# ARCHITECTURAL DESIGN REPORT

## The New Primary School in Mulgoa Rise

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# 1 EXECUTIVE SUMMARY

The Architectural & Landscape design works have been carried out by NBRSARCHITECTURE. This report combines Architectural & Landscape Architecture reporting for the purpose of State Significant Development Application.

A Government election commitment in 2012 to build 190 new schools across the state, was implemented with the aim to address the issues of overcrowding and ensuring all students are given equal access to quality educational opportunities. School Infrastructure NSW has committed to building a new primary school in Mulgoa Rise/ Glenmore Park, one of 4 new schools in the Glenmore Park Primary School Community Group (SCG).

This proposal will facilitate a Core 21 school with 18 learning spaces (also known as Home bases) + 2 support classes, with the selected core facilities at Core 35, for the Hall, Library, Staff facilities and Admin. This will Cater for an initial 414 students.

The school buildings have been designed with consideration to the conventional method of construction with integrated prefabricated building elements.

# 2 INTRODUCTION

## 2.1 Project Background

The Penrith region is experiencing rapid growth in development which is driven by State investments in infrastructure such as Western Sydney Airport and Aerotropolis, a developing technology industry and housing estate. Students who are currently living in the Mulgoa Rise area travel long distances to reach schools within the catchment area.

A Government election commitment in 2012 to build 190 new schools across the state, was implemented with the aim to address the issues of overcrowding and ensuring all students are given equal access to quality educational opportunities. School Infrastructure NSW has committed to building a new primary school in Mulgoa Rise/ Glenmore Park, one of 4 new schools in the Glenmore Park Primary School Community Group (SCG).

The new primary school in Mulgoa Rise /Glenmore Park is to be designed and built to significantly improve educational outcomes and address the capacity shortfall across the area for an approximate 414 students initially, with the potential expansion to 1000 as demand grows.

SINSW aims to "… make schools the centre of local communities through initiatives designed to bring people together and create opportunities for learning, work and play." (SINSW, 2021). The new Primary School in Mulgoa Rise will offer facilities that can be made available for community use such as a brand-new Community Hall, Sporting Facilities and a Library. At completion, the new primary school, will fill the gap for a centralise community hub.

## 2.2 The Site

Located on No 1-23 Forestwood Drive, Glenmore Park, the site is a cleared rectilinear brownfield site in a relatively new Mulgoa Rise residential subdivision. The site is surrounded by a vacant site (to be the future mixed-use commercial and residential precinct) to the north, Council playing fields to the east, and low-density residential dwellings to the south & west. The site sits on substantial fill above what was previously a quarry.

Detailed site investigation has been carried out to confirm its suitability for a primary school facility. This 3 Ha site is adequate for a SINSW Core 21 primary school, outdoor play area and sufficient area for future expansion.

## 2.3 SEARs

On the 02 December 2020, the Department of Planning, Industry and Environment (DPIE) issued Secretary's Environmental Assessment Requirements (SEARs) to the applicant for the preparation of an Environmental Impact Statement for the proposed development. This report has been prepared having regard to the Urban Design specific SEARs encompassing Architectural and Landscape design to address the following key issues:

1. Contextual Planning
2. Built Form and Urban Design
3. Trees and Landscaping Design
4. Environmental Amenities Provisions
5. Transport and Accessibility (Planning strategy)
6. SEARs General Requirements including reporting, drawings and documentation.

The development has been designed following Crime Prevention through Environmental Design (CPTED) strategy principles. The design aspires to create a safe pedestrian route for students, staff and members of the Mulgoa Rise Community.

## 2.4 Architectural Design Statement

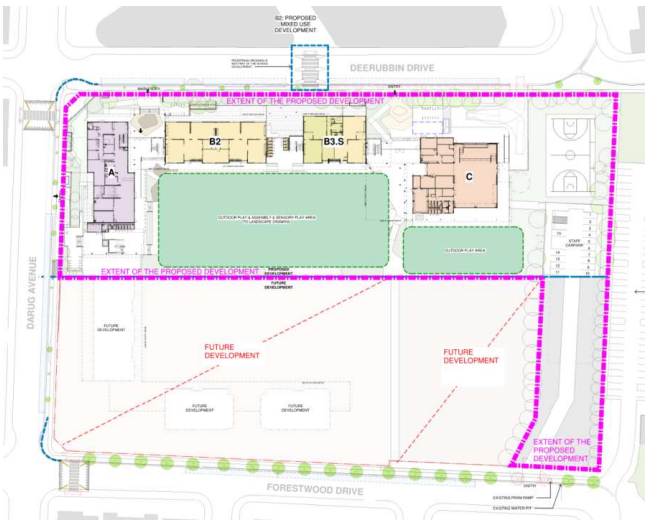
The site layout for the new school will see the buildings arranged along the north and west roads, playground and courts through the middle and the staff carpark positioned on small area at the east of the site.

The school has been master planned to facilitate a Core 35 school with 44 learning spaces + 4 support classes should additional demand materialise.

The current proposal will facilitate a Core 21 school with 18 Home bases+ 2 support classes, with the selected core facilities at Core 35, for the Hall, Library, Staff facilities and Admin. This will Cater for an initial 414 students.

In the event of additional demand, the school can be expanded to a Core 35 primary school, facilitating future expansion of up to 26 additional home bases and 2 additional support classes. However, this will be the subject of a separate and future planning approval.

**The area designated for future school expansion shall not be used as informal play area.**




The scope of current proposal is confined within highlighted area on the above diagram

The new Primary School will incorporate best practice pedagogy for the learning spaces, these will incorporate the use of technology and provide flexibility in the design so to allow for the delivery of modern pedagogies that are focused on creating learning environments where there is an enhanced focus on self-direction, self-reflection, evaluation and collaboration.

Facilities that have potential for public access, such as Library & Multipurpose Hall, are facing Deerubbin Drive or Darug Avenue. These facilities will be provided with afterhours access.

