students at different learning levels
- Responding to the sites context and form
- Considering the current schools in the development of the new school
- Flexibility for an expanding school
- Maintain and build upon community connections
- Create a safe and welcoming environment

Surf Coast Secondary College, Torquay

Project Team

Root Partnerships
Project Management

dwp - design worldwide partnership
Head Design Consultant + Architect

Donald Cant Watts Corke
Quantity Surveyor

Creative Planning Solutions
Town Planner

Design Confidence
BCA compliance, Access Compliance

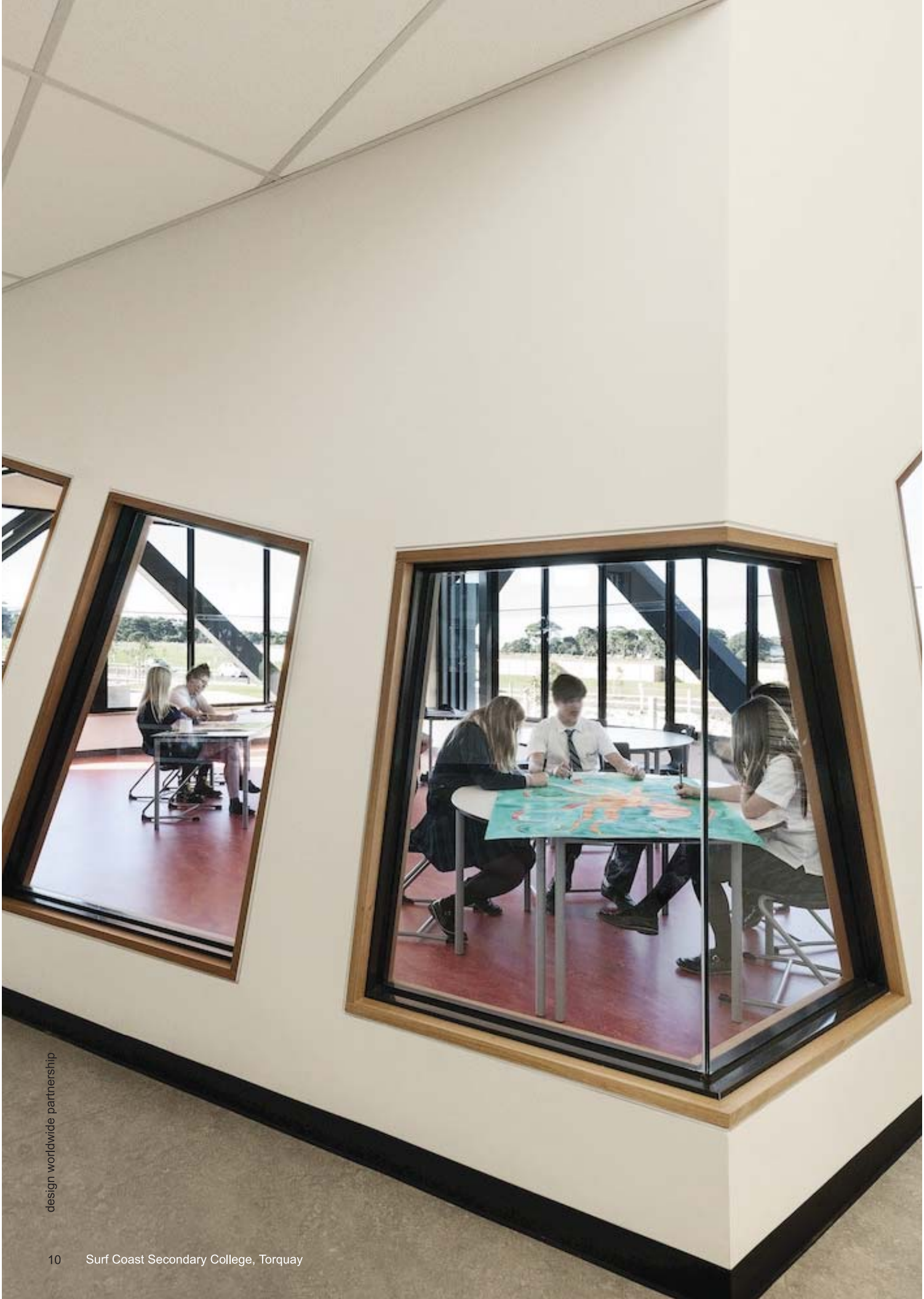
Cardno
Structural, Civil

Erbas
Mechanical, Hydraulic, Wet Fire, Lift, ESD

UmBaCo Landscape Architects
Landscape

JHA Consulting Engineers
Electrical, Dry Fire, Data and Comms, Access and Security

SLR Consulting
Acoustic



Current Status of the Project

The Masterplan studies of the site investigated the opportunities for over-all site massing and building placement. The selected option (Option 1), placed the learning spaces in the North-East corner of the site, and the school hall on the prominent South-West corner of the site. The administration facilities have been located between the two buildings, adjacent to the Jacobson Avenue boundary.

This amendment to the approved design aligns all learning spaces with the north-east boundary while providing a substantial setback to allow for landscaping and prevent overshadowing of the adjacent Preschool. The School Hall remains in the prominent south-west corner and the Administration between to two, aligned with Jacobson ave. Additionally, the Library has been relocated to the Jacobson Ave entrance to better facilitate community engagement.

The proposed envelopes to the buildings are predominantly metal clad, with integrated areas of perforated metal, to allow vision and controlled sunlight penetration. Control of aircraft noise has been investigated in detail and measures incorporated into the building fabric to ameliorate their impact. Internal open planning for teaching and learning spaces (the preferred approach) also poses significant acoustic issues which must be addressed. An approach targeting specific wall construction and areas of absorption has been developed and will be implemented. Our visits to similar open plan schools and dialogue with teachers, reinforces the success of this approach.

The detailed planning of the new facility has considered not only internal circulation, but also circulation through and around the site. Access to learning spaces has been moved to an internal streetscape of shared informal learning areas, with multiple entry points from the playgrounds. This allows reduced loads at singular entry points and provides ease of access to all areas internally, so that external circulation is not required during periods of heavy aircraft noise. A lift has been provided to the two storey learning space building. Site circulation has been resolved, with the main entry point off Jacobson Avenue adjacent to the administration building. Pedestrian access points for the public have been relocated from Beehag Street to Jacobson Ave, adjacent to the Hall to facilitate public use. Cars are confined to the South-West corner (their current location) to ensure separation is maintained with the main part of the school campus.

The new kiss and drop zone remains located adjacent to the main entry point with existing bus stops and pedestrian crossings maintained in their present locations. Bicycle parking has been provided adjacent to the main entry point. Site infrastructure services have been determined and incorporated. The current power supply to the site will be augmented with a new sub-station positioned on the north-eastern corner of the site, with immediate access off Jacobson Avenue. There will be two separate stormwater systems implemented for rainwater capture and stormwater detention. These have been located along the Jacobson Avenue boundary and under the new COLA. Rainwater capture will be used for irrigation of the new landscaping.

The adopted mechanical system will supply tempered air to the learning spaces and the administration building in order to minimise energy consumption and allow for natural ventilation when conditions are suitable. The system will be supplemented by careful passive design and sunshading to ensure that the buildings are both efficient and deliver a sustainable outcome. The main building structure will be reinforced concrete with steel roof framing, a combination of slab on ground and suspended floors. All steelwork for the project will require a durable finish (hot dip galvanising) to ensure that proximity to sea air does not adversely affect longevity. Steel cladding will similarly require a high grade of base finish and top-coating.

The existing site has a number of established trees to the perimeter and also on the school grounds. Where possible these will be retained and supplemented with new trees to ensure that the site has areas of natural vegetation and shade for students. Areas of natural rock formations will be implemented to provide seating zones and areas of play. Given the existing nature of the soil, turfing will be minimised to avoid excessive watering loads. Artificial turf will be laid in areas to supplement natural grass with areas of soft-fall material placed around new play equipment. Concrete paving will be softened by the use of coloured concrete and contrasting banding.

WH&S

dwp has produced a Safety in Design statement and has been involved in the risk management workshop. Both reports have been produced as a record of the management that has been undertaken to produce a safe working/ learning environment for staff and students. dwp will conduct an ongoing assessment of the safety of the project from construction through to occupation and demolition, and update accordingly.

The safety in design report was produced in accordance of NSW WHS Act 2011.

As part of Schematic Design dwp will include the completed checklist as required by SINSW WH&S stakeholder.

Existing Main Entry

Significant Trees

Cola + Class rooms

Existing Site

Site

The site for the new Kyeemagh Primary School is located on the existing Kyeemagh Infants School site. The school currently extends over two lots (DP120095 & DP335734), both owned by the Department of Education and shared with the North Brighton Pre-School located along the eastern edge of the site.

The school is located in a low rise residential area with close proximity to the Sydney International/ Domestic Airport and 11km (as the crow flies) from Sydney CBD. Within a 2km radius of the school there are four NSW Department of Education schools and a number of other independent schools.

The school is located on a corner block with large frontages available from two sides, and no large deviations in levels across the site. The major landmarks across the site are the large trees in the centre, the community sustainable hub and the open oval. The trees will be retained with a management plan during construction, and it is intended to retain or relocate the community sustainable hub and oval.

There are a number of access points to the school grounds with the major entry way on Beehag Street. Entry to the existing staff parking area is via Beehag St. In addition, secondary access points occur on Jacobson Avenue and the North East corner of the site from Tancred Avenue.

Social Impacts

The Concept Design has been carefully considered within the school's demographic, urban and community contexts. It reflects the importance of being accessible to the broader community and the need to maximise the connection with external space, reflecting the existing open landscaped setting.

The connection with the North Brighton Pre-School is important currently for both the school, as a feeder organisation to the Kindergarten programme, and to the Pre-School, as a way of introducing children to their next step in education. This connection has been maintained in the revised design, with the use of outdoor learning areas.

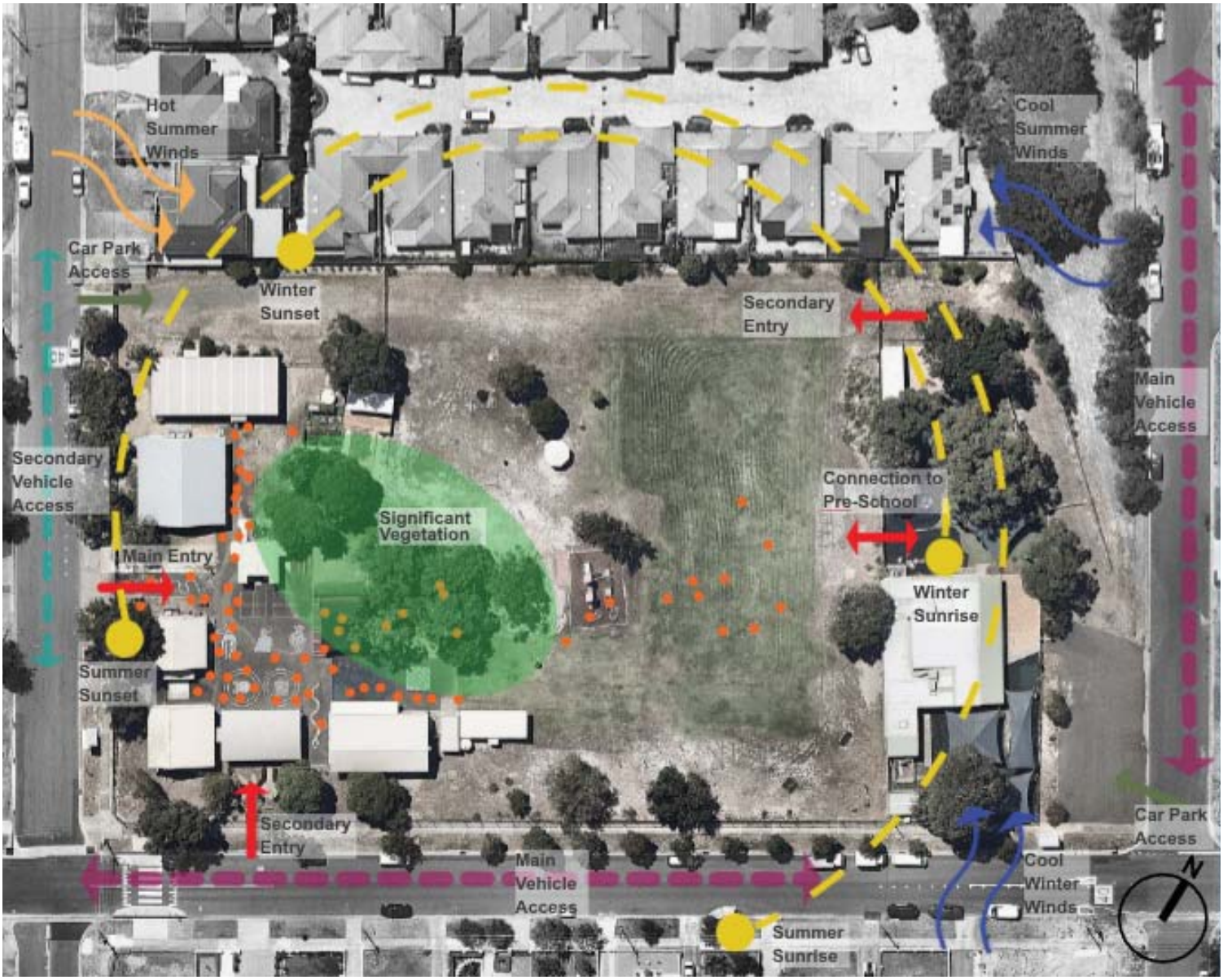
The School's location close to the airport has been responded to in the proposed design by providing fully enclosable and sustainably conditioned facilities so that aircraft noise can be excluded as much as possible. An acoustic system, specified by the acoustic engineer, provides physical attenuation to external aircraft noise

Existing Facilities

The school was established in 1942 (recently celebrating its 75th anniversary) and comprises a number of original weatherboard buildings with later additions including a metal clad administration building, a BER brick Library building and a number of other smaller outbuildings

None of the buildings are heritage listed. Despite a local nostalgic connection to the original buildings, it has been determined that their condition is such that demolition of all buildings is the Department's preferred option for the redevelopment of the site.It should be noted that the school is to remain operational during the development of the new school until such time as the operations can be relocated into the new facilities.

