

Catherine Field Primary School



Education



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Project Framework	Context	Site Sections	Site Narrative	Option Comparison	Materials + Finishes	Streetscape Elevations	GANSW Response
SEARS		Site Images	Design Statement		Wayfinding		
			Site		Massing		
			Landscape				
			ESD				
			CPTED + External Lighting				

DOCUMENT/STATUS REGISTER

Issue	Date	Purpose	Written	Approved
A	30.08.19	DAR Draft	HS / NM	SR
B	13.09.19	Final DAR	HS / NM	SR
C	04.11.19	SSDA	HS / NM	SR
D	07.02.20	SSDA	HS / NM	SR

LIST OF ABBREVIATIONS

AS – Australian Standards
BCA – Building Code of Australia
COLA – Covered Outdoor Learning Area
CDR – Concept Design Report
DDA – Disability Discrimination Act
DoE – Department of Education
EFSG – Education Facilities Standards and Guidelines
GANSW – Government Architect New South Wales
GBA – Gross Building Area
GEA – Gross Envelope Area
GFA – Gross Floor Area (Planning)
HBA – Home Base Unit
HDC – Head Design Consultant
PPA – Perumal Pedavoli Architects
SINSW – School Infrastructure NSW
TSG – Technical Stakeholders Group
UFA – Usable Floor Area

PROJECT DETAILS

Site Address	O’Keefe Drive, Catherine Field
Site Area	2.0 Ha
Land Use & Zoning	R2 Low Density Residential Camden LEP 2010
Project Description	Construction of a new Primary School at Catherine Field. The project will provide 44 new permanent teaching spaces and core facilities (Core 35) to accomodate up to 1,012 students

1 Project Summary

INTRODUCTION

The Design Analysis Report has been prepared by Perumal Pedavoli Architects as the Project Architect partnered with Hansen Yuncken as the head contractor on behalf of the School Infrastructure NSW (SINSW). The Design Analysis Report builds on the work of the previous Planning Phase Architects SARM who developed the concept plan that accompanied the request for SEARs for the project. It is a result of input provided by the key stakeholders SINSW, TSA Management, Catherine Field Primary School PRG, Hansen Yuncken and Perumal Pedavoli Architects. The report collates the design approach for the project and brings together the input of the entire consultant team.

PROJECT FRAMEWORK

The previously prepared report by SARM Architects identifies the project background as:

“The new Catherine Field primary school will be built in the Narellan primary school cluster of Catherine Field (Part), in the Sydney Metro South West district. The South West District is identified in the Greater Sydney Commission’s metropolitan plan “A Plan for Growing Sydney” as a significant focus for intensive growth and infrastructure investment over next 20 years. The draft South West District Plan also applies to this area. The Cluster falls within the Camden Local Government Area (LPG) and includes 9 schools, which Catherine Field New Primary School is part of. Catherine Field (Part) is in the South West Growth Centre, which is undergoing a significant development. The South West Growth Centre will have a significant number of dwellings and very high projected population growth. This is expected to generate increase in numbers of primary school age children, and demand for teaching space, and facilities to at least 2031.”

The project to date has been subject to community and stakeholder consultation including PRG’s, Council, Government Architect reviews and SINSW Technical Stakeholder reviews. The key relationships of the original SARM masterplan submitted for the SEARS have been maintained however, the site planning has been revised to incorporate the feedback from the various stakeholders to improve the design as described in this report. This report has been prepared to accompany the Environmental Impact Statement and SSD Application for the project, in accordance with the SEARs.

“THE REPORT
COLLATES THE
DESIGN APPROACH
FOR THE PROJECT
AND BRINGS
TOGETHER THE
INPUT OF THE ENTIRE
CONSULTANT TEAM.”

1 Project Summary

SEARS

New Catherine Field Primary School – Subconsultant Specialist Introduction

This Design Analysis Report has been prepared on behalf of the Department of Education (DoE) and Schools Infrastructure NSW (SINSW) in support of a new school known as Catherine Field Primary School, located on Commissioners Drive, Denham Court NSW (the project).

The project is a new school and is State Significant Development (SSD). The SSD Application for the project is identified as SSDA 9477. This Design Analysis Report is to be read in conjunction with the Environmental Impact Statement (EIS) that accompanies SSDA 9477. The project will provide modern public school infrastructure for the existing and future community to meet education needs. The project specifically will provide the following to accommodate up to 1,012 students at completion:

- General Learning Areas
- Multipurpose Hall
- Covered Outdoor Learning Areas (COLA)
- Administration Area
- Staff Area incl. Amenities
- Student Amenities
- Library
- Canteen
- Storage
- Assembly Court
- Landscaping
- Pedestrian Circulation
- Vehicle Circulation, bulk waste pad, staff car parking, bus zone and bicycle storage area

The NSW Department of Planning, Industry and Environment (now known as DPIE, and previously known as the Department of Planning and Environment) issued the Secretary's Environmental Assessment Requirements (SEARs) for the project on 6 August 2018. The SEARs identifies the following specific assessment requirements for architecture with respect to SSDA 9477:

SEARS (SSD 9477)

Requirements	Pertinent
4. Built Form and Urban Design	
Address the height, density, bulk and scale, setbacks and interface of the proposal in relation to the surrounding development, topography, streetscape and any public open spaces.	Refer Design Analysis Report Section 2, 3, 4, 6 and 7
Address design quality and built form, with specific consideration of the overall site layout, streetscape and public domain upgrades, open spaces, façade, rooftop, massing, setbacks, building articulation, materials and colours.	Refer Design Analysis Report Section 2, 3, 4, 6 and 7
Provide details of any digital signage boards, including size, location and finishes.	Refer Architectural Drawing No.00_002 Refer Design Analysis Report Section 6
Clearly demonstrate how design quality will be achieved in accordance with Schedule 4 Schools – Design Quality Principles of State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 and the GANSW Design Guide for Schools.	Refer Design Analysis Report Section 8
Detail how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development.	Refer Architectural Drawing No.00_002 Refer Design Analysis Report Section 6
Provide detailed site and context analysis to justify the proposed site planning and design approach including massing options and preferred strategy for future development.	Refer Design Analysis Report Section 2, 3, 4, 5 and 6
Provide a detailed site-wide landscape strategy, including consideration of equity and amenity of outdoor play spaces, and integration with built form, security, shade, topography and existing vegetation.	Refer Landscape Drawings and Landscape Report
Provide a visual impact assessment that identifies any potential impacts on the surrounding built environment and landscape including views to and from the site and any adjoining heritage items.	Refer Design Analysis Report Section 7
Address Crime Prevention Through Environmental Design Principles.	Refer Design Analysis Report Section 4
Demonstrate good environmental amenity including access to natural daylight and ventilation, acoustic separation, access to landscape and outdoor spaces and future flexibility.	Refer Design Analysis Report Section 4 Refer Architectural Drawings No.00_002 and No.00_201 Refer Landscape Drawings and Landscape Report Refer to ESD Report

5. Environmental Amenity

Assess amenity impacts on the surrounding locality, including solar access, visual privacy, visual amenity, overshadowing and acoustic impacts.	Refer Architectural Drawings No.00_301, 302, 303 Refer Design Analysis Report Section 3 and 7 Refer Acoustic Report
Conduct a view analysis to the site from key vantage points and streetscape locations (photomontages or perspectives should be provided showing the building envelope and likely future development).	Refer Design Analysis Report Section 7 Refer Architectural Drawing No.00_401
Include a lighting strategy and detail measures to reduce spill into the surrounding sensitive receivers.	Refer Design Analysis Report Section 4
Identify any proposed use of the school outside of school hours (including weekends) and assess any resultant amenity impacts on the immediate locality and proposed mitigation measures.	Refer EIS
Detail amenity impacts including solar access, acoustic impacts, visual privacy, view loss, overshadowing and wind impacts. A high level of environmental amenity for any surrounding residential land uses must be demonstrated.	Refer Architectural Drawings No.00_301, 302, 303 Refer Design Analysis Report Section 7 Refer Acoustic Report
Plans and Documents	
The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Regulation. Provide these as part of the EIS rather than as separate documents.	
Architectural Drawings, showing key dimensions, RLs, scale bar and north point, including:	Refer Architectural Drawings No.00_001 to 00_801
Plans, sections and elevation of the proposal at no less than 1:200 showing indicative furniture layouts and program	Refer Architectural Drawings No.00_011 to 00_201
Illustrated materials schedule including physical or digital samples board with correct proportional representation of materials, nominated colours and finishes	Refer Design Analysis Report Section 6 Refer Architectural Drawings No.00_401
Details of proposed signage, including size, location and finishes	Refer Architectural Drawing No.00_002 Refer Design Analysis Report Section 6
Detailed annotated wall sections at 1:20 scale that demonstrate typical cladding, window and floor details, including materials and general construction quality	Refer Architectural Drawing No.00_801

Site plans and operations statement demonstrating the afterhours and community use strategy	Refer Architectural Drawing No.00_002 and EIS
Site Survey Plan, showing existing levels, location and height of existing & adjacent structures/buildings site boundaries & remnant & planted vegetation on the site.	Refer Survey Plan
Site Analysis Plan, including:	
Site and context plans that demonstrate principles for future development and expansion, built form character and open space network.	Refer Design Analysis Report Section 2 and 3 Refer Architectural Drawing No.00_003
Active transport linkages with existing, proposed and potential footpaths and bicycle paths and public transport links	Refer Design Analysis Report Section 2 and 3 Refer Architectural Drawing No.00_003
Site and context plans that demonstrate principles for future network, active transport linkages with existing, proposed and potential footpaths and bicycle paths and public transport links	Refer Design Analysis Report Section 2 and 3 Refer Architectural Drawing No.00_003
Sediment and Erosion Control Plan	Refer Civil Drawings
Shadow Diagrams	Refer Architectural Drawings No.00_301 to 00_303
View analysis, photomontages and architectural renders, including those from public vantage points.	Refer Design Analysis Report Section 7 Refer Architectural Drawing No.00_401
Landscape architectural drawings showing key dimensions, RLs, scale bar and north point, including:	Refer Landscape Drawings + Report
Integrated landscape plans at appropriate scale, with detail of new and retained planting, shade structures, materials and finishes proposed including articulation of playground spaces	Refer Landscape Drawings + Report
Plan identifying significant trees, trees to be removed and trees to be retained or transplanted	Refer Landscape Drawings + Report
Design Report to demonstrate how design quality will be achieved in accordance with the above Key Issues including:	
Architectural design statement	Refer Design Analysis Report Section 8
Diagrams, structure plan, illustrations and drawings to clarify the design intent of the proposal	Refer Design Analysis Report Section 4
Detailed site and context analysis	Refer Design Analysis Report Section 2 and 3 Refer Architectural Drawing No.00_003
Analysis of options considered including building envelope study to justify the proposed site planning and design approach	Refer Design Analysis Report Section 5

Visual impact assessment identifying potential impacts on the surrounding built environment and adjoining heritage items	Refer Design Analysis Report Section 7
Summary of feedback provided by GANSW and NSW State Design Review Panel (SDRP) and response to this advice	Refer Design Analysis Report Section 8
Summary report of consultation with the community and response to any feedback provided	Refer EIS
Sustainability Report including outline of sustainability targets and demonstrated expression of these in design approach	Refer to ESD Report
Stormwater Concept Plan and Stormwater Management Plan	Refer to Water Conservation Report
Flood Report prepared in accordance with Council's Flood Risk Management Policy (if required)	Refer to Risk Management Report
Preliminary Construction Management Plan, inclusive of a Preliminary Construction Traffic Management Plan detailing vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures	Refer to Construction Management Plan Refer to Construction Traffic Management Plan
Geotechnical and Structural Report	Refer Geotech + Structural Reports
Accessibility Report	Refer DDA Report
Arborist Report	Refer Arborist Report
Waste Mangement Plan	Refer Waste Mangement Plan
Fire Safety Measures Schedule	Refer to Building Code statement
Salinity Investigation Report	Refer to Salinity Report
Acid Sulphate Soil management plan (if required) and	N/A
Green Travel Plan	Refer Traffic Report

