

SIKH GRAMMAR SCHOOL AUSTRALIA - ROUSE HILL NSW
DESIGN REPORT
NOVEMBER 2020

P M D L 

SIKH GRAMMAR SCHOOL AUSTRALIA - ROUSE HILL



Based on the Government Architect NSW “Better Placed Policy”, the Education SEPP “Design Quality Principles” and the requirements of the SEARs, this report has been prepared to summarise the process, responses and incorporation of design objectives in the proposed new Sikh Grammar School Australia, Rouse Hill campus.

The Proposal

<i>page</i>	<i>title</i>
4.	Introduction
5.	Site Appreciation
6.	Site and Context Analysis
7.	The Site & Context
9.	Site Analysis
10.	Brief
16.	The SGSA Proposal
18.	Initial Design and Presentation to Government Architect
19.	Response to Government Architect - Site Planning Concept
20.	Response to Government Architect Review
22.	Site Plan, Basement Floor Plan, Ground Floor Plan, Elevations, Site and Building Cross Sections
32.	Design Objectives - Material Finishes Including Signboards
42.	Design Quality Principles
56.	Staging Diagrams - Stages 1 to 9
70.	PMDL Contact Details

INTRODUCTION

Philosophy

Sikh Grammar School Australia (SGSA) is an independent coeducational school offering educational programs endorsed and approved by the relevant authorities both at State and Federal levels from Early Learning, Kindergarten to Year 12. The aim of the school is to provide its students with the best possible education in the best possible environment to achieve the best possible educational outcomes.

SGSA believes the journey to success requires dynamic community engagement supported by an organised vision with strong leadership. The philosophy is an inter-dependent student engagement promoting growth around values and morals. SGSA advocate that the Sikh principles of: Eat together; Pray together; and perform Community Service together are the core philosophy in their teaching. Religion and culture have been passed on from generation to generation using the same method.

This creates a timeless approach with a strong social binding and moral basis in which Sikhs engage in everything they do. To further these core values their community are deeply involved in the operations of the school including committees for all of its operations, administration and food preparation.



‘Sri Harimandir Sahib Amritsar’ - The Golden Temple, Amritsar, India

Sikh	“Learner”
Gurdwara	“The doorway to the Guru”
Langar	“Community Meals”

Three Elements of Tradition

Sangat	“Worshipping Together”
Pangat	“Eating Together”
Sewa	“Voluntary Service”

Community people

SITE APPRECIATION



The site is located within the Greater Western Sydney Growth Corridor. Currently a greenfield site, the surrounding sites, including hobby farms, are rapidly becoming suburban housing blocks.

With the explosion of residential sub-divisions, critical infrastructure such as schools, train stations and other civic works are required to support the influx of population.

The Sikh Grammar School Australia (SGSA), Rouse Hill is a necessary community school to serve the rich and vibrant Sikh and broader community within the north west region of Sydney.

SITE AND CONTEXT ANALYSIS

Site Location

Located in Rouse Hill, beyond the current western fringe of suburban Sydney, the site for this project lies towards the end of the new Sydney Metro rail network, recently commissioned in June 2019. The site is currently a grassland paddock surrounded by lightly wooded groves, a remnant of past agricultural use. The main access road to the site, Tallawong Road, terminates approximately 750 meters away from the new Metro station. Access to the site would predominantly be from Tallawong Road but the school will also be surrounded by secondary roads to the north and south.

The existing site comprises of Lot 42 and Lot 43 that are currently hobby farms in a rural setting. There is a single house located on the northern lot and a dam flanks both lots centred on the combined site. There are no substantial trees on the site and the only vegetation is grassland. There are no substantial ecological features to the site. There are no heritage items on the site and no notable significance to the local Aboriginal people has been found.

Natural overland flows occur from across Tallawong Road to the east, flowing westward through the centre of the site. There are no significant water courses on the site.

Context

The Sikh Grammar School Australia (the applicant) aim to amalgamate Lot 42 and Lot 43 with a realignment of boundary. At the western end of the site the school propose to sub-divide the land into a number of housing lots, the sale of which will provide necessary capital to support the school's inception.

As the land surrounding the subject site is rapidly being developed to make way for new housing, threats from fire have receded to a pocket of land to the north east. It is understood that a DA has been approved for this land and it is anticipated that the threat of fire will be mitigated by all neighbouring properties.

Both the northern and southern neighbouring properties are zoned for R2 and R3 development and residential development applications are now before the local authority. The eastern neighbour has commenced construction of civil works for housing development. The western neighbouring land (owned by the Department of Planning and Environment) remains cleared farmland with lightly wooded, native trees. An adequate asset protection zone exists between the vegetation and all development on the subject site.



Site Photo Orientation

THE SITE & CONTEXT



Site Photo 01: Looking East From The Western Boundary

Infrastructure

Infrastructure is rapidly being installed around the site as housing sub-divisions proceed. A sewer has recently been constructed on the southern boundary. Stormwater has yet to be constructed down stream of the site and as such, temporary on-site detention is proposed along with a tail-out onto the lower western neighbouring lands. Most other services are currently available along Tallawong Road.

The project will incorporate its own on-site, wastewater management / Sewage Treatment Plant, an upgraded electricity supply including a pad-mount substation, a hydrant booster with diesel pump to increase the pressure of the mains water supply for on-site Fire Hydrants and introduce a NBN fibre-to-the-premises service. The aim is to ensure that the school does not impinge on the local infrastructure, being effectively, self-sufficient.

Rainwater will be harvested on site for re-use as irrigation for the landscaped areas around the buildings. Stormwater will be managed on site with OSD tanks and bio-basins (rain gardens) incorporated into the landscape architect's design and civil engineering works in association with flood management proposals.

Conclusion

The site presents many environmental challenges and infrastructure demands for which, through detailed consultation and careful design, considered solutions have been found and incorporated into the project design.

This offers a fully resolved response and fitting environment which aims to support the education of children through exploration, learning and play within a spacious, community-minded and culturally integrated, environment.



Site Photo 02: Remnant Farm Building



Site Photo 03: Dam

THE SITE & CONTEXT



Site Photo 04: Remnant bushland to become housing

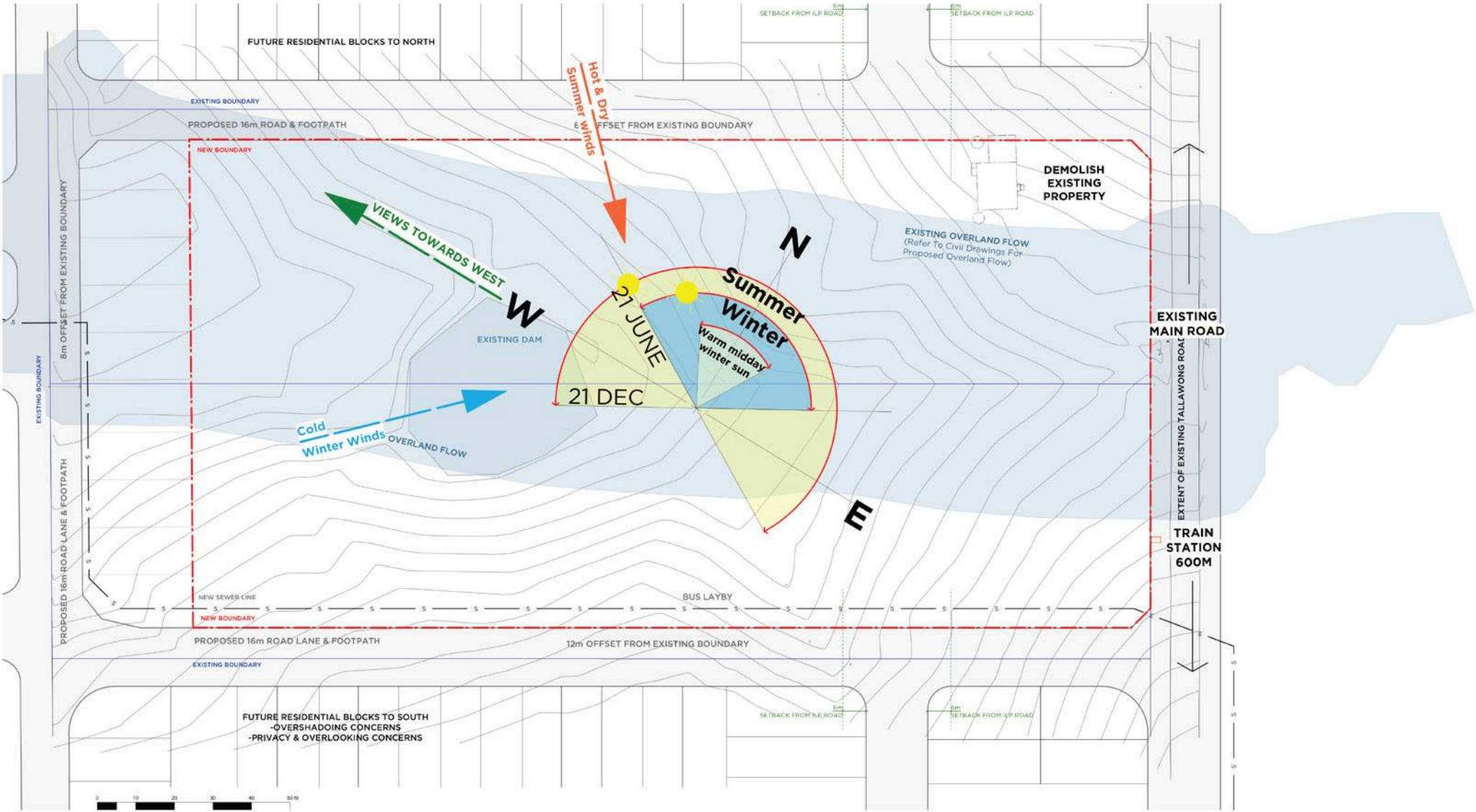


Site Photo 06: View northwards along Tallawong Road



Site Photo 05: Site Looking Westward From Tallawong Road

SITE ANALYSIS



BRIEF



Specific qualitative & quantitative needs

A sound and considered brief, developed through extensive consultation, has been the key to the success of the project, enriching the design process and providing a sound basis for cost planning. The deep questioning has yielded a more comprehensive and appropriate design. Defining the quality and ambitions / vision has been as critical as the quantity of space.

Using analytical tools, PMDL quantified the capacity and opportunities of the site. The brief provided an objective, quantifiable account of space requirements, which were then reviewed against site planning in developing concept options.

Key issues considered were:

- Existing and future space needs.
- Identity and place making requirements.
- Learning organisation and relationships.
- Funding and financial constraints.
- The physical context, including site, facilities, open space, and spatial needs.
- Life cycle.
- Environmental targets.
- Learning settings and styles together with organisational education objectives.
- Learner-centred and innovative design.
- Age and student appropriate spaces.
- Safety and comfort.
- Access and equity.
- Agility and flexibility.
- Cost effectiveness.
- Environmental sustainability.
- Procurement staging.

Specific needs

- Contemporary teaching and learning facilities.
- High quality staff support, study and collaboration spaces.
- Anticipation of the potential for change and growth.
- Celebration and display of cultural philosophy and vision.

Community needs

It was identified that the key to School operations was a strong sense of community and need to have a variety of spaces and facilities that support various group sizes.

- Parents – ad hoc meeting space, am and pm.
- Staff - communal and study spaces facilitating collaboration and cross disciplinary activities; lounge/casual meeting/relaxation/retreat spaces for staff - Senior and Junior; professional development spaces and resources.
- The Gurdwara was identified as central to the school's pedagogical thinking.

Student needs

- Assemblies
- House and year group meetings.
- Functions.
- Examinations.
- Collaboration and maker spaces.
- Active and passive recreation spaces.
- Places for quiet reflection and places of repose.
- Prayer.
- Presentation, performance and celebration spaces.

BRIEF



Functionality issues

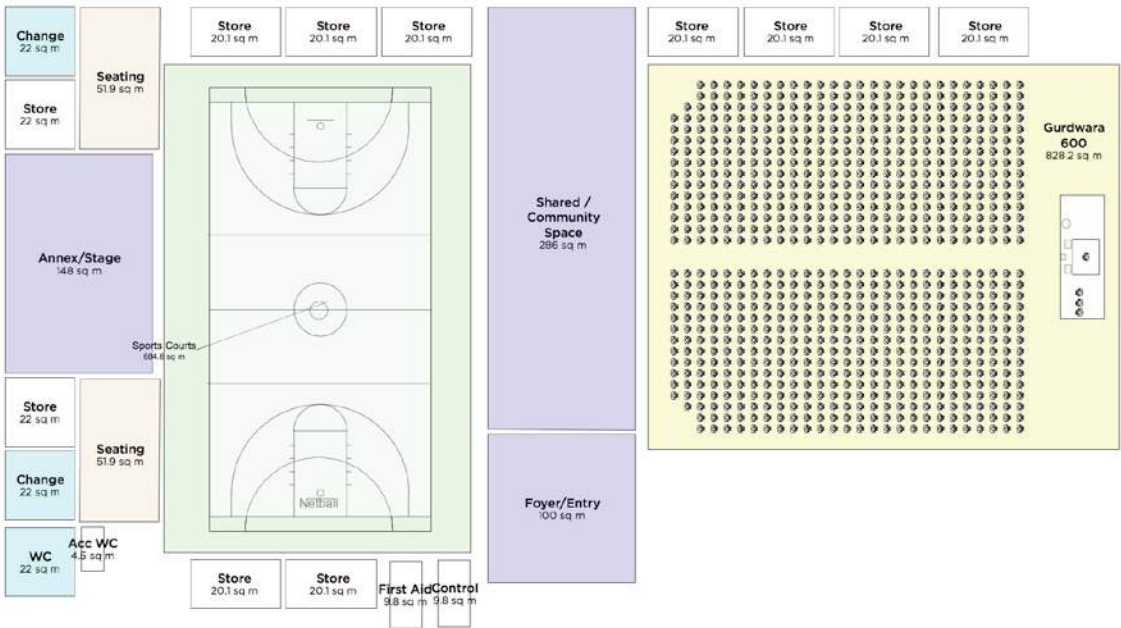
- Agile, flexible and adjustable teaching and learning spaces.
- Strong connections and circulation encouraging student flow and movement as well as offering opportunities for extension of learning and socialisation.
- Cultural hub.
- Informal teaching and learning and socialisation spaces blurring the lines between classroom, formal/informal learning, socialisation and recreation.
- Opportunity to share space/resources across Primary and Secondary Schools.
- Specialist space opportunities integrating potential for cross disciplinary uses, clean and dirty, maker and collaborative spaces.
- Space for meeting/celebration/performance.

General ambitions

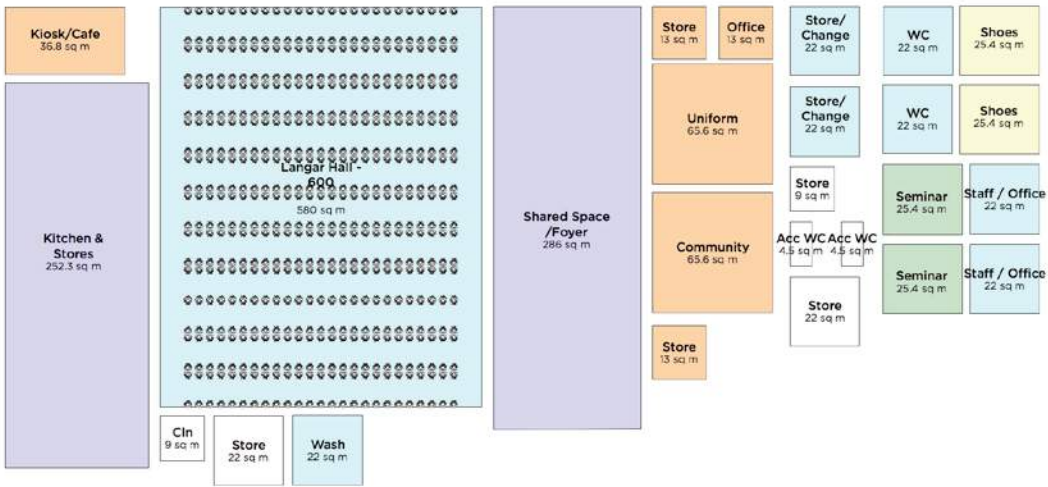
The evolution of the campus must:

- Create an overall sense of campus amenity.
- Maintain views within and to the facilities.
- Connect to and from the associated Gurdwara and Langar.
- Create equitable access around the campus.
- Create a civic sense of 'front door' and 'welcome'.
- Must pertain to the unique pedagogy of Sikh culture.
- Celebrate teaching and learning through organisation, transparency and connection.
- Create a genuine 'sense of place' by reinforcing the School ethos and values in the physical realm.

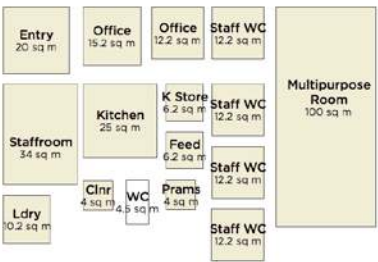
BRIEF



COMMUNITY / SPORTS CENTRE & 800 PERSON GURDWARA
2,650 sqm nett



400 PERSON LANGAR / SPORTS / COMMUNITY / VET
1,900 sqm nett

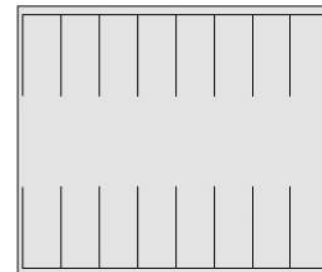
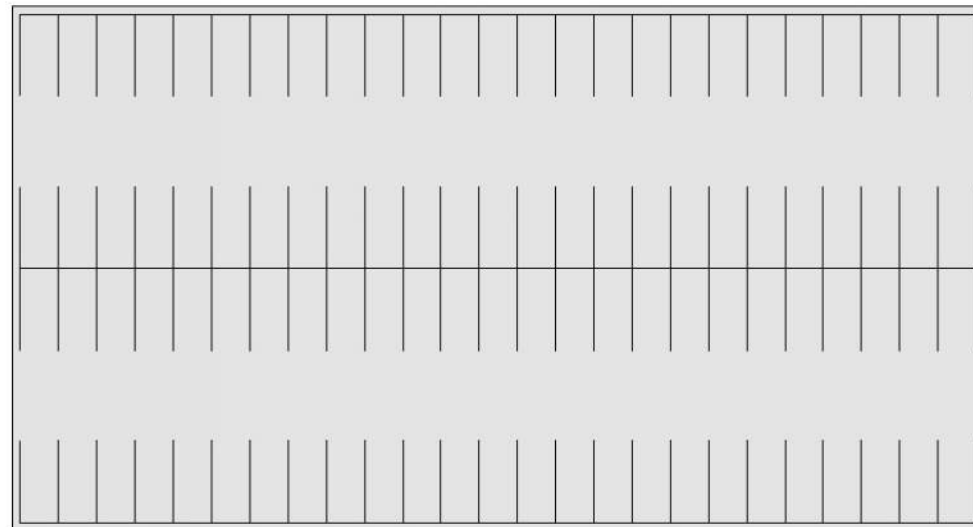


40 PLACE EARLY LEARNING CENTRE
500 sqm nett plus 600 sqm outdoor



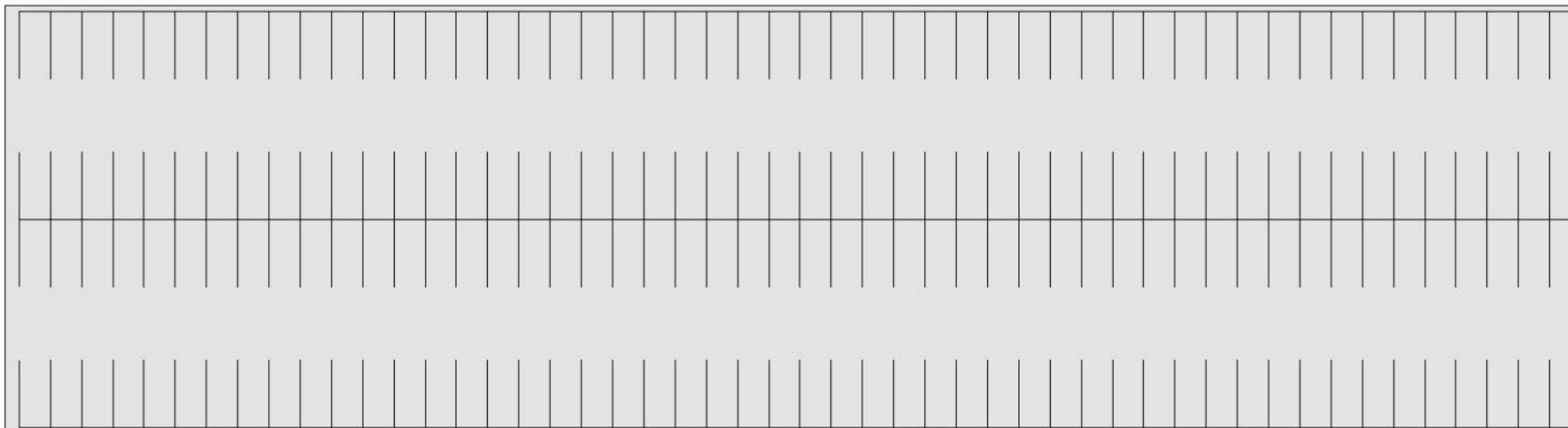
TEACHING STAFF RESIDENTIAL
675 sqm nett

BRIEF

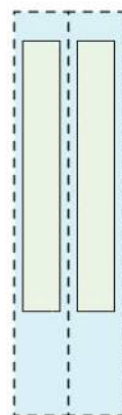
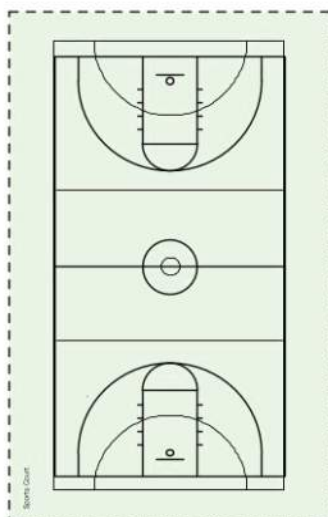


ELC PARKING
Minimum 15 spaces

SCHOOL PARKING
Minimum 100 spaces



800 PERSON GURDWARA
Minimum 200 spaces



MULTI PURPOSE OUTDOOR COURTS
OUTDOOR CRICKET NETS

NOTE:

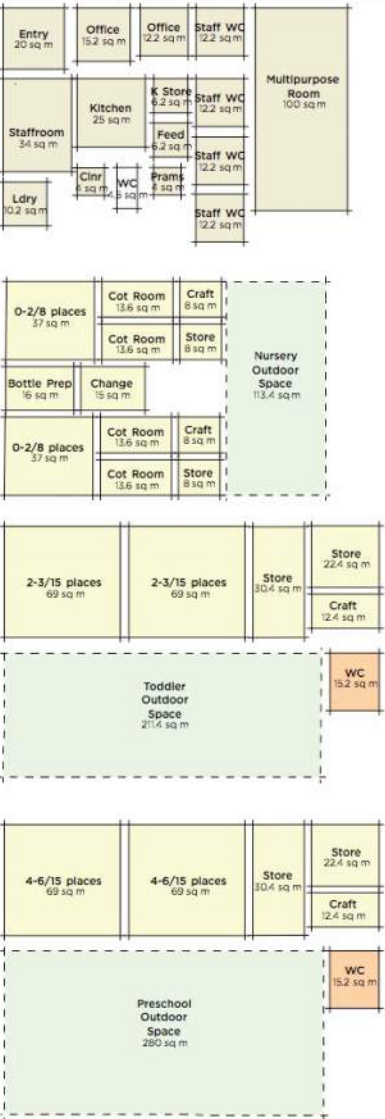
Presumed that Gurdwara will not be used by the community during school hours.