Site Analysis

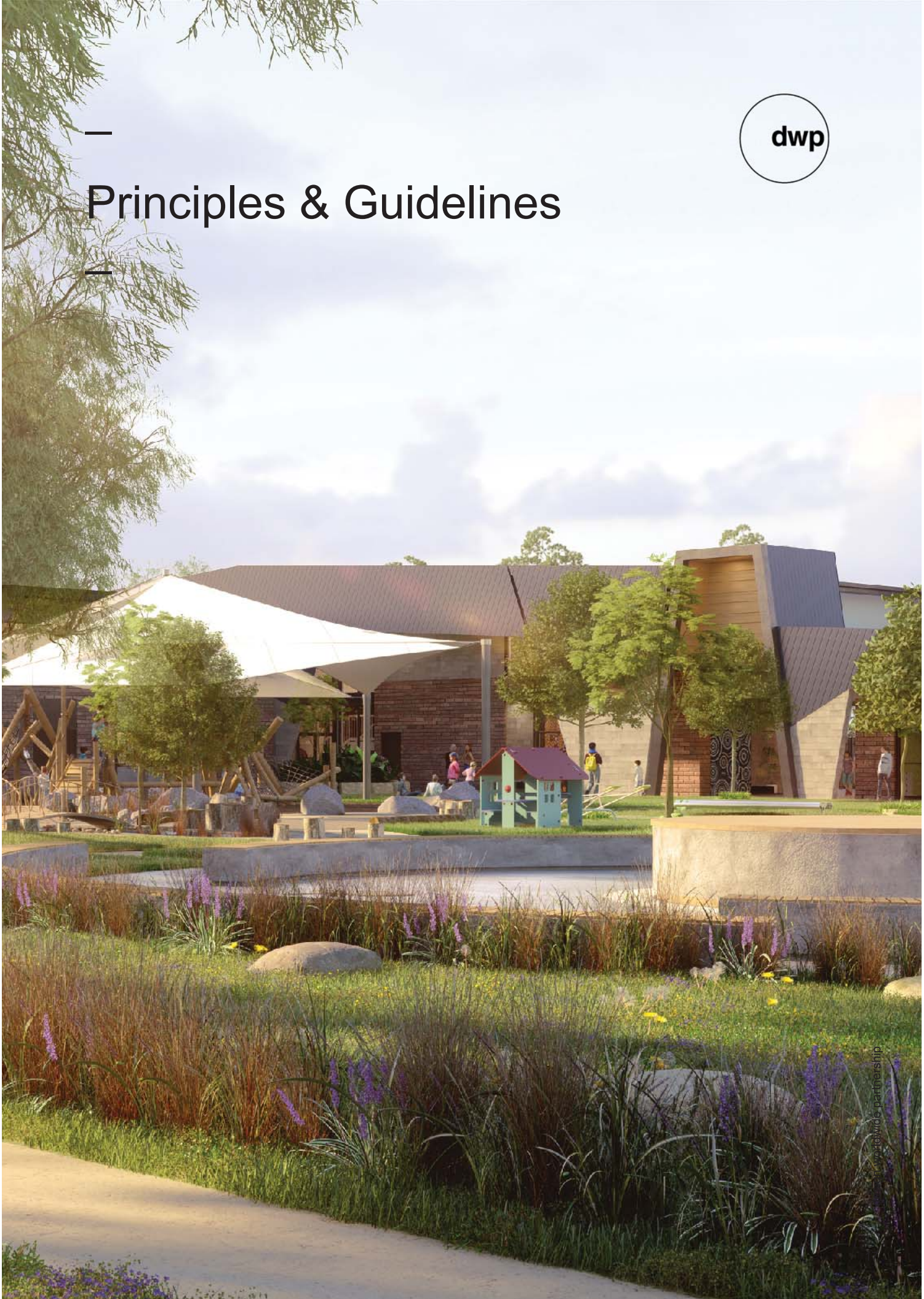


Site Constraints

Zoning: Low Density R2 Residential
Future Development: Trancred Avenue has been flagged for future widening
Site Size: 13,000 sqm
FSR: 0.5:1
Maximum Height: 8.5m
Soil Type: Class 4 Acid Sulphate Soil Zone
Note: Any works below natural ground line will require development consent and management plan

Flood Zone: Not in a Flood Zone
Easements: Awaiting Confirmation
Fibre Optic Cable:
Lot Boundaries:

Principles & Guidelines



Education Model
Response to Education Principles

Principle	Anticipated Design Response (from FDB)	Concept Design Response
Educational Principle 1: Focus on the needs of the learner and the learning	Ensure all design decisions have, at their core, an explicit outcome relating to enhancing student experience and supporting learning potential and can be interrogated for that purpose.	Planning has been determined after extensive stakeholder engagement with school Principal and existing teacher cohort and reflects the agreed pedagogical framework.
Educational Principle 2: Build community and identity and create a culture of welcome, inclusion and belonging that reflects diversity within the school's community	Ensure that the new school is easily accessible, has a welcoming and open connection to the existing infrastructure and contains design references that reflect specific student, staff and community character	Careful attention has been paid to ensuring that the school is open and accessible to students, staff, parents and the community. A separate entrance has been developed to ensure public accessibility to the Multi-Purpose hall. The folded building roof and facade has been developed to represent a piece of origami, reflecting the strong ties within the school to the Japanese community The location of the Library adjacent to the school entry enables community and after hours usage
Educational Principle 3: Be aesthetically pleasing	Select colours and materials for enduring quality; look to incorporate visual references from the existing school; give natural light high priority; consider tactile surfaces and comfort; use furniture as part of the overall aesthetic scheme;use connection to nature as an aesthetic elements	The design is based around a linear model, ensuring access to natural light for all teaching and learning spaces and ease of connection between indoor & outdoor spaces. A combination of panelised metal sheeting, lightweight facade panelling and perforated mesh materials in muted tones as well as extensive use of glazing provide a contemporary but appealing exterior aesthetic. It is the intention that the final interior finishes and furniture selections will reflect and enhance this aesthetic. Furthermore, the use of colored blocks along the external facade serves to impart a playful look and feel to the building that is coordinated with the age group distribution.

Principle	Anticipated Design Response (from FDB)	Concept Design Response
Educational Principle 4: Provide contemporary, sustainable learning environments that: 1. Promote learning for students and teachers through collaboration, social interaction and active investigation 2. Encourage learner self-management and self-direction 3. Support a full range of teaching strategies from direct explicit instruction to facilitation of inquiry and authentic project and problem based solving 4. Facilitate learning and connection anywhere, anytime by providing seamless access to ICT and integration of learning resources throughout the learning spaces 5. Be integrated into, and maximise the use of the natural environment 6. Enable aspects of the buildings, building design and outdoor spaces to be learning tools in themselves 7. Are age and stage appropriate	1. Provide multiple settings for collaborative work – furniture to allow group work, small meeting spaces, informal social spaces. 2. Ensure furniture and spatial options available for different learning styles 3. Flexibility to close off spaces when necessary to allow quiet space for explicit instruction, openable to other spaces for collaborative / PBL opportunities 4. Saturated wireless coverage – look at alternative strategies for screen sharing, video conferencing, enabling of BYOD programmes 5. Seek opportunities to connect learning spaces to external landscaped areas 6. Engage with engineering consultants to express structure and systems and consider communication strategies to explain /encourage exploration 7. Design spaces that acknowledge specific curriculum delivery imperatives.	1. Each year group has been set up to include homebases, small and medium sized group activity rooms and Practical Activities Areas. Years 5 & 6 are also provided with dedicated presentation spaces 2. Furniture not yet selected, but selections will be made to support defined learning modes 3. Refer 3.3 Learning Vision for more detail, but flexibility of enclosure provided for multiple spaces 4. Engineers have been briefed to provide high quality saturated wireless coverage 5. Multiple methods provided to move from internal to external spaces 6. Design is considering opportunities to view structure and systems through mesh soffits; connections to external spaces and design of community gardens intended to engage in exploration of natural systems 7. Practical Activities Areas will be designed as Maker Spaces, to allow seamless opportunity for physical interrogation of curriculum; variety of spaces acknowledges different learning modalities
Educational Principle 5: Embed the potential for re-configurability, both in the present for multi-purpose use and over time for changing needs	Limit built structures that are not flexible or re-configurable; maximise the use of sliding / folding doors/screens that maximise options for dividing and/orenclosing space as suitable for the educational setting.	Design is predicated on flexibility and ease of adaptation to new requirements. Limited internal walls, regular structural grid and use only of lightweight wall and internal partitions mean that long term flexibility is achieved

Figure 1. Dovey and Fisher's learning space typologies (2014), adapted by Soccio & Cleveland, 2015

Dovey & Fisher Educational Model

Current School Context

The Concept Design has been carefully considered within the school's demographic, urban and community contexts. It reflects the importance of being accessible to the broader community and the need to maximise the connection with external space, reflecting the existing open landscaped setting. The revised design, rather than courtyards, provides a narrow building footprint to ensure all spaces have a connection to the landscape and maxmise the open space available.

The adjacent North Brighton Preschool is a feeder organisation for the Kindergarten program, and this connection will be maintained. A curtilage is allowed between the new school buildings and the preschool both to prevent overshadowing and to prevent the two storey building from imposing over the smaller Preschool.

The School's location close to the airport has been responded to in the proposed design by providing fully enclosable and sustainably conditioned facilities so that aircraft noise can be excluded as much as possible. Solid panels within the roof system, specified by the acoustic engineer, provide further physical attenuation to external aircraft noise.

Learning Vision - Stakeholder Engagement

School Leadership - At the time of engagement in 2017, an Acting Principal was in place. At the end of 2017, a new substantive Principal was appointed, with a strong vision for aligning the new school with the Department's future-focused Educational Principles. Early intentions to align the new spaces with a contemporary pedagogical model were confirmed by the new Principal who has since developed the pathways towards that, now reflected in the Concept design. There is, as yet, no nominated teacher cohort with which to engage on development of the model, so it is being developed by the Principal and the existing teachers (three in number).

Greek Language - there are no specific design considerations required to accommodate the continuing offering of the Greek Language programme (part of the Department's Community Languages programme) which is anticipated to continue running in the new facilities.

Japanese Calligraphy - This after-school course, managed by one of the school's parents, was actively running at the time of engagement. Due to the need to address certain administrative requirements, the classes did not re-commence in 2018, but it is anticipated that they will be active again prior to the opening of the new school and will transfer there when open. There are no specific design considerations that need to be addressed for the classes' ongoing operation, as they can all be accommodated within existing homebase and PAA spaces.

North Brighton Preschool - The adjacent North Brighton Preschool is a feeder organisation for the Kindergarten program, and this connection will be maintained.

Out of School Hours Care - Out of School Hours care facilities have been provided in the Hall in accordance with EFSG requirements.

Pedagogy

In response to the agreed pedagogical framework, we have developed a simple, coherent Concept Design strategy. Discussions with the current Principal and (small) current teacher cohort has confirmed that the spaces should support a contemporary, student-centric, future-focused pedagogical model that strongly aligns with the NSW Department of Education's General Educational Principles.

The Concept Design responds to the intended focus on Project Based and Interdisciplinary Learning Frameworks by providing a range of spaces that can support multiple learning modes and accommodate a range of learning settings. The design is predominantly open plan in nature, with certain spatial elements able to be enclosed (refer below). This planning removes the 'front of class' in a way that naturally promotes and supports a co-teaching model, with teachers circulating between spaces. The pedagogical model supported by this planning is one in which teachers act as the co-creators of knowledge with their students and where students have more opportunity to choose settings in which to undertake their learning activities.

As noted in Section 1.4 Departures from Functional Design Brief, the original school expectation was to provide Fisher & Dovey (2014) Type E Typology, which denotes predominantly open plan with no ability to enclose homebases to become traditional single-cell classrooms for Years K-4 with Years 5 & 6 to be Type D, predominantly open plan but with the ability to enclose homebases.

The preferred model developed in conjunction with the current Principal and reflected in the revised Concept design planning is as follows:

- Each year group comprises 2 x Homebases (except Kindergarten which has 3) that are spatially linked with one another. That is, in every year group the Homebases share part of one wall with an adjacent Homebase Zone and no Homebase is isolated from the others. In Kindergarten, the Homebases are arranged as a group and are connected by the shared Practical Activities Areas
- All Homebases follow the Type D arrangement - the use of sliding walls between all homebases allows complete flexibility between open and enclosed on an as-needed basis. It is planned that these enclosing elements be aluminium framed, fully glazed sliding doors. In order to provide maximum flexibility, the type E homebases to Kindergarten have all been replaced with Type D. This allows the school to flexibly occupy different spaces as the school grows in the future.
- All year groups have access to enclosable smaller rooms for medium and small group meetings and activities
- All year groups are provided with a Practical Activities Area, accessible to all homebases. These practical activity areas are located in the shared learning streetscape allowing flexible usage, but adjacent to homebases for supervision.
- A dedicated space for presentations, with tiered seating and presentation technology, can be created in any of the flexible homebase spaces and relocated according to the needs of the school.
- All Homebases have a window or doors to outdoor space, and via the shared learning space and Practical Activity Areas have transparency to the playground also. In effect, this provides all homebases with light from two sides and natural ventilation when external conditions allow, maximising natural light and ventilation for the primary teaching and learning facilities. The previously approved schemes use of courtyards to deliver natural light has been eliminated.The Library is centrally located, accessible from both East and West blocks and is linked to both Ground and First Floors via an internal stair. It is designed to act as both a traditional Library, but also as a centralised teaching, learning and collaborative space.

The Library is centrally located and is linked to both Ground and First Floors via an internal stair. It is designed to act as both a traditional Library, but also as a centralised teaching, learning and collaborative space. The library's location at the main entrance facilitates community usage.

The school's design incorporates a single staff zone located adjacent to Administration and the main entrance. This location provides for shared observation of the sick bay and good oversight of playground areas, while being within easy reach of hombases. These zones are designed to allow staff to plan their teaching and collaborate with their peers in isolation from, but within easy reach of the Homebase zones. There are no dedicated teacher's desks planned for provision in the Homebases.

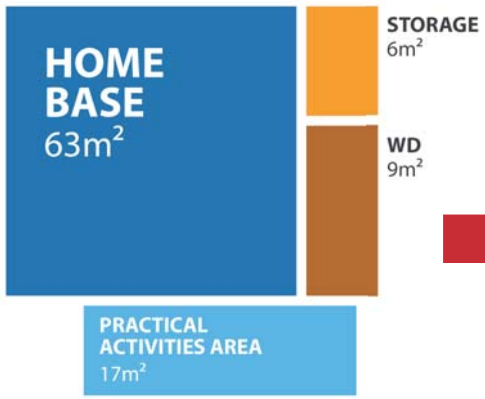
Storage within Homebases is provided in perimeter built-in joinery units as well as mobile joinery units that will be located within the Homebases. These mobile units will serve a dual purpose - for storage, but also to be used as a way of delineating spatial zones within Homebases to provide yet further flexibility in the arrangement of different learning settings. A larger resource store is provided attached to the staff area and Library.

The selection of Homebase furniture will be a critical part of the design process. A systematic approach to the nomination of furniture has been agreed. This approach will involve the design team and the school staff working together to identify which learning settings will best support nominated learning modes that are intended to be utilised for specified learning outcomes. The furniture will be selected only for its attributes that can demonstrably fulfill this function.

The Concept Design has been driven from the outset by the intention to directly respond to the Educational Model. It provides a simple but rational planning solution that allows each year group to work in a range of configurations, always with the central imperative that all learning modes can be accommodated and flexibly arranged depending upon the desired learning outcome. It provides both flexible and purposeful spaces. It deliberately moves away from single cell classroom arrangements to enable and support a more contemporary pedagogical model to be realised. It is noted that the spaces will require new skills to be developed by teachers if they have predominantly had experience teaching in traditional settings. The effort to realise this shift in teacher practice should not be underestimated, but if successfully curated will provide the highest probability of the spaces being used in the ways for which they were designed.

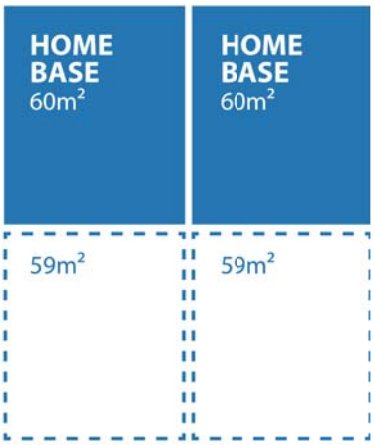
EFSG Spatial Aggregation

EFSG Standard Areas



Total functional area = 95 m2
Add 25% circulation
Total Area = 119 m2 per Homebase

EFSG Aggregated Areas
2 x 60 m2 Homebase Module
(Plus support / storage & circulation)



Each Homebase = 119 m2

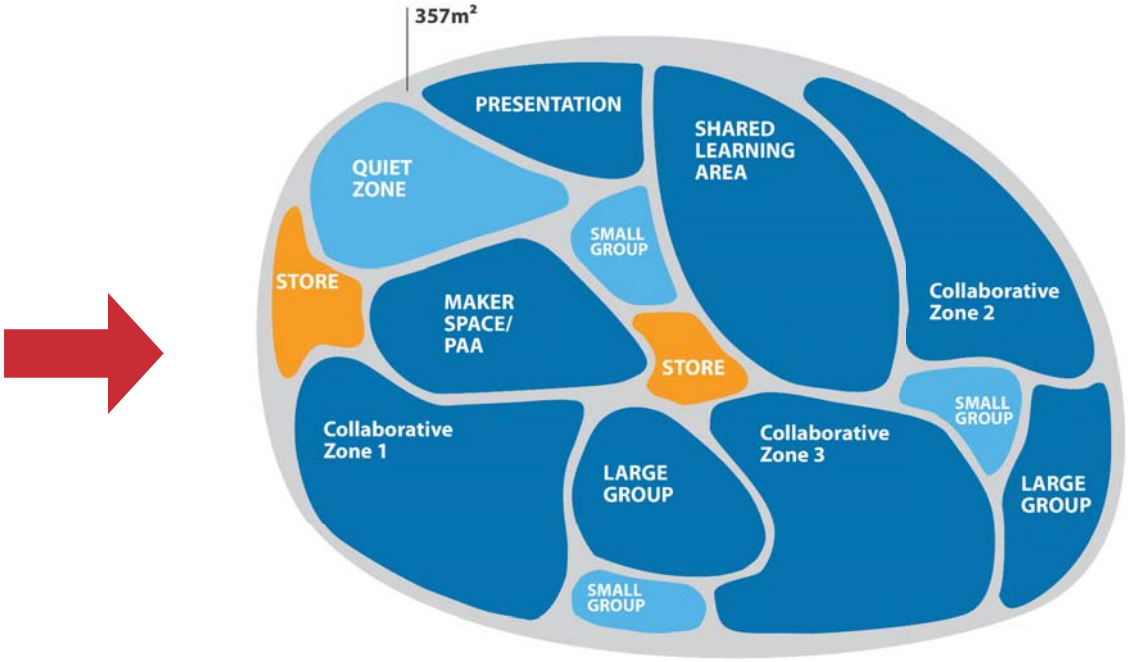
With 60 m2 per Homebase, aggregated support space & circulation = 59 m2 per HB

Total aggregated support & circulation for a

2 x Homebase module = 118 m2

Total area of 2x Homebase Module = 238 m2

Aggregated Learning Community



Aggregation of support and circulation spaces and redistribution to shared, group and specialist zones, with integrated, connected collaborative learning zones replacing standard Homebases.