Estimated School hours:

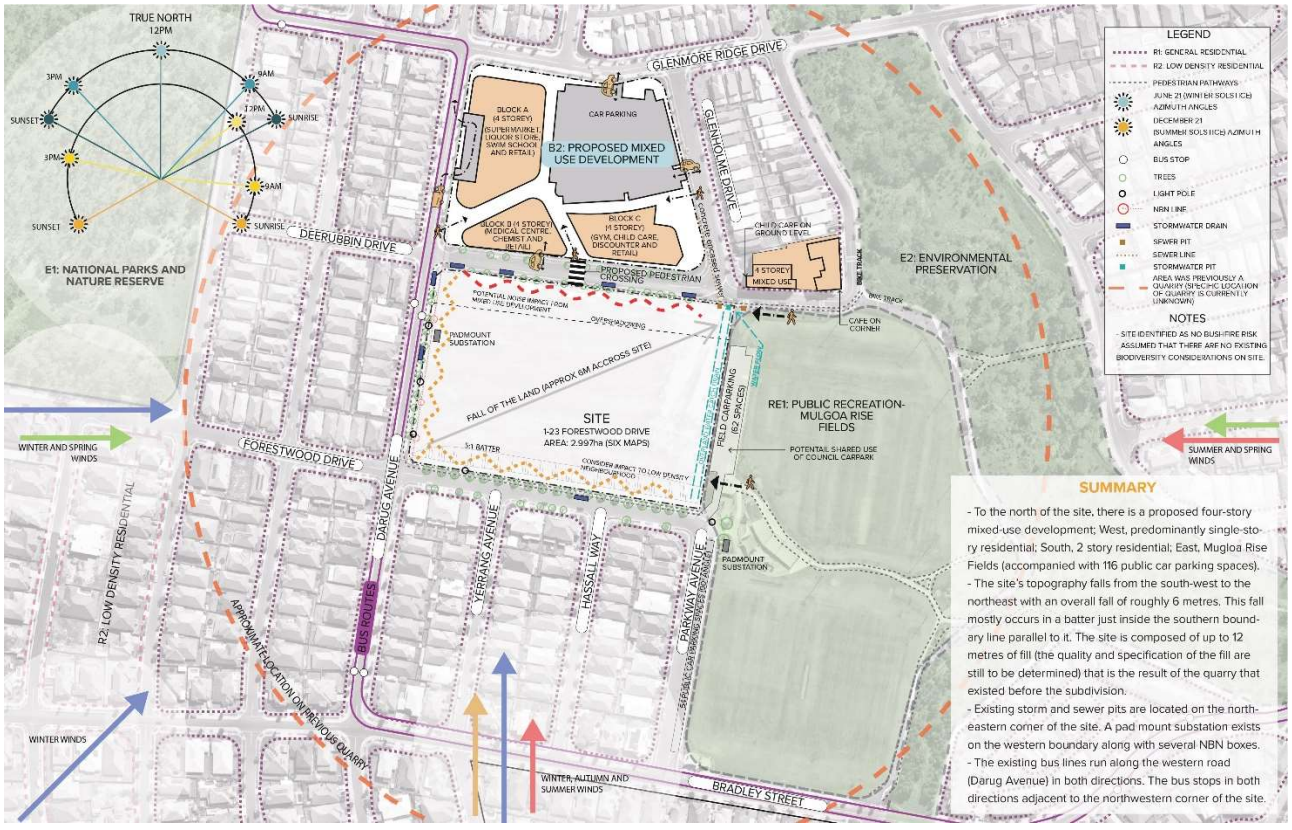
- Before School Services : 6am – 8.30am
- Teaching & learning : 8.30am – 3pm
- Outside School Hours Care : up to 6pm
- Community use : up to 10pm.

# 3 CONTEXTUAL PLANNING

## 3.1 Site Analysis

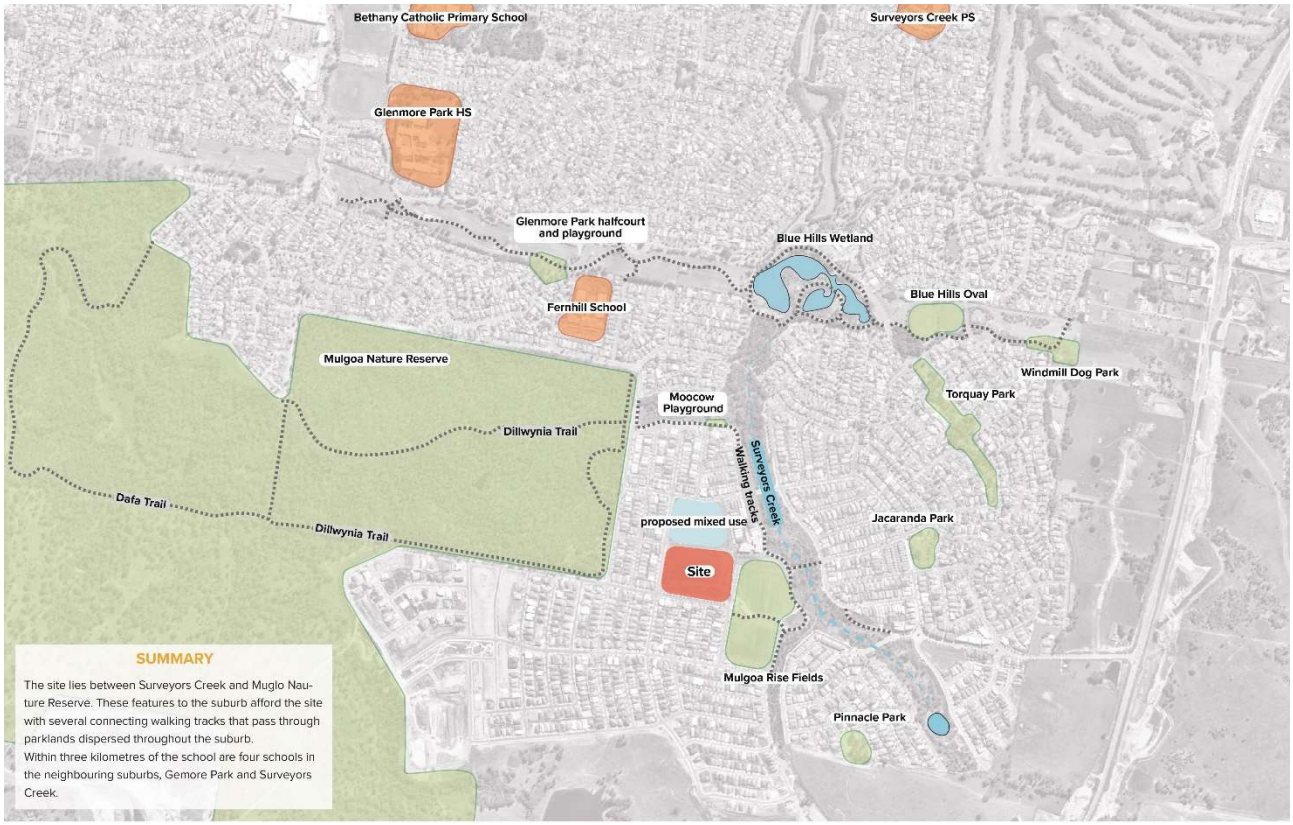
The project design team has carried out site inspections and the following desktop site analysis to inform the masterplan and design of the facility.

The school site is, approximately, rectangular in shape and with north facing orientation. Where practicable, this orientation provides the opportunity to arrange the school buildings in North-South facing orientation so to optimise passive solar design potential.




An excerpt from the Concept Design Report

The school site is surrounded by a well-developed infrastructure which includes parkland, nature reserve, playgrounds and schools




An excerpt from the Concept Design Report

Photographic record of the existing site condition dated December 2020.