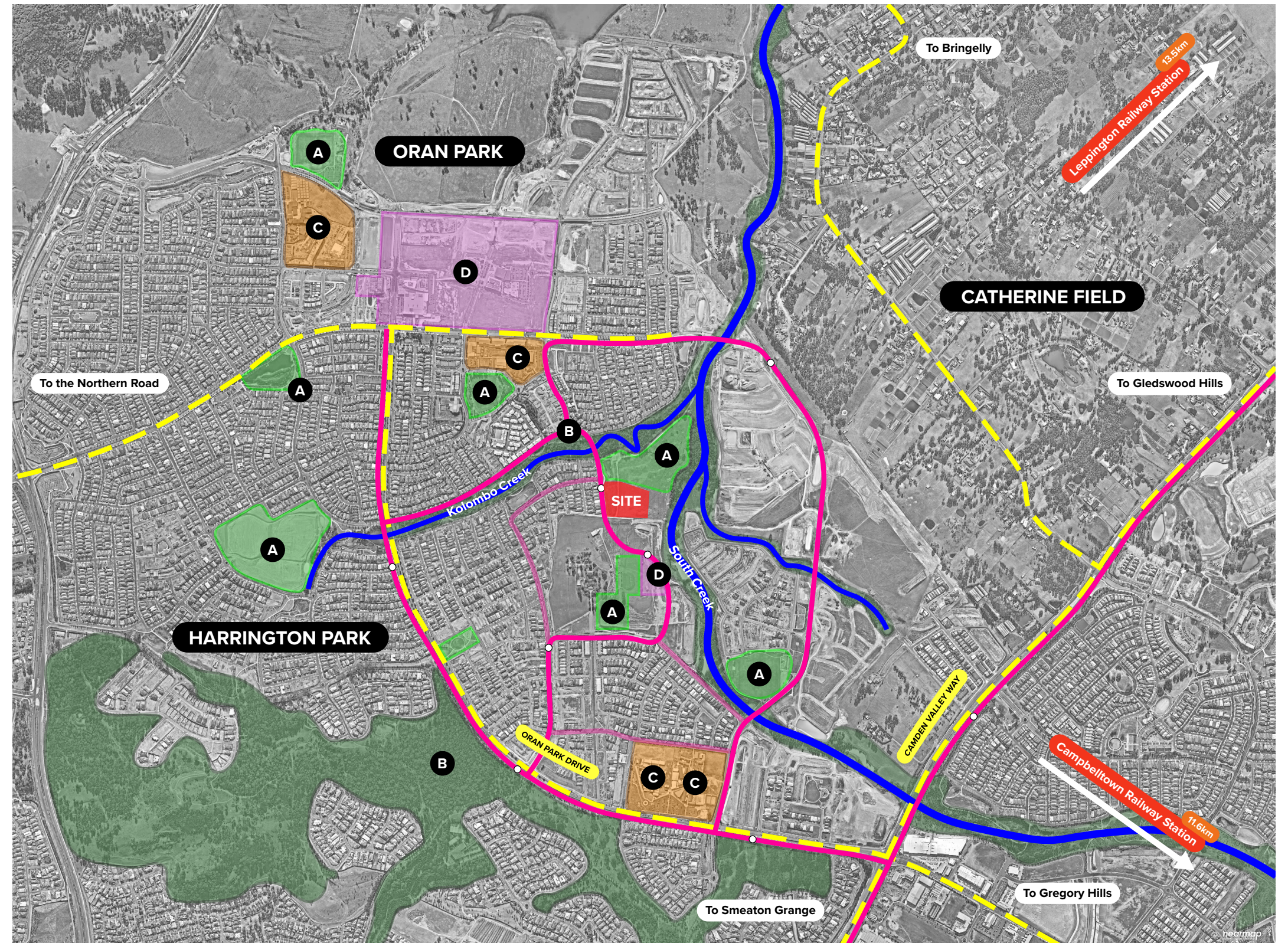
2 Context Analysis

CONTEXT

The site for Catherine Field Primary School is located within a new and rapidly expanding suburb. The site has the town centre and green space to the north and residential areas surrounding 2 sides of the site with a water course passing the north and east.

Legend

	Site
	Retail / Commercial Centres
	Recreation / Open Space
	Main Roads / Transport Corridor
	Water Course
	Regional or District Bus Route
	Schools and Educational Facilities



- A. Sporting Fields and Recreation Areas
- B. Open Space / Bush
- C. Schools and Educational Facilities
- D. Retail and Commercial Centres

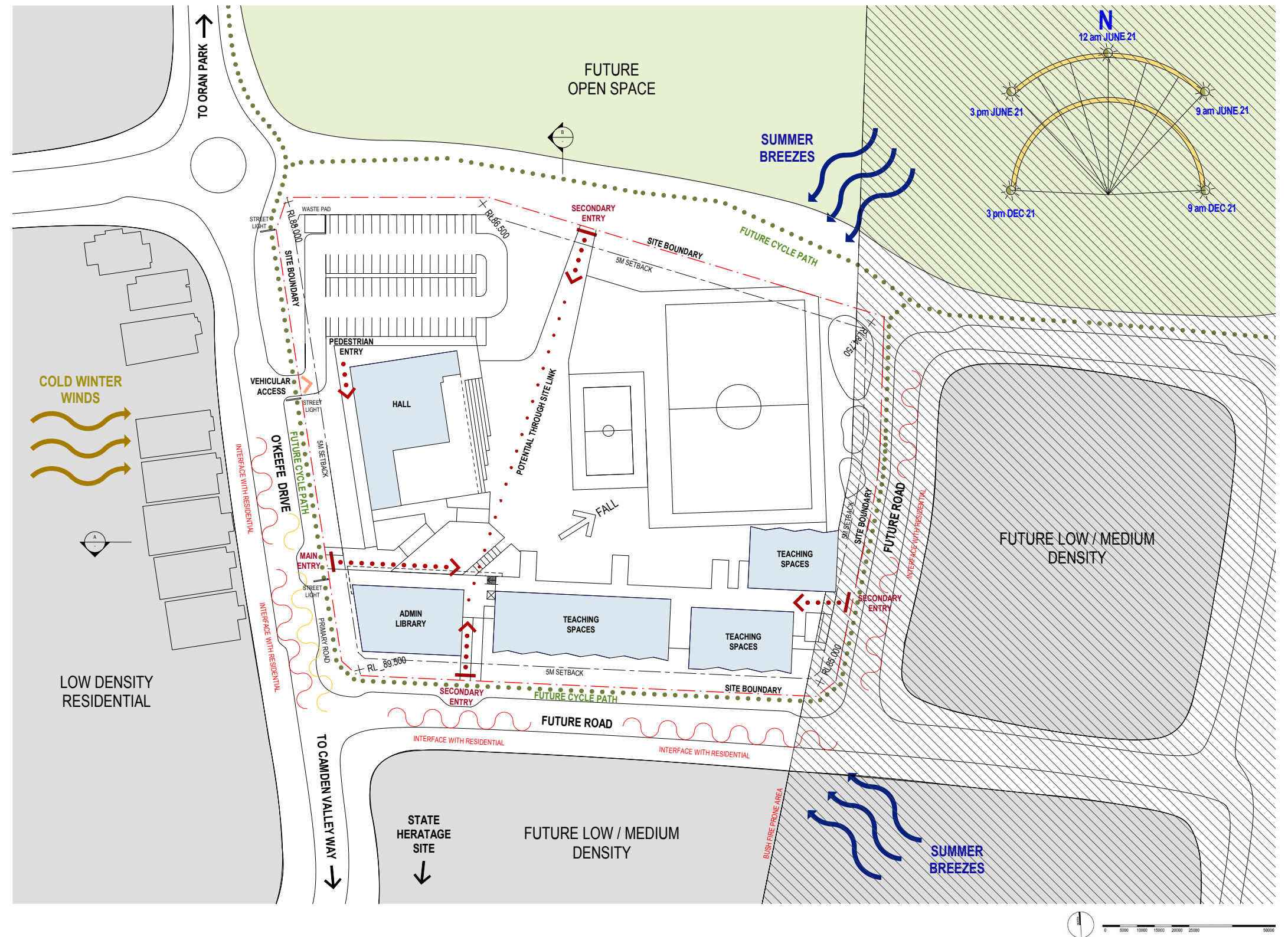
3 Site Analysis

SITE ANALYSIS

Catherine Field PS is located on D'harawal land. The original custodians of the land. A site walk was planned for 2 August 2019 with aboriginal elders, Uncle Ivan and Uncle Eddie. This walk was canceled and is currently being re-organised.

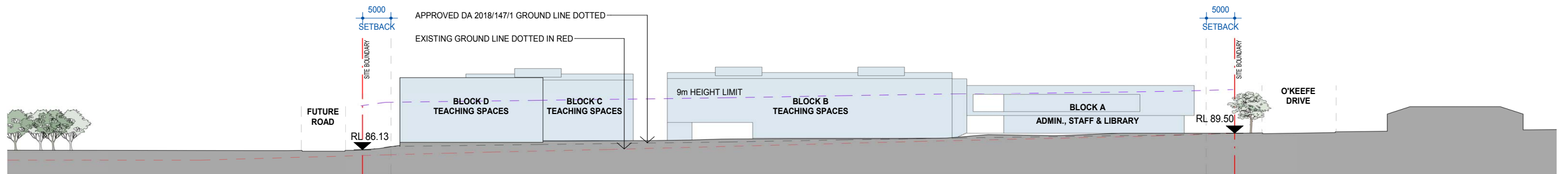
Catherine Field Primary School is located within a growth precinct. The immediate context includes newly constructed single dwellings to the west with undeveloped open space to the north, east and south. It is anticipated that the southern and eastern adjoining land will be developed into residential, while the open space to the north will become open space and sports facilities. These facilities are not part of this project. The site is contained by O'Keefe Drive on the west, and future roads to the south and east. O'Keefe Drive is the main approach to the site from the North and connects Catherine Field to Oran Park town centre. The site slopes down towards the north east. Given the slope and street network, the corner of O'Keefe Drive and the Future Road becomes the predominant corner of the site. The site is completely cleared of trees.

The slope, lack of green canopy and the interface with the residential scale are the most notable constraints on the site. The multiple street frontages and connection to the northern future open space are opportunities which the current design seeks to address.

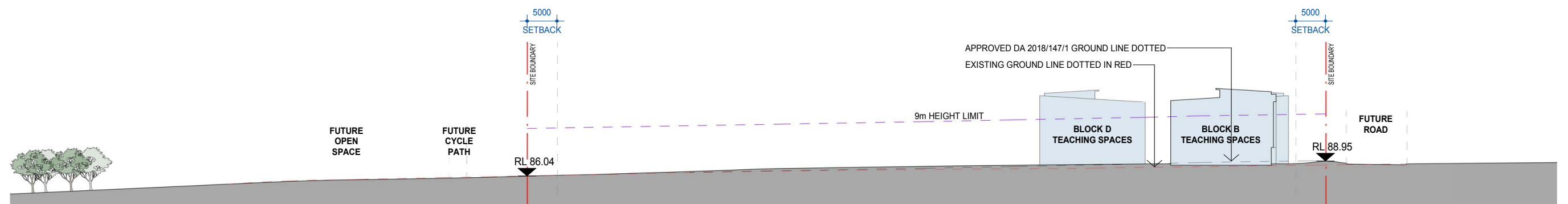


3 Site Analysis

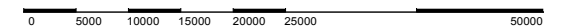
SITE SECTIONS



West East Section – Section A



North South Section – Section B



SITE IMAGES



Source: Nearmap (Satellite Image from July, 2019)