Presumed that Langar use will coincide with Gurdwara so no additional people on site.

BRIEF

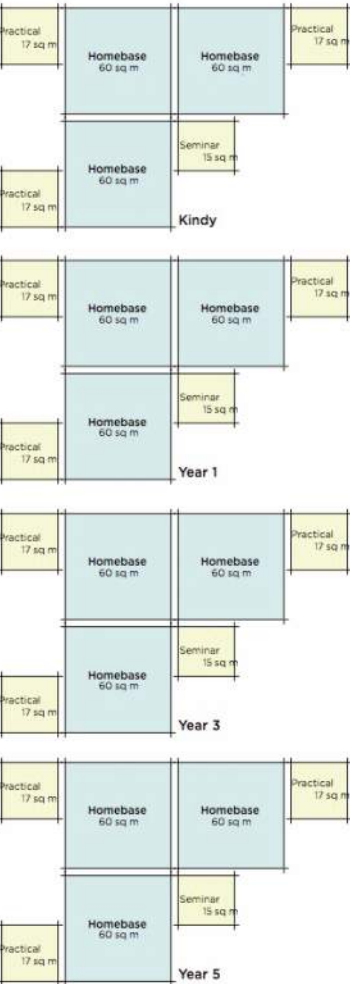
86 PLACE EARLY LEARNING CENTRE

930 sqm nett plus 600 sqm outdoor



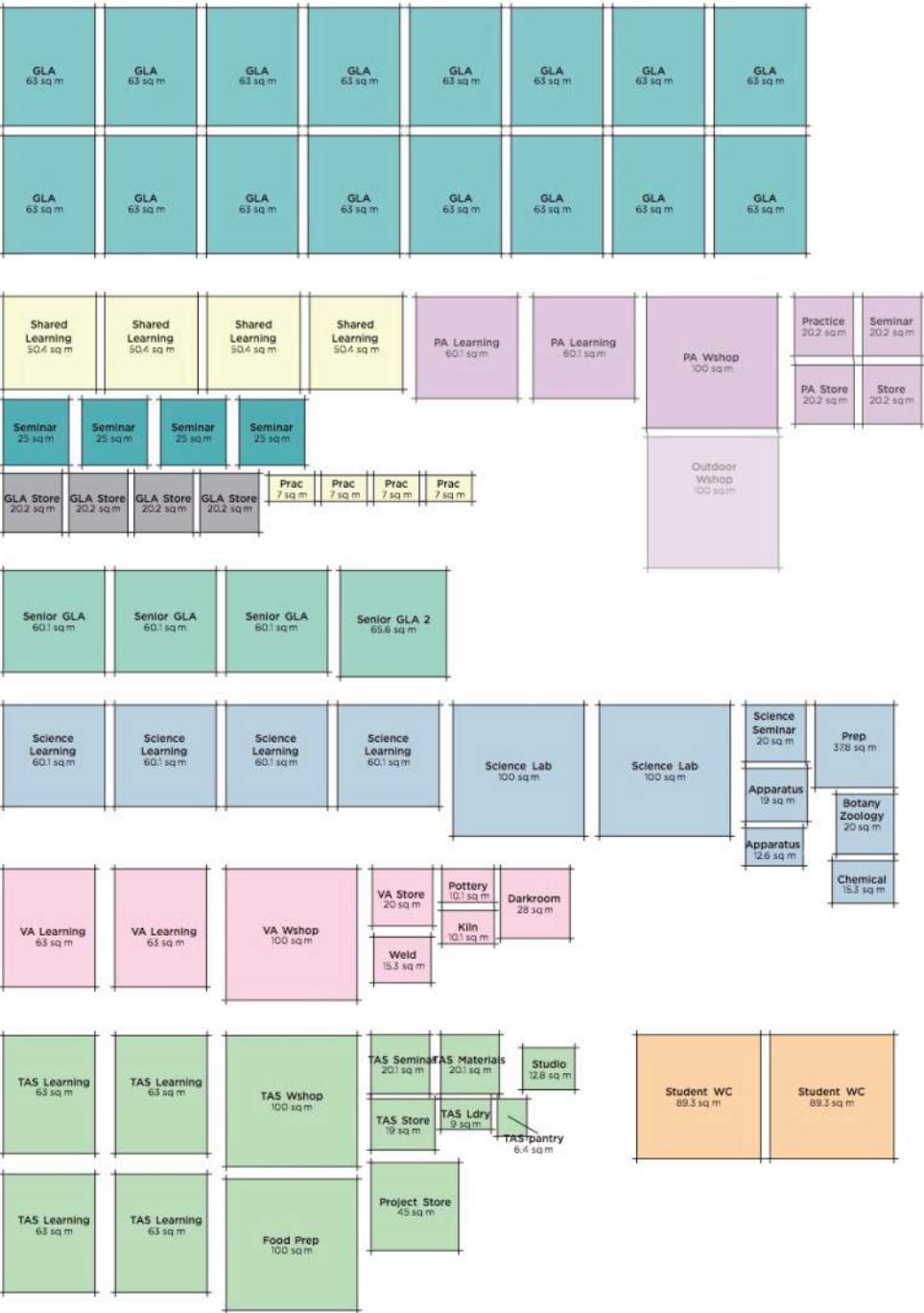
3 STREAM PRIMARY

2,000 sqm nett

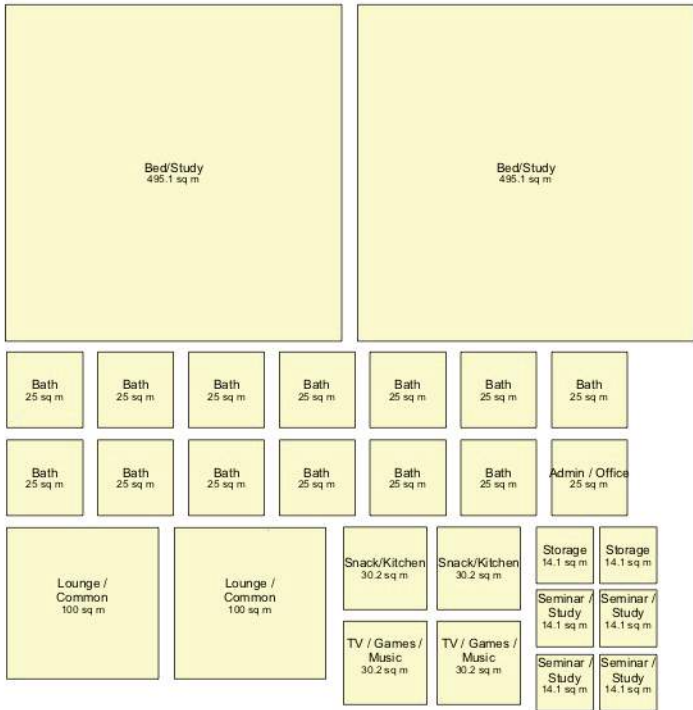


4 STREAM SECONDARY

3,525 sqm nett



BRIEF



100 STUDENT BOARDING/HOSTEL OPTION
2,000 sqm nett

THE SGSA PROPOSAL



Through an extensive, collaborative consultation process with the client, educators, authorities and the design team, the proposed design has benefited from an iterative design evolution.

The proposal

The proposed SGSA, Rouse Hill will provide for students from years K to 12 in an integrated education campus of 1,260 students along with an 86-child Early Learning Centre (ELC) and student boarding for 112 students. Proposed is a three stream primary and a four stream secondary school, accommodated in 3 to 4 storey buildings flanking the north and south boundaries. Adjoining this is their place of worship, termed ‘Gurdwara’, which contributes to framing a central open space which is an extension of the School’s ‘Langar’, a place for sharing food.

Reinforcing the idea of enclosing/containing outdoor space, the student boarding facilities and ELC wrap around the western boundary. Generous open space provides both a village green and a formal civic heart. The civic heart fronts the Gurdwara and associated Langar. With a growing Sikh community in the Rouse Hill area the school will provide a desirable educational facility that protects and enhances both Punjabi and mainstream curriculum.

The school presents itself as a three storey elevation to all streetscapes with a fourth storey ‘Bridge’ building both connecting and separating

the Primary and Secondary buildings. The fourth storey is appropriately set back from the boundaries so as to avoid both overshadowing and loss of privacy to what will become adjacent two storey dwellings. The Gurdwara is a 2 storey volume over a 1 to 1½ storey Langar and community facility below. As an overall volume, the building is nearly 4 storeys in height which, together with its stylised cultural aesthetic, creates an appropriate prominence on site.

Site + Contextual Analysis

The proposed school site at 151-161 Tallawong Road has a strong sense of connection being in close proximity to the nearby Rouse Hill Metro terminus. This is located 700 metres south on Tallawong Road and has good access to supporting local and community services such as sporting and recreational facilities.

The proposal goes beyond a collection of classrooms and corridors, in providing a strong sense of community both internally and externally.

The Architecture + Pedagogy

The design reflects the educational philosophy of the Sikh culture and its local community. Contemporary spaces for teaching and learning offer agility and flexibility to accommodate a variety of groups, learning styles and settings, whilst enabling them to be adapted over time.

The design is based on considered responses to the needs of teachers and learners, founded in research and built on experience.

Ultimately, the greatest contributor to learning outcomes is the quality and adaptability of teaching spaces. The architecture is to support, stimulate and provide opportunities for teachers and learners to excel and will reflect a positive, professional and collaborative environment that celebrates strong social connection.

Contemporary Learning

The proposed facilities anticipate the changing requirements of learning environments whilst reinforcing a strong sense of place and spirit for the School, and the groups within it.

The design anticipates the requirements of a campus being occupied during staged construction as well as having a strong community use outside normal school hours.



THE SGSA PROPOSAL



Place and space

It is important to start with what we know.

Accepting the theory of architectural determinism, that physical environments influence human behaviour, the proposal draws on research which identifies the critical environmental factors that impact learning. Some of these, such as light and air quality, are more quantifiable whilst others are harder to define. For example, we know that learners who feel safe and secure, as well as stimulated, achieve better outcomes, and as architects we understand the spatial qualities to support this.

With technology as an enabler, contemporary learning focuses on personalised learning, collaboration and creativity. These qualities are not promoted by traditional, didactic spaces. Schools seek to develop citizens and innovators/creative thinkers/problem solvers for the future, and the proposal draws on a strong understanding of contemporary workplace practice to inform the design.



A Professional Workplace

The design recognises that the quality of teaching is the greatest contributor to learning outcomes, and that the School is their workplace. Acknowledging the needs of the teaching cohort to develop their practice, increasingly in collaborative settings, is key to developing their professional workplace.

This strategy also increases the School's ability to attract and retain high quality teaching staff in a competitive marketplace and offer them a rewarding and engaging workspace.



Sustainability

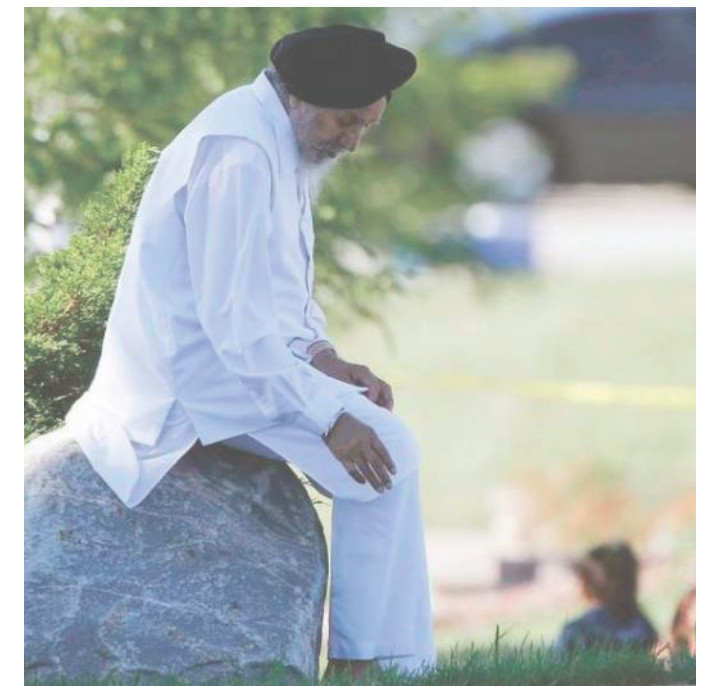
Schools have a unique opportunity to adopt principles of environmentally sensitive and sustainable design, due to their long-term stewardship and occupation of their facilities, the importance of whole-of-life cost and issues regarding environmental education.

Equally significant is the school's central position in the community and the opportunity to lead by example whilst demonstrating these values.

Creating healthy learning environments with well daylit, naturally ventilated spaces and excellent acoustics, offers students improved learning outcomes and staff a positive working environment.

In addition, by exemplifying sustainable design principles, the architectural spaces, the building itself, becomes an additional teacher.

These key principles have been embodied from the commencement of the design process for this proposal.



INITIAL DESIGN AND PRESENTATION TO GOVERNMENT ARCHITECT



Masterplan Presented to Government Architect

While the overall masterplan was supported some suggestions made were:

- The overall landscape was compromised by the expanse of the parking.
- Concern was raised about the adequacy of open space provided for the proposed student population.
- It was noted that there was a large proportion of the site dedicated to hardscape which could result in a heat island effect.

Response From Government Architect

1. Open Space, car parking and landscape design:

- The overall landscape was compromised by the expanse of the parking.
- The adequacy and location of open space provided for the proposed student population appeared insufficient and compromised by carparking.
- There was a large proportion of the site dedicated to hardscape which could result in a heat island effect.

2. Entry and School Identity:

- Needs to be open and inviting and find a balance between security and openness.
- It was stated that external fencing reduced the quality of open space and is a fortified response to boundary security.
- The entry was said to be dominated by parking, stop, kiss & leave and made more defensive with the presence of a boom gate.

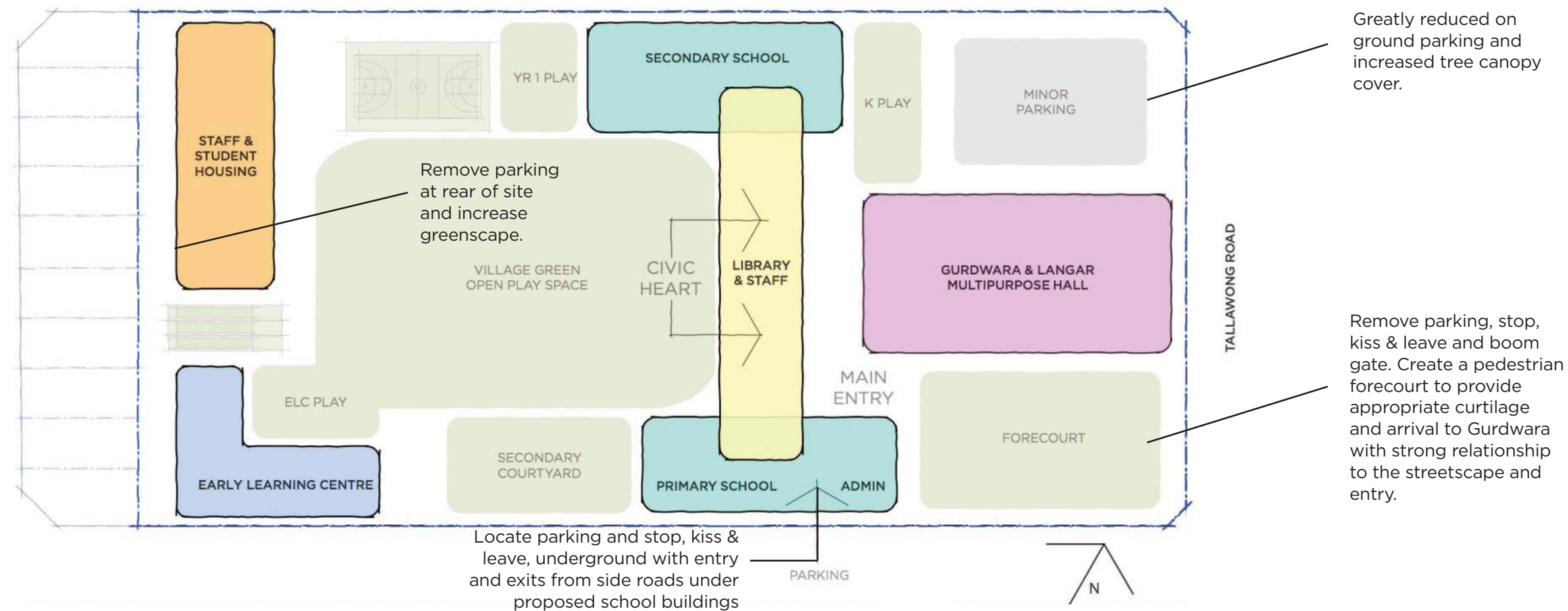
3. Built Form & Massing, expression and relationship to streetscape:

- Needs to differentiate Administration from the massing of the Gurdwara and break the overall massing of the school with articulated parts.
- It was requested that the project make fencing disappear wherever possible.

4. Sustainability & Hydrology:

- A long term strategy for climate resilience and environmental performance was required.
- The scheme needed to engage better with the site's hydrology. Find sustainable solutions for water harvesting and ways to express this in the design.

RESPONSE TO GOVERNMENT ARCHITECT - SITE PLANNING CONCEPT



1. Open Space and Car Parking:

The updated masterplan reflects a greatly reduced on ground parking solution and minimises hardscape in general. As flood mitigation required the raising of the Gurdwara, this provided a void under that would otherwise have required filling. In lieu of this, underground parking was introduced that occupies the void under the Gurdwara and forecourts either side to north and south.

1.1 Maximising Open Space:

By locating most of the parking underground, generous areas of open space are created for both the school operations and the Gurdwara. This additional open space increases the student to open space ratio to be greater than 10 square meters per child on ground, with roof terrace areas being above this requirement.

The Stop-Kiss-&-Leave drop-off is also located underground with multiple points of entry to the School above;

1.2 Articulating Specific Play Spaces:

Specific cohort play spaces have been created that align with the school programmes. Dedicated outdoor spaces have been provided for Student Boarding.

1.3 Reducing the Heat Island Effect:

With the reduction in hardscape, greater areas of open space are now available for greenscape. In addition to this it is proposed to create evaporative cooling systems on the village green with irrigation from the water harvesting reservoir.

2. Entry and School Identity:

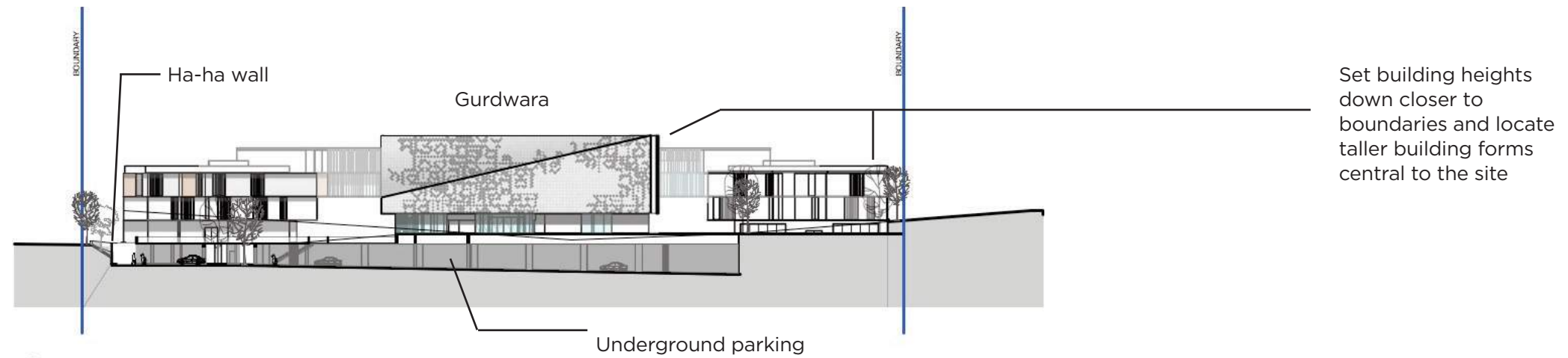
All parking has been removed from the entry to the School, along with the associated boom gates.

2.1 Inverting fencing to civic forecourt:

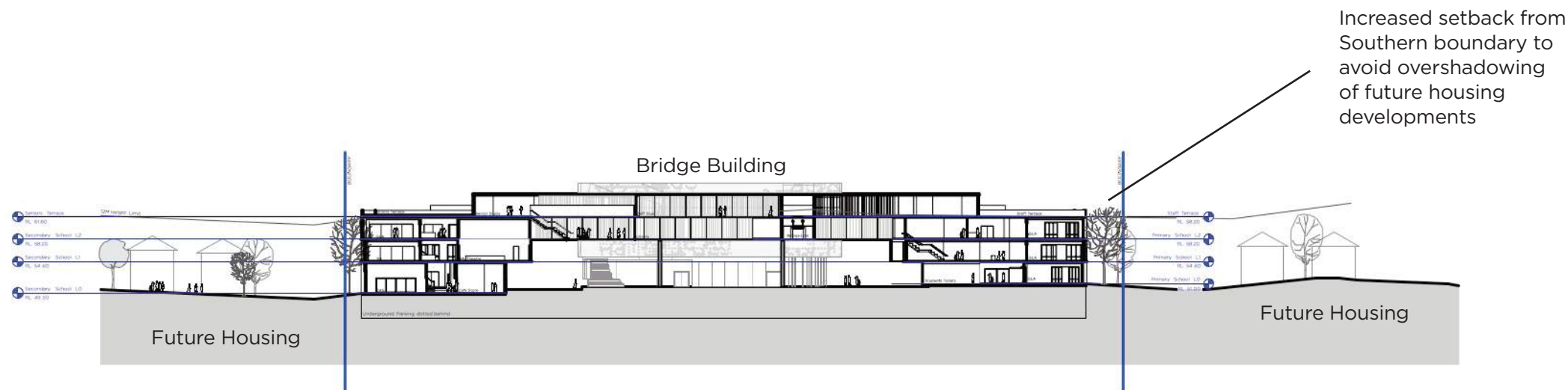
The use of "buildings as fence" has been adopted to create a less defensive engagement with the streetscapes. The boundary to the Forecourt reads as an open space to Tallawong Road and the school entry. This is achieved by inverting fencing with the use of a Ha Ha Wall which allows the use of subtle balustrades rather than tall, imposing boundary fencing. Boundary fences have receded into the landscape and buildings are used as barriers with generous landscaping in-between, wherever possible.