PRG Consultation

To facilitate the success of the project in a collaborative and consultative manner, regular Project Reference Group (PRG) meetings are held.

The purpose of these meetings is to provide feedback and local knowledge to the project team and act as a communication channel through which to feed information between the wider School community and Project Team.

The PRG also contributes to and endorses the project design.

Core members of the PRG are:

Director Educational Leadership – Dept of Education, Program Director SINSW, Principal, Project Manager, Head Design Consultant, Asset Management Unit (AMU) Representative, Parent Representative, and sometimes a community representative.

Keys issues discussed at the PRG meetings are:

Safety and Risk, Program, Client/School/DoE/other Stakeholder Matters, Design, Decanting, Contractor, Media and Communications.

The key outcomes for the Kyeemagh Public School Project during the Functional and Concept Design Phases are:

- Re classification of the School from 'Kyeemagh Infant School' to Kyeemagh Public School
- Including a community garden that is easily accessed for local community members,
- Positive and active encouragement of future activities in the school hall, for the local community, once constructed
- Setting the learning space building away from the rear boundary allowing the Pre School to integrate their activities with the new school
- Maximising play space for the students through careful and strategic location of the school hall and the main building on the site
- Staging the construction of the school to allow a the school activities to continue on the existing site (albeit modified to suit staging)

Info Box Consultation

A series of Information Booths were held both on the school grounds and at Rockdale Plaza Shopping Centre to inform the public, parents and local community of the proposed changes to the Kyeemagh Public School.

These were held monthly by the Project Manager Turner Townsend Thinc from December 2017 to September 2018 and coordinated with SINSW and their Communications and Engagement team.

The information booths were advertised in the local press and included on the School Infrastructure website.

The information available to be provided was:

1). Project overview.
2). The project team has been engaged.
3). Design is in progress.
4). The state significant development application process is underway
5). Information booth three month look ahead dates.

Though the revised design is reduced in scale from a core 21 school to a core 14, the original design intent and pedagogical model has been retained.

Initial Design Concepts

design worldwide partnership

Initial Design Concepts

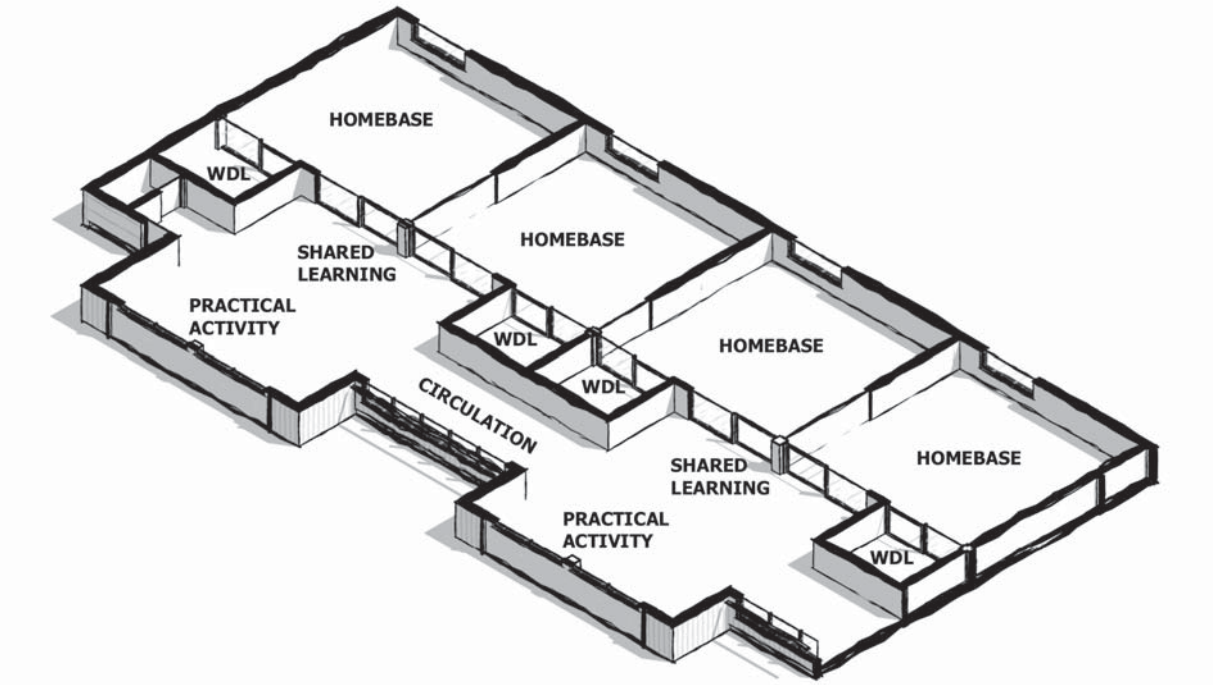
Our conceptual approach can therefore be elaborated as follows:

Folded Origami as Inspirational Form: Students are encouraged to see beyond their immediate environment and exercise their imagination, injecting further meaning and utility into their surrounding objects. Their environment becomes a collection of tools for activating their minds, encouraging their creativity and the dynamic articulation of ideas.

The folded origami-like envelope wraps the building, packaging it in forms that speak to the young users' eyes, unfolding and unpacking their imagination. Origami entails a rigid process of applied logic on a simple single ingredient: a single sheet of paper, yet the outcomes are limitless. It is this mental process of building complexity from the simplicity that we try to instigate and inspire. It also reveals the value and seriousness in crafts that would appeal to children and adults alike, which is an indirect way of highlighting the importance of a child's learning stage.

Open Tatami Spaces: Spaces slide and expand into each other - the space moves around with the movement of its user groups. Flexibility in setting up boundaries and enclosures around the diversity of the ongoing educational activities allows for a dynamic expansion and focusing of students' attention and interaction.

The sequences of open spaces and cross visual communication throughout the school facilitate passive monitoring. This allows the school management and teachers to take a step back into more subtle forms of classroom control, and in turn empower the students with a sense of autonomy and responsibility. Furthermore, the same spatial layering helps to gradually introduce the students to a more holistic awareness of their student community. While age groups remain separated during their daily routine, they will still remain within a degree of conscious awareness of each other, creating a feeling of collective encouragement towards learning.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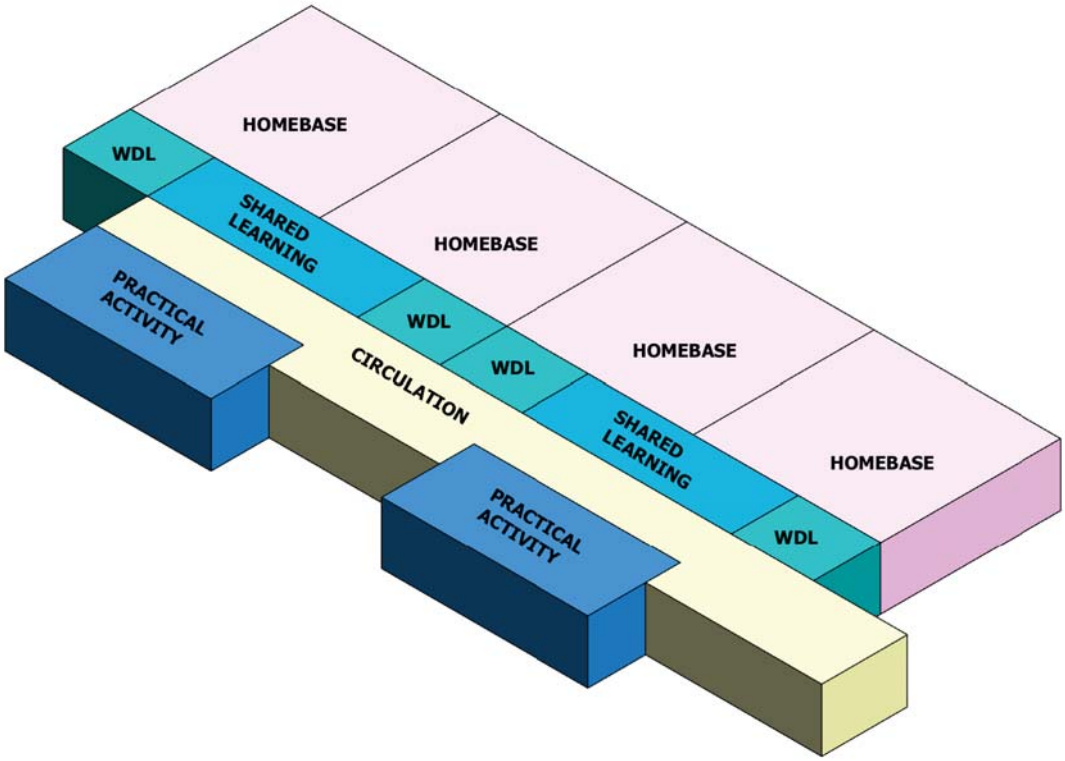
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ACTIVITY
WDL

Natural Light: Providing adequately lit spaces energises the learning mental state. The previous approved design featured courtyards to ensure each learning space received light from two directions. The amended design has a narrower floor plate allowing all learning spaces to receive light and ventilation from two sides, therefore the courtyards have been deleted.

Protected external learning spaces bring students together into common break-out environments that differ from the open playing fields. Activities remain within the nurturing envelope of the classrooms but are open to the sky and elements. This intermediary external pocket space works towards building up a layered experience of inside and outside spaces.

Clustered Learning Village: Underneath the folded Origami surface, the internal spaces are clustered like basic building blocks. They follow a strategy of arrayed modules, providing a two-fold benefit:

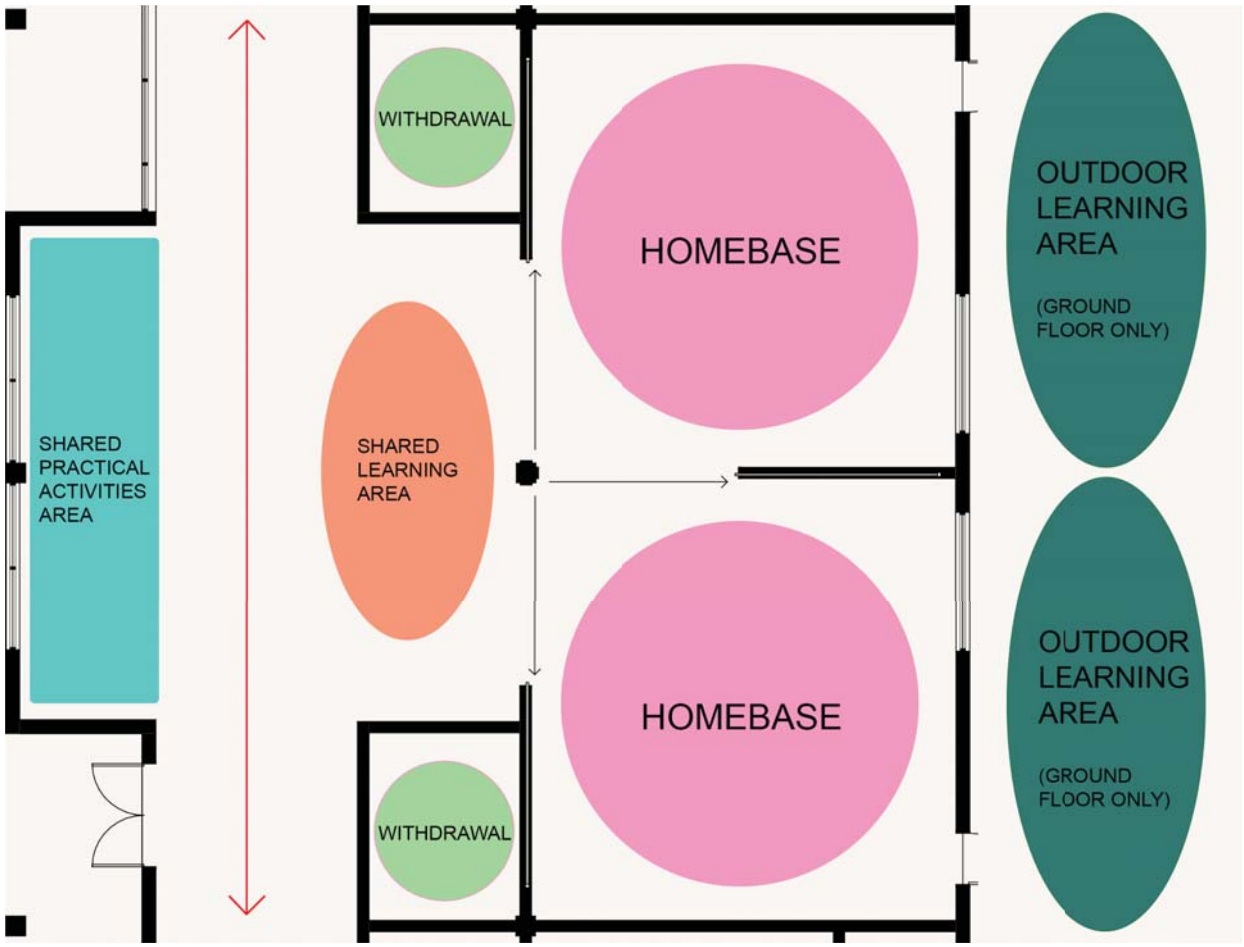
Firstly, increasing the efficiency of the grid and the building systems while allowing for the flexibility of internal spaces. Secondly, the clustered expression allows the school to avoid imparting an imposing, edifice-like impression and rather read as a clustered village of diverse and rich learning spaces. Further reinforcing this idea is the use of vibrant colored blocks along the external face of the practical activity areas.. These blocks form pockets of spaces and alcoves that further break down the scale of the building to the students' size. The color pallete is distributed to assist in wayfinding and to provide a background for the colour and movement of the children.

Between the blocks of homebases and practical activity areas, a shared learning streetscape connects all spaces internally, encouraging interaction and building a sense of community with a spatially porous structure.

Community Integration: The community hall, car parking and COLA form the primary community interface along the corner of Beehag Street and Jacobson Avenue with their autonomous access and functionality. The school masterplan and the delineation of the security fence allows these components to fully function along the South West boundary independent of the remainder of the school and even during outside learning hours. The bulk of the learning spaces gravitate towards the eastern edge complementing the existing early learning centre and it's facilities.

The Library: The heart of the school is captured by the library as a culmination of the independent search for knowledge. It forms an open beacon that ushers in the students and community members. The library sits adjacent to the main open steps that lead to the upper level. These steps form a degree of a social space that bleeds into the library as well. The amended design also locates the library adjacent to the main entrance, facilitating community engagement.

The Administration Building: The Administration building forms the nexus controlling the school operations. Its positioning welcomes visitors and students alike, interfacing with parents and guardians. It upholds the responsibility of maintaining the necessary measures of control while remaining respectful of the students' autonomy and avoiding imposed intrusiveness. All students are brought into the administrations' line of site via the adjacent play area.


WITHDRAWAL
HOMEBASE
OUTDOOR LEARNING AREA
(GROUND FLOOR ONLY)
SHARED PRACTICAL ACTIVITIES AREA
SHARED LEARNING AREA
HOMEBASE
OUTDOOR LEARNING AREA
(GROUND FLOOR ONLY)
WITHDRAWAL

Planning Principles

The basis of our design approach to site planning involved the following principles:

- Consolidate the learning spaces into a singular block, in order to optimise access and circulation and to allow the potential for cross-year group collaboration. Given the existing site constraints, this implied designing a two storey building on the site. In order to maximise the solar orientation and minimise the visual impact on the existing streetscape, the North-East part of the site was favoured. Running the block East-West also allowed ideal orientation and presented the minimum bulk to Jacobson Avenue.

- The approved design previously set the learning space building away from the rear boundary allowing for the creation of an open play zone between the building and the rear of the adjoining Early Learning Centre. The revised design retains the setback but concentrates play areas centrally, allowing for casual surveillance from the co-located staff and administration spaces. The revised design also maximises the open area available for play by reallocating courtyard space to the main play area and reducing the size of the building.