1 View facing North East from O'Keefe Drive roundabout



2 West facing view from site boundary



3 View facing South towards heritage item



4 South East facing view from site boundary



5 View facing South from O'Keefe Drive roundabout

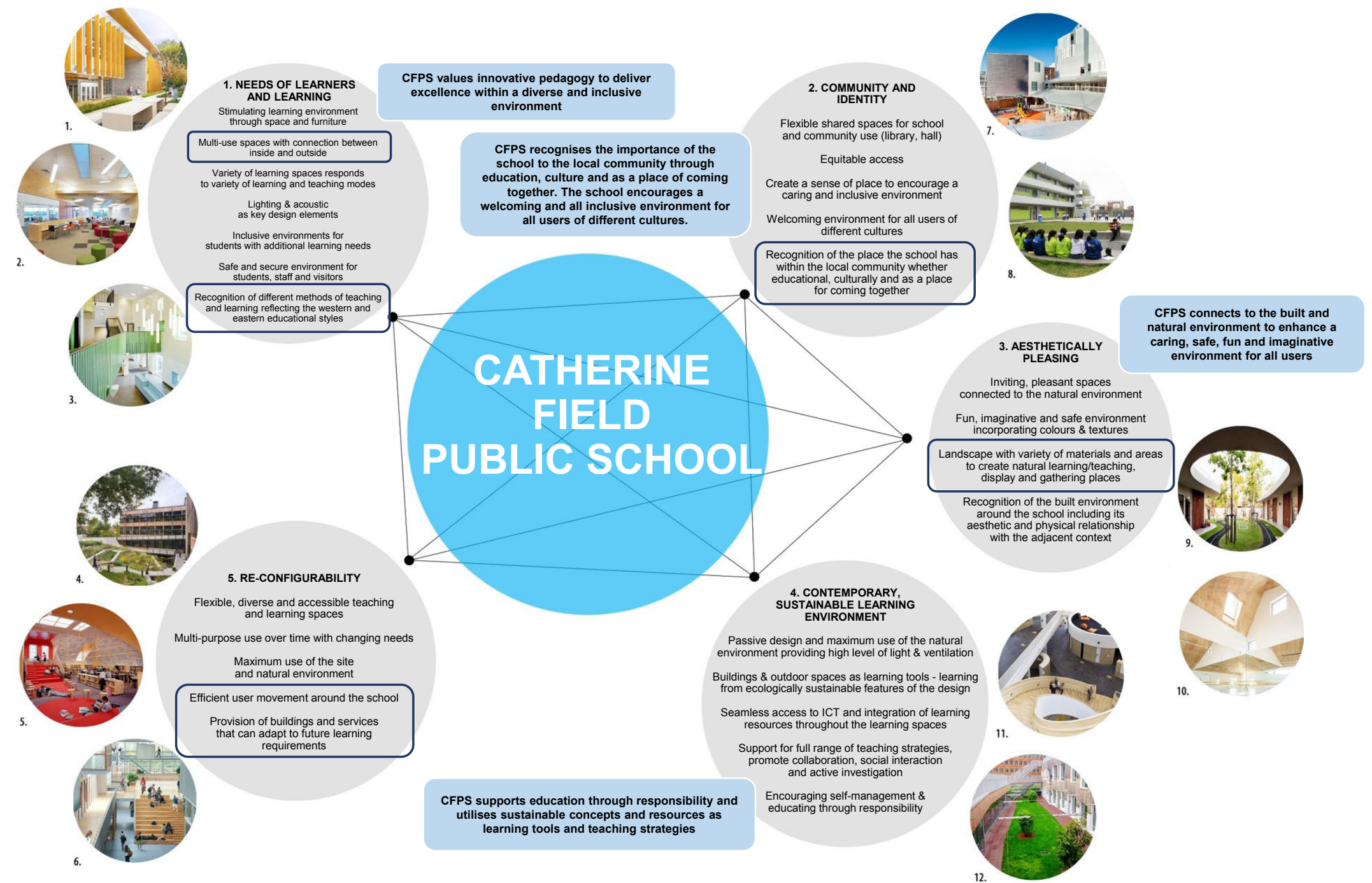


6 View facing North from end of O'Keefe Drive

4 Design Principles

EDUCATION

Education principles have been developed for the project and form the foundation of the design.



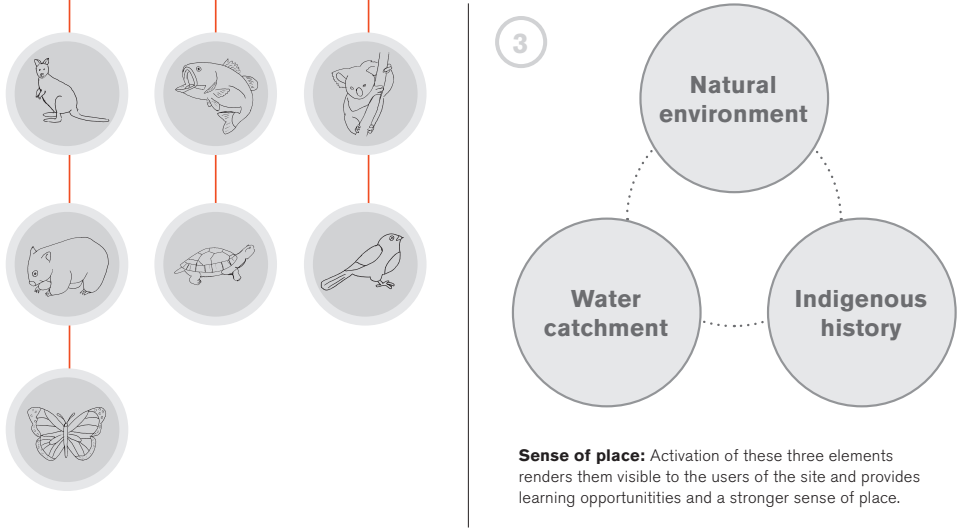
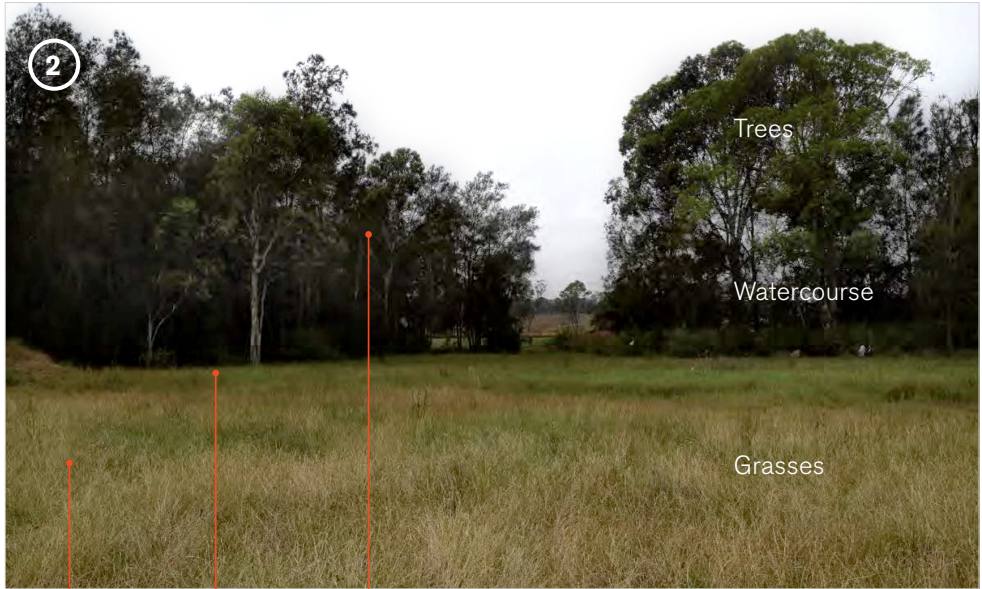


From the hills to the Hawkesbury:

Topographic map showing the pathway of the South Creek. Indigenous name Wianamatta. The creek traverses the landscape for approximately 48km meandering northwards until it joins the Hawkesbury River. The creek head and water source originates approximately 1km to the SE of the school site.

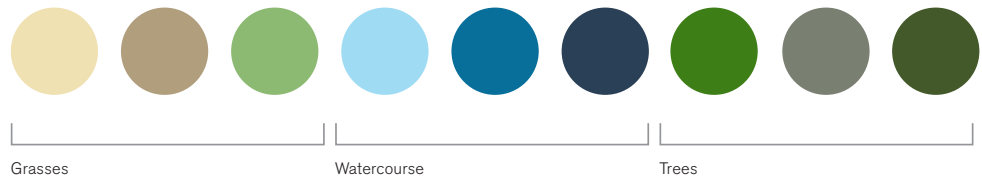
The creekline vegetation providing shelter to wildlife:

The proposed school site sits in the fork between South Creek and a smaller tributary. To the north and to the east are two distinctive areas of vegetation acknowledged as providing important shelter to wildlife. The rivers, creeks and grasslands were acknowledged as providing important sources of food for the indigenous people: the Gundungurra people.



Colour palette:

A range of colours are drawn from the creekline vegetation symbolising grass, water and trees. These colours, with strong links to the natural environment, are proposed to be incorporated into the buildings, landscape and signage and wayfinding scheme.



**CONNECTING COUNTRY:
FROM HILLS TO HAWKESBURY**
Conceptual development
for the Catherine Field Primary
School.

OVERVIEW:

Three distinct features of the site are present that will form the concept development for the signage scheme. A range of these elements may also be incorporated into an interpretive overlay featured on signage elements.

1. South Creek

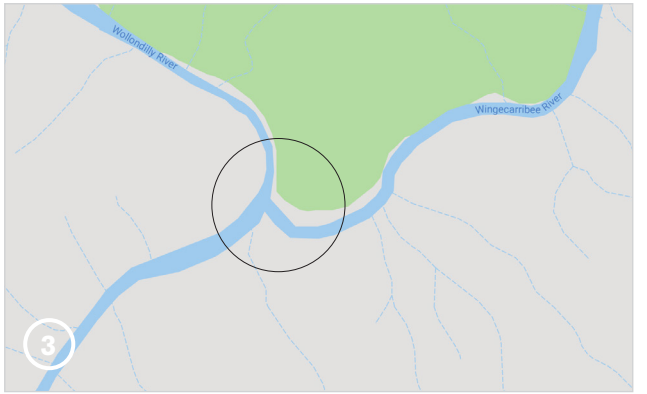
The South Creek, also named Wianamatta, is a significant attribute of the site. Whilst its presence is discreet, and most evident by the creekline vegetation, it traces a significant pathway winding 48km north to the Hawkesbury River. The source of this creek lies adjacent to the school site. The creek is an active connection to the indigenous heritage.

2. Creekline vegetation

The creekline is a defining feature to the north and east of the proposed site and will be visible from the school. The site is an important habitat and shelter for wildlife and evokes an active connection to nature and environment.

3. Indigenous heritage: Dharawal people

The site is situated within a region rich in oral history and stories referencing the local waterways: Gurangatch, not wholly a serpent, but part fish, and part reptile, camped in the shallows of an area known as Murraural, specifically at the junction of the Wollondilly and Wingecaribbee rivers. The indigenous heritage is activated through the landscape – the flora, fauna and geographical features. The grasslands, creeks and river systems are noted of value to the earlier occupation.



Wollondilly and Wingecaribbee Rivers junction

4 Design Principles

DESIGN STATEMENT

The design intent is to bring together the school's education principles and an urban design strategy to create a school that responds to context and is site and community specific.

Catherine Field is located within the traditional lands of the D'harawal people with the proposed school site positioned within what was once abundant Cumberland Plain Woodland. During early European settlement, land was cleared for agricultural practices. Today this suburban area has been rapidly developing with low density residential subdivisions, which has led to the clearing of substantial parts of the local context. This residential subdivision will ultimately occupy the adjacent western, southern and eastern land. To the north is a proposed sports field and Kolombo Creek and to the north and east is South Creek, also named Wianamatta which is a significant water course that ultimately connects to the Hawkesbury River.

The site narrative has been developed collaboratively by the consultant team. The themes bring together the natural environment, water catchment and indigenous history. These elements inform the landscape design, wayfinding approach and the material palette selected for the school. The natural palette is deliberately neutral with subtle accent colours to ensure that the landscape, wayfinding and the colour generated by the activity of the students becomes the focus. The material and finishes, wayfinding and landscape are described in further detail within the documents that form part of this submission.

The proposed design balances the built form and landscape to create a positive street setting within the local context. The site massing locates the built forms adjacent to the streetscape to maximize the useable play spaces towards the centre on the site. The key objectives have been to avoid a continuous large building and isolated play spaces between the buildings and the site boundaries. The highly articulated built forms have

generous setbacks from the boundary to allow for a landscape buffer zone for acoustic and visual privacy. The built forms facilitates solar access, cross ventilation and view lines across the site visually connecting the green spaces.

The Administration and Library building (Block A) is located on the south west corner of the site to create an 'urban marker' within the local context and a focal point for the main entrance of the school on O'Keefe Drive. The hall (Block E) has also been located along O'Keefe Drive towards the north to activate shared use and access for the community.