The arrival becomes spatially engaging and finds a balance between security and a sense of welcome.

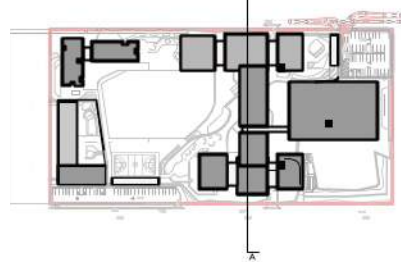
RESPONSE TO GOVERNMENT ARCHITECT REVIEW



East Elevation
Eastern Elevation



Section 1
Scale 1:250
Section AA



3. Built Form and Massing:

While the Gurdwara maintains its monolithic qualities, the façade articulates a floating form on two pods that pull apart to create a sense of entry. The floating form above is broken up with abstract perforations that are drawn from and reflect specific Sikh culture. The school buildings are broken up into forms that respond to the staging of works and ensures clear lines of circulation as the building form evolves.

3.1 Building Articulation:

The School is to be constructed over nine stages. The architectural expression reflects the sequencing of procurement. The delineation of the stages is typically made around vertical circulation nodes. The overall result is a development that responds to circulation, security, points of entry, building use and nodes for social gatherings.

3.2 Express the Relationships of School to surrounding Housing:

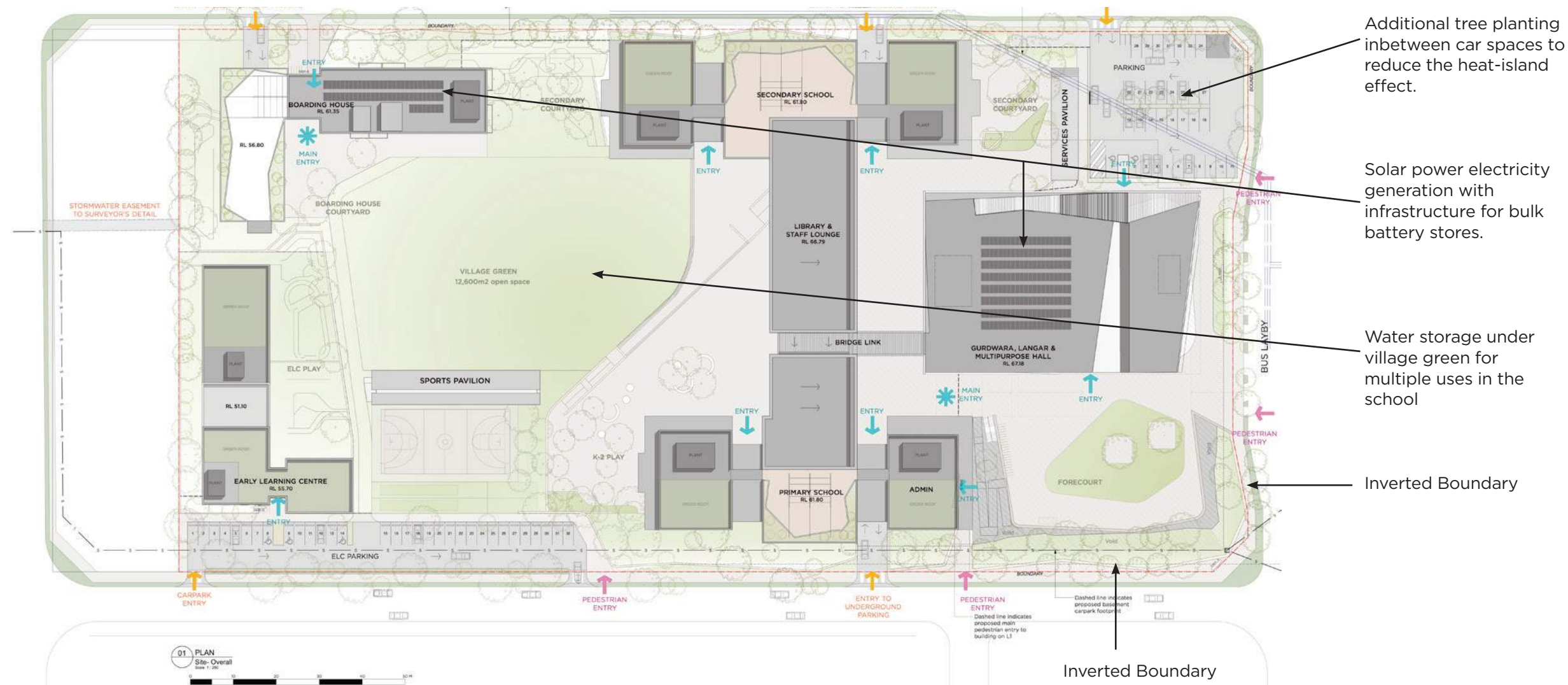
The development engages with the street interface and responds to the likely scale of the proposed housing on adjacent lots. Taller elements of the School are set back and are sited centrally. The Gurdwara is also central to the site and offers appropriate street engagement. The proposed development acknowledges the Blacktown City Council's DCP for the Growth Precincts and is appropriate to the future use of a residential neighbourhood.

3.3 Improved Transition Between Buildings and Open Space:

Landscape and building engagement is enhanced with considered interstitial spaces that transition between built form and external spaces.

Buildings offer integrated covered circulation between spaces with overhangs that are part of the overall building composition.

RESPONSE TO GOVERNMENT ARCHITECT REVIEW



Updated Masterplan

4. Sustainability Measures Include:

Water Harvesting - Water Sensitive Urban Design principles have been adopted on the site with a series of rain gardens that filter runoff. Water storage has also been adopted for re-use in irrigation and landscape evaporative cooling.

Photovoltaic electricity generation is proposed along with future battery storage facilities and electric car charging points.

High performance building envelope design includes super-insulated reverse brick veneer, natural cross ventilation, appropriate window screening for solar and glare control, generous window reveals and solar fins specifically designed to respond to solar orientation.

Mechanical ventilations systems with heat recovery. Low energy (LED) artificial lighting throughout the campus with motion and daylight detectors.

Landscaped roof gardens with high insulation and the highest available reflective index to all metal deck roofs, to reduce solar heat gain to all buildings.

Low water use planting with recycled water for irrigation across the campus.

Use of public transport and active transport systems to be encouraged for all staff and as age-appropriate for the students in order to reduce car use, GHG emissions and traffic congestion.

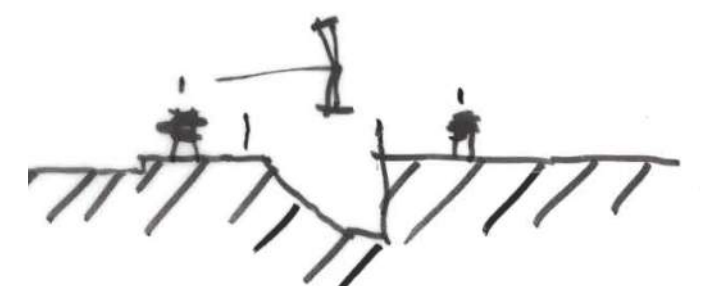
Careful selection of all construction materials with consideration of their embodied energy, longevity, low maintenance, end-of-life recyclability, local availability and manufacture from renewable resources and low-VOC attributes.

Operational waste management plan to be carefully implemented and students encouraged to be mindful of the use of plastics and other materials that can cause harm to their local environment.

Ecological and local biodiversity considerations included in the Landscape design with a focus on a restorative design approach.

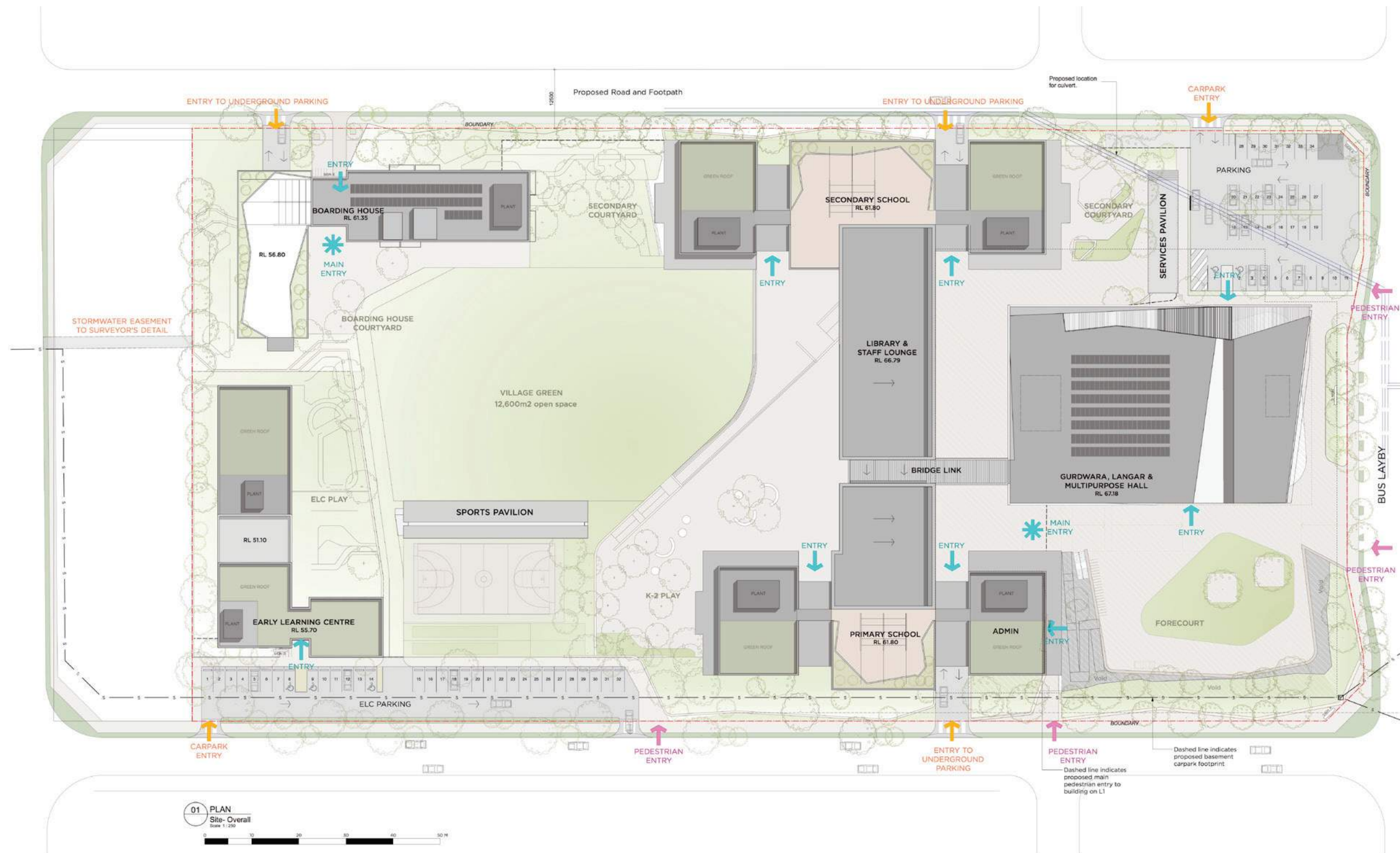


Typical Boundary Treatment

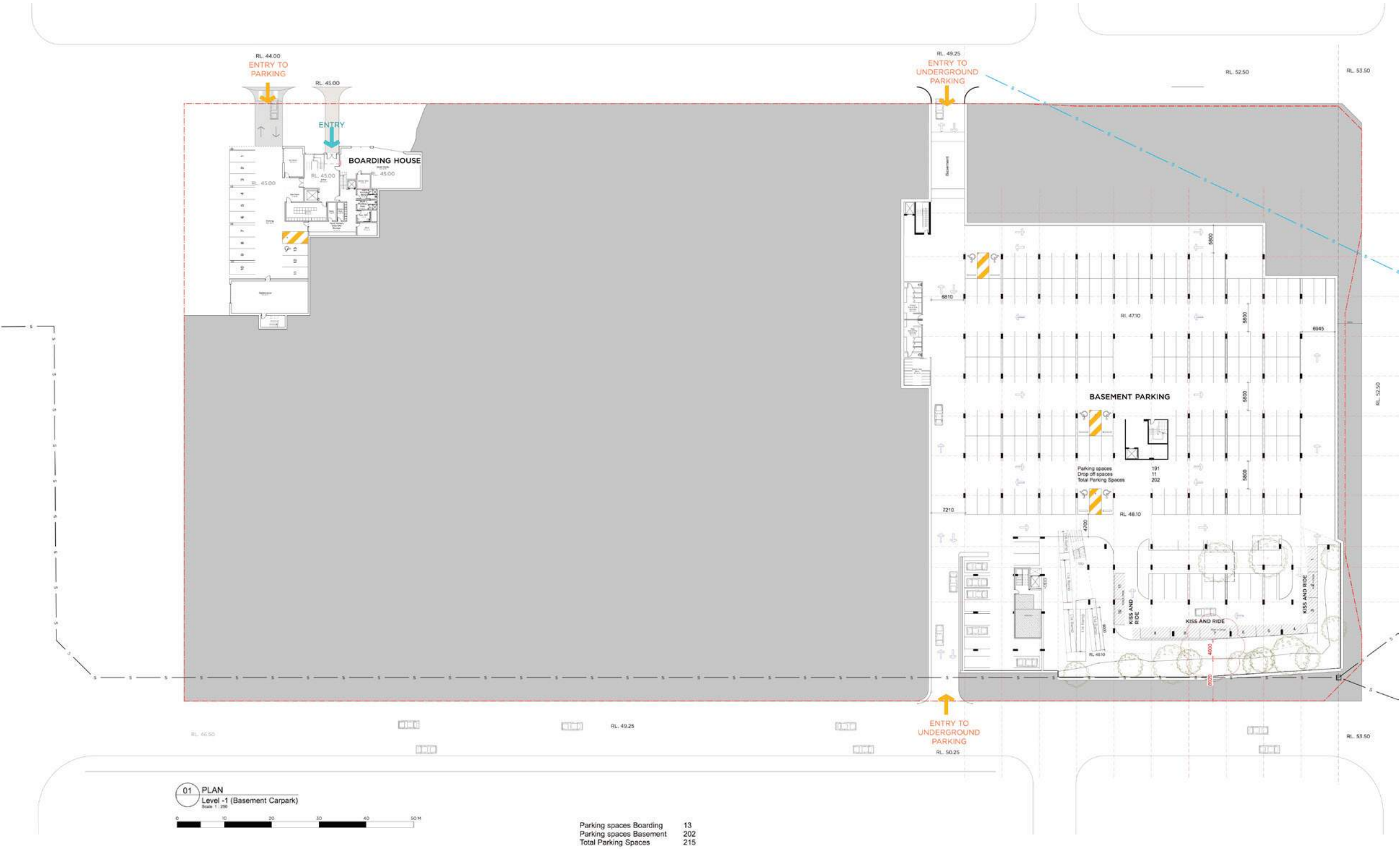


Inverted Boundary - Ha-ha wall

SITE PLAN



BASEMENT FLOOR PLAN



01 PLAN
Level -1 (Basement Carpark)
Scale 1:250



PMDL
pmdl.com.au

ARCHITECTURE
INTERIORS
MASTERPLANNING

4	26/10/20	Response to Submissions
3	15/5/19	Secondary stage submitted
2	01/11/18	Final Design
1	01/11/18	Final Design
0	01/11/18	Final Design
Sikh Grammar School Australia		
Sikh Grammar School Australia		
Site Plan- Level -1 (Basement)		
DA101		
4		

GROUND FLOOR PLAN



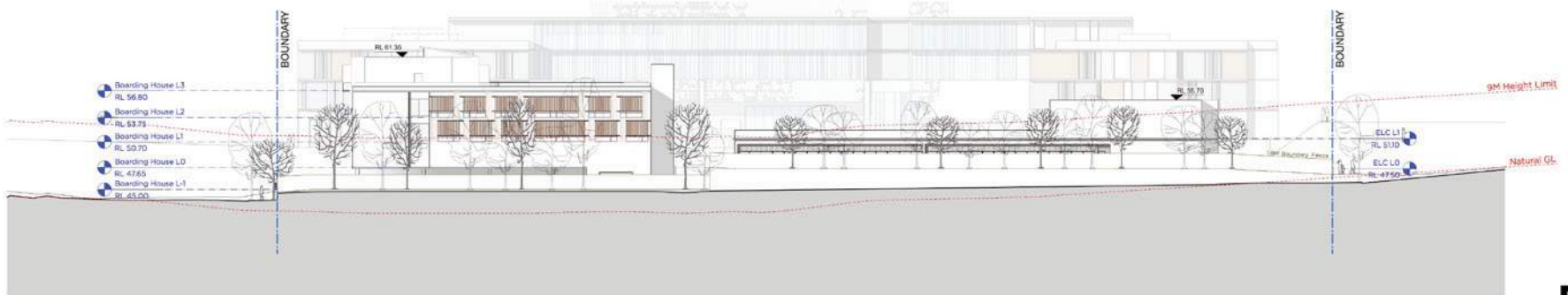
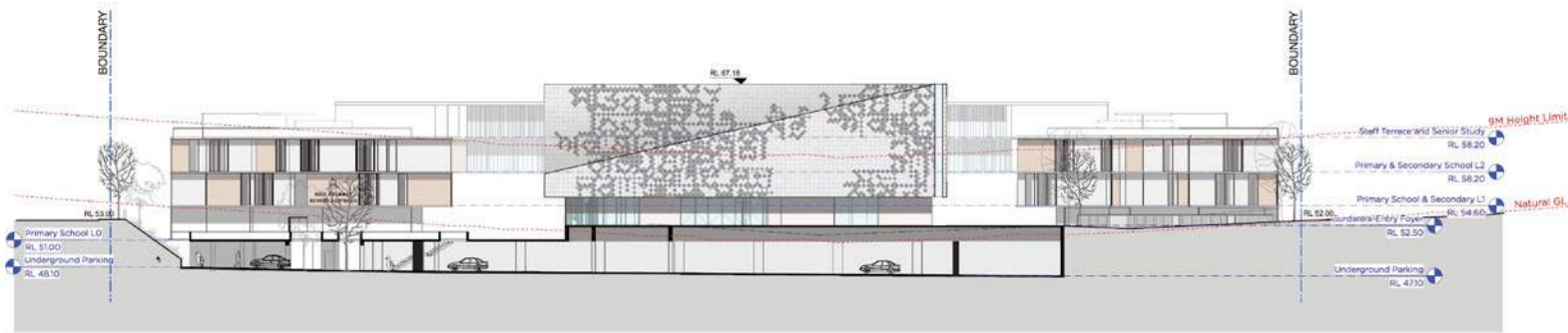
PMDL
pmdl.com.au

**ARCHITECTURE
INTERIORS
MASTERPLANNING**

12	26/10/20 - Response to Submissions
11	1/6/20 - Boarding House Changes & Boundary Realignment
10	2/1/20 - Final Design Development
9	2/1/20 - Final Design Development
8	2/1/20 - Final Design Development
7	2/1/20 - Final Design Development
6	2/1/20 - Final Design Development
5	2/1/20 - Final Design Development
4	2/1/20 - Final Design Development
3	2/1/20 - Final Design Development
2	2/1/20 - Final Design Development
1	2/1/20 - Final Design Development

Sikh Grammar School Australia
Site Plan-Level 0 (Ground)
DA102
12

ELEVATIONS



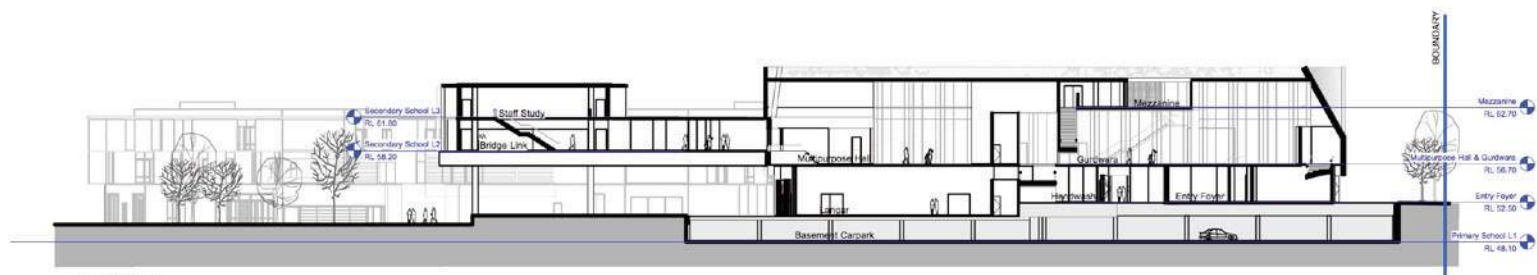
SITE AND BUILDING CROSS SECTIONS



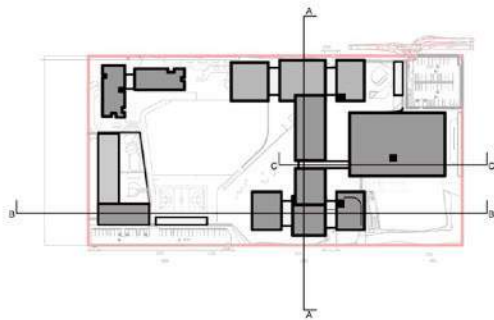
1 Section A
Scale: 1:250



2 Section B
Scale: 1:250



3 Section C
Scale: 1:250



SIKH GRAMMAR SCHOOL AUSTRALIA - ROUSE HILL



South Eastern Corner

SIKH GRAMMAR SCHOOL AUSTRALIA - ROUSE HILL



Looking East from Village Green

SIKH GRAMMAR SCHOOL AUSTRALIA - ROUSE HILL



Boarding House - North Western Perspective

SIKH GRAMMAR SCHOOL AUSTRALIA - ROUSE HILL



Early Learning Centre - South Western Perspective

SIKH GRAMMAR SCHOOL AUSTRALIA - ROUSE HILL



North Eastern Corner

MATERIALS AND FINISHES



Insulated panel to future detail

Thermally broken aluminium windows

Double glazed windows

Lined soffit

Low E Glazed doors

Internal masonry walls

Student Boarding & Sunken Court

reflective insulated panels



dark framed aluminium windows



expressed concrete



timber soffit



MATERIALS AND FINISHES



Glazed block facade with patterned openings that reflect the sacred script.