- The new school hall is located on the South-West corner of the site, allowing maximum visibility to the community, and creating a strong visual identity for the new school. It allows for ease of access for out of hours activities and simpler segregation of the remainder of the school grounds.

- The administration office is located centrally between the learning space building and the school hall, immediately adjacent to the main school entry from Jacobson Avenue. The new kiss-and-drop zone is also adjacent to the main entry and logically located on Jacobson Avenue given that the Avenue's width will allow both the zone and a separate traffic lane. This also accommodates the existing bus stop and pedestrian crossing in these areas. The Administration building forms the nexus controlling the school operations. Its positioning welcomes visitors and students alike, interfacing with parents and guardians. It upholds the responsibility of maintaining the necessary measures of control while remaining respectful of the students' autonomy and avoiding imposed intrusiveness. The approved design brought older students into the administrations' line of sight via the adjacent play areas while younger students enjoyed their own separate protected play area. The revised design co-locates staff and administration spaces, so all students are brought together in the main playground at the centre of the site to provide casual surveillance and build a common sense of community.

- The Library captures the heart of the school as a culmination of the independent search for knowledge. It forms an open beacon that ushers in the students and community members. All pathways lead here. The approved design located the llibrary adjacent to the main open steps that lead to the upper level. These steps form a degree of a social space that bleeds into the library as well. The revised design retains this feature, while also locating the library adjacent to the main entrance to facilitate community engagement.

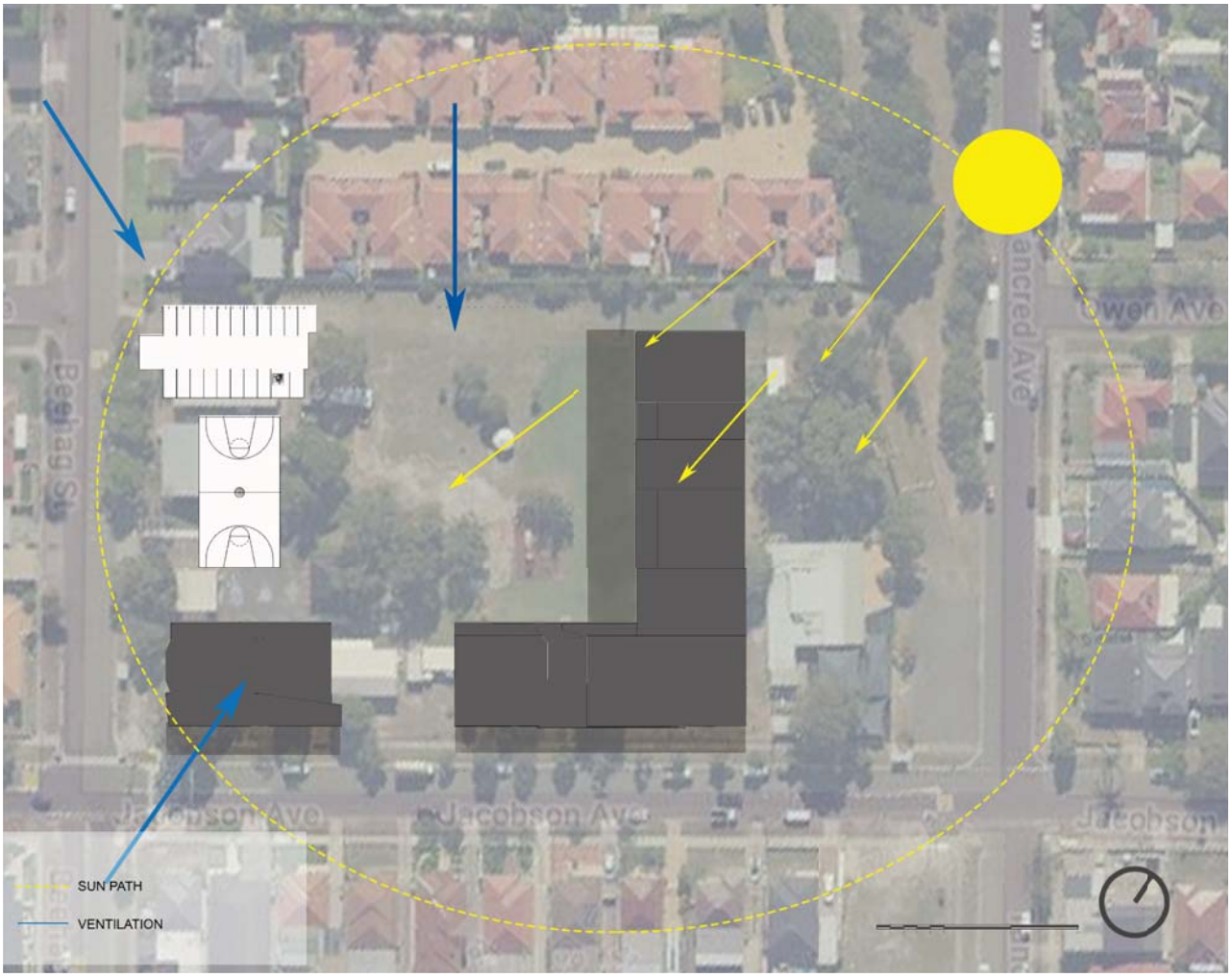
- The COLA roof, typically an isolated un-related large structure on most school grounds, is able to be incorporated into the architecture of the school hall, lessening its perceived bulk and over-all impact. The COLA area also doubles as an assembly area and spill space for the hall. The community hall, car parking and COLA form the primary community interface along the corner of Beehag Street and Jacobson Avenue with their autonomous access and functionality. The school masterplan and the

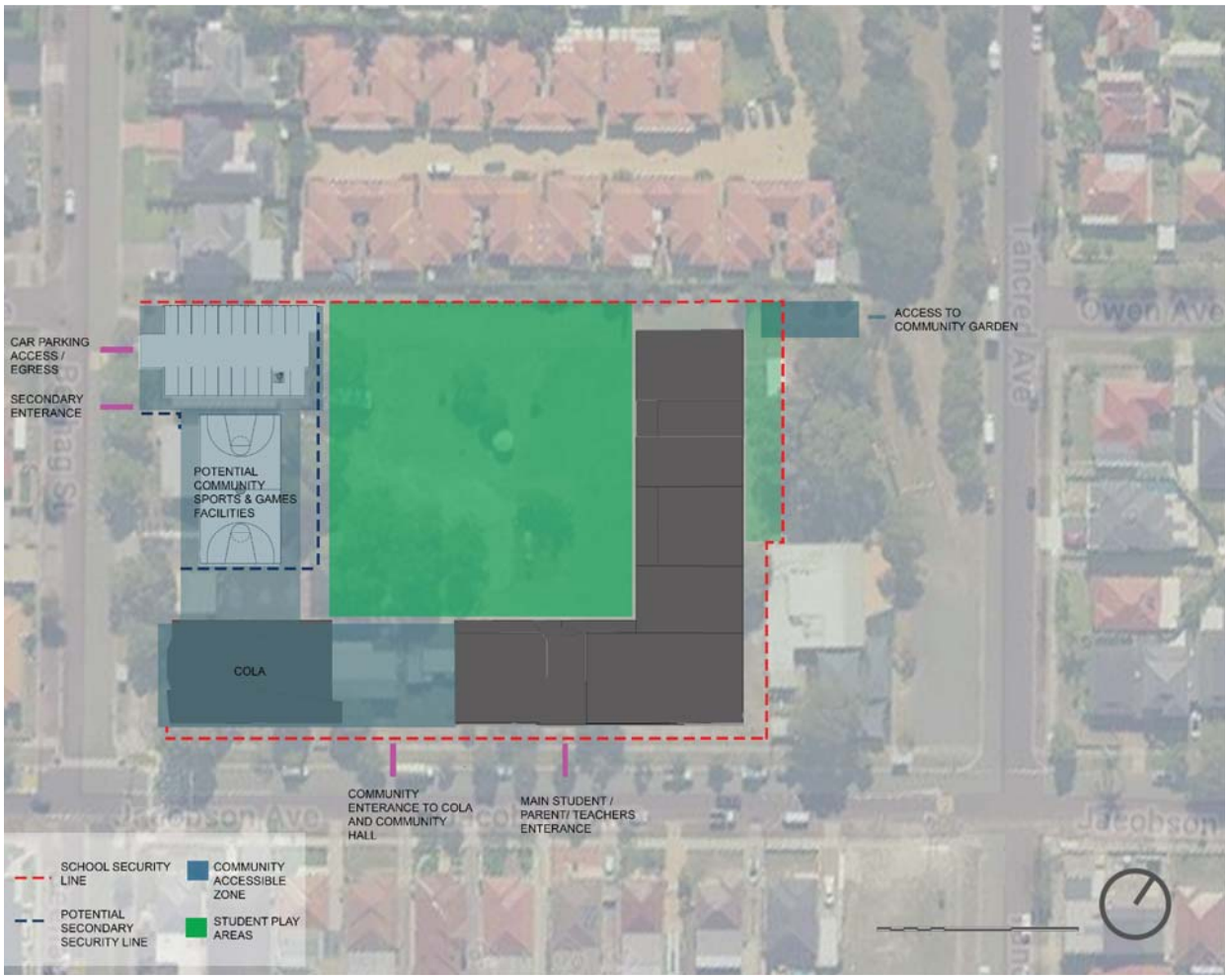
delineation of the security fence allows these components to fully function along the South West boundary independent of the remainder of the school and even during outside learning hours. The bulk of the learning spaces gravitate towards the eastern edge complementing the existing early learning center and it's facilities. The revised design detaches the COLA from the administration building, providing a courtyard between that can be an extension of the public space when the COLA and Hall are used for community events.

- The carpark and games court zones are positioned on the south and western boundaries to minimize their impact on adjacent residences, and in the case of the parking area, creating a buffer to the townhouses on the West boundary.

The overall site massing and planning allows for efficient use of the site and contributes to the integration of the new school into the existing streetscape and urban context. The orientation is ideal, allowing excellent solar access to internal and external areas alike. The revised design with a narrower floor plate further releases open space for the childrens' use, while retaining the ideal orientation of learning spaces. As the project develops in more detail these initial concepts can be tested in greater depth, further justifying the decisions made.

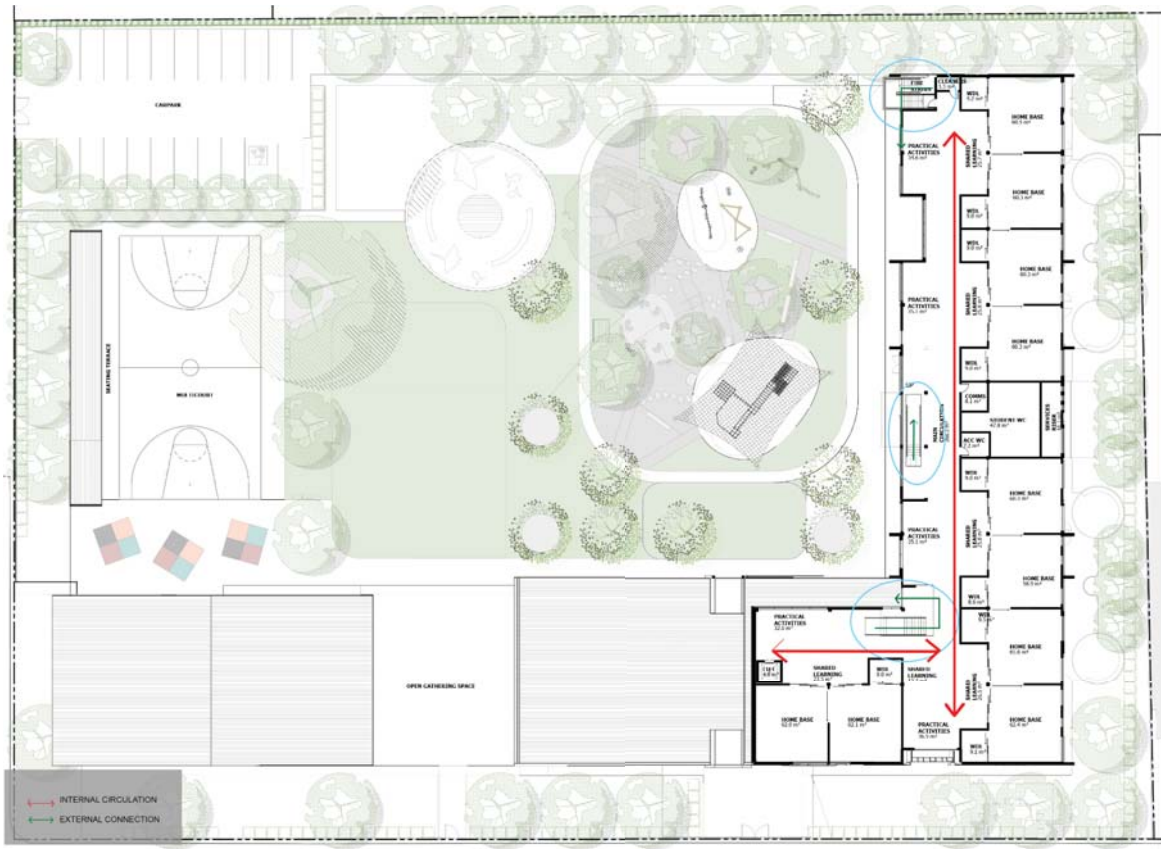

BUILDING SETBACKS
FROM ADJACENT PLOTS
MINIMISE BUILDING EDGE ALONG
NEIGHBORHOOD BOUNDARY
BUILDING SETBACKS
FROM ADJACENT PLOTS
BUILDING SETBACKS
FROM ADJACENT PLOTS
BUILDING SETBACK
BOUNDARY