DARUG AVE & DEERUBBIN DR - VIEW TOWARDS SOUTH


DARUG AVE & DEERUBBIN - VIEW TOWARDS EAST


VIEW FROM NORTH-EAST CORNER (NOTE: STORMWATER PIT)


VIEW FROM FIRLD CARPARK TOWARDS SOUTH


FORESTWOOD DRIVE - VIEW TOWARDS WEST


FORESTWOOD DRIVE - VIEW TOWARDS NORTH


DARUG AV & FORESTWOOD DR - VIEW TOWARDS EAST


DARUG AVE - VIEW TOWARDS EAST


DARUG AVE - VIEW TOWARDS NORTH

## 3.2 Site Constraints & Opportunities

The project design team has identified the following site constraints & opportunities during the early stages of the design.

### Constraints:

- The site consists of 6m grade from the SW corner and NE corner. This results in the requirement for level changes between interconnecting school buildings.
- The lower portion of the site has inherent flood risk during the 1:100 a year storm event. This triggers the requirement of 500mm freeboard for all buildings.
- The site is a former quarry site with fill identified to a depth of 12m. This site condition influence structural design of the buildings and structures.
- Located opposite a future mixed used development along the northern boundary, the school is exposed to a potential busy street on Deerubbin Drive.

### Opportunities:

- A cleared brownfield site with no visible existing natural habitats of flora and fauna presents the opportunity to reinstate native habitats within the landscape design.
- At completion, the school will provide shared facilities such as library and Multipurpose Hall. The location of these shared facilities are strategically located to front Deerubbin Drive & Darug Ave so to active street scape at the precinct centre.
- The school planning has optimised the cycleways and pathways throughout Mulgoa Rise so to increase the opportunity to walk or cycle to school.
- Neighbouring council sports field provides an opportunity for shared use
- The generous school site area allows even distribution of two storey buildings and adequate play area on ground level.
- Opportunity to discover the site history of being a meeting place between Darug Nation & Gandangara Nation which subsequently used to influence the school site planning.


Site Analysis Diagram – NTS

The lower portion of the site has inherent flood risk in the event of 1:100 year storm event. In responding to the above site condition, it is prudent to anchor the school buildings on the North West portion of the site, the higher ground.

## 3.3 Crime Prevention Through Environmental Design

Crime Prevention through Environmental Design (CPTED) is a crime prevention strategy that focusses on the planning, design and structure of cities and neighbourhoods. It reduces opportunities for crime by using design and place management principles that prevent the likelihood of essential crime ingredients (law, offender, victim or target, opportunity) from intersecting in time and space.

The project has implemented crime prevention strategies as outlined in the appended Crime Prevention Through Environmental Design (CPTED) report. The strategies include:

- Avoid blind corners
- Promote passive supervision
- Provide adequate & clear wayfinding strategy
- Provide adequate site security
- Adequate lighting for surveillance purposes
- Creating a hub to introduce mixed activities within the precinct
- Using robust building materials
- Provide clear line of sight across the school site.
- Provide adequate outdoor covered area
- Provide adequate security to monitor access to school & carpark

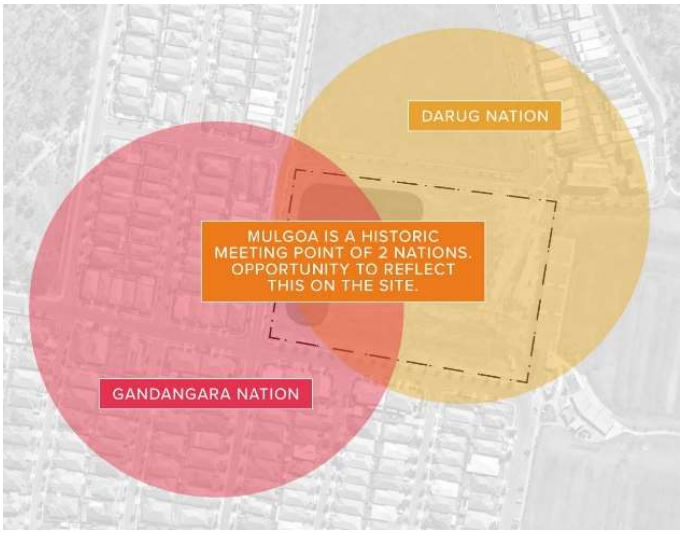
# 4 BUILT FORM & URBAN DESIGN

## 4.1 Designing in Country

HISTORIC MEETING POINT

The site narrative draws on the preliminary research into the history of the locality, where Darug Nation & Gandangara Nation boundaries intersect and the area is recorded as a meeting point for the two clans. **The site layout arranges the two learning villages around the assembly area as a meeting point.** This area was known as a fertile land providing abundance of waterways, a source of food for the region.

The landscape design intent is to respond to the texture and colour of the surrounding natural landscape where the Blue Mountains meet the Nepean Plains. This is mostly evident in the material selection, textures and native plant selection.




SUBURAN CONTEXT RESPONSES

The project is seen as an opportunity to address the school as a community hub in a newly developed suburb approximately 40km from Sydney CBD. The school building cluster is aimed to create a presence of the school by addressing the suburban streets by applying appropriate building scale, density & built form.

The proposed core facilities such as administration and library building aim to anchor at the North West corner of the site so to provide an urban marker to foster community interface & relationship with the school. The built form is balanced with adequate open space and good connectivity within the school.


EDGE THRESHOLDS


ACCESS & ADDRESSING THE CORNERS


OPEN SPACES


SITE CIRCULATION

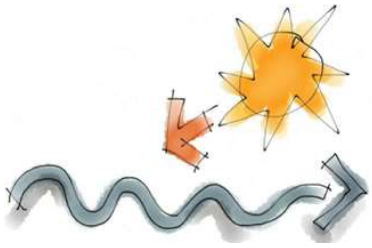
## 4.2 State Environmental Planning Policy

The design of the new Primary School at Mulgoa Rise has adopted the following design principles:

### 4.2.1 Principle 1 – Context, Built Form and Landscape


Communication through architecture by being mindful of the existing site conditions, transport, demographic and local schools. Respecting the areas sense of place within the existing precinct and streetscape. This will provide a space for children within the local community. The buildings at the new Primary School are mostly two storey construction. The scale of 2 storey buildings is sympathetic to the future mixed used development and the surrounding residences.

### 4.2.2 Principle 2 – Sustainable, Efficient and Durable



Environmental sustainability is vital in the design of schools, with natural lighting and ventilation to maximize learning opportunities. It is understood that natural light is critical in the circadian rhythm of the human body in adjusting to day and night conditions, this informing routine, which is vital in the structure of a child's day.

The materiality of the building is driven by locally sourced materials used in an authentic manner to underpin the School's commitment and investment into enhancing the environment and a pursuit of design excellence to provide a world class teaching facility.