Folded wall with glazed block facade

Low E aluminium glazing

Lined saffron coloured soffit

Concrete masonry walls with stencilled Sikh symbols

glazed blockwork with patterned opening

dark framed aluminium windows

expressed concrete

timber soffit

Gurdwara Entry



MATERIALS AND FINISHES



- Roof garden set back beyond
- Reverse brick veneer insulated panel with brick inner skin
- Deep window reveals
- Double glazed aluminium windows
- Concrete slab edge
- Landscaped planter to Landscape Architect's detail

Primary School Southern Streetscape

Low E Glazed stairwell with sun shading

glazed stairwell with sun shading



dark framed aluminium windows



expressed concrete



deep window reveals



MATERIALS AND FINISHES



- Roof garden set back beyond
- Painted concrete parapet
- Insulated concrete panel
- Low E glazed aluminium windows
- Soft-fall path to Landscape Architect's detail

Early Learning Centre Northern view

timber feature panels



dark framed aluminium windows



expressed concrete



rendered walls



MATERIALS AND FINISHES

12 || CONCEPT IMAGERY

SIKH GRAMMAR SCHOOL
SSDA Landscape Design Report



PMDL

ARCHITECTURE
INTERIORS
MASTERPLANNING

WILLOW TREE
PLANNING

sym. studio
Landscape Planning

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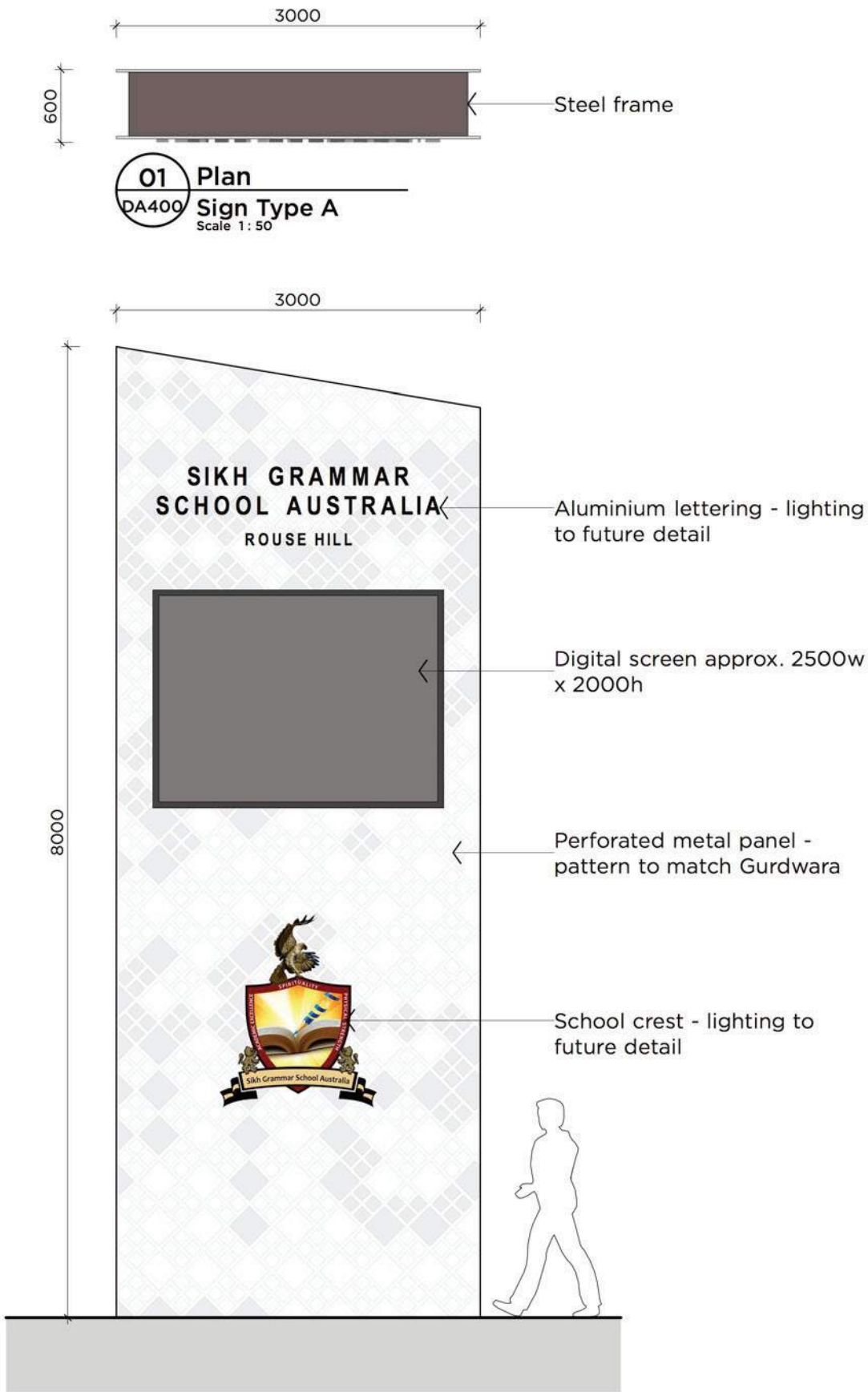
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LIGHTING PLAN & STATIC SIGNAGE



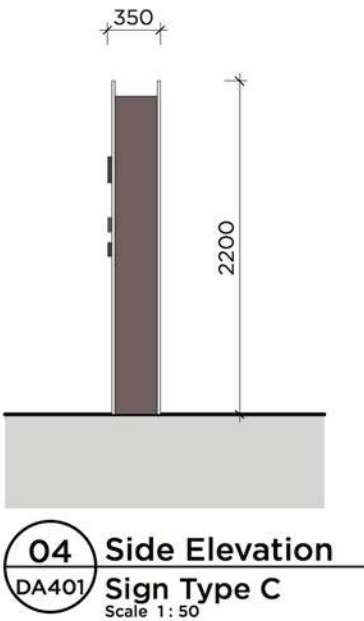
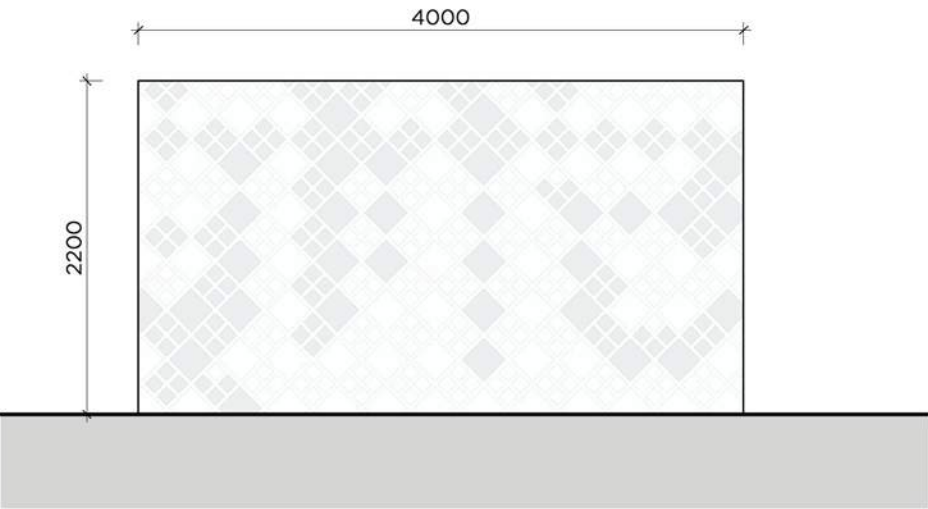
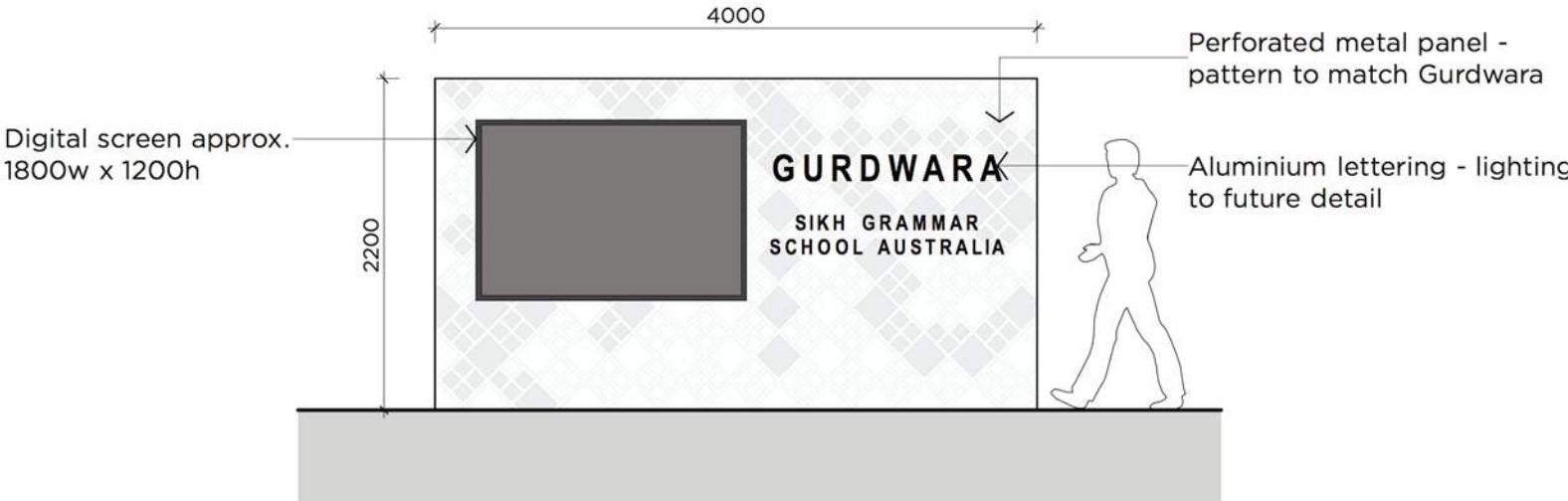
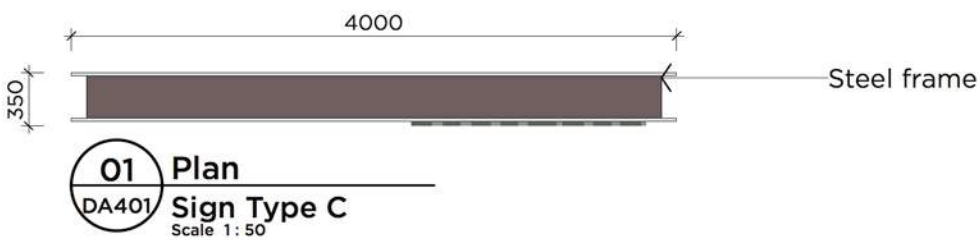
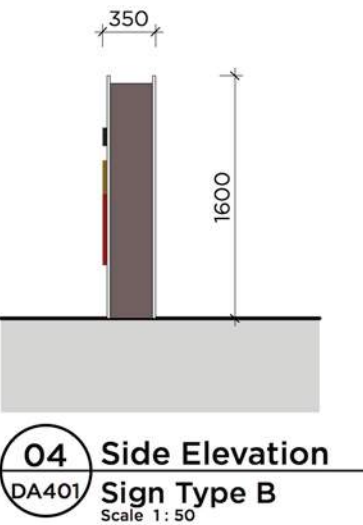
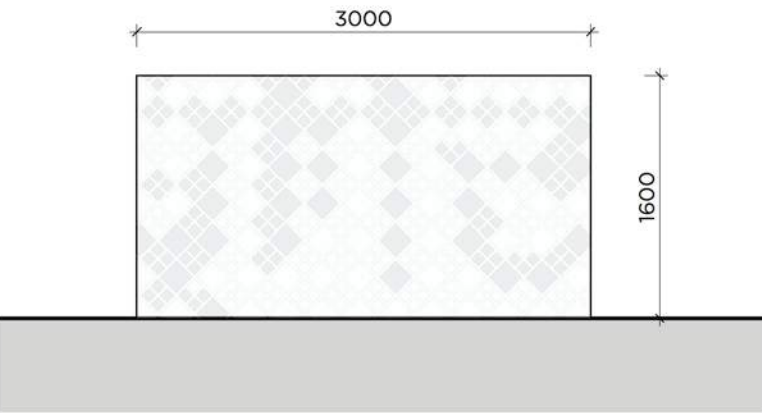
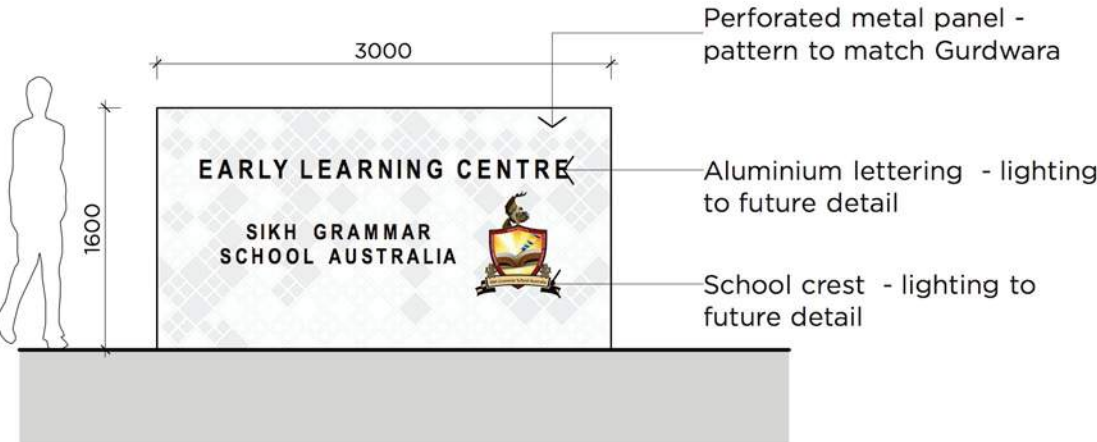
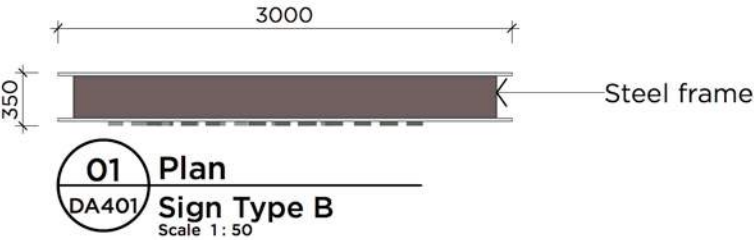
- Directional lighting
- Overhead lighting
- Static signage

SIGNAGE TYPE A

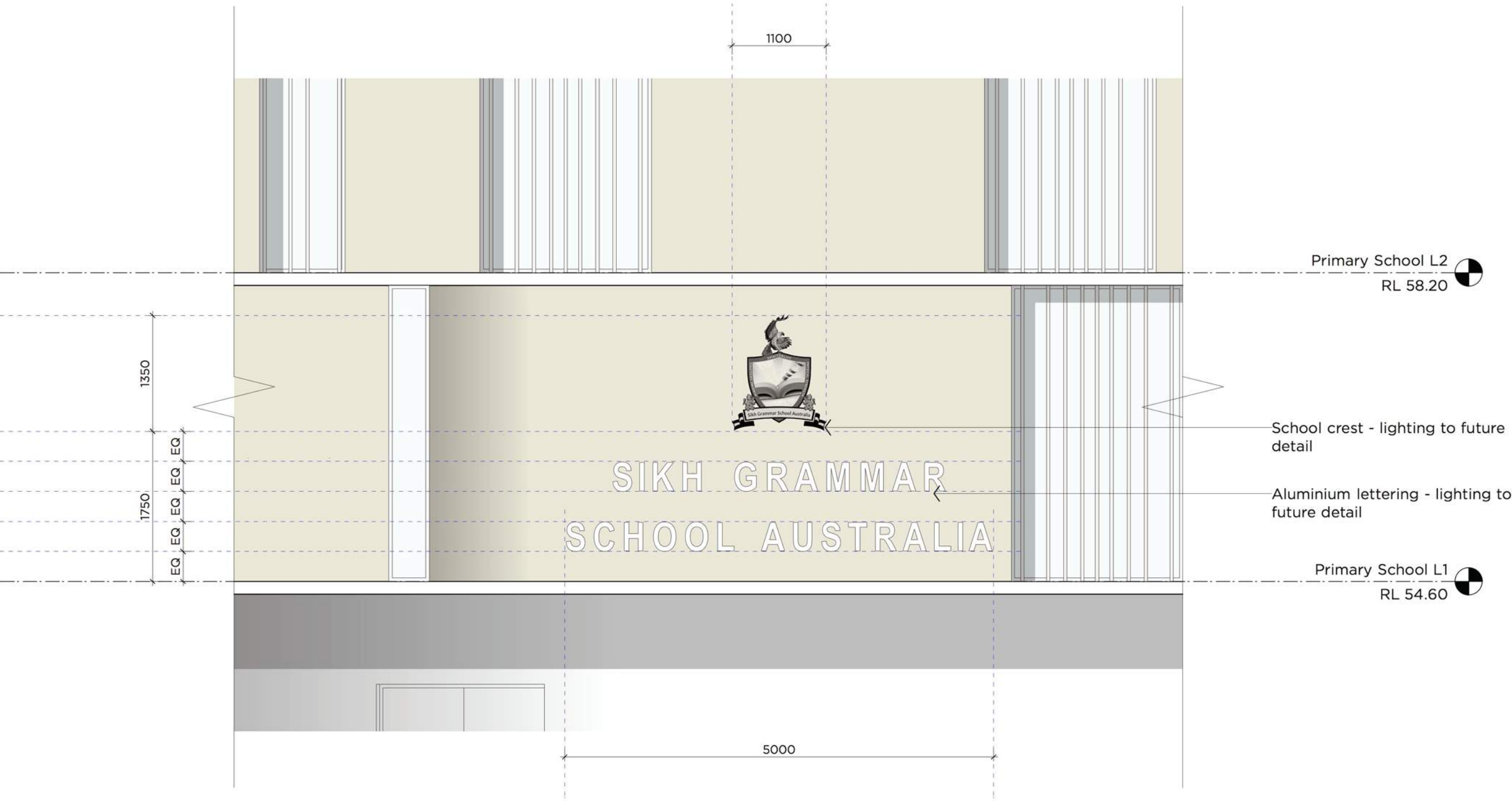


perforated metal panel finish

SIGNAGE TYPE B & C

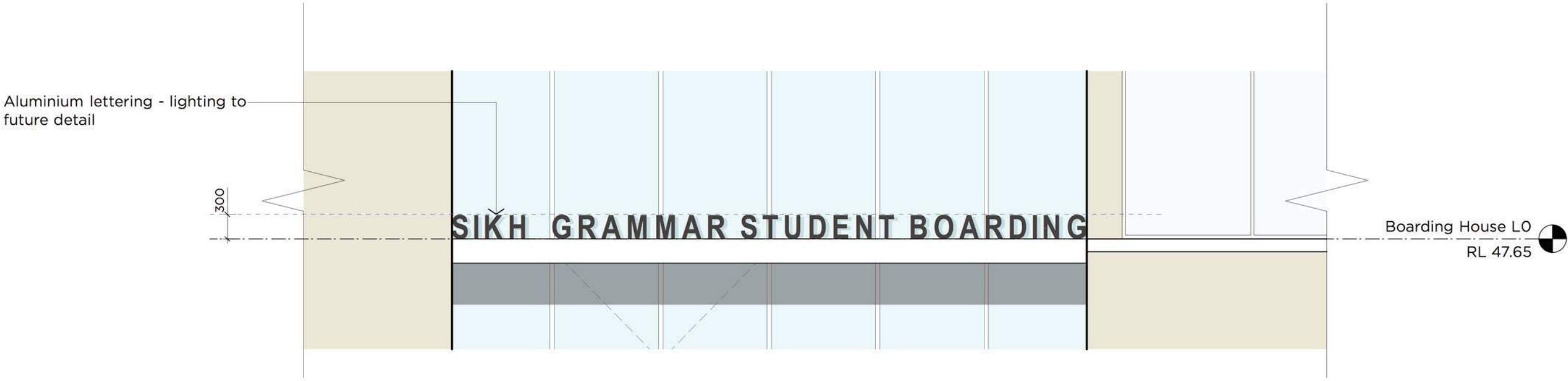


SIGNAGE TYPE D



01 Elevation - Admin Entry Signage
DA402 Sign Type D
Scale 1:50

SIGNAGE TYPE E



01 Elevation - Boarding House Entry Signage
DA403 Sign Type E
Scale 1: 50

DESIGN QUALITY - PRINCIPLE 1 BUILT FORM & LANDSCAPE

Principle 1

Contextual, local and of its place. Context, built form and landscape.

The locality of the site is within a semi-rural area of far north-western Sydney that is rapidly being transformed into a suburban district. The landscape consists of mostly cleared hobby farms void of trees or any significant land features.

The site has been ear-marked under the Indicative Layout Plan as low density housing. Permissible on the site is an educational facility or a place of worship. Surrounding the site are low density housing lots under construction.