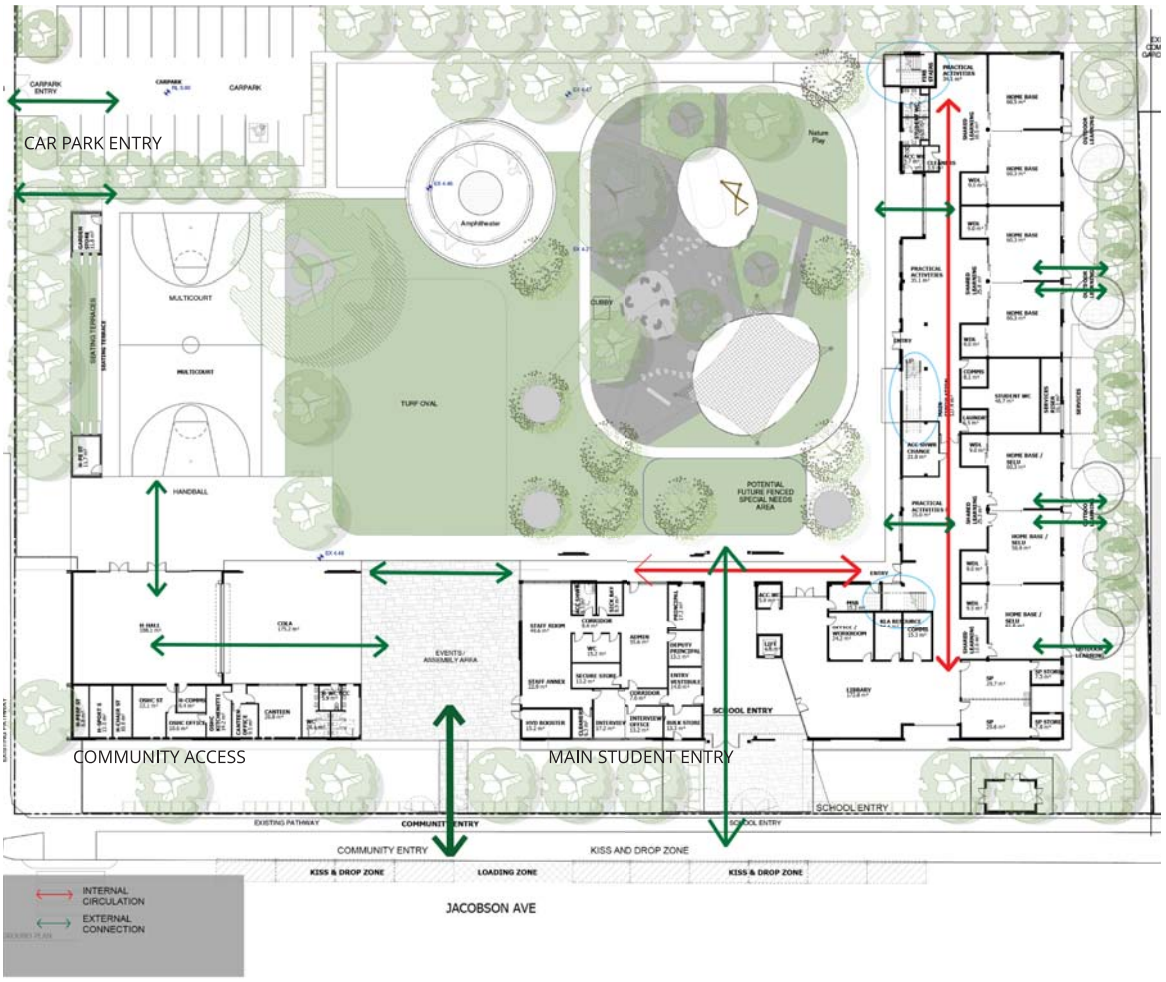

SUN PATH
VENTILATION

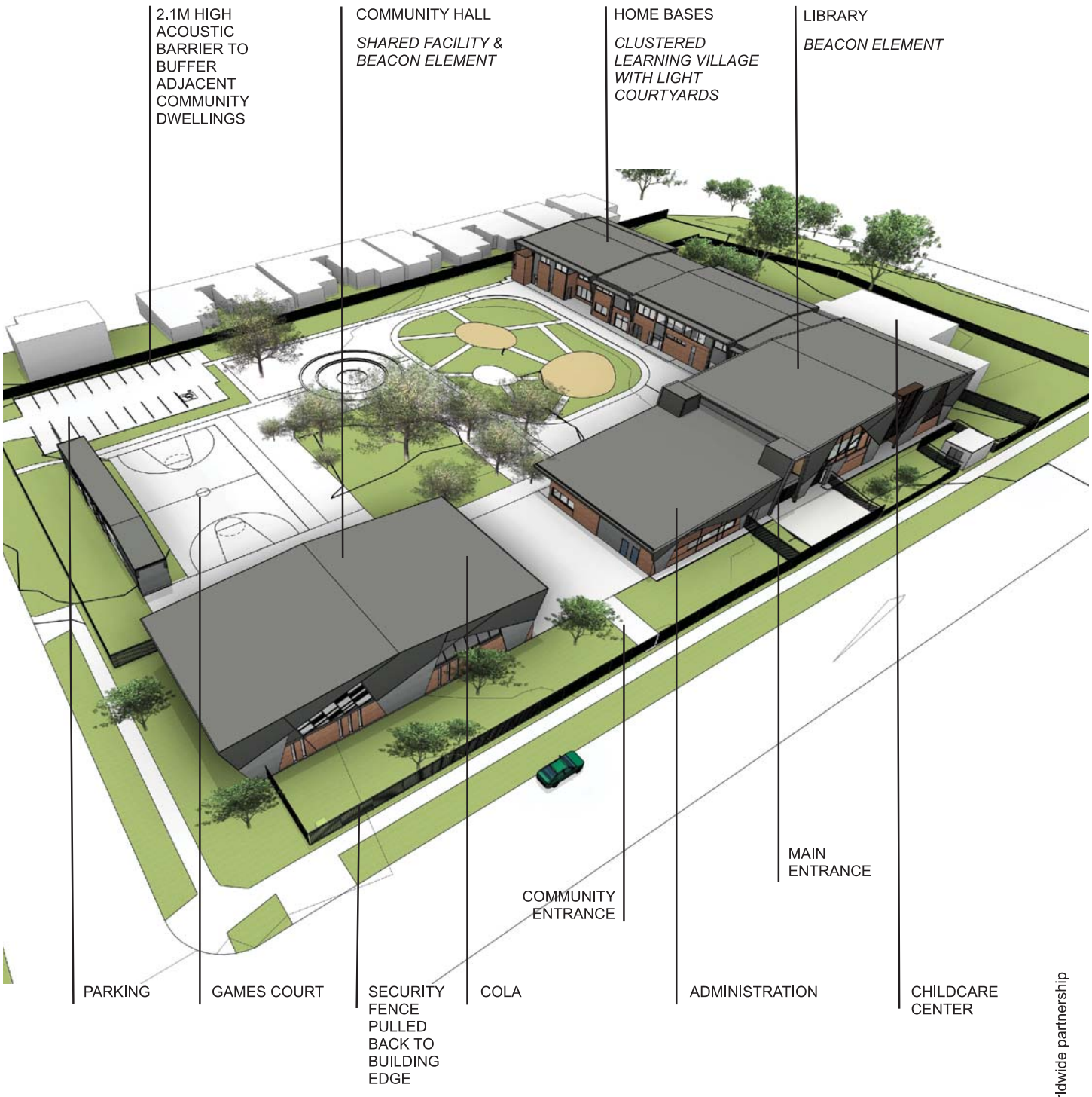

CAR PARKING ACCESS / EGRESS
SECONDARY ENTERANCE
POTENTIAL COMMUNITY SPORTS & GAMES FACILITIES
COLA
ACCESS TO COMMUNITY GARDEN
COMMUNITY ENTERANCE TO COLA AND COMMUNITY HALL
MAIN STUDENT / PARENT/ TEACHERS ENTERANCE
SCHOOL SECURITY LINE
POTENTIAL SECONDARY SECURITY LINE
COMMUNITY ACCESSIBLE ZONE
STUDENT PLAY AREAS


LANDMARK BEACONS
STUDENT PLAY AREAS
ACOUSTIC BOUNDARIES
VISUAL CORRIDORS
VISUAL SCREENS


CAR PARK-
ING ACCESS/
EGRESS
SECONDARY
ENTERANCE
SECONDARY STUDENT
ENTERANCE
COMMUNITY ENTERANCE
TO COLA & COMMUNITY
HALL
MAIN STUDENT / PARENT /
TEACHERS ENTERANCE
SITE ACCESS
Tancred Ave
Owen Ave
Jacobson Ave
Jacobson Ave
Jacobson


INTERNAL CIRCULATION
EXTERNAL CONNECTION


CAR PARK ENTRY
COMMUNITY ACCESS
MAIN STUDENT ENTRY
SCHOOL ENTRY
COMMUNITY ENTRY
KISS AND DROP ZONE
JACOBSON AVE
INTERNAL CIRCULATION
EXTERNAL CONNECTION



design worldwide partnership

Building Materials

The choice of materials were mainly driven by the design intent coupled with the project budget as well as the EFSG design guideline for external materials and finishes. The latter mandates that below 2.1m in height, external wall finishes are limited to blockwork, concrete or brickwork. The concept of the envelope as a folded origami structure is mainly expressed on the northern and southern elevations of the home bases as well as the Cola roof and Community hall envelope. The surfaces of the folding envelope consist mainly of colorbond metal sheeting along with perforated metal sheets. However, once the envelope comes down to a 2.3m level, the metal surfaces transition into masonry footings that visually plant the structure to the ground. The homebase external walls are mainly exposed concrete blockwork, while the colored clustered masses is achieved using tinted concrete tiles mounted on supporting blockwork.

The soffits as well as the underside of the folded envelope will be plywood in the COLA and main entrance, fibre cement sheet in smaller areas. The revised design will continue the materiality of the approved design, with the possible increased use of lightweight materials above the first floor level to reduce embodied carbon emissions.

FOLDED SKIN

BUILDING ENVELOPE

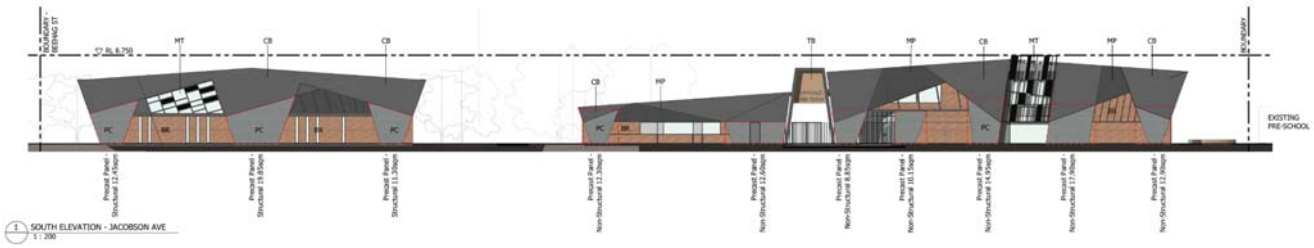
INTERNAL FINISHES

Building Heights

The overall school development generally conforms with the restricted maximum building height of 8.5m measured off the ground level. However, the top of roof level over the southwestern home bases rises above the restricted height till +8.75m due to the following parameters:

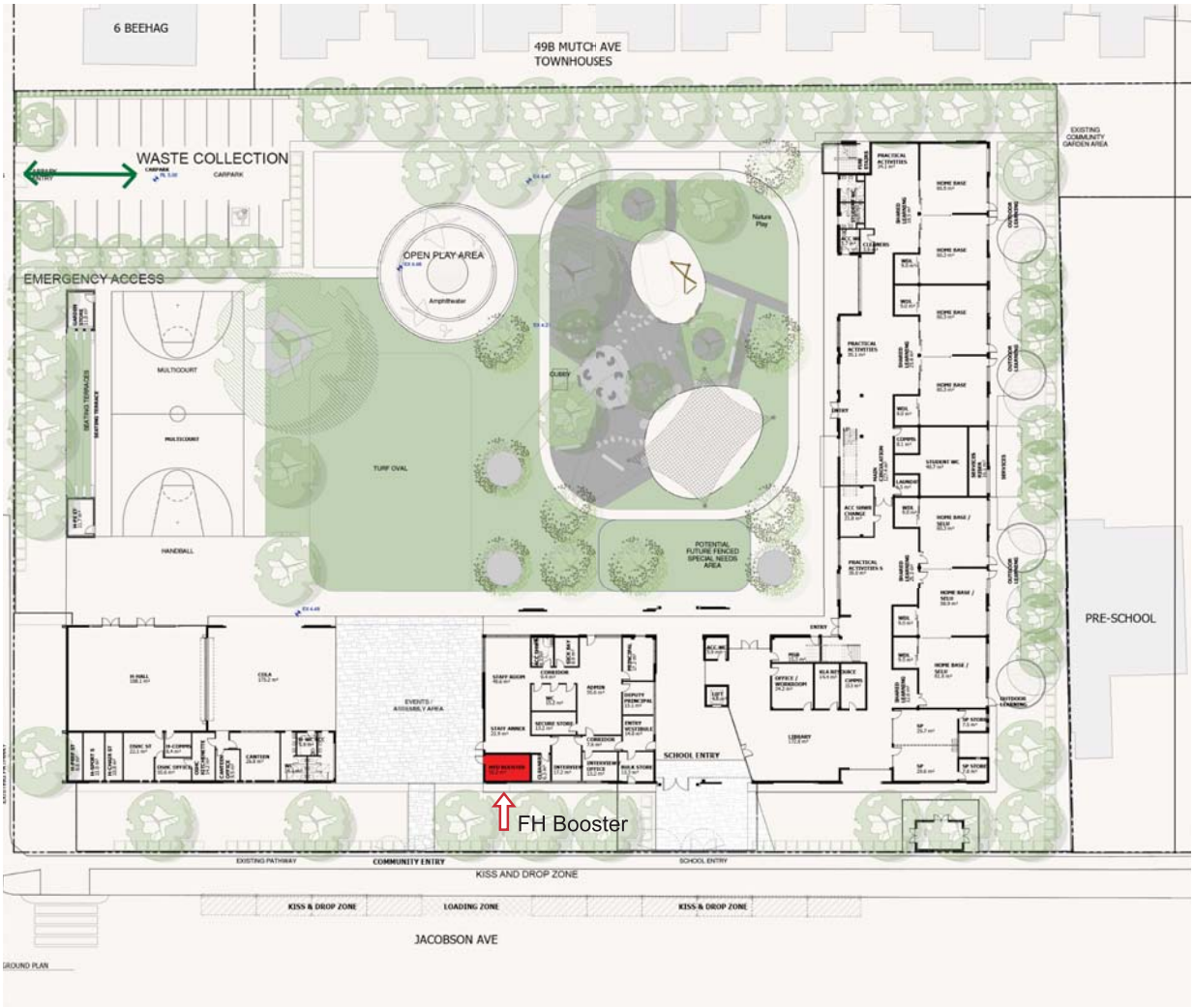
The site location of this building corresponds with the natural low point of the topography forming a storm water collection point. Therefore the need to raise the ground level of the building by a metre above the natural ground surface. Furthermore, since the site is located in proximity to the airport, the need for acoustic insulation has dictated a higher thickness of the overall roof slab.

The previous approved design had a maximum height of 9.5m



Services

Staff carparking is located on the south-western corner of the site with access directly off Beehag Street. This area will also serve as the delivery point for service vehicles. The fire booster assembly will be positioned on the Administration building, within sight of the main entrance. Waste bins are located on the northern edge of the staff parking. The consolidation of vehicle access to this area ensures that there are no cross-overs with pedestrian areas. The school will need to develop management procedures to control access by staff, service providers and any other users.



design worldwide partnership

Density & Open Space

Overall building footprint is 2500 sqm sitting within an overall land area of 10,827 sqm, (excluding the early learning center land area). Percentage site coverage is 23%. The previously approved masterplan and landscaping design achieved the Department of Education's requirement of 10 sqm / student play area, whilst the revised design exceeds this. The majority of open spaces are formed by the green playgrounds, the shared game court, the covered COLA, and the open car parking.

Bulk & Scale

The school massing and scale has been developed with a conscious awareness of the scale of the surrounding single story residential dwellings, as well as a consideration for the focused and intimate environment of young learners. These parameters were mainly the influence behind the idea of the clustered learning spaces expressed as individual colored blocks. The folded origami envelope is a nod to the domestic pitched roofs heavily present in the surrounding context. The angular lines connecting rooftop to ground level help break down the scale of the school and maintain a relationship with the landscape and open space around it. The building blends into the ground surface. The revised design retains this design intent.

Setbacks & Boundaries

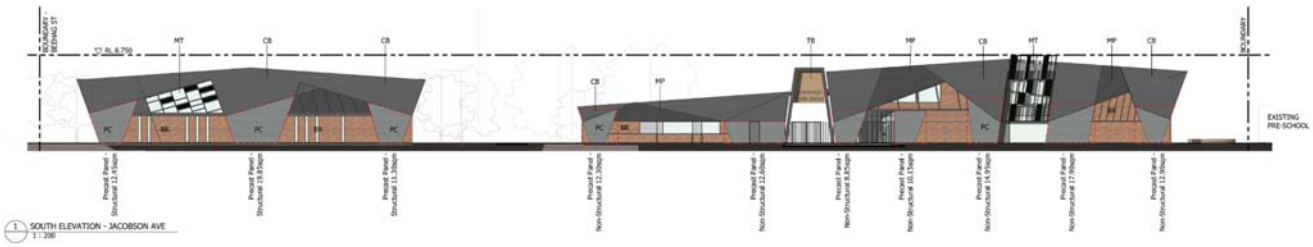
The design respects the local setback requirements across all edges. These are as follows:

- 6.5m setback along Jacobson Ave boundary. However, we set back the southwestern home bases by an additional meter to 7.5m
- 5m setback from the western boundary along Behaag Lane. Along this edge we have pulled back the secure fence line such that the built form itself forms part of the security boundary.
- 6m setback from the north-western edge with the inclusion of a sound barrier to protect the dwellings north of this line.
- 6m fire separation setback from the early learning center along the nort-eastern edge. The revised design increases this setback to 8m.

Interface with and Impact on Surrounding Context and The overall scale of the school remains integrated within the surrounding context.

1. Local building setbacks projected from neighbouring plots have been respected and integrated.

2. The school elevation, arrival and drop off is along Jacobson Ave. The current street layout allows for sufficient drop off car locations and pedestrian pathways. Locating the length of the school's buildings along this street allows for desirable shading on the pedestrian pathway, while the width of the street in relation to the maximum height of 8.5m is sufficient to avoid overshadowing onto the southern residential plots. A primary school entry gateway as well as a secondary community entrance to the COLA and community hall



3. Along Beehag Street, the school's security fence has been removed such that the built edge of the school becomes the actual security barrier. This facade then falls under the security requirements prohibiting openings and windows below the height of 2.1m. As such, extra design effort has been put into the shaping of this edge such that it avoids becoming an overwhelming street wall. The height of the community hall along this edge is expressed but with intentional breaks to it's linearity, and with light portals and openings inserted above the 2.1m level. A distinguished projected screen treatment that echoes the treatment of the school's library facade is inserted as a community beacon and wayfinding landmark to highlight the location and role of the community hall. Furthermore, the base of this facade can lend itself to an opportunity to include aboriginal artwork. Elements of the origami facade treatment repeat on this elevation, such that it ties into the northern and southern envelope treatments, unifying the schools external expression.