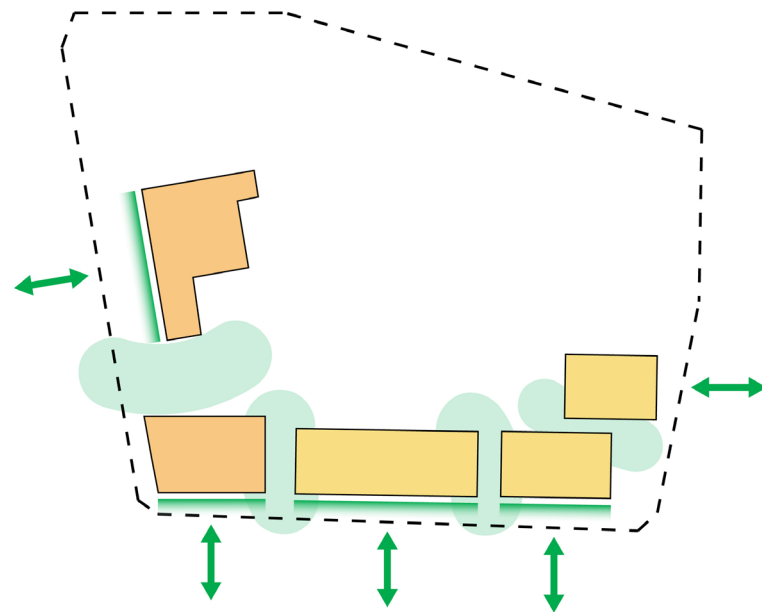
The arrangement of the built forms (Block A, B, C, D & E) creates a protective layer off the site boundary to visually protect the centralised open space. This centralised landscaped open area contains a variety of spaces for activities and learning e.g. quiet activities, small group gatherings, sustainable learning, nature play, sport

courts. These spaces are designed for accessibility and inclusivity, with the aim to provide equitable access across the site underpinned by clear visual circulation and wayfinding to ensure that the students, staff and visitors become immediately familiar with the site layout. A level of comfort and understanding of the environment for the end user has been a key urban design principle applied to the planning of this project.

The purposeful arrangement of spaces and material application will continue to develop as the design progresses through to the construction phase.

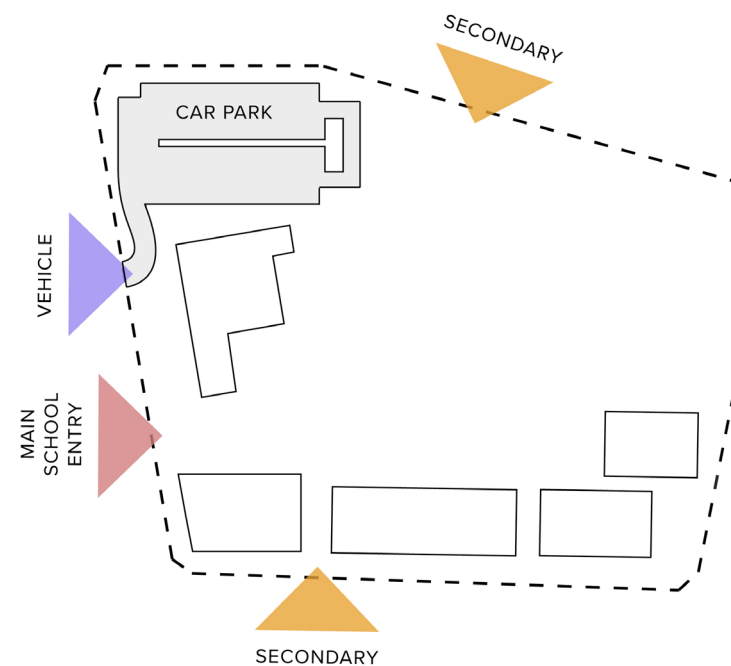
4 Design Principles

SITE



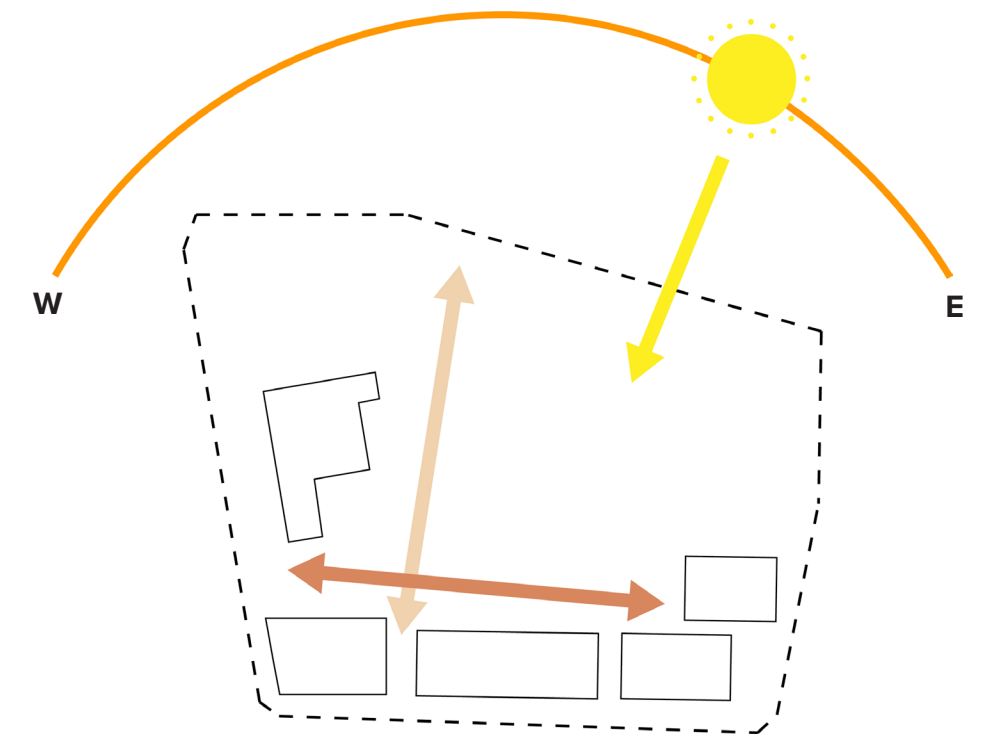
STREETSCAPE

Built form is setback and stepped for positive street address. Building mass articulated to allow view lines and breezes across the site. A perimeter landscape buffer zones for visual and acoustic privacy.



ENTRIES AND CONNECTIONS

Clear and well defined entries. Clearly identified school access points. Maximize separation between vehicles + pedestrians.

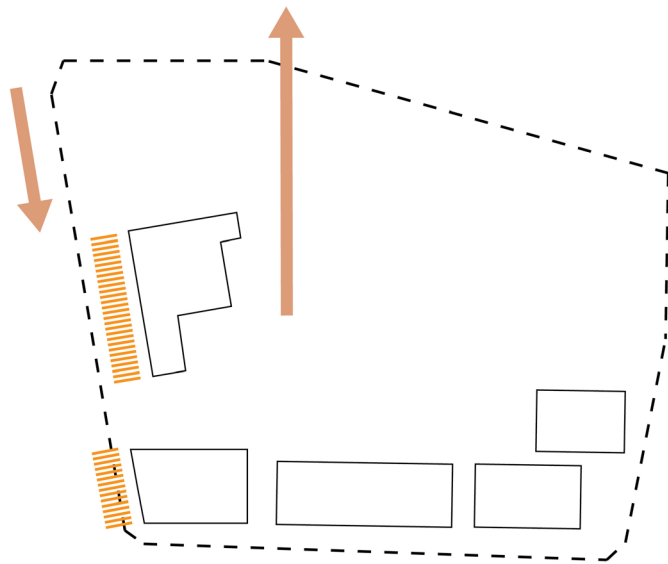


CIRCULATION/ORIENTATION

Circulation with main north-south axis and secondary east-west axis. Clarity of circulation between school + community access with clear connection to future open space to the north. The site narrative of 'Connecting to Country' will be visually woven throughout circulation paths by applied signage and wayfinding. The site layout utilizes the northern sunlight (east to west) across the site.

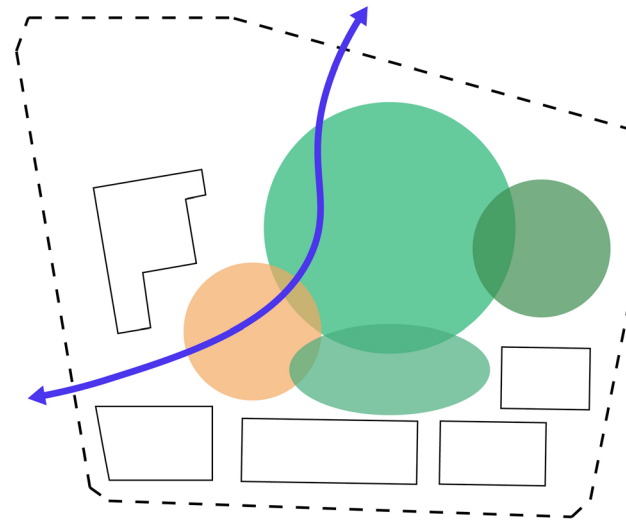
4 Design Principles

SITE



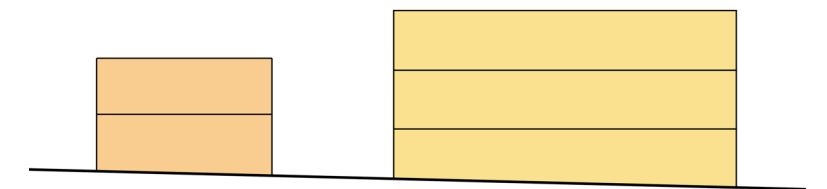
COMMUNITY

Shared access addressed from O'Keefe Drive to provide clear access by community for shared use. Connection to future open space to the north.



OPEN SPACE

Provide a variety of open spaces linked for both school + community use. Indigenous + historical framework to weave a narrative through the ground plane.



MASSING

Step massing to respect slope to ensure at grade entries and avoid unnecessarily high volumes at the interface with residential.

4 Design Principles

LANDSCAPE

APPROACH

The proposed school site is located in an area of Western Sydney near the Nepean River. The approach to the Landscape development is to establish a local school community with a sense of place and belonging with a connection to the environment. The main elements to be considered include the original natural environment and the European and Indigenous Heritage of the site. These will be combined to offer educational resources to be engaged with by the primary school students.

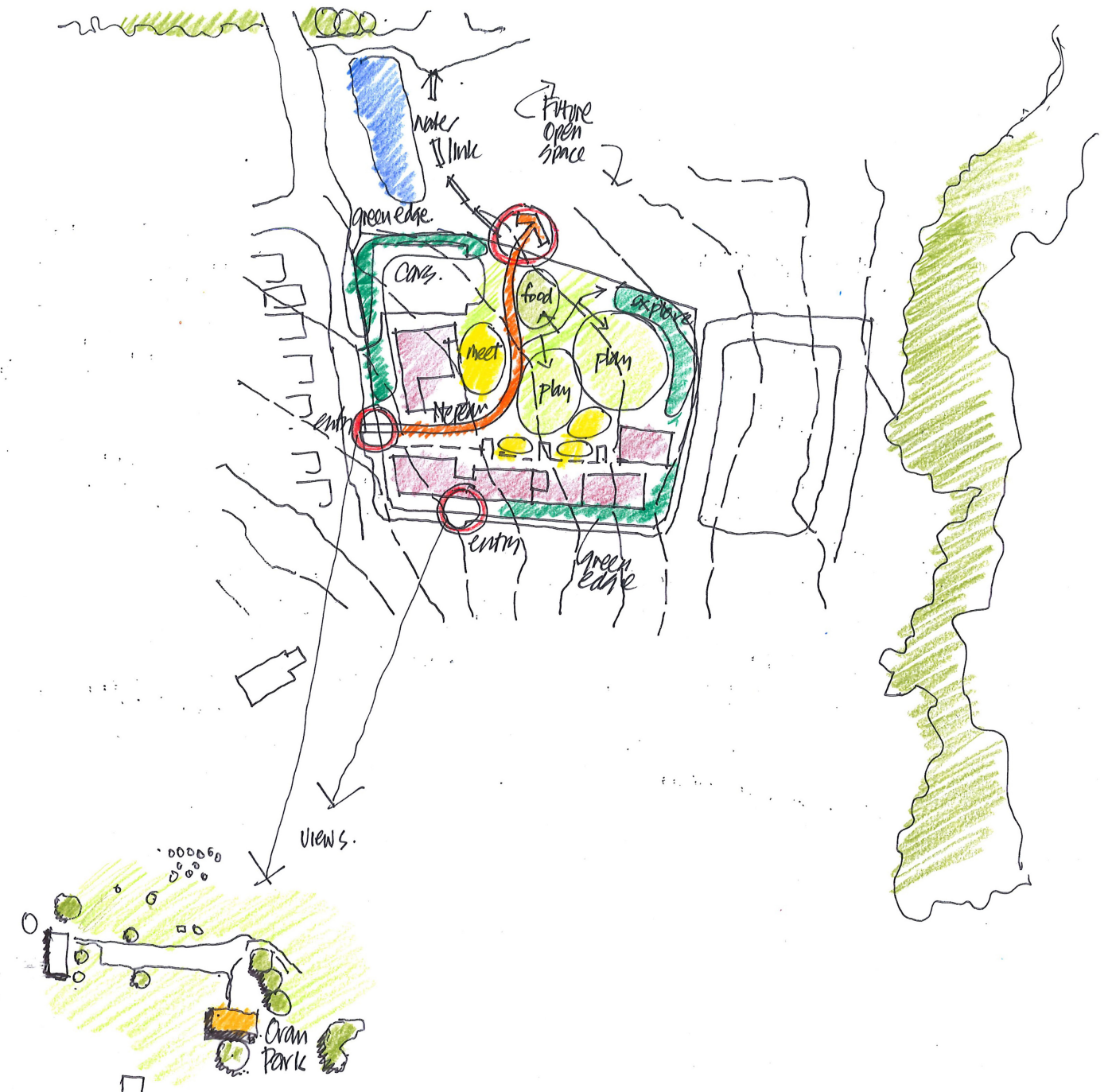
THE NATURAL ENVIRONMENT

The school site is located within what was once the Cumberland Plain Woodland, the most widespread ecological community found in Western Sydney. The presence of the natural flora and fauna on the proposed site is virtually nil which presents a significant opportunity to bring it back to life.