The School will be constructed of durable, resilient, and adaptable materials which will preserve their look and feel over time and have timeless and durable qualities, to ensure they knit into the existing community. The Solar shading - created through metal framed eaves - will control solar gain, while the timber look panels will add warmth and texture. Integrated landscaping strategies soften the architectural composition, with planting enhancing the public facing areas.

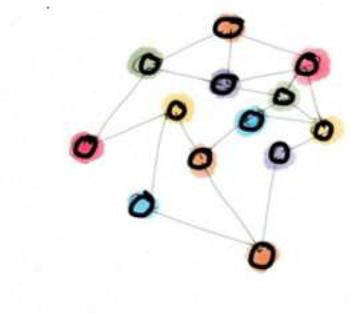
### 4.2.3 Principle 3 – Access and inclusive

Different environments accessed via ramps encourage spontaneous, voluntary and joyful learning opportunities for children to explore and interact with their peers and the world around them. This provokes wayfinding between indoor learning areas, intimate courtyards, outdoor play areas, vegetable gardens and breakout spaces promoting learning activities for team work and hands on experiences.

The design aims to offer multiple access routes in order to disperse pedestrian traffic.

The design ensures that there is always an alternative access into the building and that access routes to/from the Covered Outdoor Learning Areas (COLA) are visible and welcoming, making the way finding strategy intuitive rather than prescriptive.

### 4.2.4 Principle 4 – Health and Safety



Safety, access and connection are critical in providing a welcoming and secure place for children.

Landscaped areas and materials have been considered to minimise safety risks, safety gates control access and open areas promote sight lines and passive surveillance.

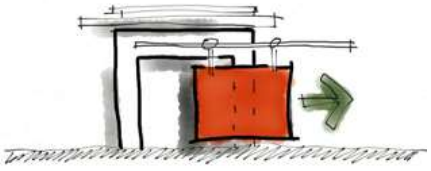
The development has been designed following Crime Prevention through Environmental Design (CPTED) strategy principles. The design aspires to create a safe pedestrian route for students, staff and members of the Mulgoa Rise Community.

### 4.2.5 Principle 5 – Amenity

The most beneficial relationships between children are grounded in equality, learning and gaining insight from each other. There is a need for a variety of learning styles, thus stimulating indoor spaces and experiences should be encouraged. In this way many modes of learning are valued including verbal, visual, kinaesthetic, logical, tactile and rhythmic

The design will provide socially and environmentally responsive solutions creating a pleasant and engaging spaces internally and externally. The design provides a variety of learning modes through flexibility of spatial arrangement, agile furniture, interactive indoor / outdoor environments that allow for individual, teamwork and gathering forms of learning.

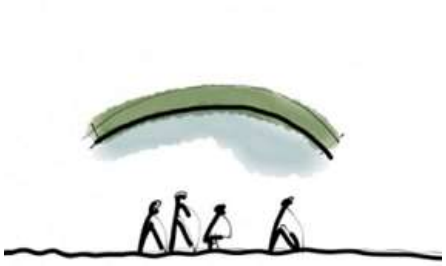
### 4.2.6 Principle 6 – Whole of life, Flexibility and Adaption



Adaptability is a response to evolving learning outcomes. The children's needs can be supported by the manipulation of fixtures and furnishings. It addresses the ability for multi modal spaces to become efficient and personal environments. Catering for children to be free in their learning experience.

All the home bases have direct access to a shared practical activities area. Learning spaces also have sliding door connections between them to encourage collaboration and future focused teaching & learning modes.

### 4.2.7 Principle 7 – Aesthetics



Scale and height of the proposed nature of the new Primary School respects the neighbouring residential & future mixed use development context. Materials are to be sympathetic to reflect the surrounding context.

The bulk and scale of the buildings overall respects the users experience focusing on the human scale and interface with the surrounding environment.

The site design and form of building creates usable outdoor learning and socialising spaces with a variety of climates for year-round use.

The materiality and shading strategy appropriately controls the environment to maximise comfort and usability. It ensures a focusing/centred environment supporting union and a sense of belonging. The design supports the concept of arrival and circulation.

## 4.3 Guiding and Key Design Principles

The design of the new Primary School in Mulgoa Rise will apply the following key design principles.

A. PEDAGOGICALLY SENSIBLE DESIGN

The new Primary School in Mulgoa Rise will incorporate best practice pedagogy for the learning spaces (LS), incorporate the use of technology and provide flexibility in design to allow for the delivery of modern pedagogies that are focused on creating learning environments that students may encounter in the workforce, where there is an enhanced focus on self-direction, self-reflection, evaluation and collaboration.

B. GOOD ESD PRINCIPLES

The school site is rectangular in shape and with north facing orientation. This orientation provides the opportunity to arrange most school buildings in North-South facing orientation so to optimise passive solar design potential.

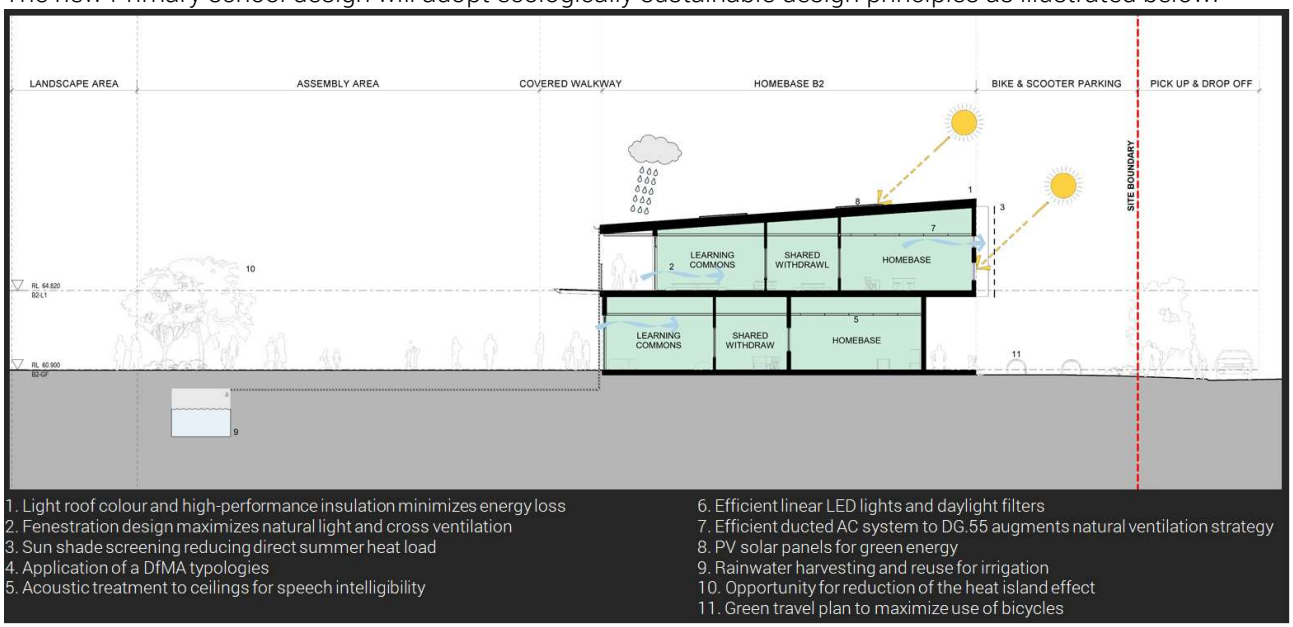
C. PRAGMATIC FORM AND DESIGN

The building volumes are articulated and separated to relate to the suburban setting, also providing a good opportunity for good daylighting and natural ventilation.