4. The northern edge of the school plot sits immediately adjacent to a row of private dwellings. The previously approved masterplan minimizes the impact of the built form along this edge, and aligns the general classrooms perpendicular to the dwellings thus avoiding direct sitelines into the private plots. The building envelope along the northern edge further reinforces visual and acoustic privacy by introducing layers of screens and circulation. Naturally, due to the northern aspect of this edge, the school avoids overshadowing of the adjacent buildings and residences to the north. The revised design provides a narrower interface with the adjacent residences, further reducing the impact of the new building.

5. The Eastern boundary of the school is shared with the early learning centre currently present on site. Operationally the two facilities will remain separate however the home bases of the younger student age groups are located within this area to benefit from a larger spatial expanse. The home bases on the upper levels view out onto the eastern edge of the site to benefit from the current green open space that acts as a visual buffer from the residential plots further beyond.

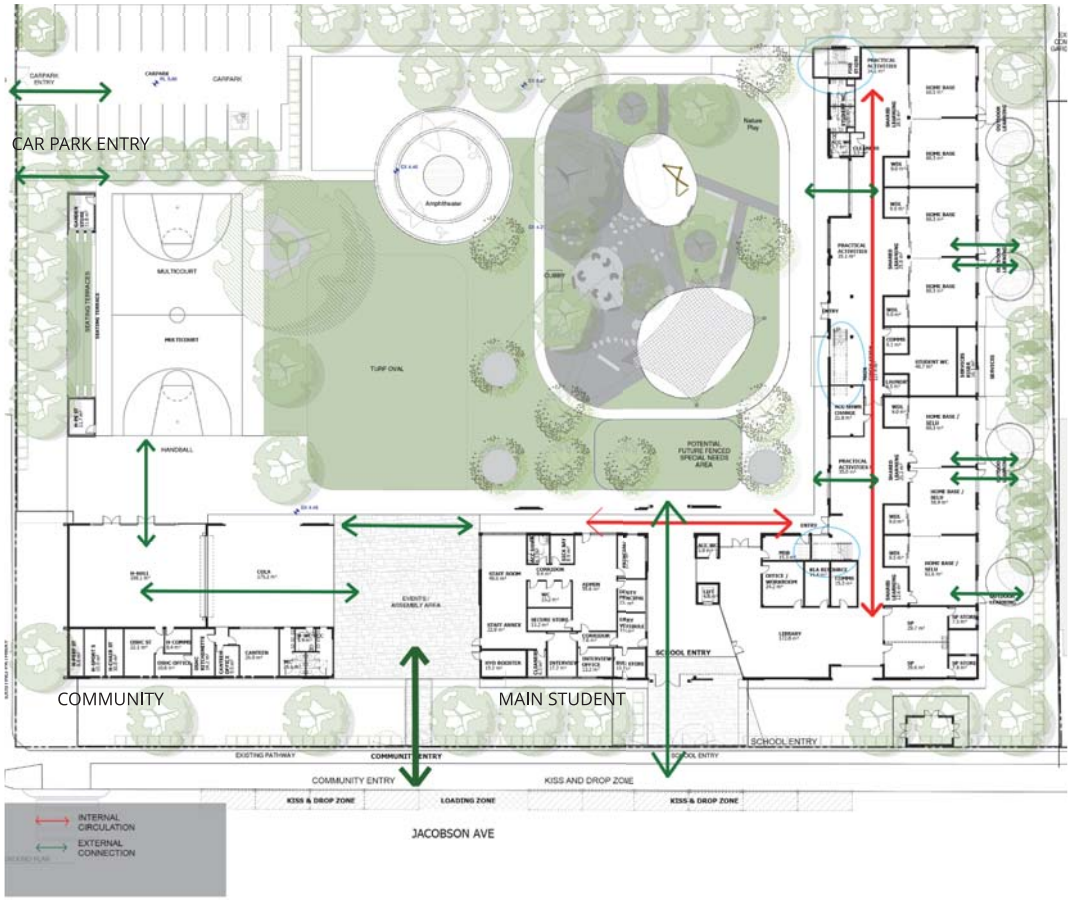
Site Access and Circulation

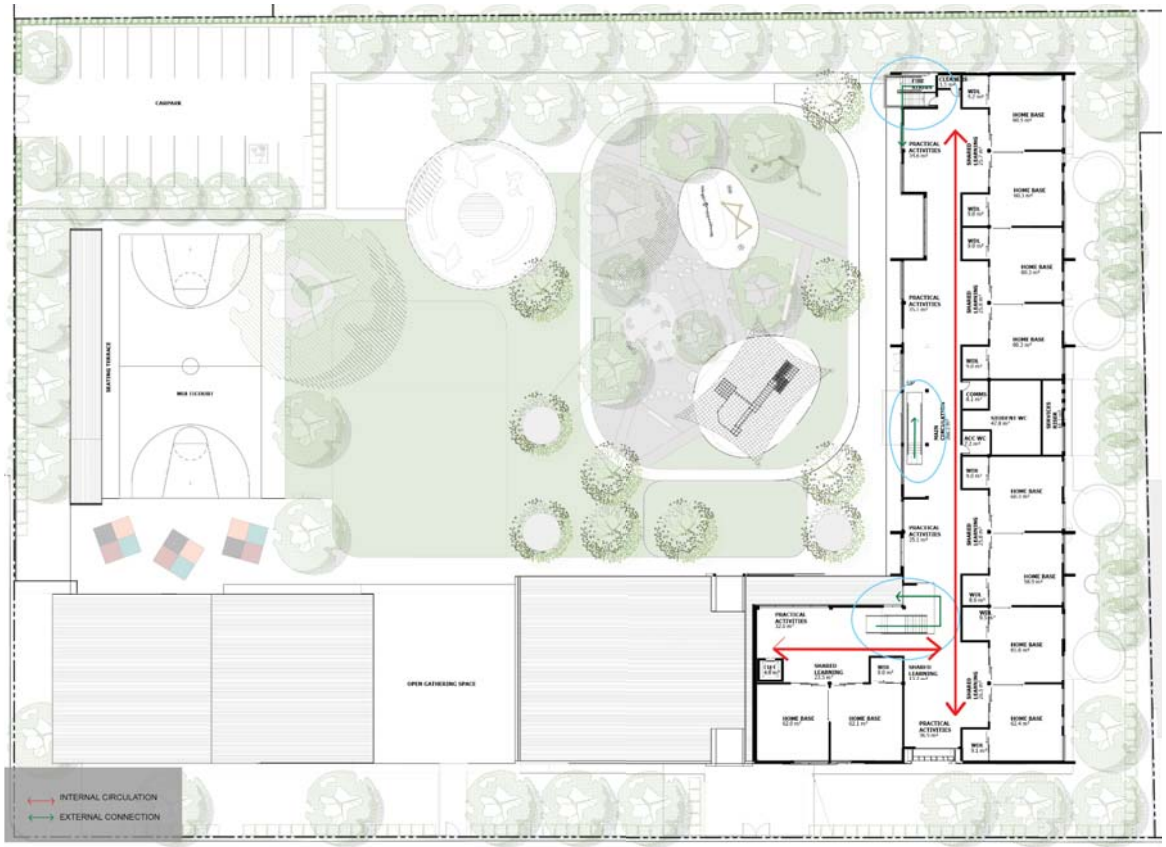
There are two main access spines on the site running East-West and North-South. Secondary accessways come off these main spines and provide circulation around the site and into each block. The main spines will be reinforced with paving finishes to simplify wayfinding. They are centrally located off each boundary. The main entry point to the campus leads directly into these spines. The kiss-and-drop zone has been positioned adjacent to the main entry, giving clear and unobstructed access into the school grounds. Secondary access points into the site are located off the North and South boundaries to cater for pedestrian access from these directions. There is an additional access into the school hall precinct to cater for after hours community activities.

The main vehicle access is located at the South-West corner, well segregated from student entry points. Service and emergency vehicles will also be directed to this entry point. Site security will be managed by controlled access at all of these points.

Internal circulation around the school campus will be linked to the main spines. Each learning space has direct access via main internal circulation axes for each level. With clear circulation axes and clear sight lines, quick and non-congested access is facilitated, in particular at class change-over times. The lift between floors has been located adjacent to the library, centrally located within the campus. Access for people with disabilities is thereby facilitated and equitable. Disabled parking is located within the car-parking area with direct paved pathways into the centre of the campus.

Given the placement of the main buildings, circulation around and through the site is relatively direct, clear and efficient. This should lead to efficient movement around the site without the need to manage hidden areas and obstacles.




CARPARK
SKATING TERRACE
MUGA (SECURED)
OPEN GATHERING SPACE
INTERNAL CIRCULATION
EXTERNAL CONNECTION

Security

Security of the campus site is of major concern to the DoE, not only in relation to protection of their assets, but also in relation to the safety of students. The Department's School Security Unit (SSU) has strong views on how these issues should be addressed. Based on experience, their preferred solution is to provide a 2100mm high perimeter fence on the boundary of the school. This approach tends to lend schools a less desirable and less welcoming presentation to the broader community. Discussions with Rockdale City Council and the Government Architect's Office reinforces this negative perception. Both government departments have strongly suggested that the perimeter fencing needs to be less "prison-like" and more sympathetic with surrounding neighbourhoods. The dilemma arises in determining a happy medium between the two approaches - open or closed.

SSU's comments have been reproduced below:

"We have assessed the drawings and the proposal for the buildings to form the secure line at Kyeemagh PS. We appreciate a great deal of thought has gone into the design.

Our preferred option is for a 2100mm palisade security fence to be installed around the entire perimeter of the school. I draw your attention to comments on ongoing maintenance costs, the threat of graffiti and arson, rubbish/paraphernalia removal and CPTED principles such as depth of security.

We agree with a set back and large sliding gate at the front pedestrian entrance that will provide a welcoming aspect. Low planting (max 300 mm) and sympathetic landscaping around the remainder of the perimeter can also soften the look of the fence.

The addition of a security fence also negates the need for target hardening the exterior of buildings and provides more flexibility in terms of building design.

If the SSU's recommendation is not adopted and it is decided to proceed with the proposal for buildings on the secure line, we have these target hardening requirements:

- No doors on the building external perimeter
- No windows below 2400 mm
- Graffiti proof and arson proof finish on walls
- Solid non-climbable material. No climb points presented by landscaping or where buildings meet fencing/gates or where signs or horizontal fixtures are attached.
- Landscaping/features do not provide "hidden" areas near the building for sleeping, drinking/drugs or provide skateboard friendly paved areas.
- Reduce the length of non-fenced perimeter to the prominent section on the intersection of Beehag St and Jacobson Ave.

Patrick Hannan - Manager, Programs Delivery | School Infrastructure NSW | School Security Unit"

Our approach for Kyeemagh Public School, is to accord in the main part with the SSU's recommendations through the establishment of a compliant perimeter fence to the majority of the site.

In order to reinforce the community connection, however, we propose to utilise the perimeter wall of the hall building within the "secure" line for the campus. The walls of this building are designed as turned down edges of the roof planes and constructed from the same materials. It is intended that these walls are solid, without openings and sheeted with metal roof sheeting. The rationale is that they are robust, non-combustible and non-scalable, thereby providing a secure line to the edge of the campus in this location. By taking this approach, there is an opportunity to soften the most prominent corner of the site by providing screening landscaping, and provide articulation to the boundary, thereby avoiding an institutionalised outward appearance of the school.

Our site security diagram adjacent illustrates our approach. We have provided a 2100mm barrier along the two main street boundaries except to the south-western corner. At this area the walls of the school hall provide the external line of security. By doing so it allows this prominent corner to establish the school identity and presence to the community.

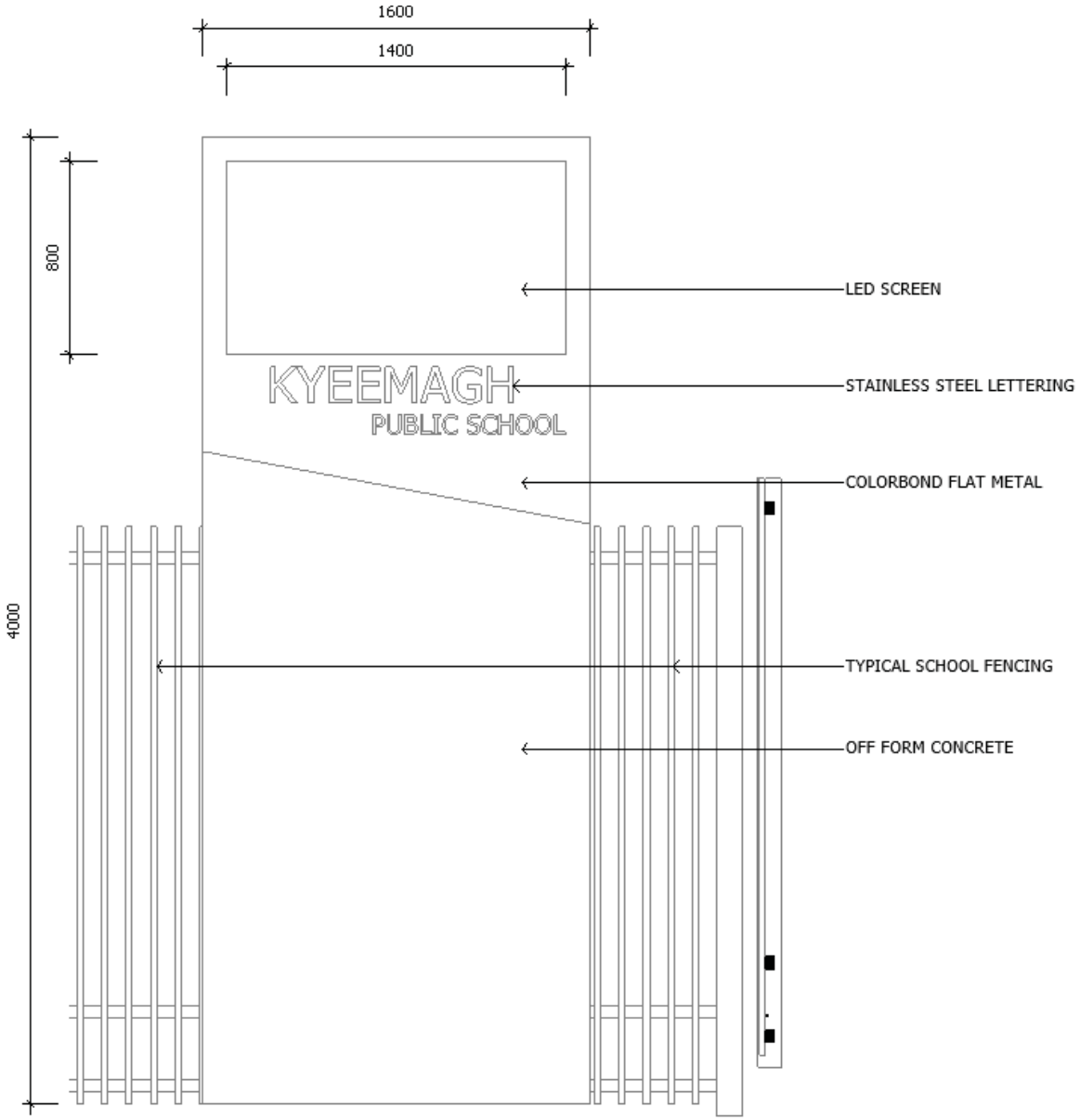
The various gates to the perimeter will be controlled either via electronic or manual means. Given their size, the large sliding gates to the main entry and school hall entry will be motorised. There is an internal line of security which will allow after school hours access to the school hall and the community garden area, without compromising the security of the remainder of the school.

Signage

The digital signage is located adjacent to the main entry as located on the site plan, from this location parents, carers and students can easily see it from the drop of and pick up commutes.

The sign will include a LED screen that will display all important information for the community and stand at 3-4m high to allow it to be visible but not seem out of scale to the building behind it. As well as the screen the sign will include sheet metal and off form concrete so it can tie back into the overall school's aesthetics.

The school signage is integrated into the School Entry, this achieves a strong presence for the school but doesn't become obtrusive the neighbouring area.



Staging

Early Works:

The early works consisted of all hard and soft landscaping in the community garden. All structures and services to be included in stage 1.

Stage 1:

Establishment of site facilities and compound. Preparation of site and construction of Learning Building and admin. Completion of the remaining works in the community garden.

- 2688m² of open play space

Stage 2:

Remove existing classrooms and construct new hall.