INDIGENOUS HERITAGE

A recognition of the D'harawal people and their heritage as the original inhabitants of the land on which the school site is located. The waterways located near the school site are deeply linked to the indigenous history and stories of the area. The rivers creeks and grasslands were acknowledged as providing important sources of food for the D'harawal people.

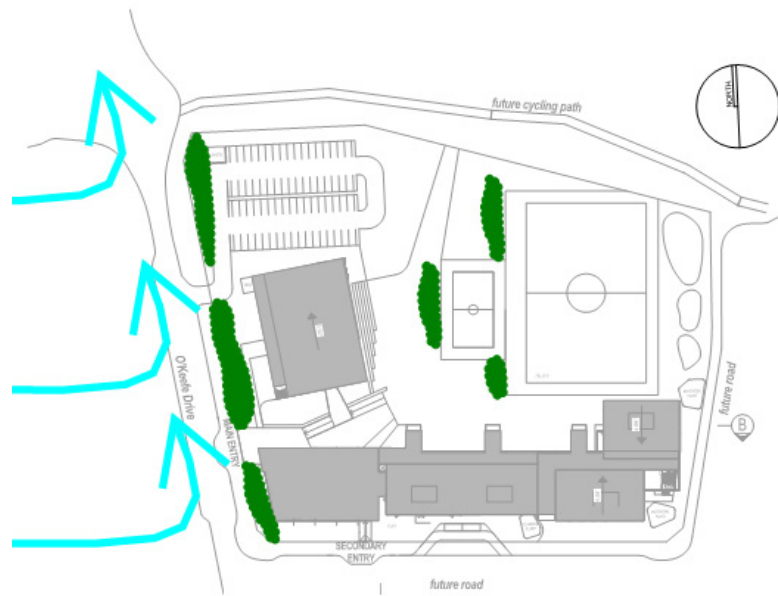
The site is situated within a region rich in oral history and stories referencing the local waterways, the indigenous clan local to the area were known as Sweet water clans meaning they lived where the water came from springs and the rivers ran over rocks.



Source: Taylor Brammer Landscape Concept Package

4 Design Principles

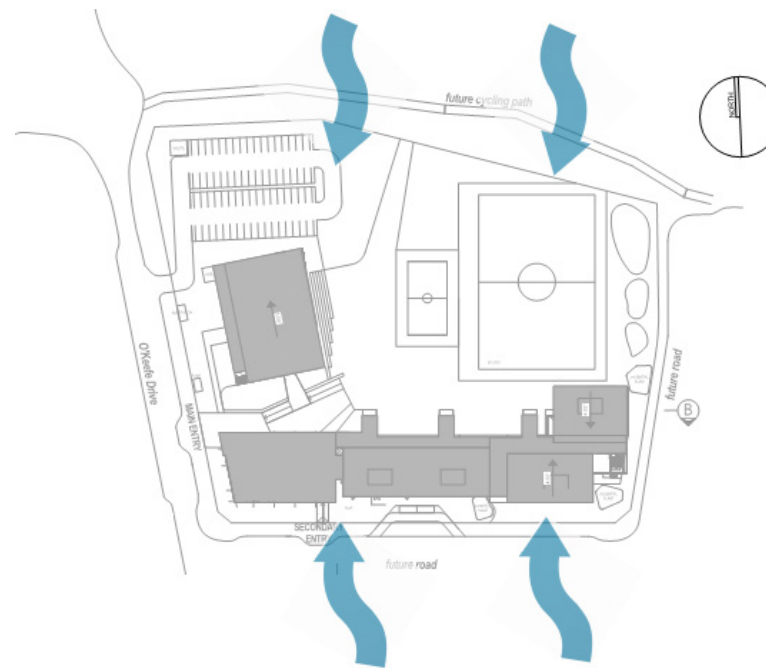
ESD



Source: Steensen Varming ESD CDR

PROTECT FROM WESTERLY WINTER WINDS

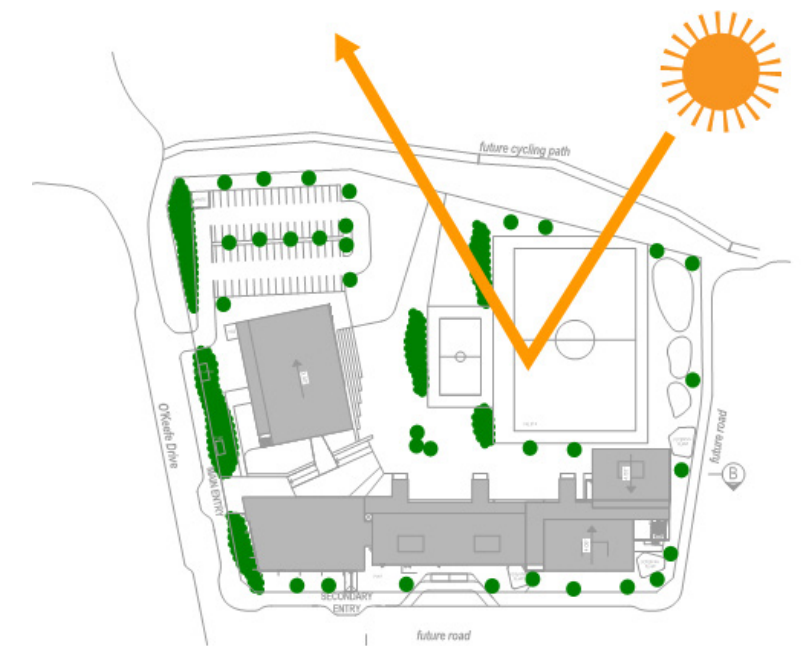
Consider appropriate planting, e.g. thick coverage at pedestrian level along Western edge of site to protect from cold winter winds.



Source: Steensen Varming ESD CDR

PATH FOR NORTH/SOUTH SUMMER WINDS

To allow air movement for natural ventilation and to increase thermal comfort.



Source: Steensen Varming ESD CDR

MITIGATE HEAT ISLAND EFFECT

Consider high solar reflectance index materials, e.g. roof materials, playing court and carpark surface; provide vegetation; provide shade with vegetation and external shading elements within the architectural design.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

CPTED consists of four (4) universal design principles which are aimed at assessing crime risk and reducing preventable risk before a development is approved. The proposed development has been designed having regard to the CPTED principles.

Territorial Re-Enforcement

The Site has frontage to the public domain along O’Keefe Drive and the future roads to the south and east. The site is fenced in accordance with the SINSW security (SSU) requirements therefore delineating ownership and access. The entry points are clearly defined by built form and signage and encourage access to the site through controlled points. The main entry is located on O’Keefe Drive.

Surveillance

The principles relating to surveillance relate to spaces in public areas where people can see and interact with others. The proposal, with it’s clear circulation paths, promotes strong natural surveillance of both the public domain and the interior of the site. During weekend and after-hours periods, the site will be secured with site fencing and the buildings will be fitted with a Back to Base Alarm System. Further, the external lighting for night time crime deterrence will be designed to the relevant Australian Standard & SSU requirements.

Access Control

The proposed development proposes to utilise fencing to all boundaries, with gate to provide access control. Fencing around the boundary of the site will not restrict surveillance opportunities and will be constructed of optically permeable materials in accordance with EFSG.

Space/Activity Management

The proposed development achieves this through the design of buildings orientated to the exterior of the site and promotion of interior open spaces protected from the public domain. During school operation the students will be contained generally to the interior of the site. Graffiti resistant materials will be used wherever practicable to assist in removal.

EXTERNAL LIGHTING STRATEGY

Key Considerations for External Lighting

AS 4282:

- Light falling on surrounding properties
- The brightness of luminaires in the field of view to nearby residents
- Glare to users of adjacent transport systems
- Effects of astronomical observations

Control of Effects:

- Level of lighting
- Times of operation for proposed lighting
- Type of lighting technology

CPTED (Crime prevention through environmental design)

- Ensuring correct categorisation of areas
- Ensuring robust quality fittings
- Ensuring compatibility with security

Design Objectives:

The implementation of a new exterior lighting design will be in accordance with the following Australian Standards:

- AS/NZS 1158:2005 Lighting for the roads and public spaces and
- AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting.

The design will consider surrounding properties and residents and work to mitigate the negative effects of this through careful and considered selections of luminaires and control strategies, appropriate lighting levels and lighting locations.

The new exterior lighting system will also consider crime prevention and work to eliminate cause through the implementation of correct lighting categorisations, and a cohesive lighting system with robust luminaires that is compatible with security system requirements.



External Pole Top Led Luminaire with full cut-off and back spill control

External Lighting AS/NZS 1158 P Category Classification	
	P11B
	P2
	P3



Steensen Varming: Electrical and Lighting Services Site Plan – Exterior Categorisation

5 Option Analysis

PREVIOUS SITE PLAN



PROPOSED SITE PLAN



OPTION COMPARISON

The site planning has been revised to incorporate the feedback from the Government Architect NSW (GANSW) State Design Review Panel and integrate the design principles established for this project. The previous SARM Architects design proposed a site massing with two rows of buildings significantly angled and setback from O'Keefe Drive and the future road to the south. This layout had two main disadvantages. The first is that it created a triple height central courtyard space that restricted natural light to the southern building form. The second issue is the amount of land provided within the front and side setbacks that cannot be fully utilised for open play space by the students.

The proposed layout includes breaks between volumes and utilises the building form and landscape to provide a positive streetscape while at the same time providing more useable play space in the centre of the site.

The Administration and Library building (Block A) is located on the south west corner of the site to create an 'urban marker' within the local context and a focal point for the main entrance of the school on O'Keefe Drive.

The learning buildings (Block B, C & D) have been redesigned to provide clusters with four homebases organised around a central practical activity area. This design has been well received by the Project Reference Group PRG and GANSW. The hall (Block E) location has been retained. The car park has been rationalised and the waste pad has been relocated closer to the site boundary.

6 Built Form

SITE PLANNING

The site planning incorporates feedback from the Government Architect NSW (GANSW) Design Review Panel and responds to the design principles established for this project. The proposed design balances the built form and landscape to create a positive street setting within the local context. The highly articulated built form facilitates passive design principles and improved amenity.

The site massing locates the built forms (Block A, B, C, D & E) adjacent to the streets to maximise the useable open space and play activities towards the centre on the site. The Administration and Library building (Block A) on the south west corner of O'Keefe Drive creates an 'urban marker' within the local context and a focal point for the main entrance of the school.

The hall (Block E) has also been located along O'Keefe Drive towards the north to activate shared use and access for the community. The carpark has been located

towards the north-west boundary to maximize pedestrian circulation for the hall (Block E) and for shared community use of the potential site area above the northern boundary.

The main circulation corridor is located from the main entrance and along the northern facades of Block A, B & C, connecting to the centralized open area. These covered walkways are an import visual link and wayfinding strategy through the site whilst also offering solar protection to the learning spaces.

The site planning facilitates a north-south connection through the site to the future open space in the north. The servicing of the site, including sub-station and booster pumps, has been considered to ensure code compliance while at the same time coordinating the locations to ensure they are well screened by landscaping away from the main active spaces. The waste pad is positioned close to the site boundary for

easy access by the garage truck and reduce potential conflicts with students. The landscape design is an integral part of the site planning. The narratives for the site are woven through the landscape and unite the building forms to create a learning campus that acknowledges the history and local site context.