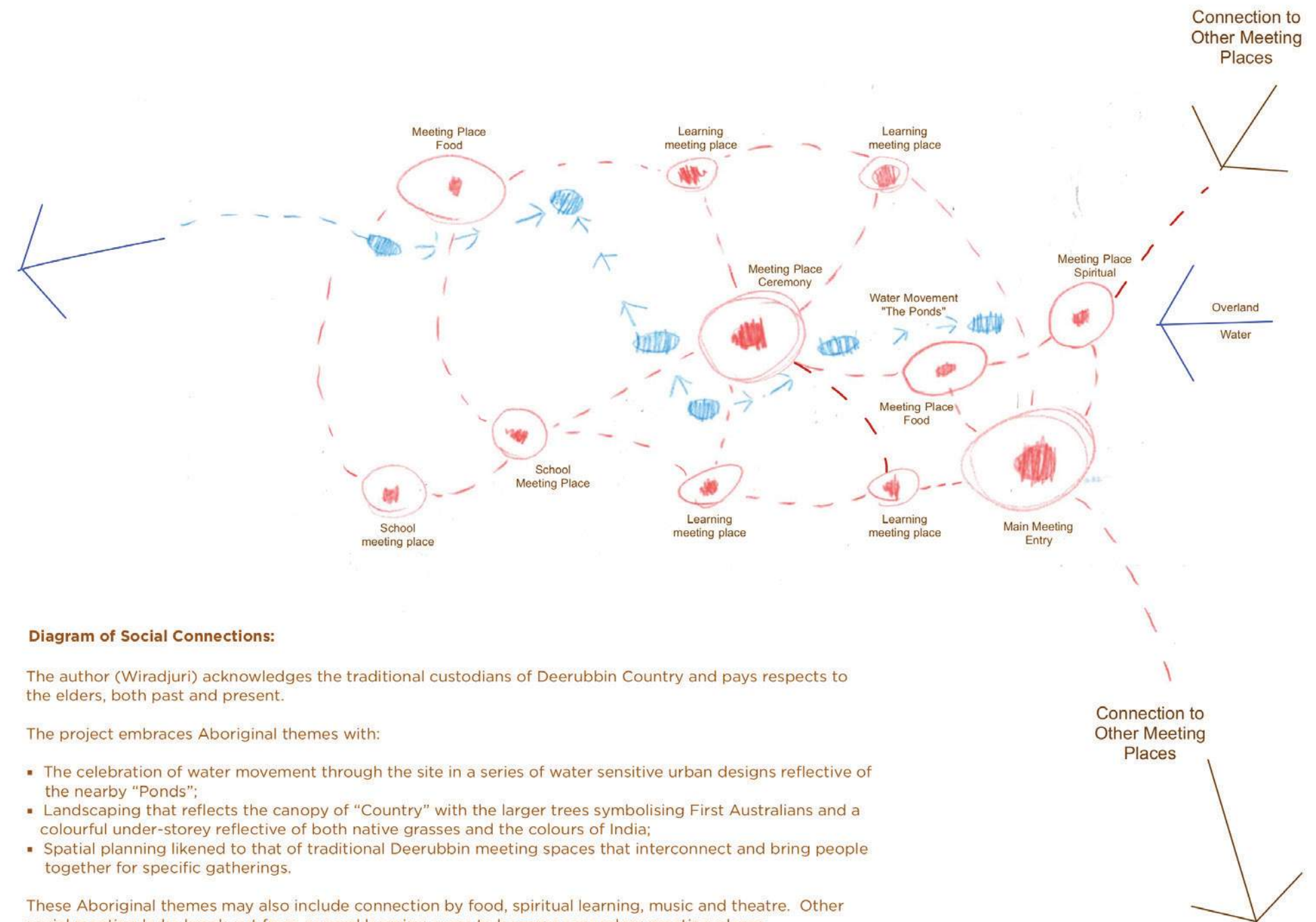
An Aboriginal Cultural Heritage Assessment Report (ACHAR) has been commissioned. The ACHAR has not revealed cultural heritage information which limits development on the site as the landscape has been substantially modified over the years.

Despite this, traditional Darug themes of “Country” have been brought forth that reflect an understanding of past traditions and have been meshed with the unique qualities of Sikh culture. These include an overall site planning based on meeting places focused on:

- Food - Student boarding and the Langar
- Ceremony - The Civic Heart for formal gatherings
- Learning - Breakout spaces adjacent to formal teaching spaces
- Spiritual Meeting Place - The Gurdwara

The locality has a large Indian population of which many are Sikhs. This is clearly demonstrated with the popular use of the nearby Park Lea Gurdwara which is the basis of our traffic analysis.

Built form is to engage and compliment its surroundings in terms of scale, transition from built form to open spaces; future housing; and their relationship with the streetscape.



DESIGN QUALITY - PRINCIPLE 1 BUILT FORM & LANDSCAPE

Overall Site Layout / Masterplan

The proposed Masterplan embraces the Civic Heart, village green and addresses the core building of the Sikh Grammar School, the 'Gurdwara'.

To mitigate the natural overland flow through the centre of the site, the Gurdwara building is lifted up, with parking underneath which provides a diversion for flood waters northward over the site to the north eastern carpark. Flood waters are also diverted via a culvert which then flows onto the road reserve drainage system.

The buildings form an edge to the site and surround central open spaces. This offers a strong connection and interface with the street frontage for access, serviceability and street presence. The taller building forms are sited more centrally on the site to avoid overshadowing and loss of amenity to the neighbouring residential context. On the southern streetscape, the school is set back further, to this end.

The upper level of the learning areas will enjoy uninterrupted views towards the west with the Blue Mountains beyond. There is a strong axial relationship from the entry, with deliberate view lines, to visual landmarks beyond.

Landscaping elements reinforce this important relationship, whilst also creating outdoor learning opportunities, recreation spaces and good passive surveillance.

Upon arrival, the Gurdwara forms a striking presence with abstracted expressions of Sikh culture. This includes iconic sculptures of Sikh horses, a flag-pole bearing the Sikh flag and cultural wrappings and the traditional colour of saffron. Subtle references to the past stencil the walls of the ground floor with a vibrant, saffron soffit.

The entrance to the Gurdwara (*doorway to the Guru*) is identified by the space between two pod-like structures that separate and open up to welcome the community to pray together. The upper walls draw reference to this with diagonal

lines that attract the eye and create a natural gesture of entry. A filigree of traditional Sikh patterns also creates a sense of focus directly above the main entrance.

The contemporary, monolithic form is punctured, in places, to both articulate entry and to allow cross ventilation to occur.

A single point of arrival is established on the site. Pedestrians enter from Tallawong Road with a bus lay-by sited immediately outside the entry forecourt and foyer.

The Masterplan takes advantage of the raised Gurdwara with an underground offering that provides the much needed additional parking the site requires and a 'stop-kiss-leave' facility.



Sikh Grammar School Australia - Master Plan



Sikh Grammar School Australia - aerial view from south east corner above Tallawong Road

DESIGN QUALITY - PRINCIPLE 1 BUILT FORM & LANDSCAPE



Primary School Southern Streetscape

Staged Construction - The project will be constructed in nine stages. The initial stage includes temporary buildings suitable for a two stream primary school with a covered outdoor learning area (COLA); a school hall and temporary Gurdwara). The construction of the school buildings will need to progress swiftly and sequentially to remain ahead of the demand for both growth of the student intake and natural progression of the year cohorts. All of the appropriate infrastructure such as outdoor areas, parking and covered outdoor play will be proportionately developed to meet the demands of the student numbers. Construction of the permanent Gurdwara, student boarding house and the early learning centre (ELC) will be dependent on the School's funding model and demand. The staging shown for these buildings are indicative only.

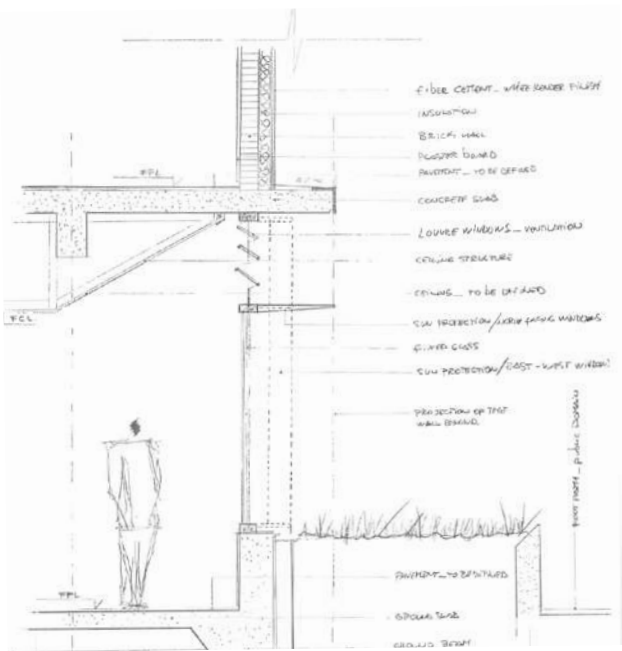
Setbacks & Streetscape - Appropriate setbacks are proposed for all buildings. Southern streetscape buildings are deliberately set back further to alleviate overshadowing.

The design anticipates the future, residential development of this remnant rural area on the edge of metropolitan, western Sydney. Future suburban development is already underway and the school will provide key support for the social infrastructure required for this development. Its contemporary, yet unassuming design, aims to sit comfortably amongst this future suburban setting. A generous civic quality to the School's entrance has been established with the introduction of landscaping in place of traditional fence solutions.

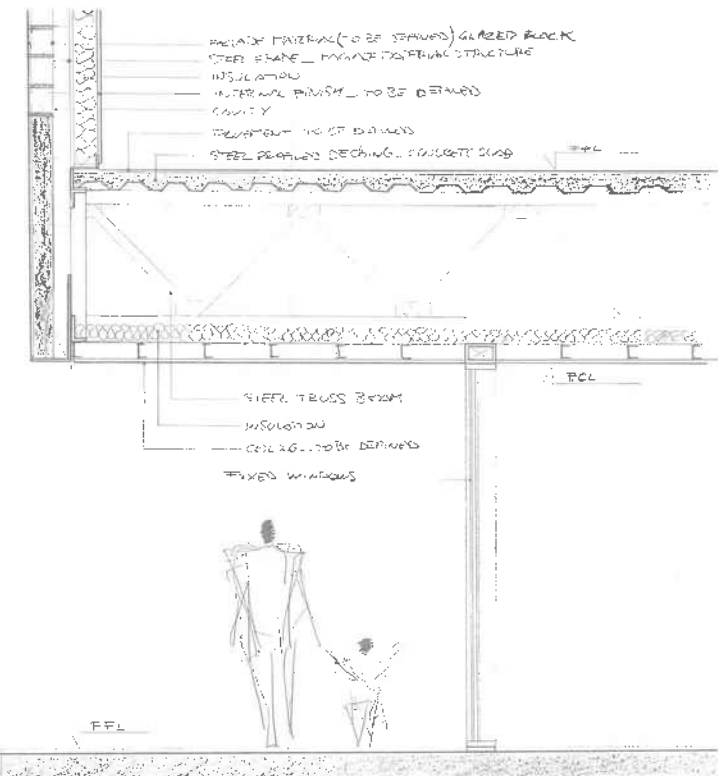
Integrated Services - A key design principle for this school is to integrate the services into the overall design as far as possible. This has involved a strong, collaborative design process with the many consultants at an early stage of the process.

In essence, a sustainable and cost-efficient approach to the services design was encouraged with a focus on improving learning outcomes. This approach generated a positive outcome where, in particular, electrical, mechanical, hydraulic and civil works have been successfully incorporated into the design of the buildings and the overall site and appropriately respond to the required, staged construction of the school.

DESIGN QUALITY - PRINCIPLE 1 BUILT FORM & LANDSCAPE



Typical North Façade Wall Detail - Primary and Secondary School Buildings (NTS)



Typical Wall Detail for The Gurdwara Building (NTS)

Façades - Light-coloured façades, alternating with light-coloured rendered walls, reflect the daylight and offer a robust and long-lasting, low-maintenance, exterior building envelope. The glazed areas are appropriately protected on the north, east and west façades, incorporating deep recesses and external screens with high-thermal-performance glazing.

Aesthetic - The overall school aesthetic is for a simple and contemporary appearance which is unpretentious within its suburban environment. Offering extensive areas of green, open space is a primary design aim of this project.

The aesthetic of student boarding is a modern expression with a composition of materials that engage with both the school and the early learning centre. There is a deliberate response to the scale of the early learning centre reflective of the children who occupy it.

The Gurdwara does not follow traditional Gurdwara designs with domes, arches and gold and white painted masonry. Instead the building engages with abstract expression. A white, monolithic structure floats above two saffron pods set back to provide an undercroft for pedestrian circulation in inclement weather. The façade is perforated in places to provide natural cross ventilation and abstract light.

Height - The largely three-storey project aims to stay under the LEP's 12.0m height limit. Due to the nature of the sloping site and the need to maintain level access to all facilities, the roofs extend, in places, to exceed this limit. The roof area that breaks the height limit in no way overshadows or compromises the privacy of adjoining neighbouring properties.

The Gurdwara has been lifted to mitigate overland flow from higher adjoining properties. In response to this, a split level building was designed to ensure appropriate engagement with external spaces. The Gurdwara exceeds the 12.0m height limit but is appropriately located, setback from the primary road and expresses appropriate prominence for a place of worship as the centrepiece of this project.

The student boarding facility is in alignment with a residential development of its type.

The two-storey ELC is well below the height limit being of a similar height to the neighbouring and surrounding housing developments.

Bulk and scale - While the site is currently cleared land, a remnant of past farmland use, two-storey housing developments will imminently surround the school site. The bulk and scale of the school presents to the streets as three storey façades. There are centrally located four-storey elements that are set back substantially from the adjoining streets. The central form will not be visible from the immediate streetscape.

The student boarding facility cascades down the landscape with a three-storey lowering to a two-storey building with undercroft where the development meets the western boundary. This has been done to minimise overshadowing and loss of privacy to the neighbouring properties to the west, yet to be constructed.

The ELC has a varied bulk and scale with sensitively considered articulation of its façades.

DESIGN QUALITY - PRINCIPLE 1 BUILT FORM & LANDSCAPE



Student Boarding & Sunken Court

Design - Due to the rich communal and inclusive qualities of Sikh culture and religion, the school has strong interconnections across the campus and with the broader community.

The primary school is close to the entry and has the benefit of the watchful eye and proximity to the administration building.

The secondary school is located on the northern side of the site, on the other side of the Civic Heart. The library and staff lounge bridge between the two buildings to form an overhead link. The library building is elevated two storeys in height and creates a generous covered outdoor learning area. The overall planning of the school is based around a series of civic spaces that range in size and use. This includes the Civic Heart, The Village Green, tiered seating, breakout spaces and small cluster arrangements within general learning areas.

While enjoying a strong connection to the Village Green, Student Boarding offers an open and inviting student dining and common room experience. The dining area enjoys northern sunlight, indoor and outdoor connections and forms a social hub for student interaction. Smaller breakout spaces exist on each level that cater for smaller gatherings and social interactions.

Building forms respond to the need for staging and are reflective of the programme within. The expression of parts is apparent throughout all of the school buildings. Entries into spaces are clear with generous setbacks and transparency.

The school design is focussed on the community that it supports, the learning opportunities on offer and the oasis that it creates for the largely Sikh Community.

DESIGN QUALITY - PRINCIPLE 1 BUILT FORM & LANDSCAPE

The proposed Early Learning Centre (ELC) is designed to reflect the scale of the pre-school-age children who will occupy it. It also steps down in scale as the built form engages with future housing to the south western corner of the site.

Following the expressions of entry in other buildings on the site, the ELC building pulls apart to offer an open-armed welcome as well as transparency. The transparency is then repeated between indoor and outdoor areas which can open up completely as appropriate to the weather, the time of day and season of the year.

Careful consideration has been given to the different age groups, security, circulation, age-appropriate outdoor play and opportunities for social connection.

Children aged 0-2 are located on the upper level with a partly shaded, safe outdoor play space.

Children aged 3-6 are grouped into three, age-specific groups and have direct access to dedicated outdoor play areas and internal activity areas.

Secondary outdoor play areas are also available for prescribed teaching activities.

All spaces enjoy plenty of natural daylight and both natural and mechanical ventilation.

Outdoor shade structures offer protection for external play on sunny days.

The entire play area has a northerly aspect.



Early Learning Centre - view from the north

DESIGN QUALITY - PRINCIPLE 2 SUSTAINABLE, EFFICIENT AND DURABLE

Sustainable, efficient and durable.

The new facilities have been developed through an iterative process with passive and active Environmentally Sustainable Design (ESD) principles at the core of the thinking. ESD is not a separate element of the design process but an integral aspect of all high-quality design fit for the 21st century.

This approach ensures a demonstrable, educational benefit for the users of the buildings as clean, fresh air, maximum daylight access, thermal comfort, good acoustics and solar glare control all increase learning outcomes in schools, as well as reduce running costs and lost productivity days of staff.

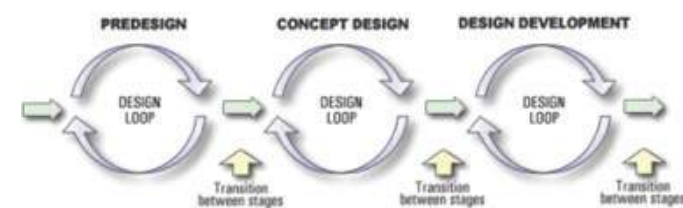
This integrated design approach has created ample opportunity for natural ventilation, with additional mechanically-assisted fresh air flow (with heat recovery) within a well-sealed and highly insulated building. Simple user controls provide the most environmentally beneficial outcome for the occupants, thus addressing acoustic attenuation and indoor air quality simultaneously.

Building depths and three-dimensional spatial relationships have been developed to optimise natural daylight access and opportunities for cross ventilation and night purging through low-level and high-level, operable, louvre windows.

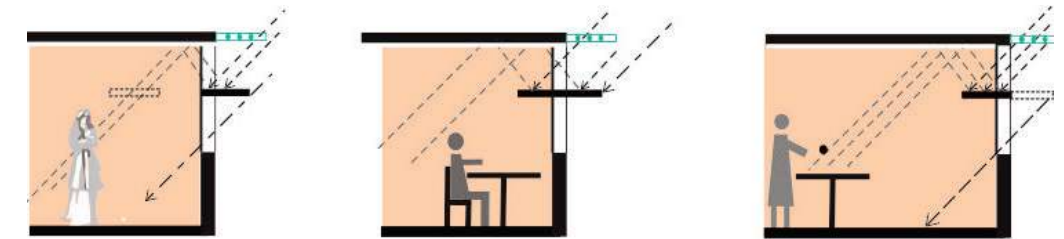
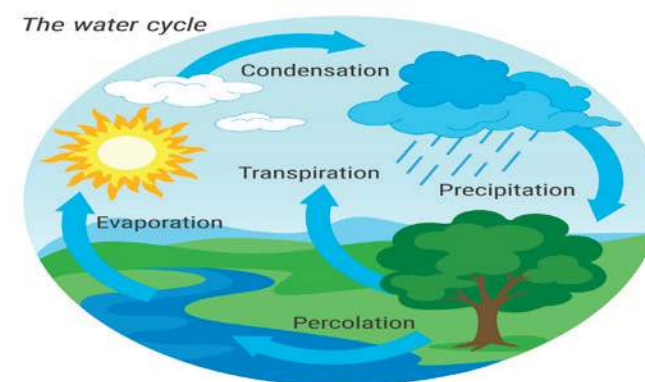
Solar and glare controls have been integrated into the façade design of the buildings, as appropriate to their orientation, to reduce heat gain in the summer months and to avoid unnecessary glare within the learning and working spaces, whilst still allowing winter solar access as part of the passive solar design strategy for the entire project.

Rainwater collection, storage and recycling will support food growing and shade-plant irrigation.

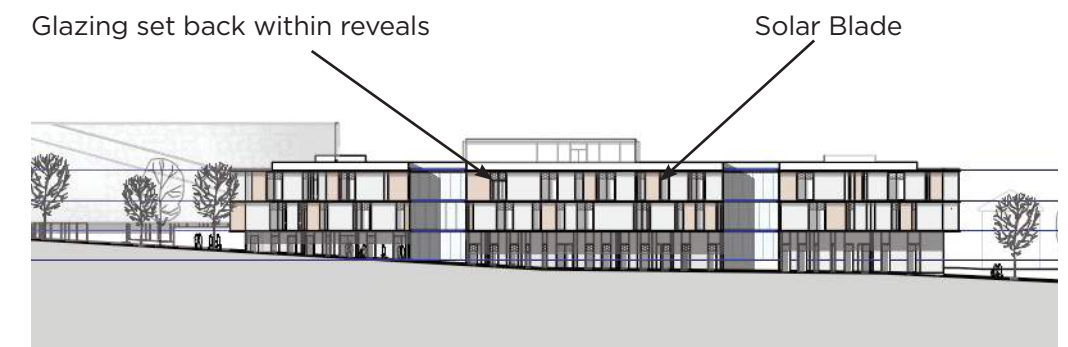
The careful selection of robust, quality, locally-sourced, low-maintenance, fit-for-purpose, sustainable building materials and construction methods will provide for the long-term future performance of the buildings.



Integrated Design Process

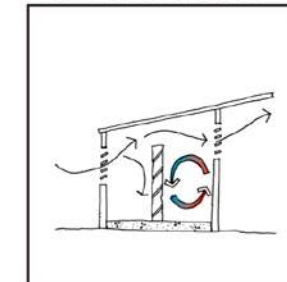


Daylight access

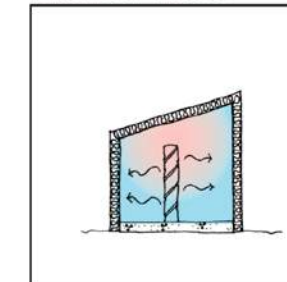


Northern Elevation - Secondary School

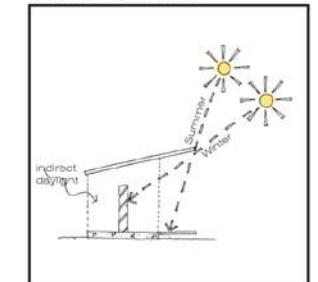
Nat. vent. & cool.



Thermal mass



Solar control



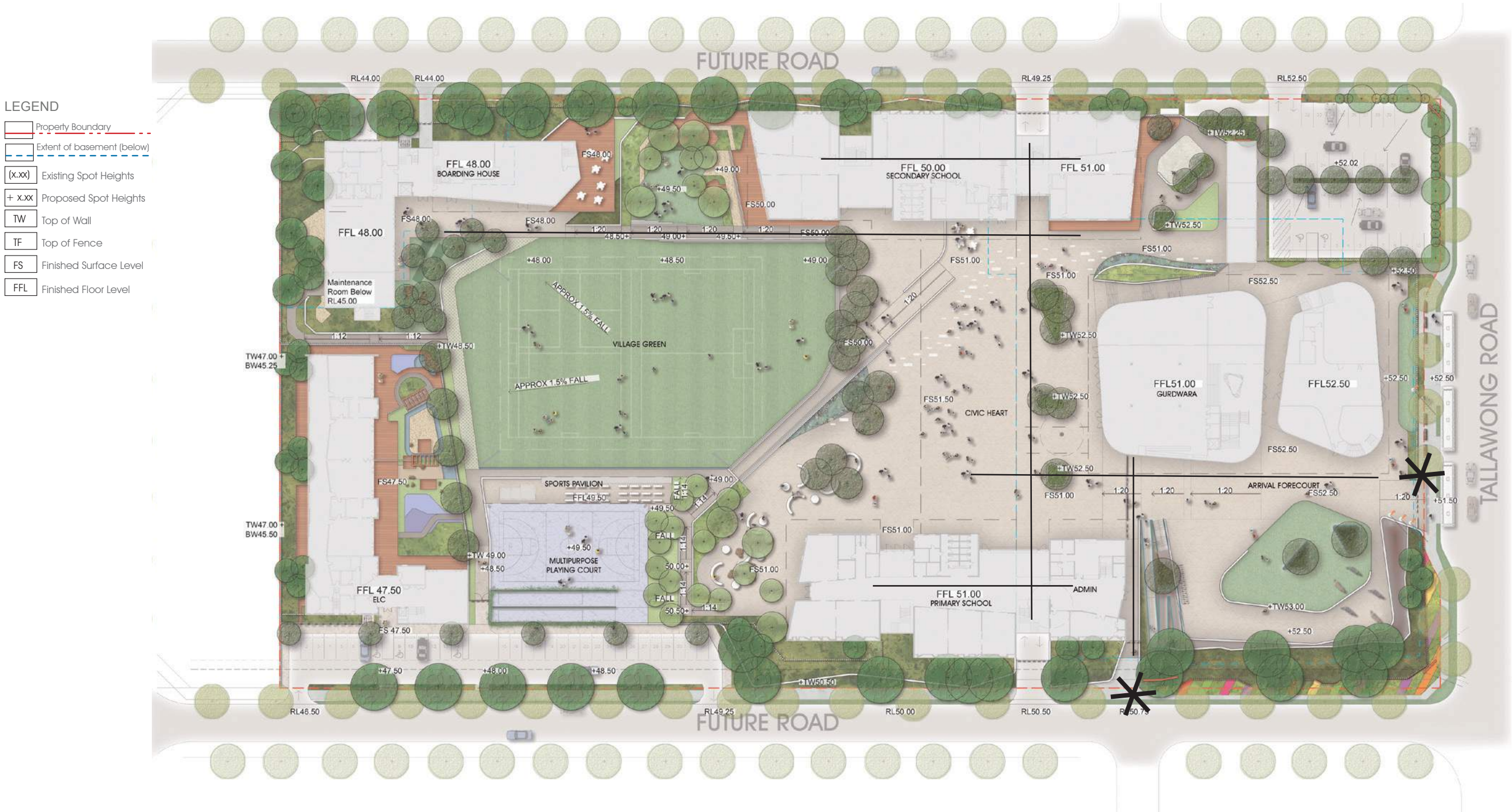


The main axis to the school are led past the administration building where students either carry on to primary or secondary buildings. Student boarding enjoys access directly to the school via an internal path. The Early Learning Centre has it's own entry and is somewhat autonomous in its operation which is reflective in the circulation.