All buildings, other than the Hall, are two-storey high with outdoor covered walkways connecting them on both levels.

The building design has the flexibility to accommodate a variety of conventional & prefabricated construction methodologies.

The new Primary school design will adopt ecologically sustainable design principles as illustrated below:




## 4.4 Guidelines & Consultation

The design has been carried out to satisfy the following SINSW planning & design guidelines:

- Schedules of accommodation
- Educational Facilities Specification Guidelines (EFSG) and
- Functional Design Brief

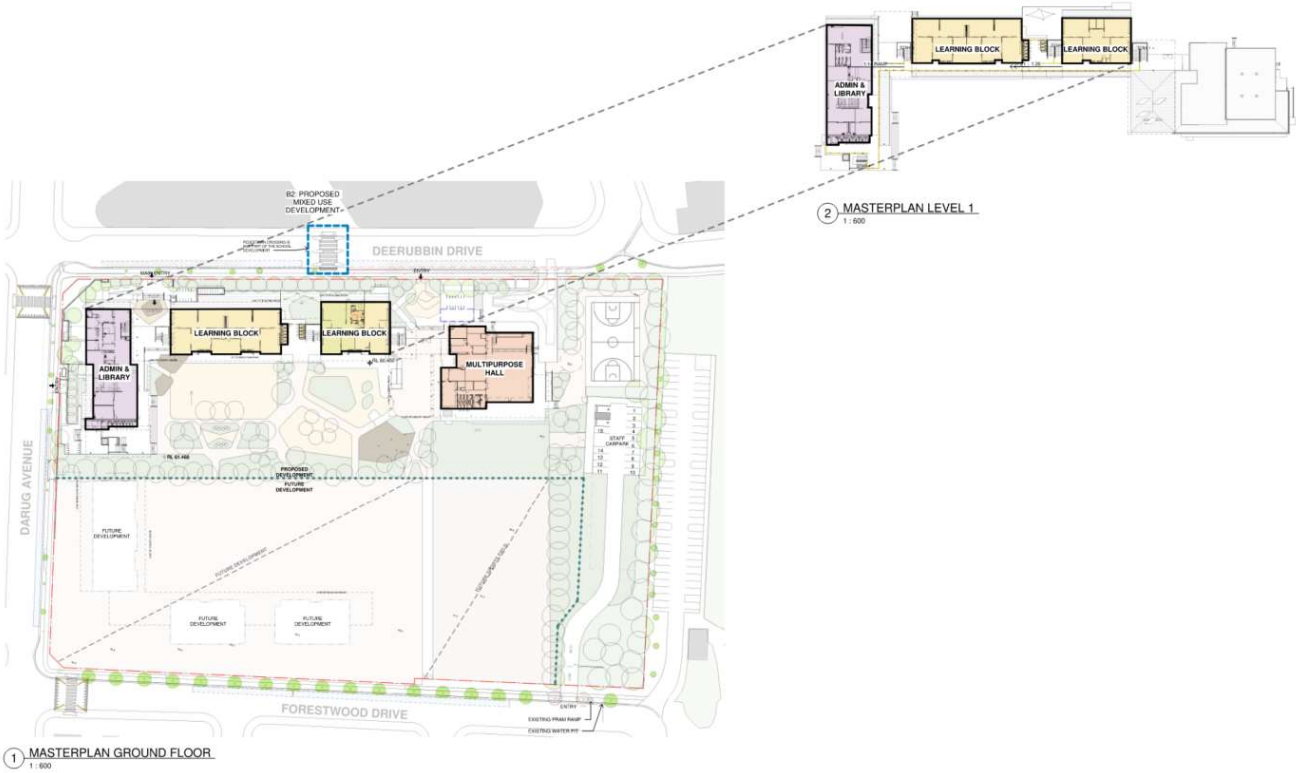
The project has undergone rigorous consultation process and incorporate inputs from :

- SINSW & Technical Stakeholders
- Director Educational Leadership (DEL)
- Penrith City Council. Refer to the appended comment register.
- Specialist Consultants
- Government Architect NSW. Refer to the appended comment register
- Governmental agencies

The design process involved rigorous stakeholder consultation process during Schematic Design stage in March - August 2021. The Project Control Group (PCG), consisting of representatives from SINSW, DEL, Project Managers, Cost Planners, Consulting Contractor and NBRSARCHITECTURE, has influenced the customisation of the architectural design & planning suitable for the site. The design challenge is to accommodate, as best as possible, the input from all stakeholders.

## 4.5 The Masterplan

The construction of the new school is a two-year program for the scope as featured in this development proposal only. Planning and Statutory approvals undertaken through 2021, with early works for construction commencing in late 2021 and the main build in 2022. This will see the doors open for students in Term 1 - 2023. This timeline illustrates the reality of demand driven, time constrained project.




The above Masterplan as illustrated on the above image illustrates the extent of the proposed Core 21 school facilities to be constructed under this development. The masterplan focuses on addressing the school along Deerubbin Drive so to create activation of civic hub along Deerubbin Drive.