See diagram on the following page.

6 Built Form

SITE PLANNING

1. Waste Pad
2. Main Switchboard Room
3. Substation
4. Pumps
5. Shade Structure
6. Plant with Screen
7. Assembly
8. Bicycle Parking
9. Sports Field
10. Main School Sign
11. Future Electric School Sign



6 Built Form

MATERIALS + FINISHES

The concept for the materials is to provide robust, low maintenance materials. The colours are based on a neutral palette with selected highlight accent materials and colours.

The materials and finishes are designed to work with the landscape and way-finding to create a coherent language that will define the school and can be used to form the basis of the school branding and identity.

Refer elevation Architectural Drawing 00_101 for location of external finishes.

1. Cladding General CFC Neutral Colour (CFC1)

2. Cladding Accent CFC Feature Colour (CFC2-A)

3. Roofing Upper Level (MR1)

4. Roofing Lower Level (MR2) and Metal Wall Cladding (MWC1)

5. Cladding Accent CFC Feature Colour (CFC2-C)

6. Concrete

7. Privacy Screen – Aluminium Louvres (LV1)

8. Stair Feature Colour – Powdercoated Perforated Metal

9. Cladding Accent CFC Feature Colour (CFC2-B)

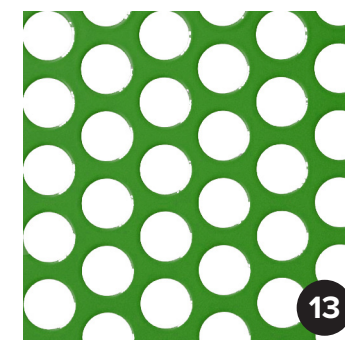
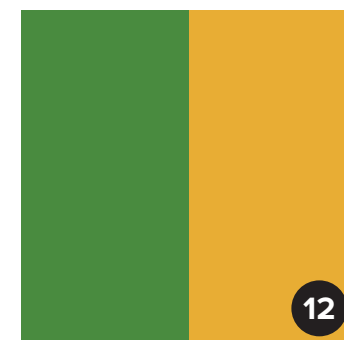
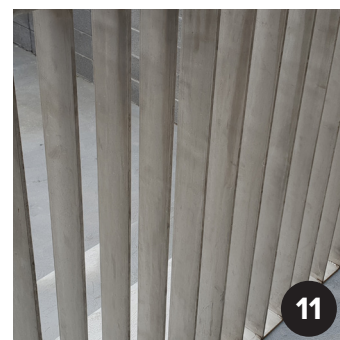
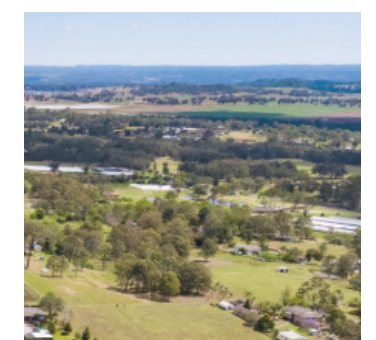
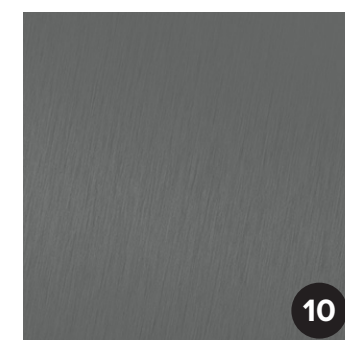
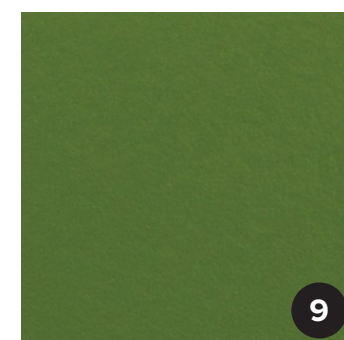
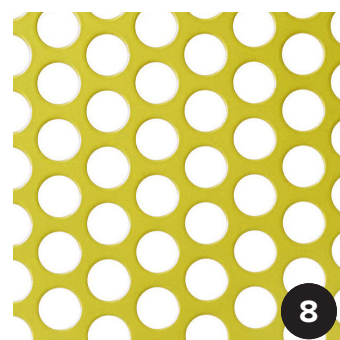
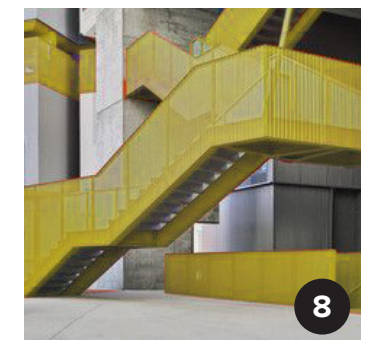
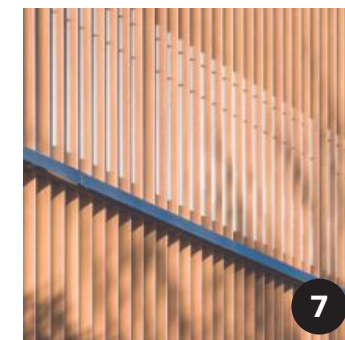
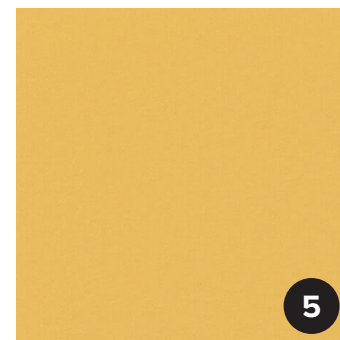
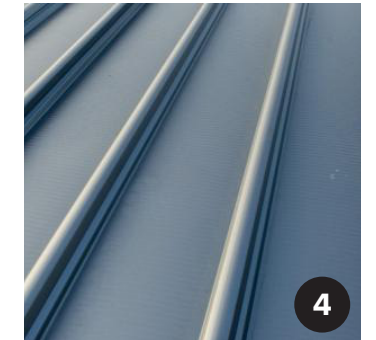
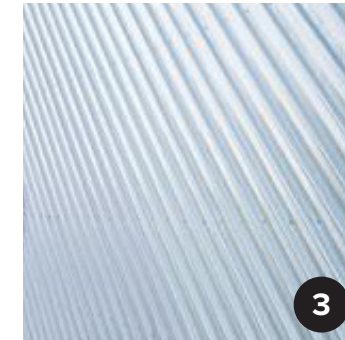
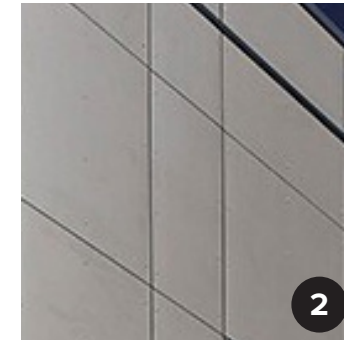
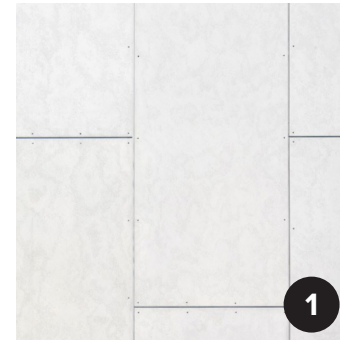
10. External Window + Door Frames

11. Balustrades – Galvanized

12. Accent Colour + Sunshades

13. Hall Entry Screen Feature Colour – Powdercoated Perforated Metal

14. Local Context



6 Built Form

WAYFINDING



1.0 SIGN ELEVATION: ENTRY SIGN PANELS

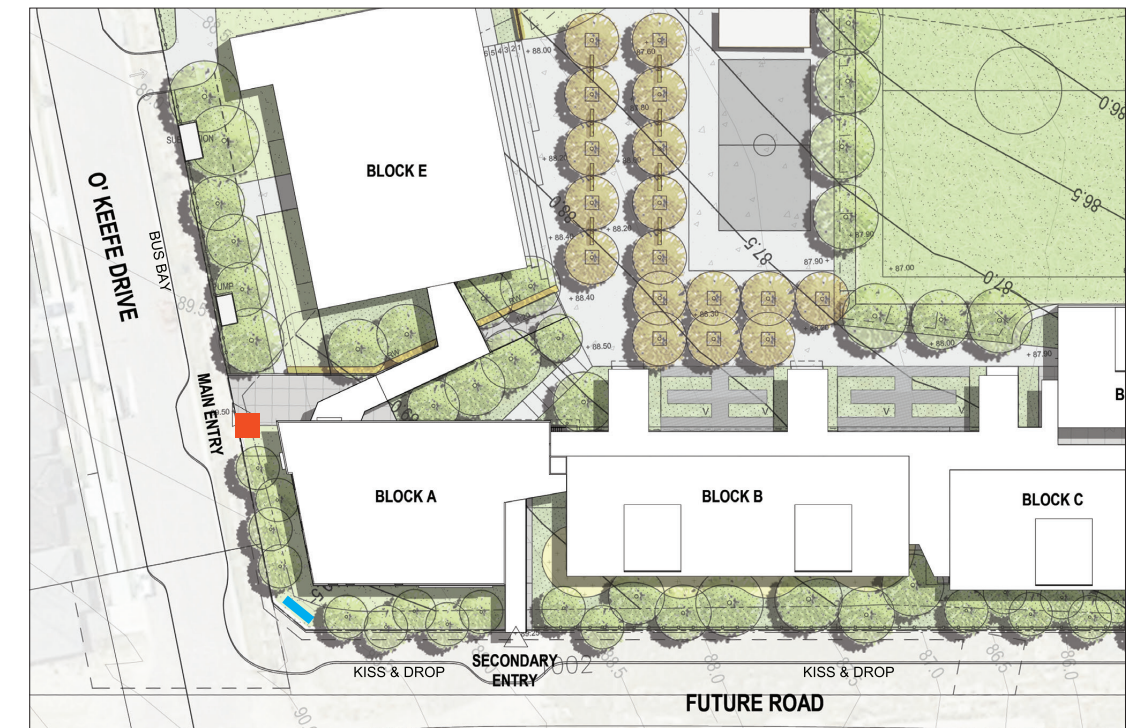
The school entry sign is formed in three overlaid panels symbolising a layered connection to environment. The colours are drawn from the project narrative and reference the broader colour palette in the school architecture. A small text panel to the second panel of the sign form aims to provide an opportunity for a Dharwal Welcome to country message or other interpretive information. The sign form is constructed from three metal sign blades, with durable, long lasting external paint finish with concealed fixings. The staggered alignment allows for the sign to be two sided with the information duplicated each side allowing for visibility on two approaches to the school entry. Note: final colour selection to be confirmed by the school.

Scale: 1:20

CATHERINE FIELD PUBLIC SCHOOL WAYFINDING AND SIGNAGE

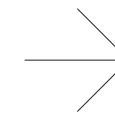
ENTRY SIGNAGE

THE STRATEGIES ARE DRAWN IN RESPONSE TO THE SITE NARRATIVE, SITE CONDITIONS AND CONTEMPORARY WAYFINDING PRINCIPLES



1.1 SITE PLAN: SIGN LOCATION (Plan is indicative only)

- Entry sign located to Southern side of pathway leading into the school. Two sided sign provides visibility from both approaches.
- Proposed location for digital school sign.



1.2 LEAF PATTERN GRAPHIC

The pattern cut in to the two front sign plates is an abstract representation of eucalyptus leaves which references the importance of the environment and indigenous past. The treeline adjacent to the creek on the Eastern boundary of the school is noted as a nature refuge and a visible link for the school.