- 'Horticultural Painting'; a mixture of vibrant colours against a backdrop of olive green.
- Sculpture signifying connectivity, creativity and remembrance.
- Variety of multifunctional spaces connecting large (shared) spaces with smaller (intimate) areas.
- External spaces as outdoor classrooms; reflecting the curriculum and modern pedagogy.
- Responsive to the full range of climactic conditions including, hot sun, cold, rain and wind.
- Importance of rainwater harvesting, stormwater buffer basins; long term resilience of hydrated soil

DESIGN QUALITY - PRINCIPLE 3 ACCESSIBLE AND INCLUSIVE

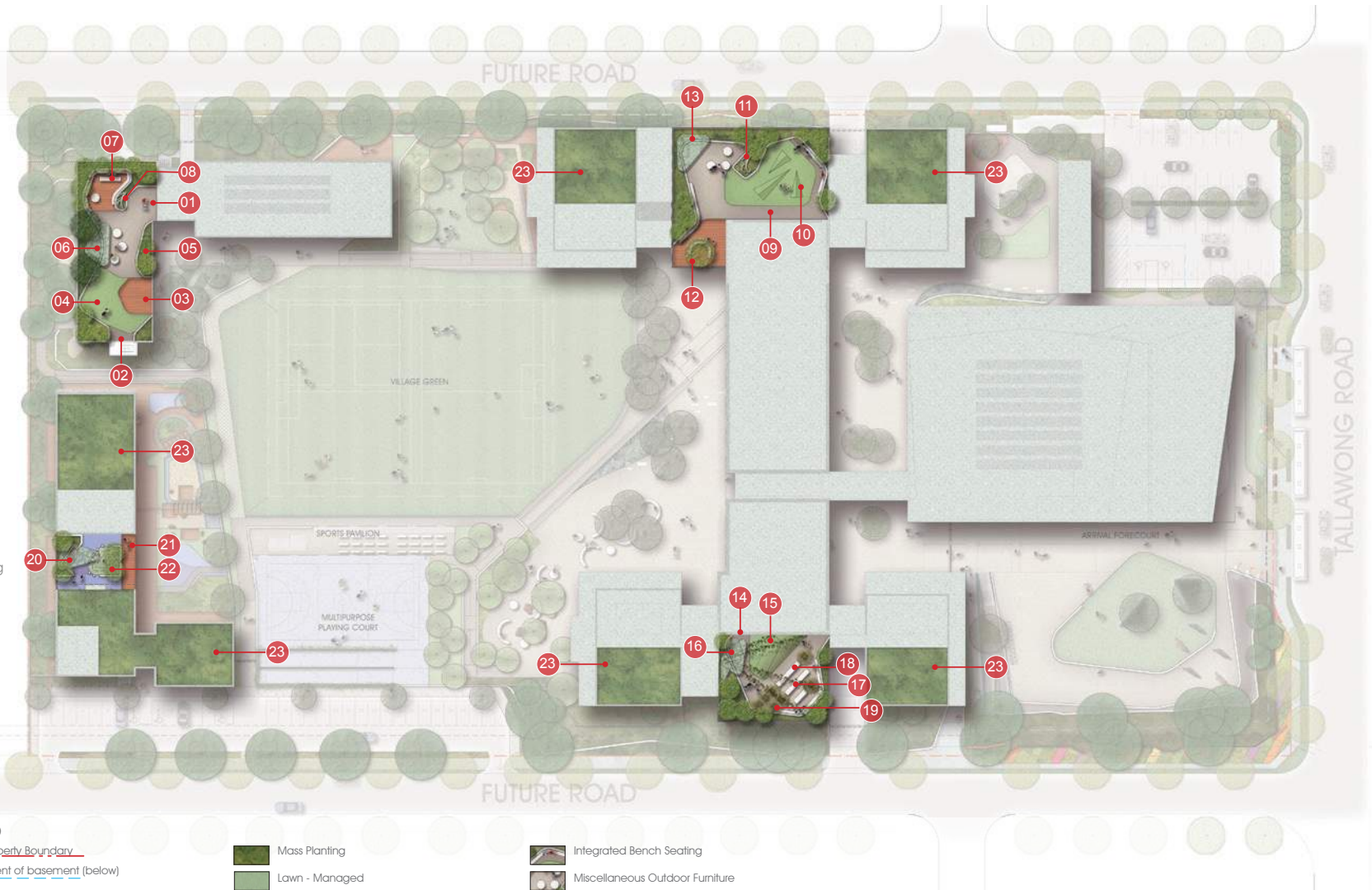


DESIGN QUALITY - PRINCIPLE 3 ACCESSIBLE AND INCLUSIVE

11 || CONCEPT LANDSCAPE ROOFTOP MASTERPLAN

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- KEY
- BOARDING ROOFTOP**
- 01 Primary Rooftop Access
 - 02 Secondary Rooftop Access
 - 03 Village Green Viewing Deck
 - 04 Picnic/Study/Games lawn
 - 05 Raised Productive Garden
 - 06 Outdoor Kitchen w/ BBQ & Shade Structure
 - 07 Family Style Dining
 - 08 Kinetic Sculptural Element
- SECONDARY SCHOOL ROOFTOP**
- 09 Primary Rooftop Access
 - 10 Mounded Study/Games lawn
 - 11 Kinetic Sculptural Element
 - 12 Village Green Viewing Deck
 - 13 Shade Structure
- PRIMARY SCHOOL ROOFTOP (STAFF ONLY)**
- 14 Primary Rooftop Access
 - 15 Synthetic Mounded Picnic Lawn
 - 16 BBQ & Utility Bench w Shade Structure
 - 17 Hanging Greenery w/ night lighting
 - 18 Family Style Lunch Tables
 - 19 Herb & Citrus Orchard in Movable Raised Planters
- ELC**
- 20 Utility Bench w Shade Structure
 - 21 Village Green Viewing Deck
 - 22 Mounded Natural Lawn
- GENERAL**
- 23 Extensive Green Rooftop (Non Trafficable)



LEGEND

- | | | |
|---|-------------------------|--|
| Property Boundary | Mass Planting | Integrated Bench Seating |
| Extent of basement (below) | Lawn - Managed | Miscellaneous Outdoor Furniture |
| Existing trees to be retained & Protected (as per AS4973) | Lawn - Artificial | Paving Type 1, Decking |
| Existing trees to be removed | Fencing | Paving Type 2, Concrete |
| Proposed Trees | Landscape Walling | Paving Type 3, Stone Masonry Unit Pavers |
| | Shade Structure/Pergola | Sculptural Element |



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WILLOW TREE
PLANNING

sym. studio
Landscape Planning

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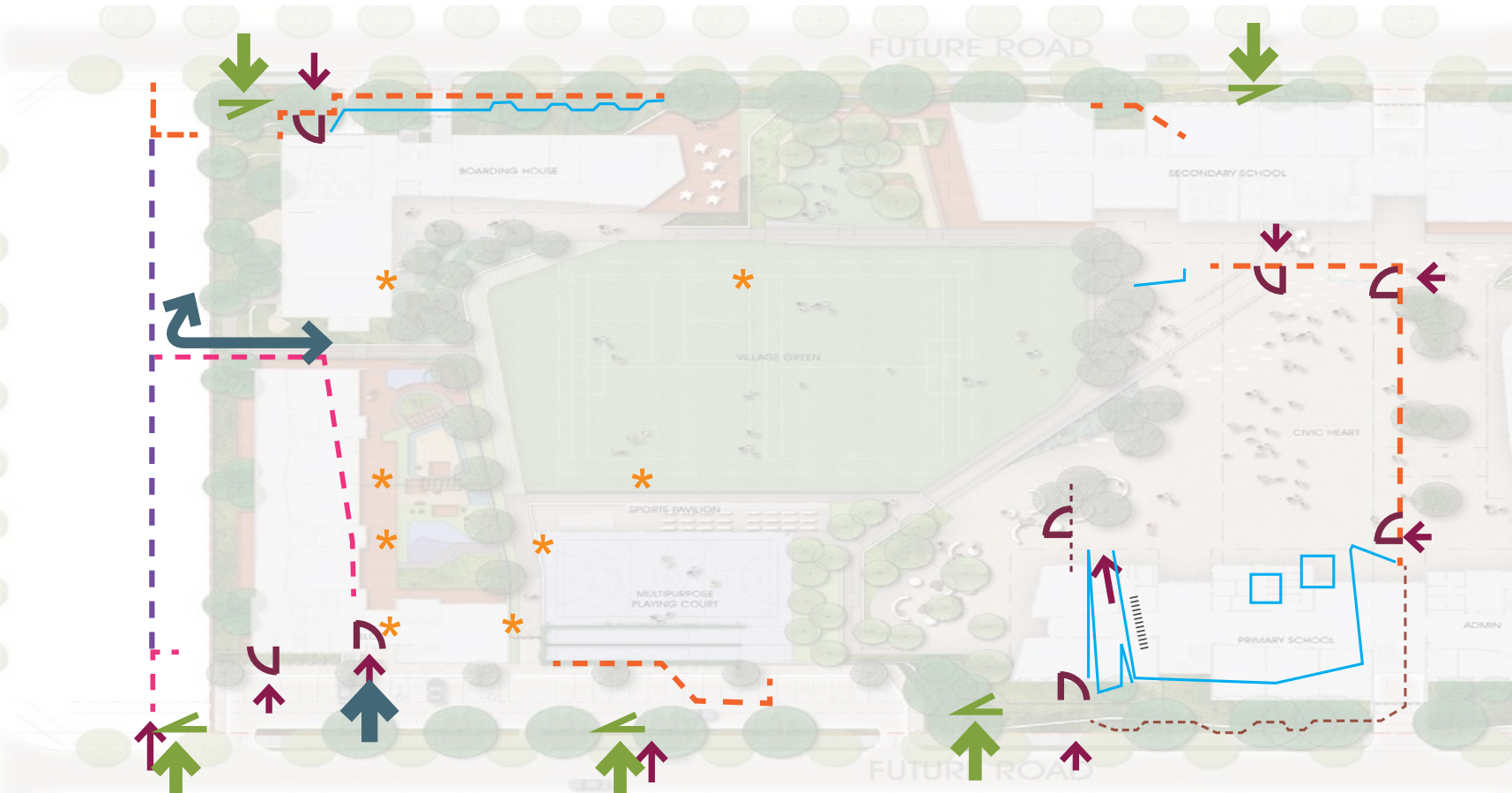
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Design Approach

All roof tops are accessible to all with lift access from multiple locations.

DESIGN QUALITY - PRINCIPLE 4 HEALTH AND SAFETY



- Fence type 1 - (1.2mH)

Fence type 2 - (1.5mH)

Fence type 3 - (1.5mH)

Balustrade - (1.2mH)

Sculptural Safety Barrier - (1.2mH)

*

Active Amenity Lighting

Pedestrian Entry

Pedestrian Gate

Boomgate

Vehicle Entry

Service Vehicle Entry

Bicycle Parking (Outdoor)
-
- Fence type 1 -
ELC child friendly scale, semi-permeable, screening external staging area (dropoff) incl. Prams
-
- Fence type 2 -
School safety, semi-permeable - passive surveillance
-
- Fence type 3 -
Security /privacy
-
- Balustrade
School safety, semi-permeable - passive surveillance
-
- Sculptural Safety Barrier to top of embankment and Entry backdrop.
- Design Approach
- While enjoying a strong connection to the surrounding streets, the school is embraced by subtle boundary treatments offering both security and a sense of inclusion. At the entry forecourt the boundary fence is reduced in size to that of a balustrade with the introduction of a ha ha wall to invert security needs while also offering a light well to the carpark below.
- Buildings, with soft landscaping become the boundaries wherever possible. In areas where there is no structure, fencing is applied and integrated within the landscape wherever possible.
- The overall experience both within the school and from a public place is that of a welcoming and accessible environment.
-
- Primary School Southern Streetscape

DESIGN QUALITY - PRINCIPLE 5 AMENITY

Better for Community

Inclusive, connected and diverse. Accessible and inclusive.

- Openness and transparency, celebrating teaching and learning.
- Strong sense of place, identity and community.
- Entrance to the school is clear and welcoming with a direct connection to its Civic Heart and all school facilities being accessible to all.
- A sense of ownership, pride and belonging through meaningful and connected spaces.
- Offering an invitation beyond the immediate school community to engage with the school's culture and its users.
- Use of accessible routes throughout the school landscape as a design feature.



Better for People

Safe, comfortable and liveable. Health and safety.

- Integration of high levels of natural daylight and access to fresh air promotes better teaching and learning outcomes.
- Strong indoor - outdoor connections encouraging diversity of use and blurring of formal and informal uses.
- Crime safe approach based on good surveillance with clear sight lines, effective lighting of public areas and appropriate perimeter landscaping.
- Age and user appropriate spaces through diversity of scale and enclosure, creating a variety and diversity of learning settings and opportunities.
- Clarity of place and space providing clear way finding and orientation as well as an understanding and sense of community.
- Strong organisational principles and attention to duty-of-care / security obligations.
- Creation of meaningful spaces with all spaces contributing to the teaching and learning and sense of community ownership.



DESIGN QUALITY - PRINCIPLE 5 AMENITY

12 || CONCEPT IMAGERY

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Landscape Planning

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B

DESIGN QUALITY - PRINCIPLE 6 WHOLE OF LIFE, FLEXIBLE AND ADAPTIVE

Better Working

Functional, efficient and fit for purpose. Amenity.

- New, custom-designed facilities to cater for a variety of uses and users, supporting diverse teaching and learning within a semi-rural / suburban context.
- Respect and order of private, group, public and community spaces and activities.
- Integration of natural light, airflow and visual interconnection between indoor and outdoor areas.
- Creation of a strong sense of place and community heart.
- Careful organisation of teaching and learning cohorts without prescriptive determination of spaces.
- Adaptable use of spaces particularly multi-purpose spaces and circulation areas which support diverse teaching and learning.
- Providing outdoor opportunities for learning through exploration, hands-on activities and play.



Better Value

Creating and adding value. Whole of life, flexible and adaptive.

- The proposed buildings are designed for future adaptation and responses to changes in teaching and learning. It is not about a collection of classrooms and corridors but rather groups of learning cohorts around a central sense of community, anchored in the specific signature of the School.
- Efficient structure and building fabric maximising future opportunities.
- Use of robust and low maintenance materials ensures the longevity of the building fabric and maintains appearance.
- Part of the ongoing life and activities of the community. Not just about "school".

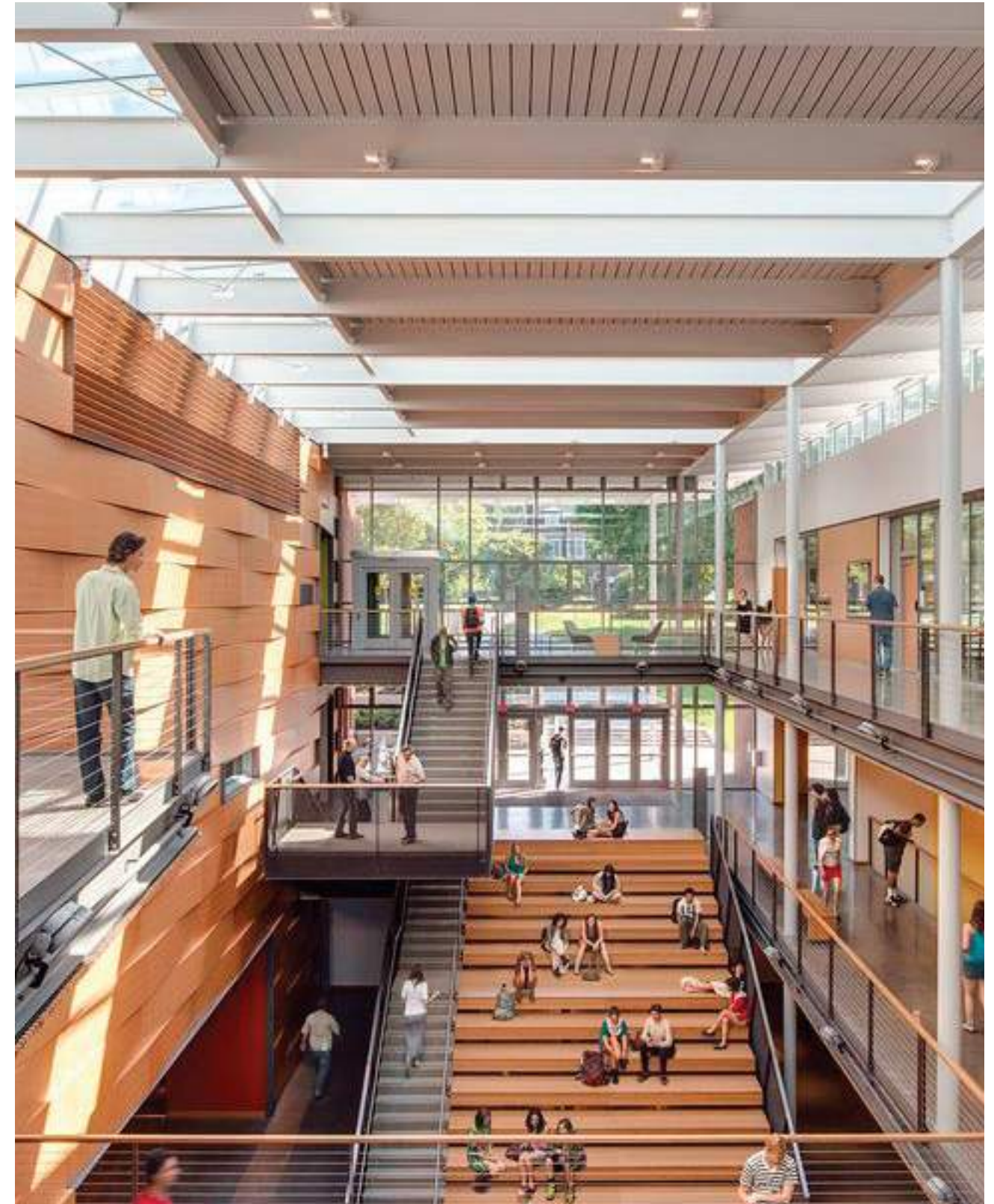


DESIGN QUALITY - PRINCIPLE 7 AESTHETICS

Principle 7 - Aesthetics

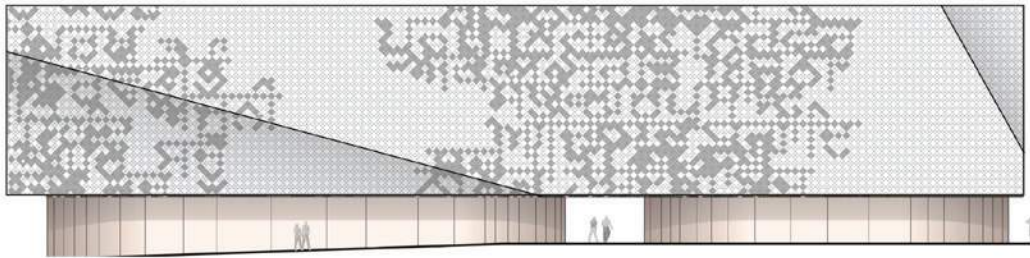
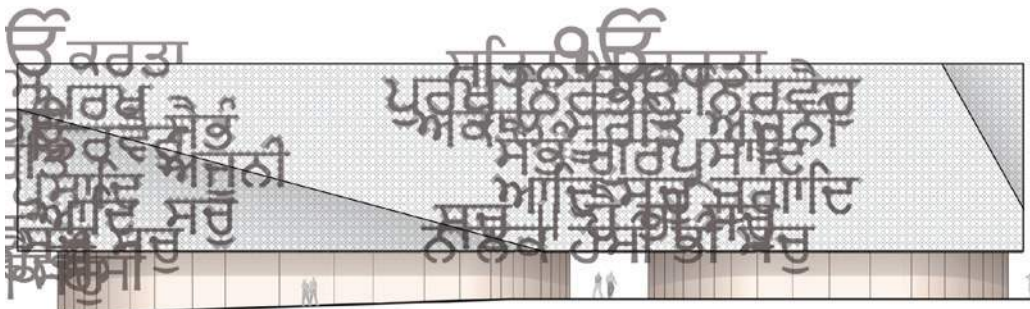
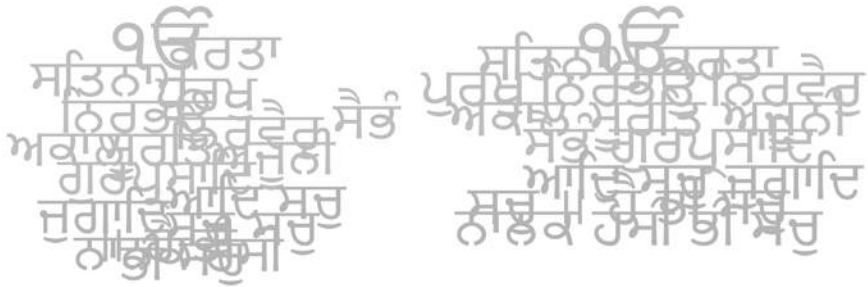
Engaging, inviting and attractive. Aesthetics.