- 2143m² of open play space

Stage 3:

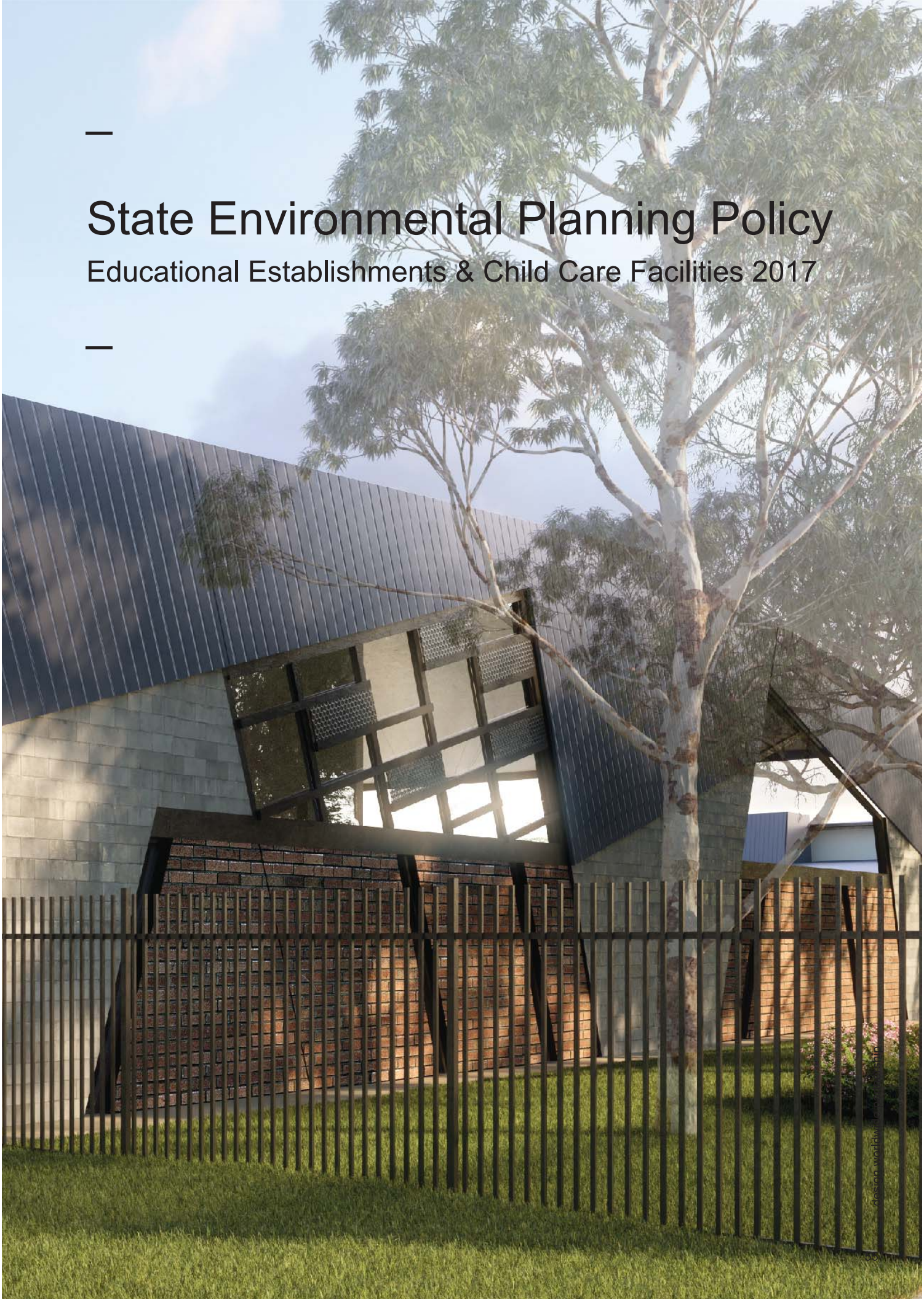
Remove existing library and admin, and construct carpark and remaining landscaping.

- 1422m² of open play space


Kyeemagh Public

State Environmental Planning Policy

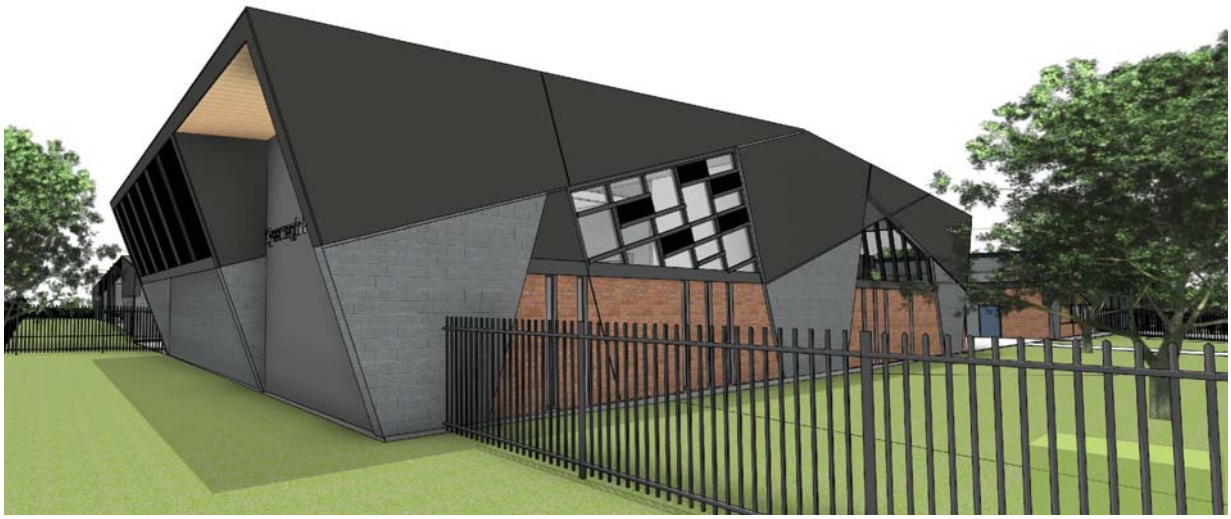
Educational Establishments & Child Care Facilities 2017




BUILDING SETBACKS
FROM ADJACENT PLOTS
MINIMISE BUILDING EDGE ALONG
NEIGHBORHOOD BOUNDARY
BUILDING SETBACKS
FROM ADJACENT PLOTS
BUILDING SETBACKS
FROM ADJACENT PLOTS
BUILDING SETBACK
BOUNDARY

1 Context, Built Form & Landscape

- The design of the school has been carefully developed within the school's demographic, urban and community contexts. It reflects the importance of being accessible to the broader community and the need to maximize the connection with external space, reflecting the existing open landscaped setting. The previous approved design inserted courtyards within the teaching and learning facilities to further embed this imperative, while the narrower floor plate of the revised design means courtyards are unnecessary.
- The School's location close to the airport has been responded to in the proposed design by providing fully enclosed and sustainable conditioned facilities so that aircraft noise can be excluded as much as possible. An acoustic roof system, specified by the acoustic engineer, provides further physical attenuation to external aircraft noise
- The overall site massing and planning allows for an efficient use of the site and contributes to the integration of the new school into the existing street-scape and urban context.
- The orientation is ideal, allowing excellent solar access to internal and external areas alike.
- The new school hall is located on the South-West corner of the site, allowing maximum visibility to the community, and creating a strong visual identity for the new school.
- Learning spaces have been consolidated into a single articulated block, in order to optimize access and circulation and to allow the potential for cross-year group collaboration.
- The previous approved design set the learning space building away from the rear boundary to allow for the creation of an open play zone between the building and the rear of the adjoining Early Learning Centre. The revised design unites play areas in the centre of the site in a larger open area.
- The landscape strategy incorporates planting of dense native trees and shrubs to provide a screen between the adjoining residents and to soften expanses of pavement; relocation and expansion of a Community Garden; and maximize outdoor play options and environments

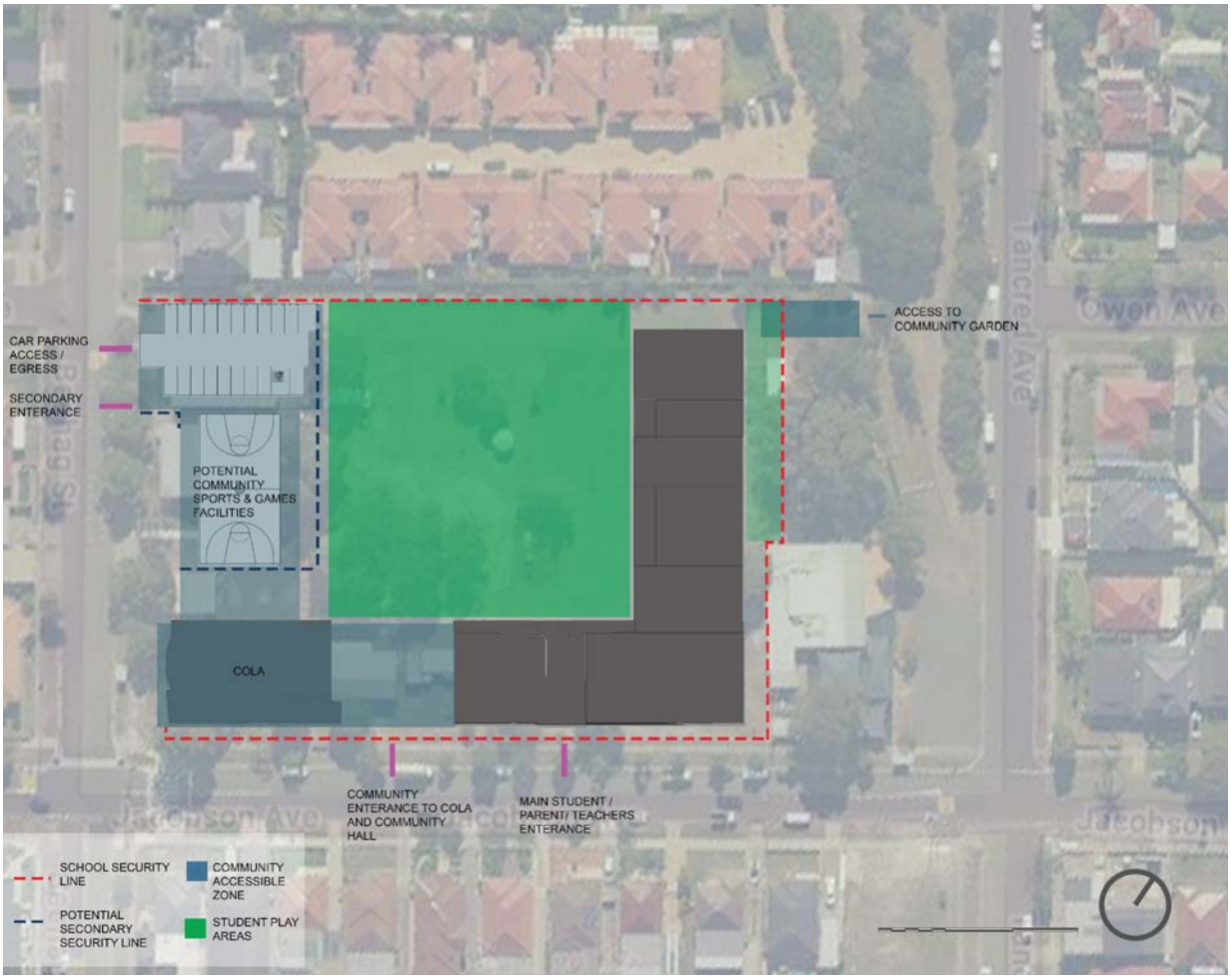


2 Sustainable, efficient & durable

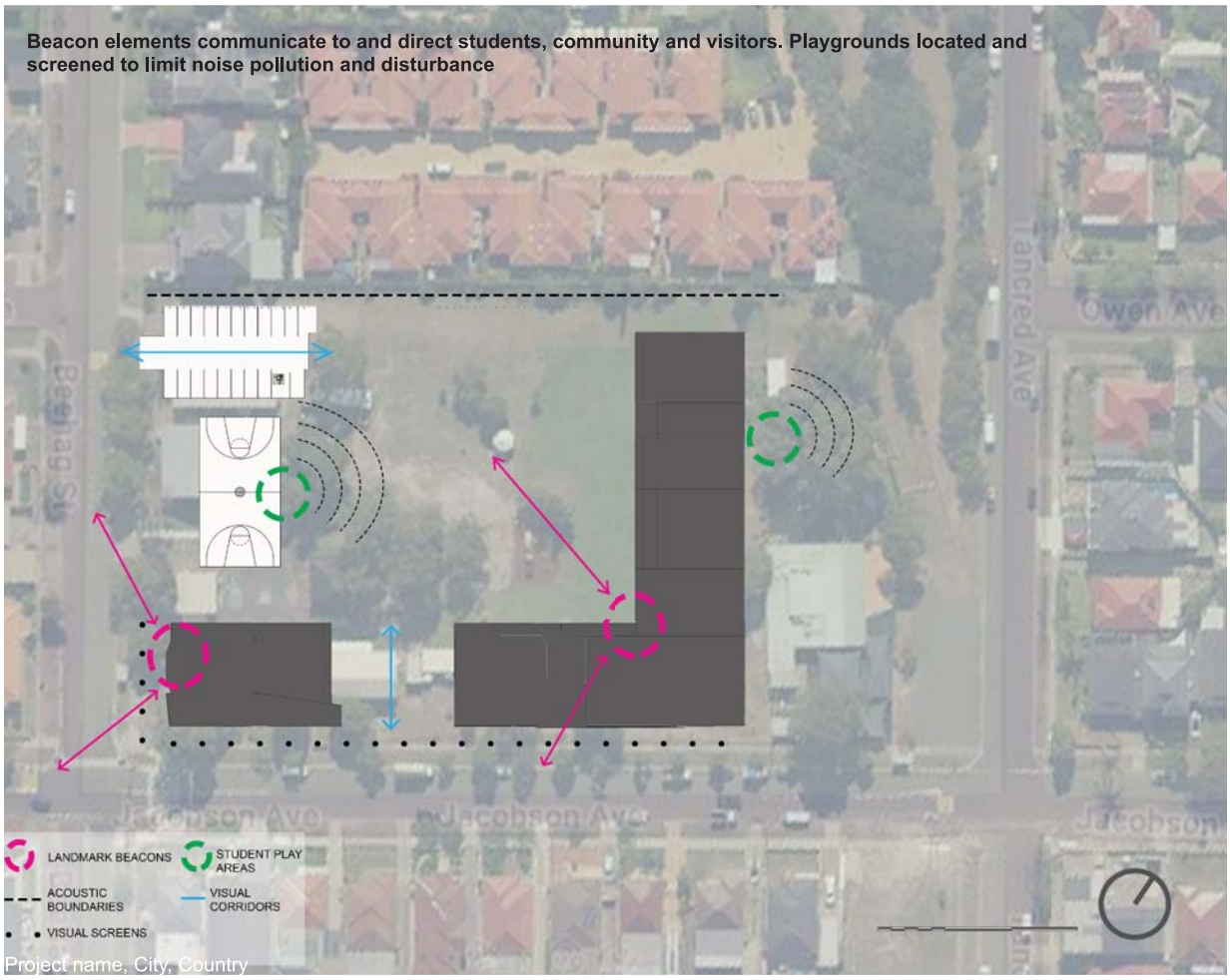
dwp's aim is to design a building that is not only as aesthetically pleasing as it is functional, but one that will be sustainable to construct and operate. With this in mind we have incorporated the following features to improve the sustainability and durability of the building:

Maximizing cross-flow through the layering of spaces and shading creating pressure differentials that generate natural ventilation. Well placed operable external windows will allow cooling breezes to flow through the learning spaces. Studies show that regular air flow improves students' concentration, performance and health.

- The previous approved designs use of the light courtyards guaranteed natural light penetration during all hours of the day regardless of the directions the home-bases are facing. The revised designs narrower floor plate allows this without the use of courtyards.
- Careful selection of glazing, insulation and facade materials to provide a physical building envelope able to respond to the prevailing environmental conditions year round.
- Efficient orientation and deployment of solar shading to optimize natural light entry and minimize direct solar gain in summer months
- Collection of storm water to provide a landscape irrigation source
- Photovoltaics: energy consumption can be off-set by energy generation. A 10-15kW PV Solar System
- Installation of drought-resistant local native plant species to minimize reliance on irrigation
- Materials selection that are cost-effective, durable and aesthetically pleasing.
- Conforming to EFSG DG 40 material restrictions: below 2.1m level, materials are to be durable, resistant and requiring minimal maintenance, such as blockwork and concrete. Color palette is achieved by tinting the concrete and block work.