## 4.6 School Planning Strategy

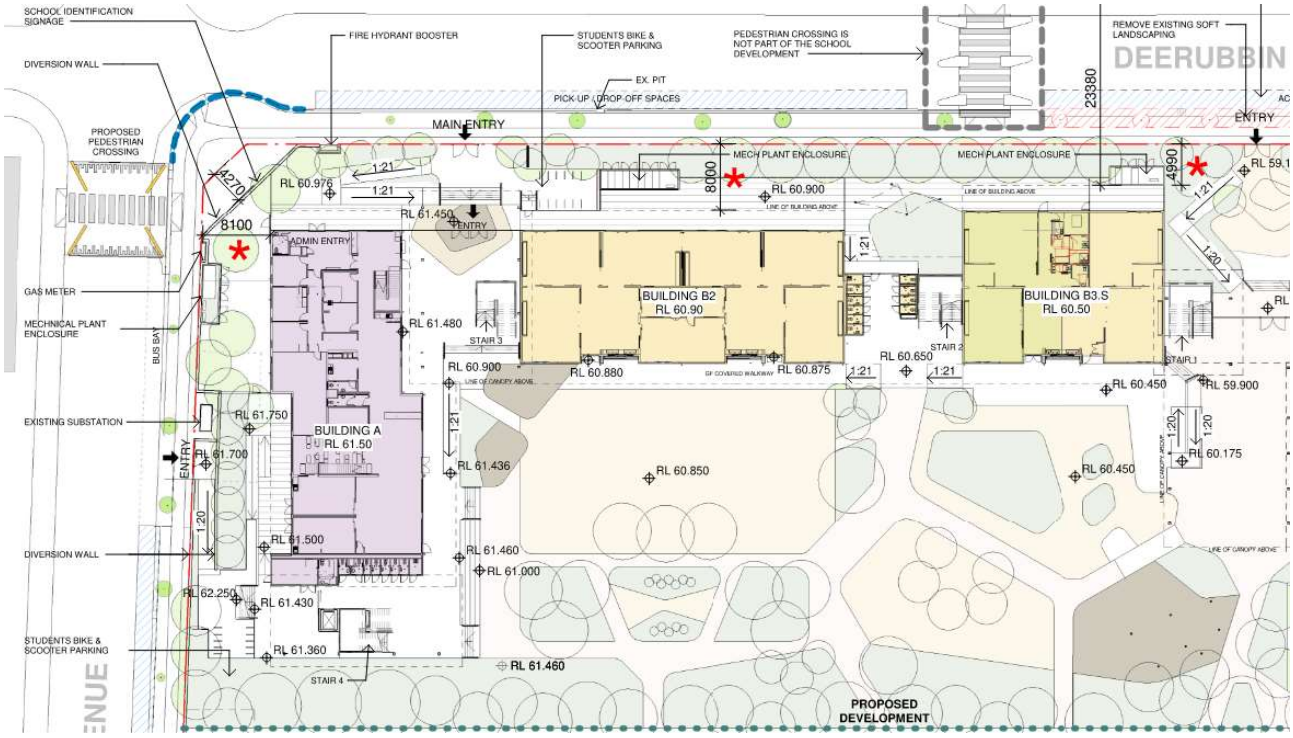
The site layout for the new school will see the buildings arranged along the three roads surrounding the school site with playground, and courts through the middle and the staff carpark positioned along the eastern site boundary.

The building volumes are articulated and separated to relate to the suburban setting, also providing a good opportunity for good daylighting and natural ventilation.

The design is based on the masterplan that includes potential future expansion. The complete masterplan comprises of :

- Admin and library block on the prominent NW corner.
- Hall block is located to the east, connecting to the future school sports field.
- Learning Blocks, each includes a minimum of 4 home bases per level and associated Shared Practical Activity Area. All are two storeys high with covered walkways connecting all blocks on both levels. Only two Learning Blocks will be constructed in the initial development of the school.
- Main gathering / assembly space will be located to the east of the Admin & Library building. This assembly area will connect the proposed learning blocks and the future learning blocks.
- Outdoor play area is in the centre of the site and allows acoustic protection for surrounding land uses and privacy for students
- Pick-up and drop-off facilities will be provided along the two bounding streets, Deerubbin Drive and Forestwood Drive
- Pedestrian entries are from all three streets, with the main entry located at the NW corner near the administration area.
- Vehicular entry to the on-site car park is a single entry from Forestwood Drive
- Service vehicle access will be allocated an independent entry point from Deerubbin Drive.
- High level canopy structures provide sheltered outdoor areas between the buildings

The school is adequately set back from the site boundaries to respect the suburban proportion of the surrounding neighbourhood. A minimum building setback of 4,990mm to the northern edge of Building B3 is achievable along the Northern site boundary and a minimum of 8.100mm setback is achievable along the Western Boundary.



Part Ground Floor Plan including building setback dimensions – NTS

## 4.7 Site Preparation Works

The site is known as a brownfield site which consists of man-made landscape. The anticipated site preparation works will include removal of turf and earthwork cut & fill.

The project proposes the following demolition works outside the school site boundaries:

- Modify existing kerb to accommodate accessible pick up & drop-off bays along Deerubbin Drive as illustrated on the appended site plan.
- Remove 8 street trees along Deerubbin Drive in preparation for civil work and the above described scope of kerb modification works.
- Remove 2 street trees on Forestwood Drive in preparation for site vehicular entry work.
- Amendment of existing kerb ramps as required.

The proposed landscape design aims to encourage a reinstated native landscape environment to provide habitat for native flora and fauna. Along the streets adjacent to the site, with a majority of native trees (medium to large sized) and shrubs are proposed to soften the interface of street and school boundaries, and to ameliorate the views of any elevated walkways from streets.

## 4.8 Interior Planning & Design

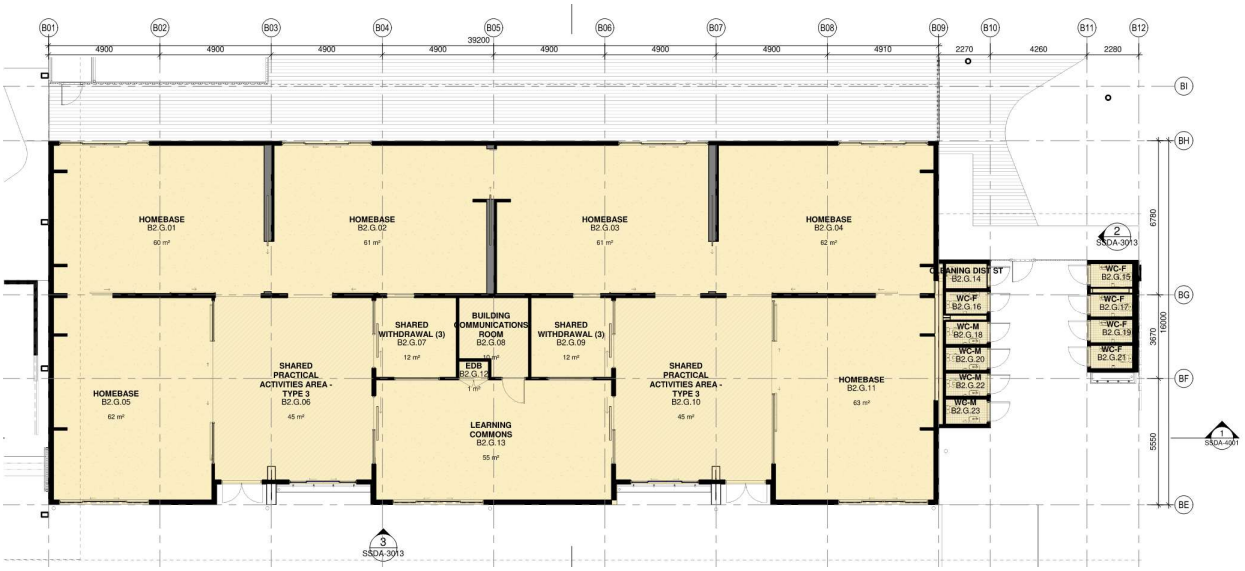
All buildings but the Multipurpose Hall are two-storey high with connecting outdoor covered walkways on both levels. Refer to the appended Architectural Drawings for more details.