- Opening of the principal pedestrian entry directly through to the Civic Heart celebrates the School's activities and offers an invitation to the community to engage.
- The three dimensional articulation and façade expression aims to reduce the bulk of the building and inform of the activities within, offering an invitation to the local community for engagement and participation.
- The strength of identity and presentation to the street adds a sense of place to the precinct and offers a dialogue to existing and future adjacent facilities.
- Careful integration of landscape and materiality to provide a unified but diverse whole.
- Respect for the semi-rural and future residential context through appropriate scale, materials and forms.
- Opening up views to and from the School connecting its users with their broader environmental and social context whilst offering neighbours a glimpse of their school life.



DESIGN QUALITY - PRINCIPLE 7 AESTHETICS
DESIGN RATIONALE - GURDWARA

ੴ ਸਤਿਨਾਮੁ ਕਰਤਾ ਪੁਰਖੁ ਨਿਰਭਉ ਨਿਰਵੈਰੁ ਅਕਾਲ ਮੂਰਤਿ ਅਜੂਨੀ ਸੈਭੰ ਗੁਰਪ੍ਰਸਾਦਿ ॥
ਆਦਿ ਸਚੁ ਜੁਗਾਦਿ ਸਚੁ ॥ ਹੈ ਭੀ ਸਚੁ ਨਾਨਕ ਹੋਸੀ ਭੀ ਸਚੁ ॥੧॥



Southern Streetscape Elevation

- Holy script
- generating
- perforated
- façade
- elements of
- the Gurdwara



Typical traditional Gurdwara



Typical traditional Sikh patterns

DESIGN QUALITY - PRINCIPLE 7 AESTHETICS



Render of Gurdwara Entry

Contemporary Gurdwara

The Sikh Grammar School Australia requested a modern building design that avoids being misconstrued as representing other faiths, with which other Gurdwaras are commonly mistaken, such as: Christian, Hindu, Buddhist and Islamic. Traditional Gurdwaras borrow heavily from these other influences and the result is a blurred expression of Sikhism. The Sikhs are excited by the idea of finding solutions that set them apart and reflect their truly distinctive and progressive culture.

In response to this, an abstraction of sacred text was used on a floating monolithic and sculptural form to create a building that finds a unique expression with strong ties to Sikh culture and yet is clearly not identified with other design typologies.

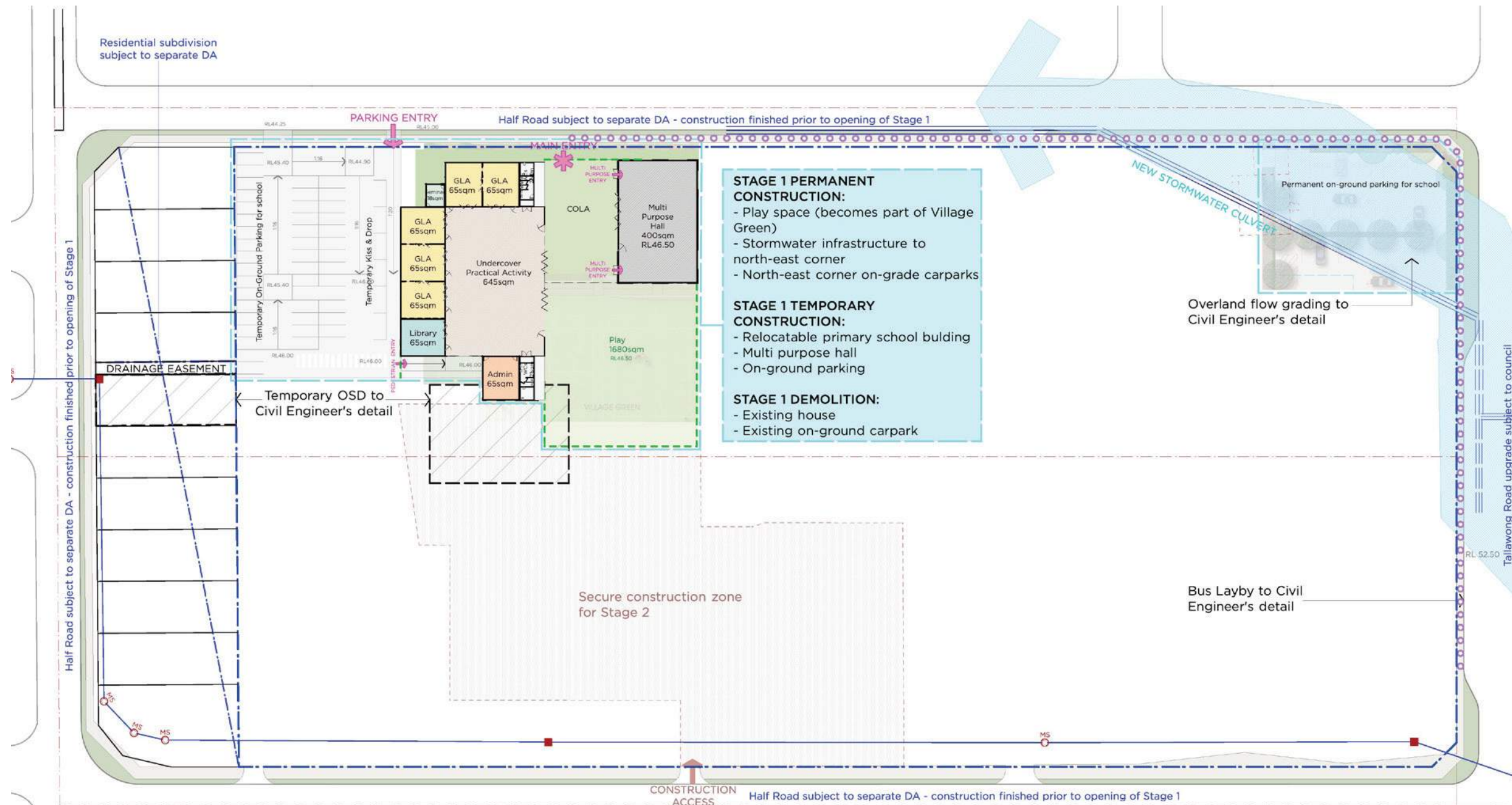
The floating sculptural element bends and folds in places with deliberate lines that guide people into the School entry or the Gurdwara itself. The glazed block façade is perforated with small openings that allow daylight to penetrate and natural ventilation to occur. Standard glazing solutions behind this external skin are used to facilitate practical operations for natural ventilation and abstract dappled light internally.

At the base, supporting this form, two curved pods pull apart to provide an opening which denotes the point of entry.

As with traditional Gurdwaras, the Langar (*place for communal eating*) is on the ground floor and opens up onto the School's Civic Heart. Traditional protocols are followed where Sikhs, and any member of the public, wash, eat and pray in the presence of a narrated sacred script. As with traditional protocols, the Gurdwara is located on the upper level which includes a mezzanine.

CONSTRUCTION STAGE 1 - SITE PLAN

ESTIMATED COMPLETION JAN 2022



0 10 20 30 40 50 M



STAGE 1: PRIMARY SCHOOL

Maximum students	112
Staff	8
Outdoor space	1,680sqm
Total Parking spaces	84

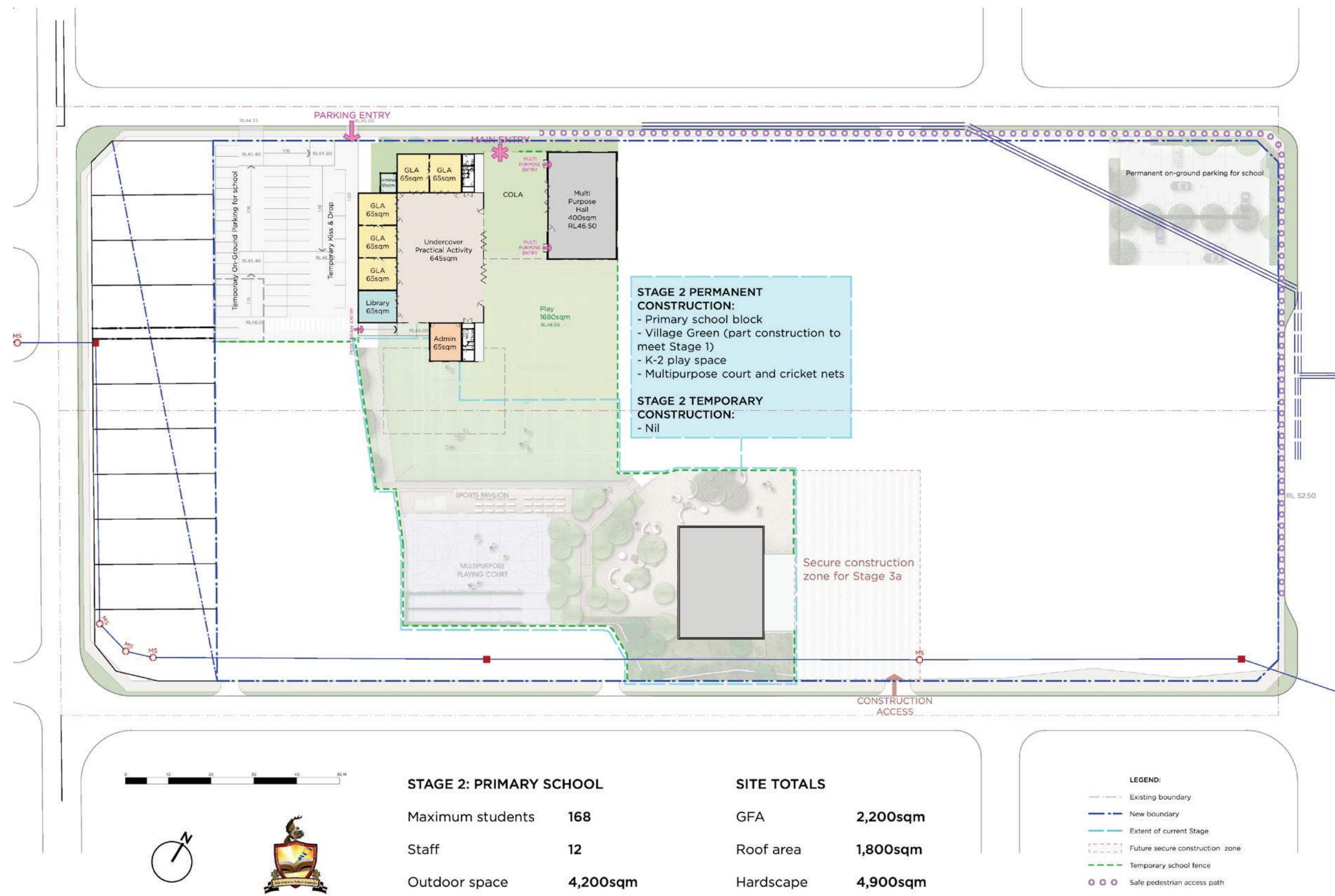
SITE TOTALS

GFA	1,650sqm
Roof area	1,200sqm
Hardscape	2,000sqm

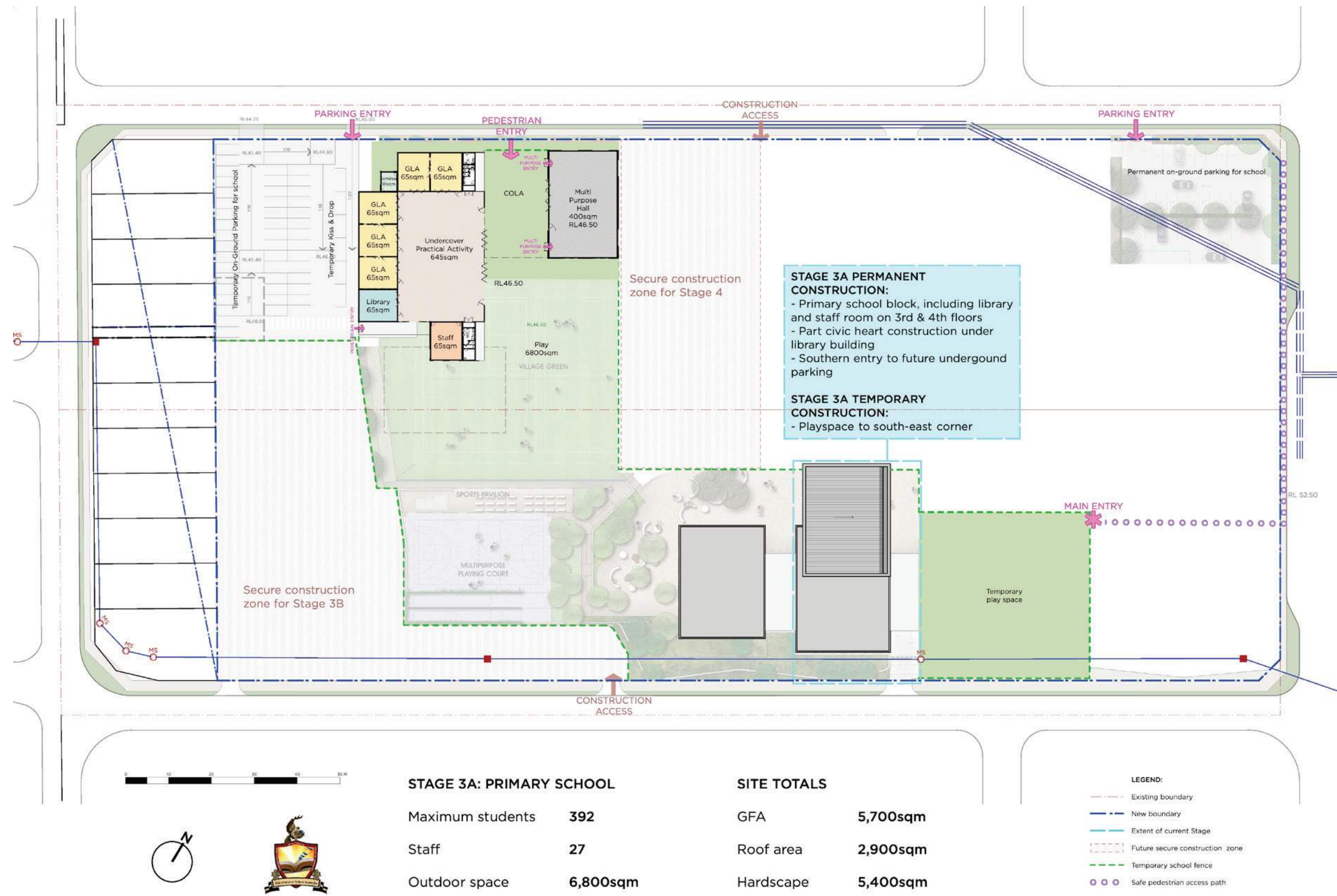
LEGEND:

- Existing boundary
- New boundary
- Extent of current Stage
- Future secure construction zone
- Temporary school fence
- Safe pedestrian access path

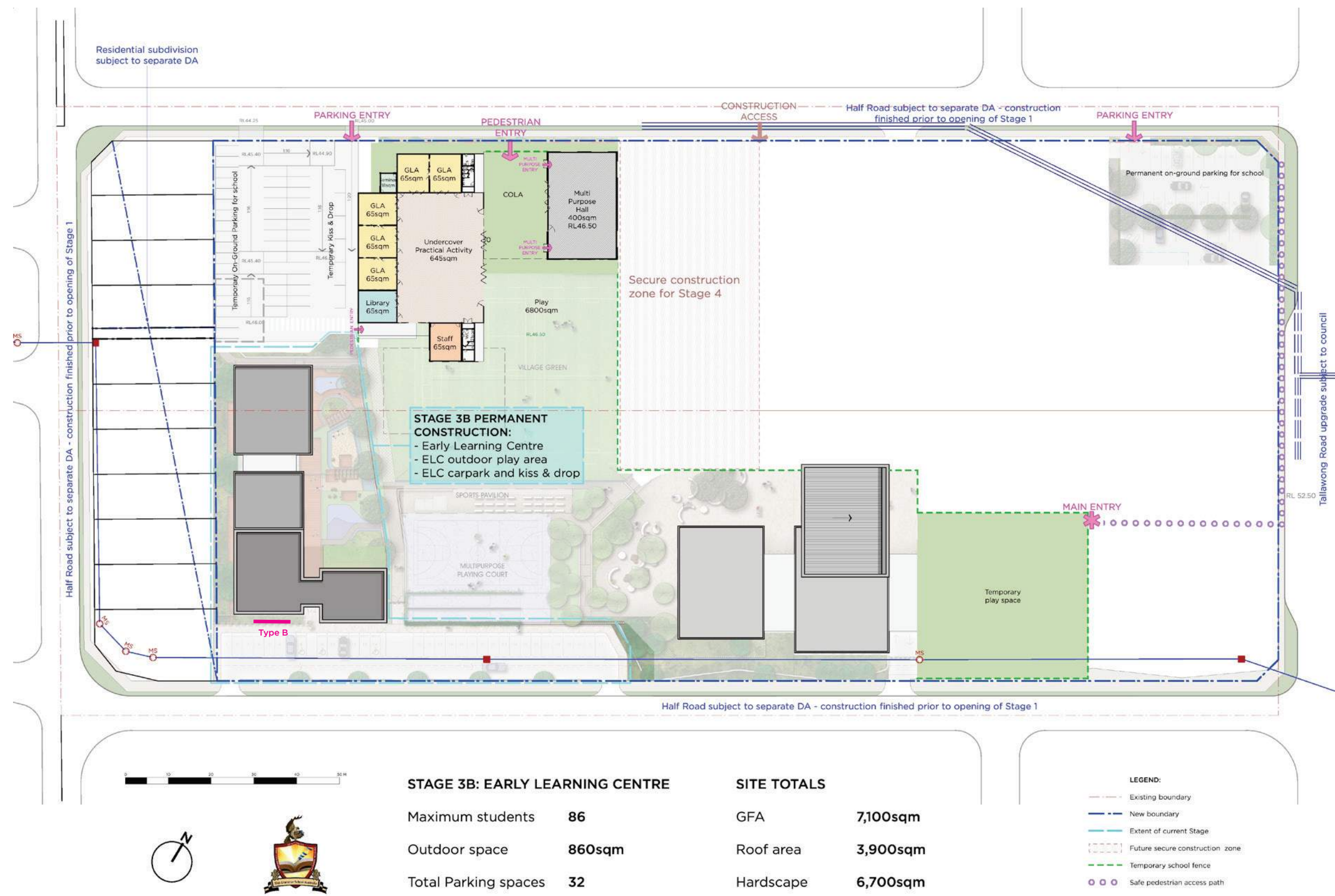
CONSTRUCTION STAGE 2 - SITE PLAN
ESTIMATED COMPLETION JAN 2024