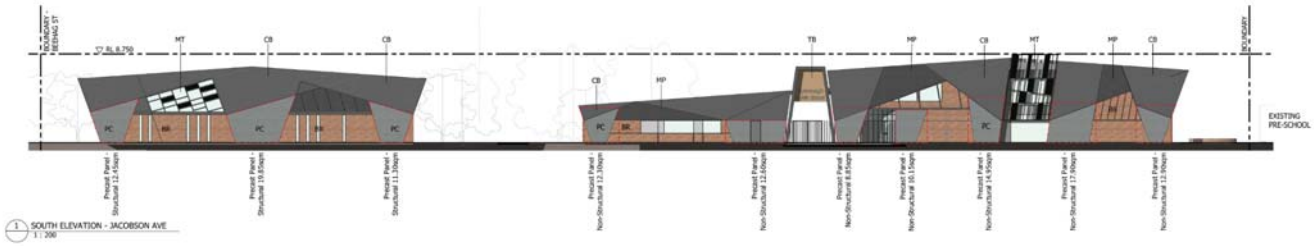
Beacon elements communicate to and direct students, community and visitors. Playgrounds located and screened to limit noise pollution and disturbance



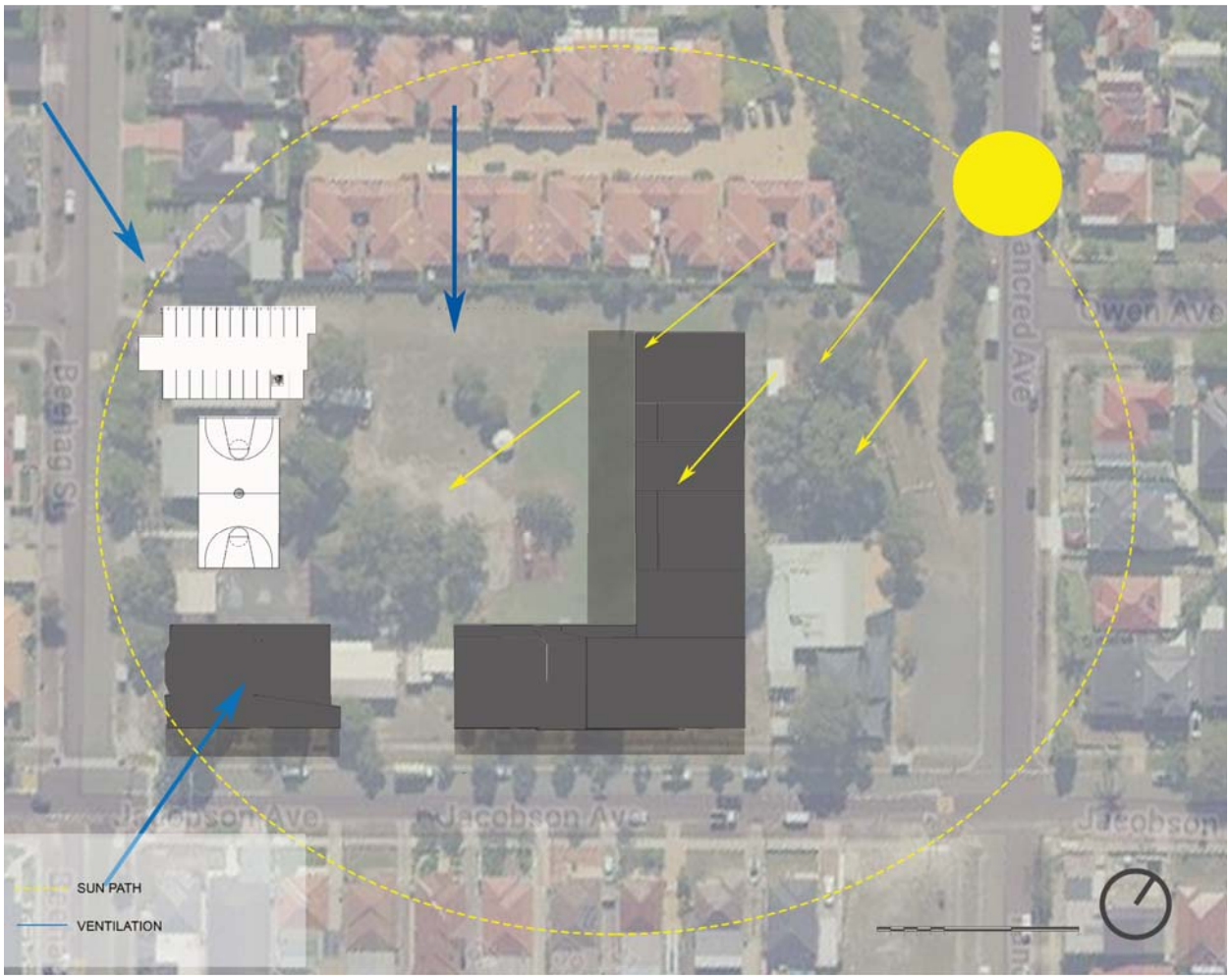
3 Accessible & Inclusive

- Along Beehag street, we have utilized the perimeter wall of the hall building to create a segment of the “secure” line for the campus. This is to limit the institutionalized appearance of a standard palisade 2100 perimeter fence,
- The security planning has been predicated on the school being part of the community infrastructure. A secondary security line within the school separates the cola and community hall from the remainder of the campus. This allows the community facilities to function independently and off hours by utilizing 2 x main entry points - electronically secured and open during the day.
- Wayfinding and orientation is reinforced with several measures:
    - Each Home-base cluster has been color coded as per age group to help differentiate zones. Administrative buildings and spaces as well as community functions have been each given a unique recognizable color.
    - The library and as well as the community hall have been set up as primary "beacon" elements in the landscape to attract and direct students as well as community members.
    - Main entry spine is clearly demarcated with hard landscape treatment, and overall campus circulation defined by two perpendicular pathways.
    - The revised design further enhances inclusivity by locating the Library adjacent to the main entrance facilitating community engagement.

Color coded cluster to denote age groups and building functions, while reinforcing the "village" look and feel



Main entrance and spine clearly denoted and emphasized


SUN PATH
VENTILATION

4 Health & Safety

- Orientation and facade design prioritizes access to fresh air, cross ventilation and availability of natural light.
- The main vehicle access is located at the South-West corner, well segregated from student entry points.
- Circulation around and through the site is relatively direct, clear and efficient, leading to efficient movement around the site and avoiding hidden areas and obstacles.
- Sight lines from entry to learning spaces, from administration to learning spaces and within the site have been carefully managed to ensure whole-site visibility aiding in passive surveillance and management.
- Main entry points to the school campus are through controlled gateways with open site lines to the administration building which can supervise the entire campus because of its central location. All playgrounds are external to the buildings allowing for wider community exposure and passive surveillance and indirect control.
- School is in a central location to the neighborhood with residential dwellings around the perimeter offering visual exposure.
- Good density of trees and foliage to foster a healthy environment that is sheltered from adverse conditions. Good shading canopies provided for solar shelter.
- Community garden maintained and enhanced to continue a healthy community activity
- The revised design further enhances the availability of natural light and ventilation to all learning spaces.

5 Amenity

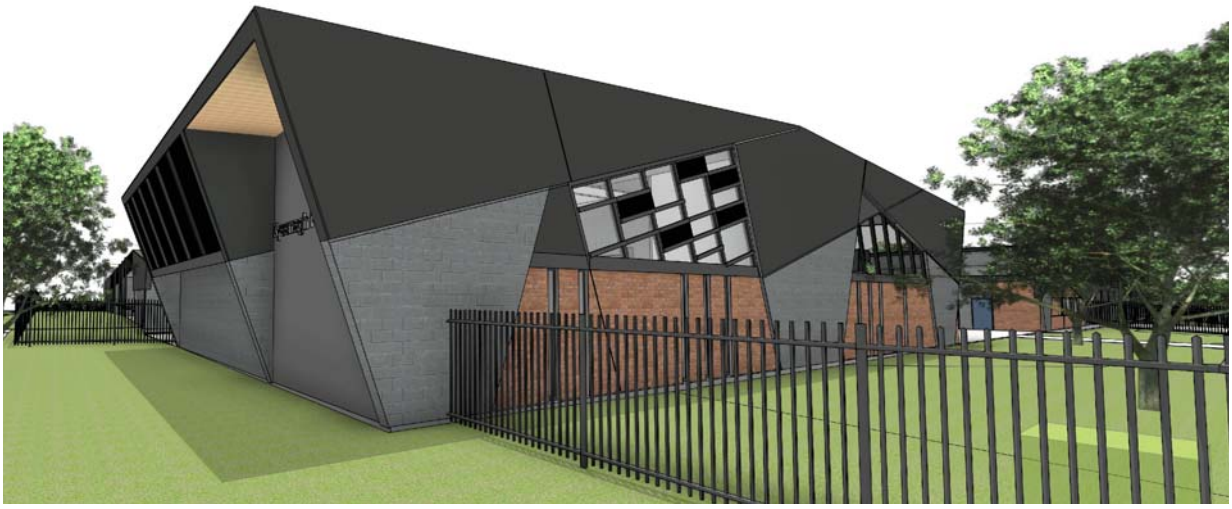
- The previous approved design, by spatially 'pulling apart' the year group zones, each is linked to outside courtyard, deck or external play space, ensuring access plentiful natural light and air from all teaching and learning spaces
- Light courtyards allows for direct and indirect lighting to be fully utilized for classroom requirements. Courtyards with calm spaces also add a proximity to external spaces with a layering of outside and inside faces, thus countering the "closed box" impression.
- The revised design achieves these goals without the use of courtyards.
- Due to the school's proximity to the airport, several acoustic control measures have been introduced for sound mitigation. The external envelope to the north and south of the school work to buffer sound pollution to and from the home-bases relative to the surrounding. The roof has been designed so as to limit the disturbance of overhead flights. Furthermore, the home-bases will be fully air-conditioned, allowing complete envelope enclosure to minimize the impacts of aircraft noise when required (noise more prevalent when the East-West runway in operation).
- Operable facade elements will be available when prevailing conditions are less likely to have a negative acoustic impact
- Internal acoustic measures are being carefully designed to ensure optimal acoustic environments exist during more open operation of learning spaces
- Main playgrounds are located far from adjacent dwellings to the northern edge of the school boundary. Further noise mitigation measures are introduced as necessary along the northern edge.
- In the previous approved design, play areas have been divided by age groups and have been distributed across the site in order to avoid having concentrated noisy zones. Cola is enclosed between Administration building and Community Hall to isolate noise disturbances from activities taking place there. The revised design concentrates play areas in a much larger open space in the middle of the site, while retaining the location of the COLA.

6 Whole of Life, Flexible, Adaptive

The previous approved design allowed space for four future Home-bases allowing future expansion from 500 to 600 students. The revised design responds to new forecasts for a maximum of 500 students and provides increased flexibility in the configuration and allocation of learning spaces. Whilst considered unlikely, if future growth in the area ever dictates the need for expansion up to 600 students, the reduced building footprint of the revised design has resulted in increased open space allowing additional Home-bases to be easily added to the school campus.

The main conceptual of the overall school layout was to maximize flexibility. The home-base layouts provides a range of spaces capable of accommodating diverse learning settings including: larger, enclose able rooms for whole-class direct instruction; connected home-base modules able to accommodate flexible interactions; smaller group activity rooms for collaborative teamwork; maker and presentation spaces.

The planning is flexible enough to accommodate a range of pedagogies, including those that are yet to be developed.



7 Aesthetics

- The approved design, following careful study and analysis of the spatial and operational requirements needed to create a home for future learning spaces, we found several parallels and useful tools in the traditional Japanese approach to architecture. The flexible assembly of tatami space and the sophisticated internal garden courtyards are two main aspects we draw upon, while the Japanese Origami is the third conceptual tool we use to craft the building's form and expression. The revised design retains the Tatami and Origami parallels while removing the need for courtyards.
- Folded Origami as Inspirational Form - Students are encouraged to see beyond their immediate environment and exercise their imagination, injecting further meaning and utility into their surrounding objects.
- Clustered Learning Village - Underneath the folded Origami surface, the internal spaces are clustered like basic building blocks. They follow a strategy of stacked bays, and modules, providing a two fold benefit: Firstly, increasing the efficiency of the grid and the building systems while allowing for flexibility of internal spaces. Secondly, the clustered expression allows the school to avoid imparting an imposing, edifice-like impression and rather read as a clustered village of diverse and rich learning spaces.
- Open Tatami Spaces - spaces slide and expand into each other - the space moves around with the movement of its user groups.
- The overall scale of the school remains integrated with the surrounding context, avoiding overshadowing of the surrounding buildings and residences. Furthermore, the folded rooftops and broken angular shapes resonate with the continuous and diverse series of pitched rooftops on top of the surrounding residential neighborhood.

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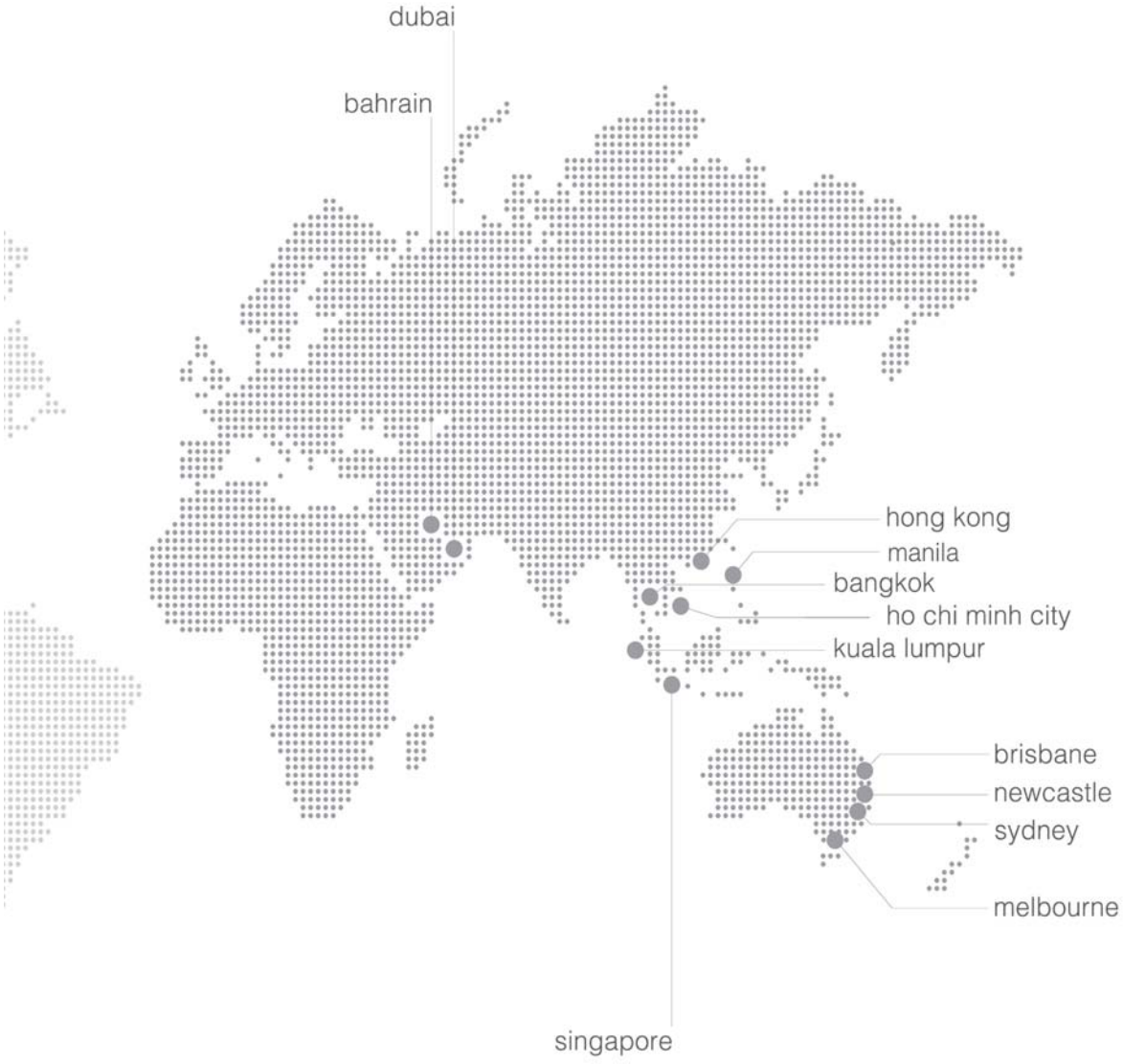

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