The interior design intent is to respond to the texture and colour of the surrounding natural landscape where the Blue Mountains meet the Nepean Plains. This results in the use of earthy, neutral material & colour pallet, with complementary splashes of bold colours suitable for young learners in a Primary School context.

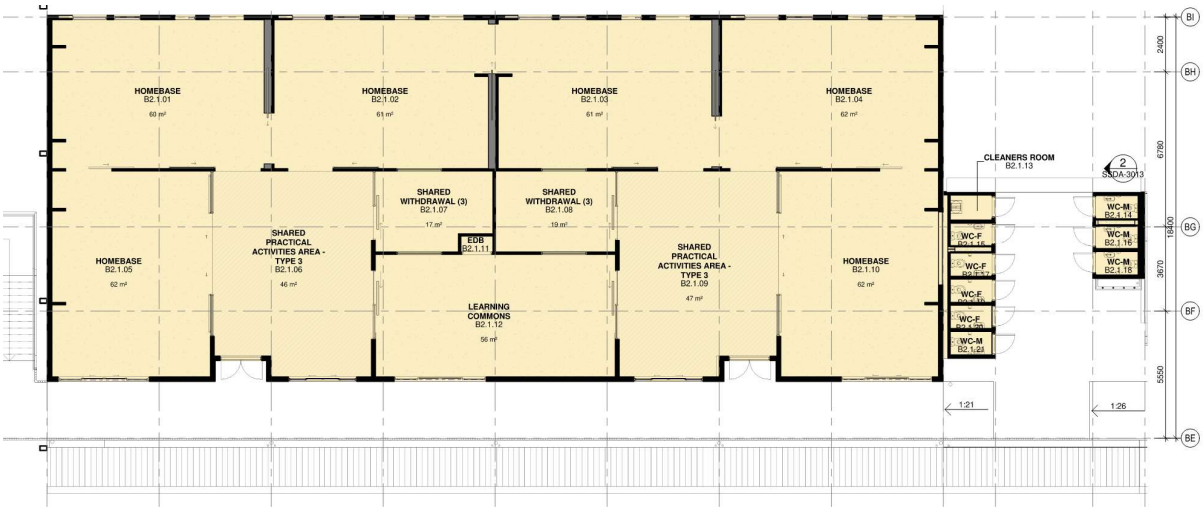
BUILDING B2 & B3 HOMEBASES

The internal planning of the learning blocks (Block B2 & B3) aligns with SINSW's DfMA planning guide, whereby all home bases are planned to have a direct access to a Shared Practical Activity Area. This planning strategy supports the ebb & flow of various teaching & learning modes throughout a school day.

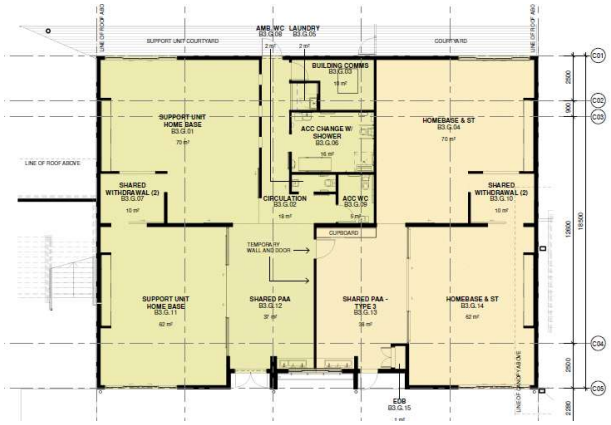
Building B2 & B3 are the two learning hubs that will be featured along Deerubbin Drive. These buildings accommodate 2 Support Unit Home bases & the associated ancillary spaces, 18 Home bases and 6 Shared Practical Activity Areas over 2 floors.



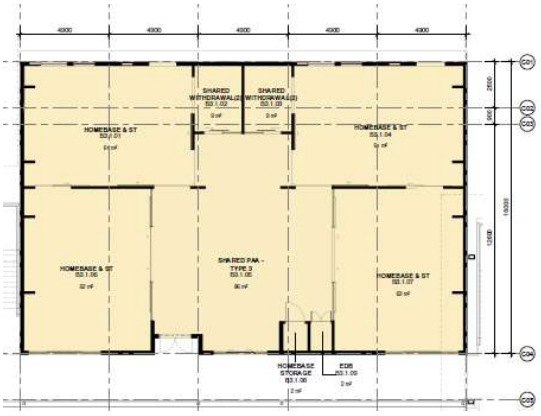

Block B2 (Home bases) - excerpt from sheet A-1013 (NTS)




Block B2 (Home bases) Level 1 Plan – excerpt from sheet A-1322 (NTS)




Building B3-S Ground Floor (Support Unit Hub)




Building B3-S Level 1 (Homebases)

The Ground floor of building B3S consist of 4 Home bases. Two out of the 4 Home bases will be used as the Support Unit Home bases, designated for students with disabilities. The ground floor of building B3S has access to accessible bathrooms and change rooms dedicated for use within the Support Unit Hub area.