Catherine Field

PUBLIC SCHOOL

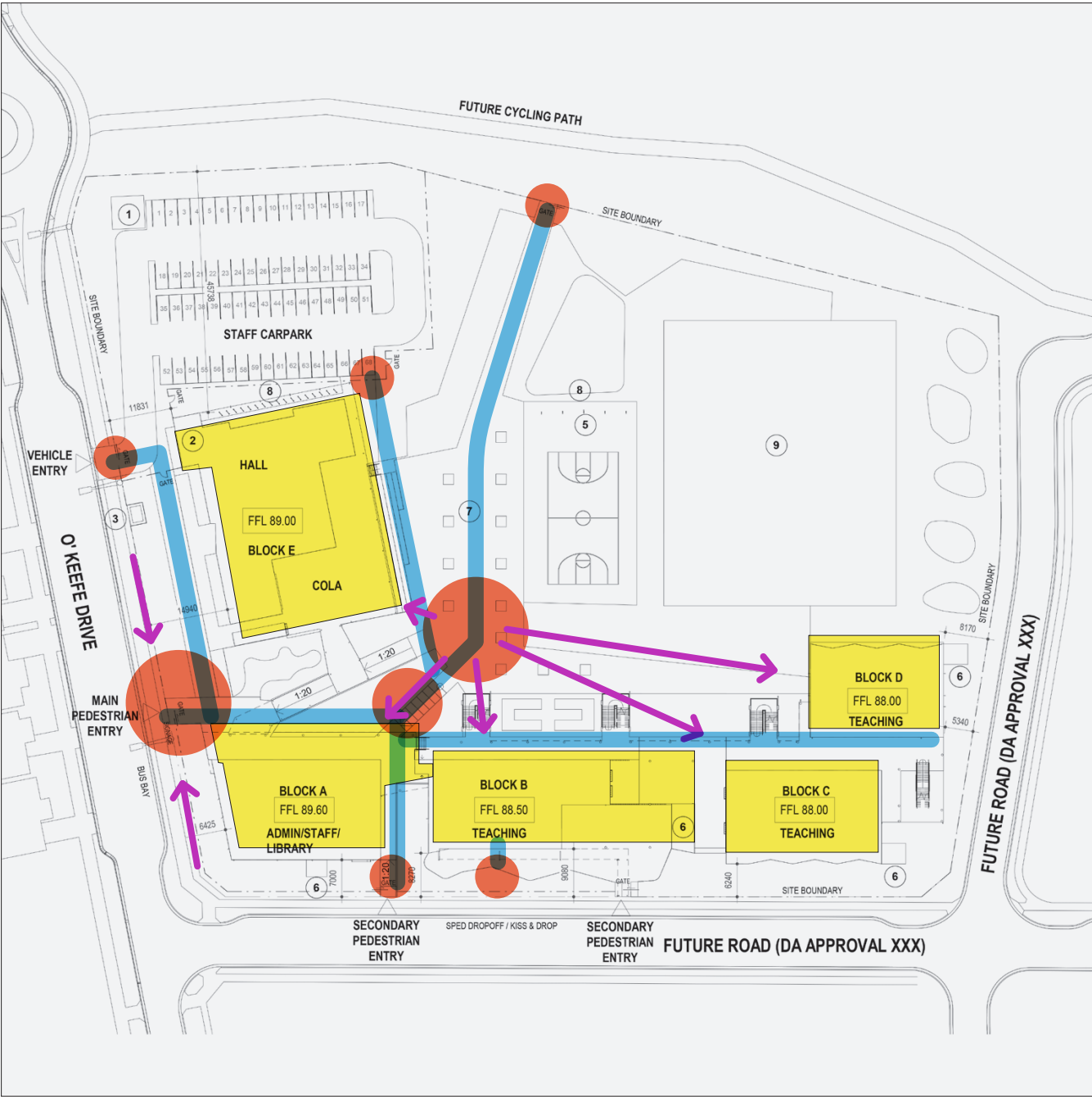
1.3 TYPOGRAPHIC NAMESTYLE FOR LETTERING

Proposed namestyle is shown in a humanist font Helvetica Black Condensed for the school name and Helvetica Light Condensed for the words Public School.

CATHERINE FIELD PUBLIC SCHOOL WAYFINDING AND SIGNAGE

WAYFINDING STRATEGY

THE STRATEGIES ARE DRAWN IN RESPONSE TO THE SITE NARRATIVE, SITE CONDITIONS AND CONTEMPORARY WAYFINDING PRINCIPLES



Note: site plan is indicative only. Final locations to be confirmed with resolved site plans.

1.0 SITE ANALYSIS: Circulation and nodal points

The above diagram identifies **Circulation Pathways**: tracing the movement of users throughout the site, **Nodal points**: highlighting the intersection of circulation pathways and therefore the location of signage forms and according to the scale of the nodal point and the level of information required, **Primary destinations**: which forms the basis for navigation throughout the site and **Primary site lines**: which influences the location of Type 2 Block signage and Entry signage. These four factors will guide the location and development of a signage system.

	Circulation pathways
	Nodal points: Primary / Secondary / Tertiary
	Primary destinations
	Primary site lines

TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	TYPE 7	TYPE 8
ENTRY BOLLARD	BLOCK SIGNAGE	DIRECTIONAL PLINTH	DIRECTIONAL BOLLARD	DOOR SIGNAGE	FLOOR NUMBERS	SUPER GRAPHICS	IDENTIFICATION SIGNAGE
IDENTIFICATION	IDENTIFICATION	DIRECTIONAL	DIRECTIONAL	IDENTIFICATION	IDENTIFICATION	ARTWORK	IDENTIFICATION
Supports the clear identification and branding of the school at main entry visible on both approaches.	Supports the clear identification and branding of school blocks visible from the central grounds within the school.	Ensures provision of high level information supporting navigation to and from primary destinations within the site.	Ensures provision of detailed information supporting navigation to and from secondary destinations within the site if required.	Signage system that supports the clear identification of classrooms detailing the floor level and room number.	Signage system that supports the clear identification of floor levels in each building adjacent to vertical circulation.	A range of site specific large scale graphics that contribute broadly to the site aesthetics and amenity and specifically to learning and placemaking.	Signage system that supports the clear identification of destinations throughout the site.
2800mm x 630mm x 180mm	1200mm x 600mm x 50mm	2000mm x 400mm x 50mm	1600mm x 150mm x 150mm	300mm x 150mm	2000mm x 600mm	2700mm x 8000mm	200mm letter height
2 x sided sign form comprising 3 x vertical steel panels 15mm thickness pinned together with graphic pattern cut through to reveal colour of panel beneath. Panels to be durable, high build external paint finished. The 2 outer panels have different colours to the front and reverse faces. Dimensioned lettering to the front and reverse sign faces from 10mm acrylic finished in durable, high build external paint. Engineering and footing details to be resolved.	1 x sided sign form with graphics to face that may wrap around the corner of a building. Sign face as 3mm aluminium sheet finished with durable, high build external paint, concealed fixed to SHS galvanized frame. Dimensioned lettering to sign face finished with durable, high build external paint.	2 x sided sign form with graphics to front and reverse faces. Sign face as 3mm aluminium sheet, finished with durable, high build external paint, concealed fixed to internal 50mm SHS galvanized frame. Graphics to sign face with clear protective coating over to seal. Engineering and footing details to be resolved.	Square, 2 x sided sign form with graphics to front and reverse faces. Bollard is standard SHS post finished with durable, high build external paint. Graphics to sign face with clear protective coating over to seal. Engineering and footing details to be resolved.	1 x sided sign form with graphics to front face only. Sign face as 4mm aluminium sheet, finished with durable, high build external paint. Sign form chemically fixed to wall or glazed surface. Graphics to sign face with clear protective coating over to seal.	1 x sided sign form with graphics to front face only. Sign face as 6mm aluminium sheet, finished with durable, high build external paint. Base plate mechanically fixed to wall surface with sign face chemically fixed to base plate.	Graphic to be digitally printed die sublimation to synthetic wallpaper product such as 3M. Require drops in 1200 or 1500mm width to full heights of walls. Require means to conceal ends of graphics to avoid lifting or picking.	1 x sided sign form. Dimensioned lettering from 10mm acrylic, finished with durable, high build external paint, chemically fixed to wall or glazed substrate.

1.1 SIGNAGE REQUIREMENTS AND SPECIFICATION: SCALE 1:50

1.2 THE WAYFINDING STRATEGY

PRIMARY OBJECTIVES: The primary objective for the wayfinding is to facilitate the autonomous navigation and movement throughout the site of a range of users supporting a positive visitor experience.

USER GROUPS: The signage will support a range of user groups comprising students, parents, staff and broader community. It is expected that the requirements will be higher for first time visitors to the site and as familiarity increases with subsequent visits the dependence upon information and signage will decrease.

CIRCULATION AND NODAL POINTS: A range of circulation pathways are evident within the site typically tracing the movements from a number of entries to a range of key destinations. As the school site contains no through vehicular access the signage will preference pedestrian movement and, where relevant, guide visitors through the site from designated car parks. A high reliance on directional information (to/from destinations) is typical at circulation nodal points which are characterised by: 1. transitions between spaces and zones: ie public/school & internal/external, 2. transition between transport modes: ie vehicular/pedestrian, and 3. at the intersection of circulation pathways. To support good site navigation a range of signage is required that accommodates a range of varying types and scale of information providing clear

identification of destinations throughout the site and the movement between them. Primary site lines are noted in the heart of the school grounds and main entry that will guide location of entry signage and situation of high level block signage.

INTEGRATED SIGNAGE SUITE: A draft, functional signage suite is detailed above that responds broadly to the site narrative and to the specific site conditions. The suite consists of a set of scaled forms, categorised as either directional or identification, that respond to the identification and navigation to and from a range of primary and secondary destinations.

MATERIALS, AESTHETICS AND FORM: Whilst the design of signage satisfies primarily functional requirements and will preference the autonomous navigation of visitors throughout the site, it is important also that the signage respond to the architectural, material and spatial scale and consider this in its design, materiality and construction. The signage will importantly contribute to the sense of place and strengthen the site narrative.

BRAND AND SIGNAGE: A secondary though important function of a signage system is to appropriately brand the site. At a basic level this means the clear representation of the school brand but also to reflect the aspirations, character and positioning of the school through its design. This will be further developed with user groups.

6 Built Form

MASSING

The site massing of the built form is broken down into a series of smaller volumes. These volumes step to follow the fall of the site with the objective of providing on grade access points into the school.

The connecting walkways provide relief to the façade and act as the main shading element for the northern facades. The open stairs provide further articulation while providing safe access for the students.

The design has been developed based on the input received at the GANSW review panel meetings. The hall has a clearly defined entry with direct access from O'Keefe Drive. Further discussion relating to GANSW reviews can be found in Section 8.



HAND DRAWN AERIAL MASSING FOR EAST LEPPINGTON PRIMARY SCHOOL

7 Visualisations & Streetscape

3D VISUALISATIONS

The proposed design balances the built form and landscape to create a positive street setting that is in keeping within the local context.

The built form is highly articulated to provide visual relief, scale, and proportion and the necessary passive design principles. The Administration and Library building (Block A) on the south west corner of O'Keefe Drive creates an 'urban marker' and a focal point for the main entrance of the school with unique site specific wayfinding designs.

The main entrance for the school is off the main connecting road O'Keefe Drive, with the arrival point between Block A & E. The built form for Block A & E is two storeys high, responding to the context and scale of the adjacent residential dwellings. Block B, C & D are three storeys high and have an increased setback for a green landscaped buffer zone, minimising any overshadowing impacts of adjacent residential dwellings which can be seen on the shadow diagrams that form part of this package. The scale of the proposal does not have any negative impacts with respect to the heritage item located to south of the site.

VIEW OF ENTRANCE FROM O'KEEFE DRIVE

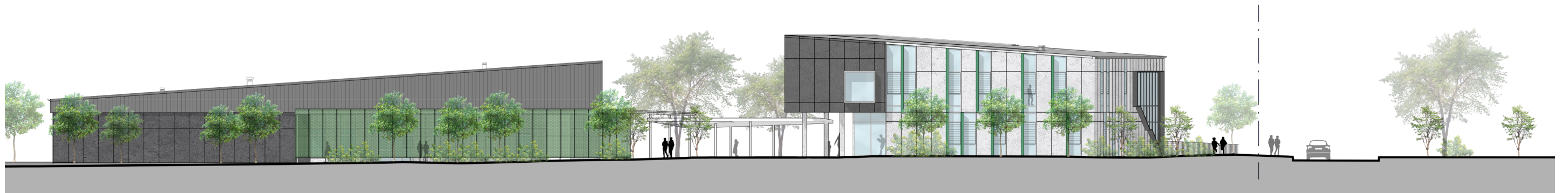




VIEW FROM O'KEEFE DRIVE

7 Visualisations & Streetscape

STREETSCAPE ELEVATIONS



West Elevation – O'Keefe Drive



South Elevation – Future Road

8 Design Verification

DESIGN QUALITY PRINCIPLES

Below are PPA's reponses to the Design Quality Principles of State Environmental Planning Policy (Educational Establishments and Child Care Facilities (2017) and the Government Architect NSW Design Guide for Schools.

CONTEXT, BUILT FORM & LANDSCAPE

Schools should be designed to respond to and enhance the positive qualities of their setting, landscape and heritage. The design and spatial organisation of buildings and the spaces between them should be informed by site conditions such as topography, orientation and climate. Landscape should be integrated into the design of school developments to enhance on-site amenity, contribute to the streetscape and mitigate negative impacts on neighbouring sites.