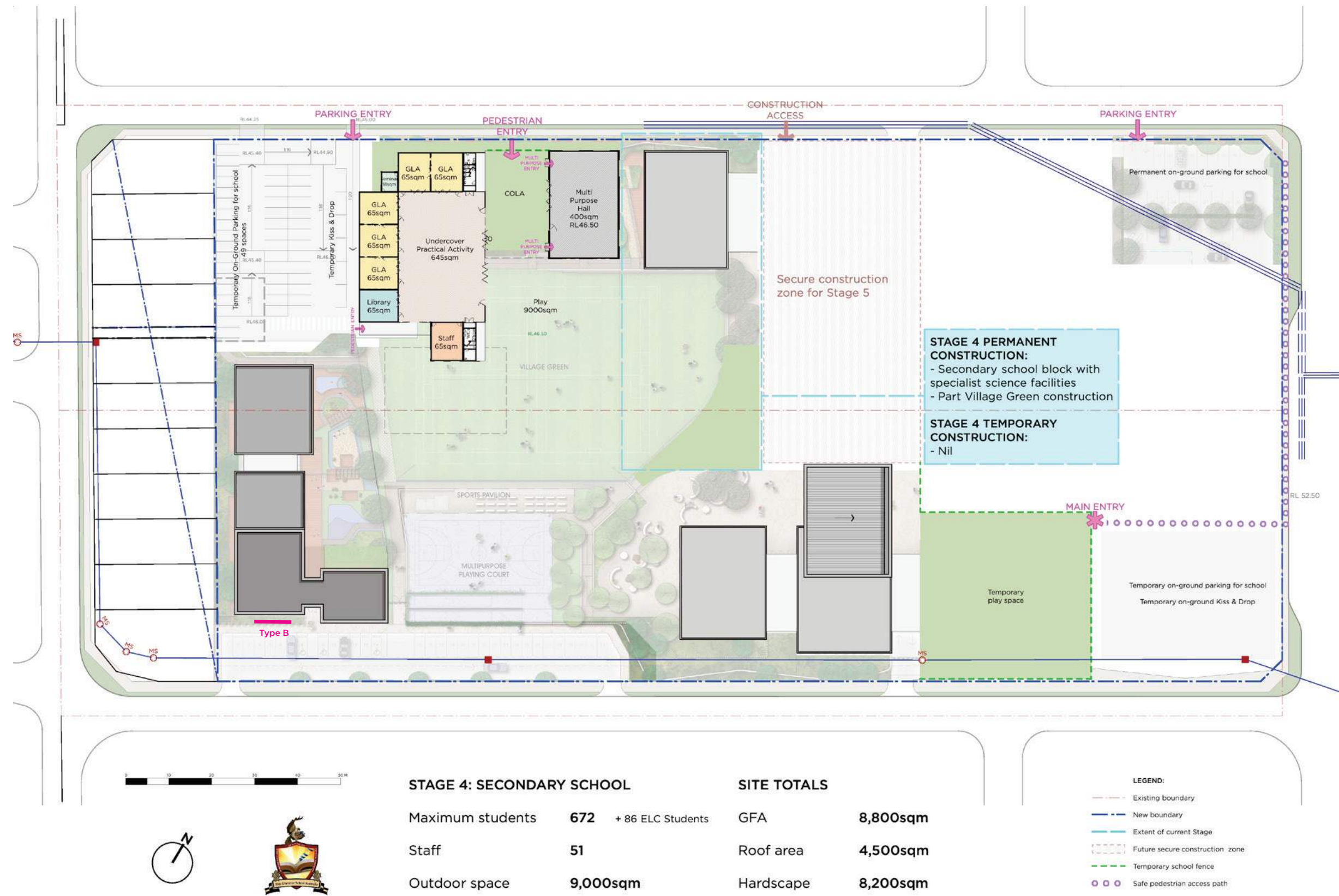
CONSTRUCTION STAGE 3A - SITE PLAN
ESTIMATED COMPLETION JAN 2027



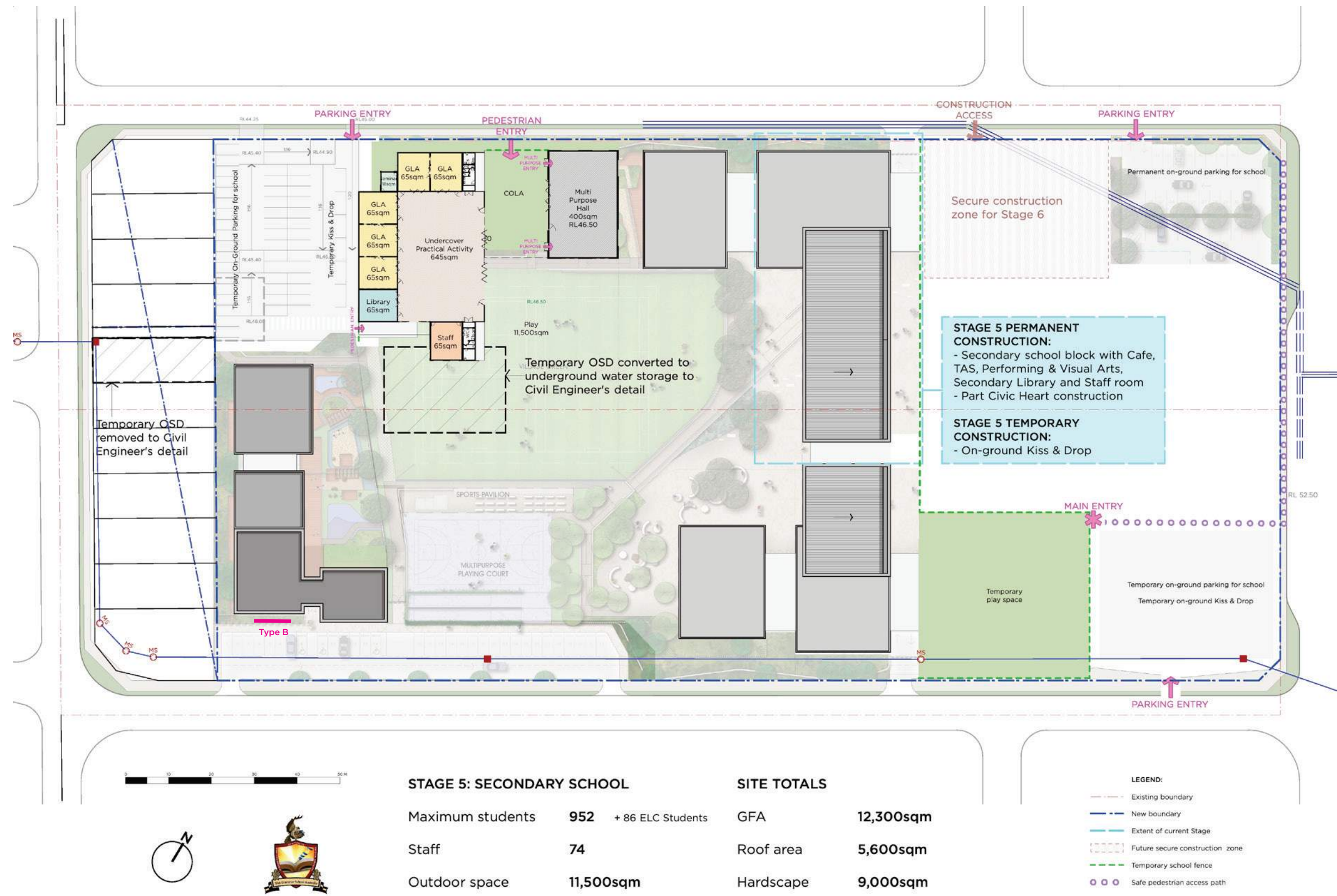
CONSTRUCTION STAGE 3B - SITE PLAN
ESTIMATED COMPLETION JAN 2030



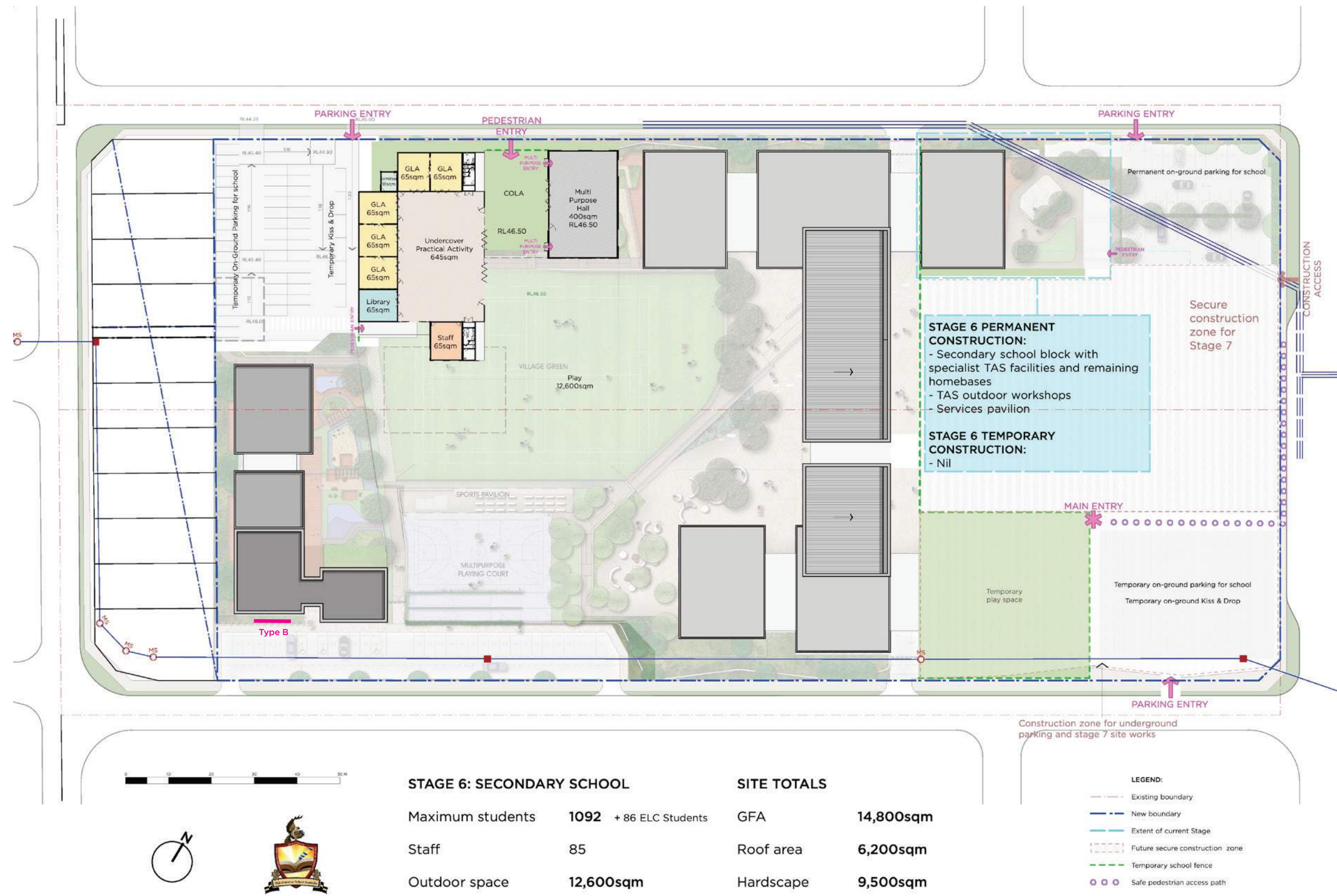
CONSTRUCTION STAGE 4 - SITE PLAN
ESTIMATED COMPLETION JAN 2030

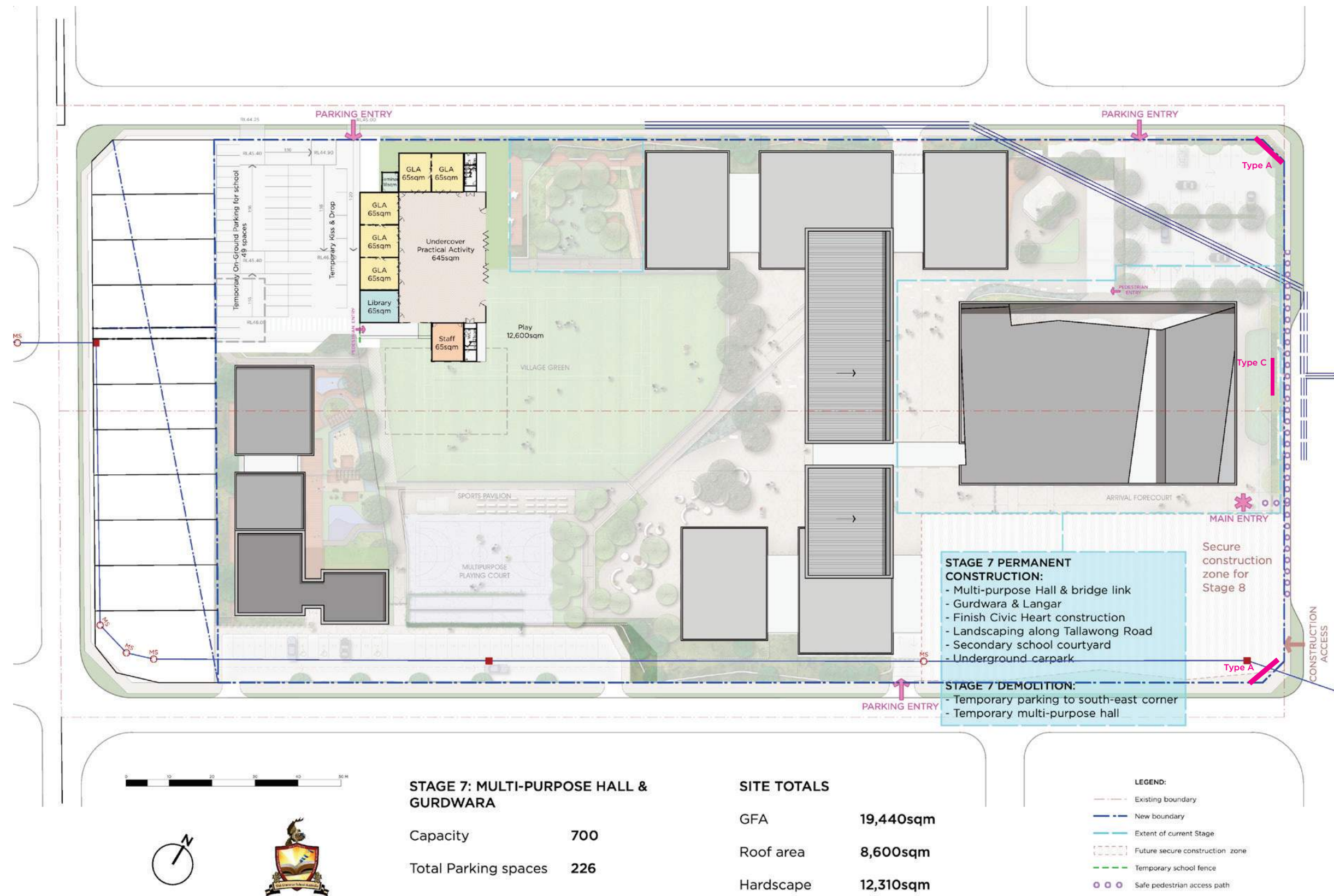


CONSTRUCTION STAGE 5 - SITE PLAN
ESTIMATED COMPLETION JAN 2023

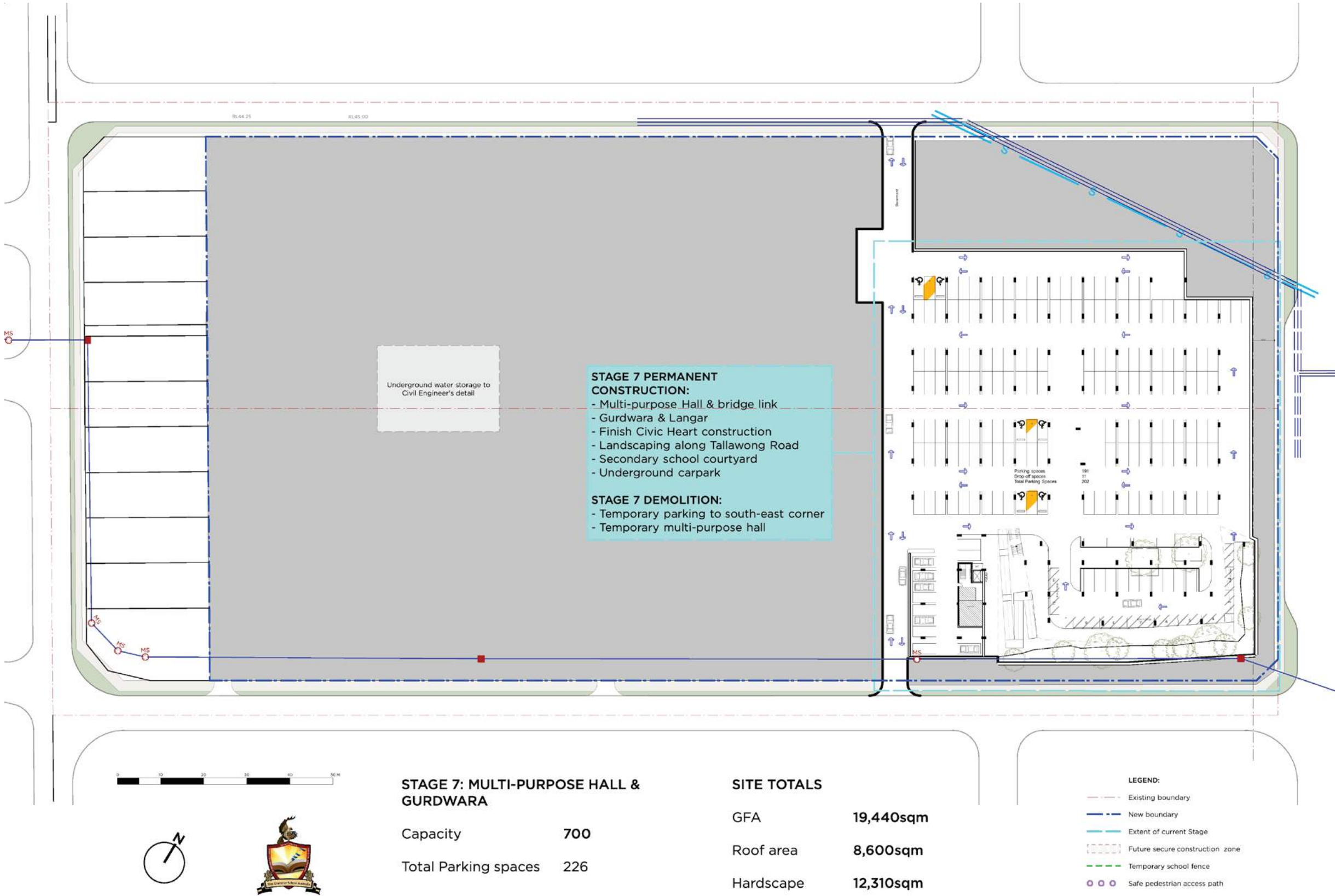


CONSTRUCTION STAGE 6 - SITE PLAN
ESTIMATED COMPLETION JAN 2036

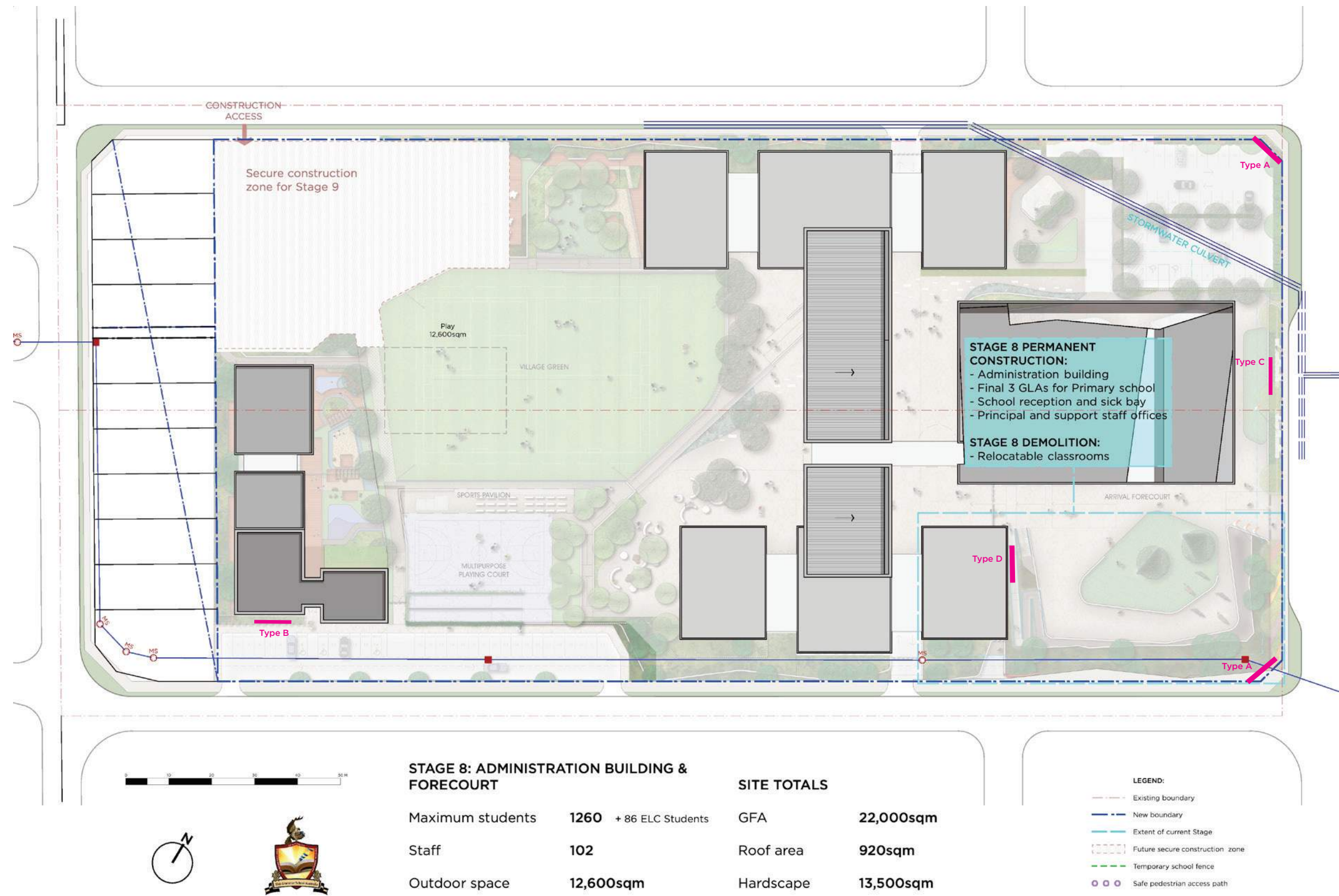




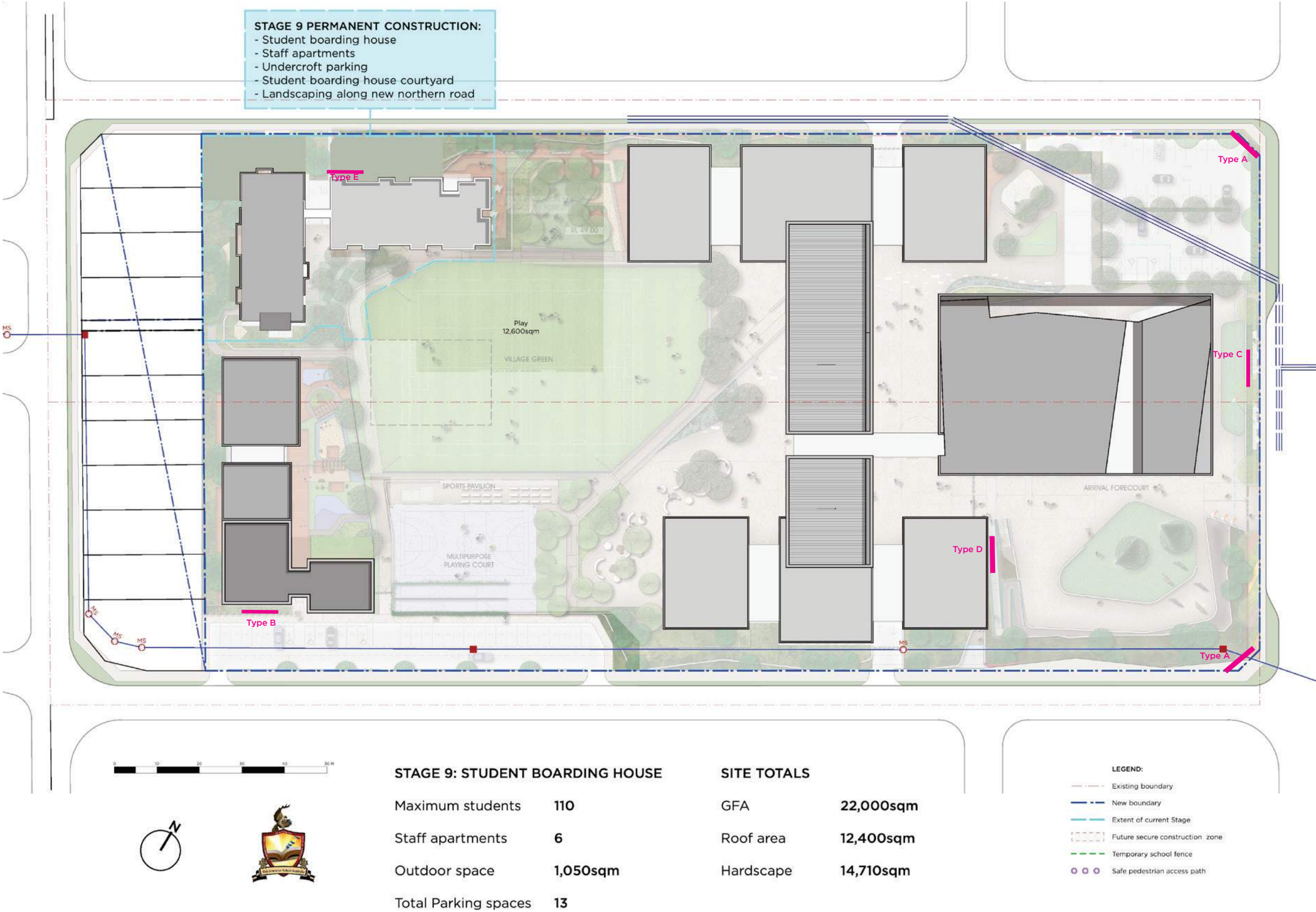
CONSTRUCTION STAGE 7 - BASEMENT PARKING - SITE PLAN
ESTIMATED COMPLETION JAN 2039



CONSTRUCTION STAGE 8 - SITE PLAN
ESTIMATED COMPLETION JAN 2042



CONSTRUCTION STAGE 9 - SITE PLAN
ESTIMATED COMPLETION JAN 2046



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