The design for the Catherine Field Primary School is based on information drawn from the site analysis and urban design principles that ensure the project responds to the context and is site and community specific.

The main entrance for the school is off O'Keefe Drive and positioned between the Administration and Library building (Block A) and the Hall building (Block E) activating the streetscape and connecting to the public domain. The functional opportunities of the library and hall spaces aim to encourage social interaction within the neighbourhood and wider community groups.

The site has a gentle fall from the south-western corner across to the north-eastern boundary. The built form and massing is strategically orientated to consider the relative stepping site levels, aligning the floor levels to ensure an accessible and inclusive design. The different arrival entrance points to the school around the site are designed on grade for visual inclusivity, accessibility and connectivity to the public domain. A site narrative of 'Connecting to Country' has been developed through the applied material palette, landscape design, signage and wayfinding strategy to include the local indigenous narrative, history and culture of the D'harawal people.

The combination of the building forms and landscape setting will provide a sense of identity for the neighbourhood and wider community. The overall form, site layout and landscape approach ensure that negative impacts for the neighbours has been mitigated.

SUSTAINABLE, EFFICIENT & DURABLE

Good design combines positive environmental, social and economic outcomes. Schools and school buildings should be designed to minimise the consumption of energy, water and natural resources and reduce waste and encourage recycling. Schools should be designed to be durable, resilient and adaptable, enabling them to evolve over time to meet future requirements.

Catherine Field Primary School is designed with regard to the principles of environmentally sustainable development. The building orientation, sun shading and passive thermal design elements are the first step to creating a sustainable building solutions. This is further enhanced by the inclusion of a rainwater tank to be used for irrigation, solar power and the selection of long lasting, low maintenance materials. The structural system for the buildings is a mixture of concrete frame and steel framing. The benefit of these systems is that the internal walls are non-loading bearing allowing for reconfiguration in the future if deemed necessary. Together with Steensen Varming, the buildings have been optimised to facilitate good daylighting and natural ventilation. The ESD report that forms part of this submission, outlines these ideas in more detail including energy conservation, water conservation and other sustainability initiatives.

ACCESSIBLE & INCLUSIVE

School buildings and their grounds should provide good wayfinding and be welcoming, accessible and inclusive to people with differing needs and capabilities. Note: Wayfinding refers to information systems that guide people through a physical environment and enhance their understanding and experience of the space. Schools should actively seek opportunities for their facilities to be shared with the community and cater for activities outside of school hours.

The site has been designed to provide an accessible and inclusive ground plane with the main premise such that buildings are all served by ramps and/or lift. The design of the open space aims to provide walkway transitions between the various areas. This creates equitable access for all users. The site layout is clear and simple, promoting easy and direct circulation. This will be enhanced by clear wayfinding signage. The signage strategy is included in Section 4 of this report. The layout of the various functions that can be used by the community have been designed so as to facilitate secure after hours use. The Hall and library are located at the street edge with clearly defined entries to allow easy access by the community. The open play fields are located to the north of the site and have the potential for direct access to the future sports fields to the north.

8 Design Verification

DESIGN QUALITY PRINCIPLES

HEALTH AND SAFETY

Good school development optimises health, safety and security within its boundaries and the surrounding public domain, and balances this with the need to create a welcoming and accessible environment.

The Catherine Field School design ensures that natural light, ventilation & acoustics are used to create healthy and safe learning/teaching environments. The school site is to be fenced at the boundary as the perimeter security. The landscaping of the site and the articulation of the fence assists with integrating the fence into the site and public domain. The school has a main entry on O’Keefe Drive that is clearly identified.

There are multiple secondary entry and exit points that are needed to manage the large student numbers on the site. These points are secure and are open at the start and end of the day only. During school hours, it is understood that these gates will be locked to ensure that all visitors and students enter and leave via the main entry during school hours.

AMENITY

Schools should provide pleasant and engaging spaces that are accessible for a wide range of educational, informal and community activities, while also considering the amenity of adjacent development and the local neighbourhood. Schools should include appropriate, efficient, stage and age appropriate indoor and outdoor learning and play spaces, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage and service areas.

The layout of the school campus is designed around the principles developed through workshops with the Project Reference Group, building on the design work undertaken by the previous project team. The objective is to provide a variety of teaching and learning spaces that have access to natural light and ventilation and have good internal acoustics to facilitate comfortable learning environments. The typical learning clusters contain four homebases, a combined practical activity area with a shared learning common. This is complemented on site by special programs rooms, learning spaces within the library and facilities for special needs students. In addition, a range of outdoor learning and play spaces are provided with the aim to encourage learning from the natural environments and the buildings themselves. Some spaces are designed to be multipurpose to cater for a range of school uses as well as community use. This includes the Hall, Library and playing fields. The site massing locates the built forms adjacent to the streetscape to maximize the useable play spaces towards the centre on the site. This has the benefit of protecting the amenity of the local neighbourhood and the safety of the students.

WHOLE OF LIFE, FLEXIBLE & ADAPTIVE

School design should consider future needs and take a whole-of-life-cycle approach underpinned by site wide strategic and spatial planning. Good design for schools should deliver high environmental performance, ease of adaptation and maximise multi-use facilities.

The design of the site is based on the urban design and sustainability principles described in the points above. The key factors that ensure a building can be used well into the future are;

- Long lasting, low maintenance materials to ensure its use stands up to the impacts associated with school buildings,
- Framed construction that allows the internal walls to be reconfigured in the future to adapt to future learning requirements and finally,
- Providing a variety of learning spaces that have good amenity for the uses teachers, students & community.

AESTHETICS

School buildings and their landscape setting should be aesthetically pleasing by achieving a built form that has good proportions and a balanced composition of elements. Schools should respond to positive elements from the site and surrounding neighbourhood and have a positive impact on the quality and character of a neighbourhood. The built form should respond to the existing or desired future context, particularly, positive elements from the site and surrounding neighbourhood, and have a positive impact on the quality and sense of identity of the neighbourhood.

Catherine Field Primary School is designed to provide an articulated and dynamic built form which contextually responds to site scale and massing. The Administration and Library building (Block A) on the south west corner of O’Keefe Drive creates an ‘urban marker’ within the local context and a focal point for the main entrance of the school. A cantilevered rectangular architectural form (Block A), dark in colour defines the main entrance creating a unique visual point of arrival. The landscape design, signage and wayfinding strategy activate this important streetscape address. The hall (Block E) has also been located along O’Keefe Drive towards the north to activate shared use and access for the community. The hall has a distinctive tapered architectural roof form creating a dynamic street address to signify an important community building. The learning buildings (Block B, C & D) have an articulated façade comprising of framed vertical coloured elements rotated at alternate angles to create a dynamic rhythm and street address. The accents colours for the vertical elements within the overall design of the project has been developed from the site narrative. Each built form on the site has been designed to incorporate passive environmental design principles. A site narrative of ‘Connecting to Country’ has been developed through the applied material palette, landscape design, signage and wayfinding strategy to include the local indigenous narrative, history and culture of the D’harawal people. These themes will be explored further at our next meeting with the local aboriginal elders Uncle Ivan and Uncle Eddie. The combination of the building forms and landscape setting will provide a sense of identity for the neighbourhood and wider community.

8

Design Verification

GOVERNMENT ARCHITECT RESPONSE

The following are PPA's responses to the comments provided in the SDRP Session 41, dated 9 October 2019.

The project team would like to thank the panel for their responses and feedback in respect to the above mentioned project. We note that the panel generally supports the design development of the project as noted in the extract below. In particular the following aspects of the design proposal are supported:

1.

Overall masterplan, clarity of site plan and design principles;
2.

Community access to school facilities;
3.

Civic presence and scale of the buildings;
4.

Permeability of the school grounds from the street and potential connection to future open space to the north;
5.

Holistic approach to topography, siting of buildings, hydrology, vegetation;
6.

Engagement with local Indigenous Cultural Heritage during design concept development (and ongoing).

GANSW Comment

Hall and Library

The canopy link between the hall and library reads as a separate element not integral to the geometry of either building. This canopy requires further refinement and rationalisation to achieve a more elegant resolution.

Aboriginal Culture

The approach to understanding and engaging with local Aboriginal culture is commended. Provide details of how the connection to country will be made evident throughout the school grounds: for example, using landscape, materials, plant selection, art installations/murals, naming, wayfinding devices, play equipment, paving, colour, texture, and formal narratives.

Modular Construction System

Further investigate opportunities to increase the ceiling height in the teaching spaces, optimising both the performance requirements and the spatial quality of spaces.

Provide large cross-sectionsw through a typical classroom block illustrating architecture, structure, mechanical systems, acoustic treatments and finishes.

Clarify ESD simulations, particularly around cross ventilation, with regard to actual ceiling height and building depth. Provide information regarding percentage of time cross ventilation will be achievable.

PPA Response

Noted, the design had been amended for the SSDA submission. The canopy link between block A & E forms the main entrance circulation and visual link across the site. The design identifies two separate canopies which connect and resolve the juxtaposition of the architectural forms (Block A & E). A canopy has been applied to the hall, defining the streetscape facade and strengthening the circulation path from the car parking to the main entrance. A floating canopy between block A and E creates the transitional space for student circulation and orientation point across the site.

The landscape schematic design report outlines the strategies for connecting to country. The architectural schematic design report outlines the wayfinding strategy that includes the elements used to acknowledge Aboriginal culture. These elements are being further refined during the detailed design development phase. The west hall elevation (Block E) indicates a screen along O'Keefe Drive. The screen details will be developed in-conjunction with the landscape and wayfinding designs to build on the local aboriginal culture story and site narrative.

PPA has developed the ceiling details with the design team to maximise the ceiling spaces whilst maintain EFSG - DG55 Cooling Policy requirements. Within the central space of each home base we have created two raised 'pop-up' sections within the ceiling void. On the upper level the ceiling is raked and contains a double height space with glazed openings for maximum natural light and ventilation. Refer to the 3D axonometric sections.

Refer to submitted SSDA drawings accompanied by an ESD report prepared by Steensen Varming. The principals outlined in this report are incorporated into the design and will be refined as the design progresses.

Refer to submitted SSDA drawings accompanied by an ESD report and the Consultant Advice Note prepared by Steensen Varming. The principals outlined in this report are incorporated into the design and illustrated in 3D axonometric sections to demonstrate the cross ventilation system and the raised ceilings opportunities

8

Design

Verification

GOVERNMENT ARCHITECT RESPONSE

The following are PPA's responses to the comments provided in the SDRP Session 41, dated 9 October 2019.

GANSW Comment	PPA Response
Landscaping	
The integrated landscape is crucial to the identity of the school and usability of outdoor spaces and must be delivered concurrently with architectural development.	Noted. The landscape design is being developed in close coordination with the architectural design.
Provide detail on how the heat-island effect could be further mitigated through early intervention methods, for example tree planting prior to start of construction.	The design team have developed the design to reduce the urban heat-island effect through maximising landscaped areas throughout the site as well as selecting a light coloured roof finish material. The hardscape surfaces have been minimised in area, with applied planting along the edges for additional landscape canopy coverage.
Minimise the extent of fencing as much as possible and articulate fencing to incorporate landscaping on both sides to reduce visual impact.	SINSW via the Schools Security Unit have given direction that a fully compliant school fence is required to the perimeter of the site and also a separate fence line between the community use areas. The site fencing has been placed at the perimeter of the site boundary. At key entrance locations to the school the fence has been setback from the site boundary by approximately 1 metre to allow for a landscape treatment to soften the fence visibility. The final fence locations will require review and sign off by SINSW security unit and therefore will be subject to their feedback
Provide a staged fencing proposition as discussed in SDRP03. Clarify long-term fencing strategies for the whole site, in particular along the northern boundary and future connection to the open space.	The project team have reviewed the boundary interface details for the possible use of the open space to the northern boundary. The design has the allowance for the inclusion of a large gate along the northern boundary to facilitate the connection to the future open space. The project team is in discussions with the developer of the land to the north to facilitate the best access to the future open space for the school.
Climate Data	
It is recommended that SINSW consider data collection of microclimate pre-construction and during the occupation of facilities to demonstrate heat-island effect reduction and determine how microclimate impacts might be mitigated in the future. East Leppington Public School and Catherine Field Public School are located on greenfield sites in newly established suburbs making them suitable projects for this type of analysis which can also form part of the building-as-learning-tool strategies.	We support the collection of data. SINSW will need to implement this as part of the operations.