1

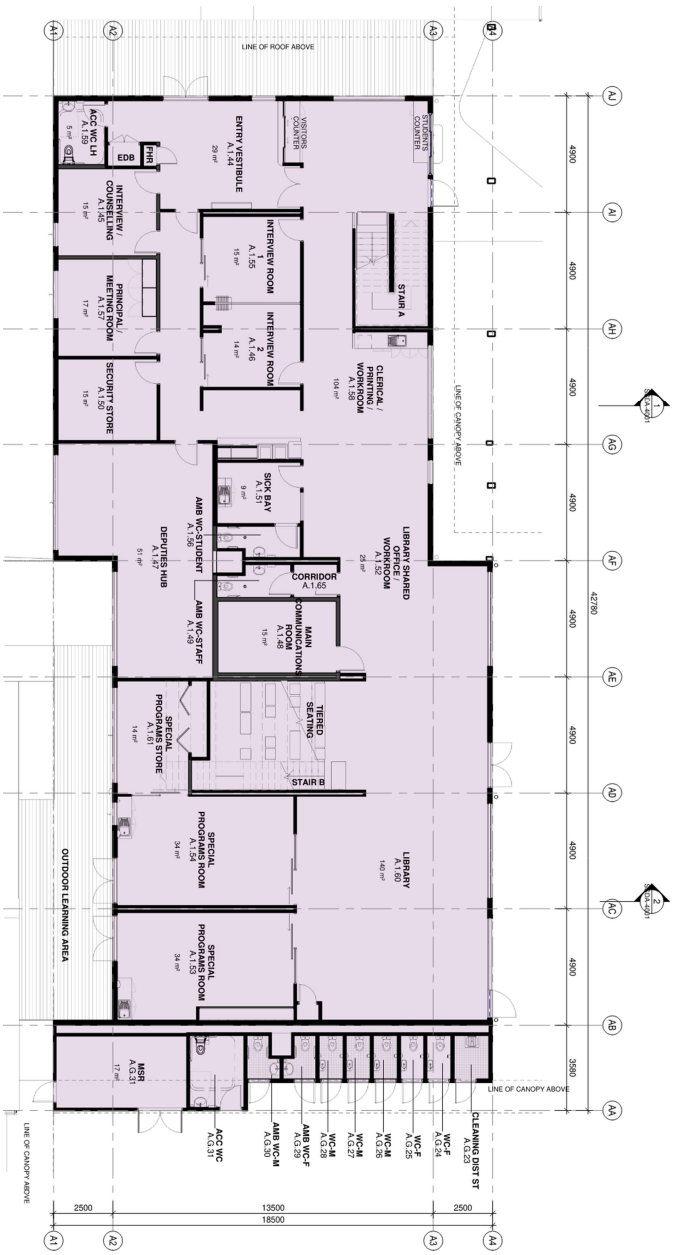
2


3

The above images indicate the interior of (1) a typical Homebase, (2) a Shared Practical Activity Area and (3) samples of the material & finishes in a Homebase Block.

BUILDING A - LIBRARY & ADMIN

The Library and Administration areas are interconnecting over 2 storeys in Building A. The interconnecting planning creates transient environment creating active interaction between staff & students throughout the day.




BUILDING A, ADMIN & LIBRARY
GROUND FLOOR


BUILDING A, ADMIN & LIBRARY
FIRST FLOOR

1

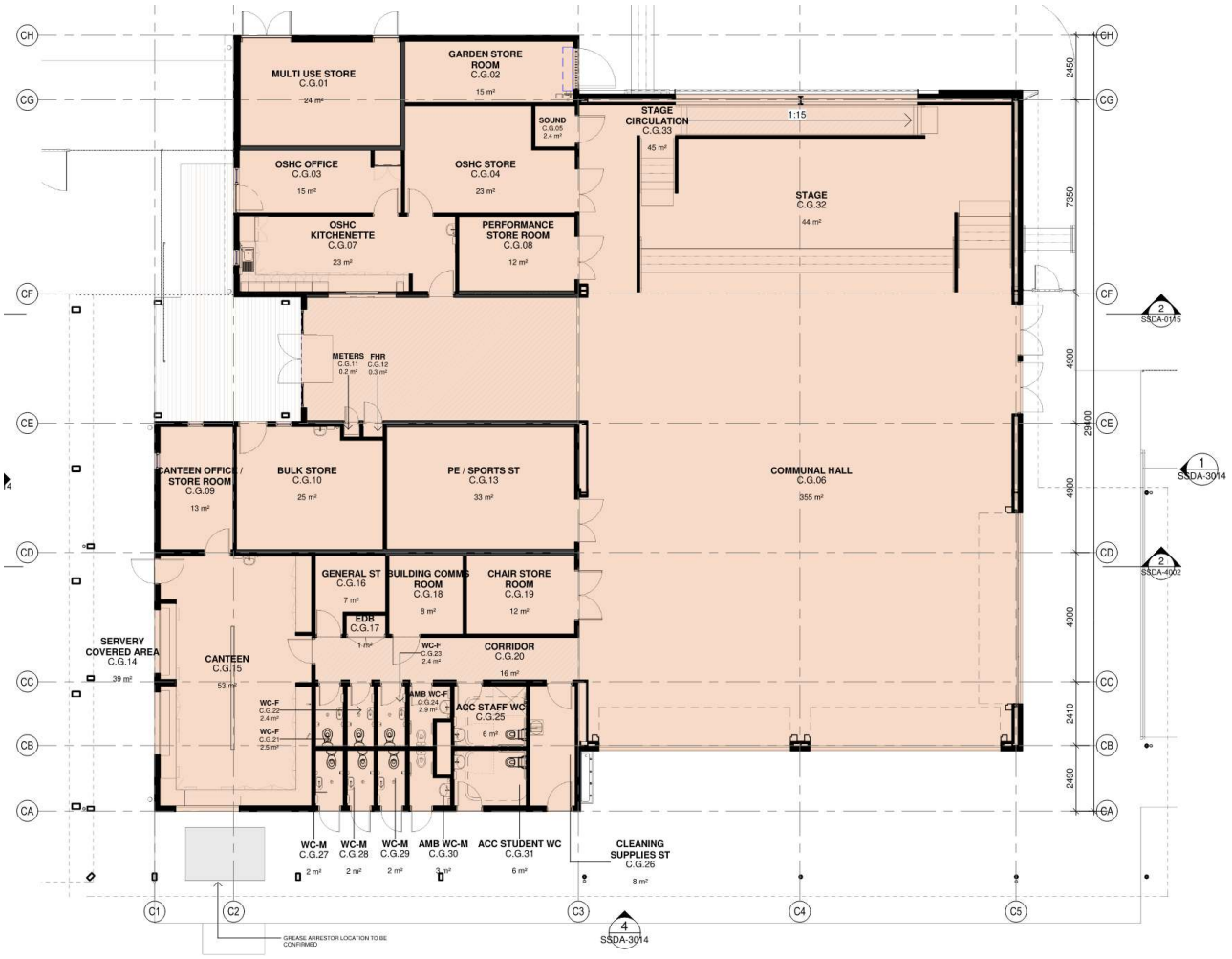
2


3

The above images indicate the interior of (1) The Library tiered seating, (2) Library Resource Area and (3) samples of the material & finishes in the a Library & Admin Block.

BUILDING C – MULTIPURPOSE HALL

The Multipurpose Hall is a single storey building, located on the eastern end of the campus. Accessible from Deerubbin Drive, the Hall will provide opportunities for use outside school hours. The Hall will be fitted with two full height fold-up doors along the south façade and one fold-up door along the eastern facade. The School Canteen and OSHC (Outside School Hour Care) facilities are collocated in Building C.



Neutral finishes selection for the interior to Building C, Multipurpose Hall.

## 4.9 Access, Egress, Evacuation, Security and Circulation Strategy

### 4.9.1 Entries and Access

The proposed design provides adequate entry points and connections along the site boundaries.

There will be two pedestrian entries along Deerubbin Drive. The Main Entry is located on the West in between the Admin Building & Learning Block B2. The Main Entry will be the primary student entry & public entry during school hours.

A second entry on Deerubbin Drive is located between Homebase Block B3S & Multipurpose Hall Building C. This secondary entry will assist in distributing student access on Deerubbin Drive and provide access for special support students located in Block B3. It will also allow community access after school hours.

One pedestrian entry is located on Darug Ave for after hour access to the Special Program Rooms on Ground floor of Building A, the Administration & Library building.

One pedestrian entry will be located on Forestwood Drive to support the pick-up & drop-off zone located along this road.

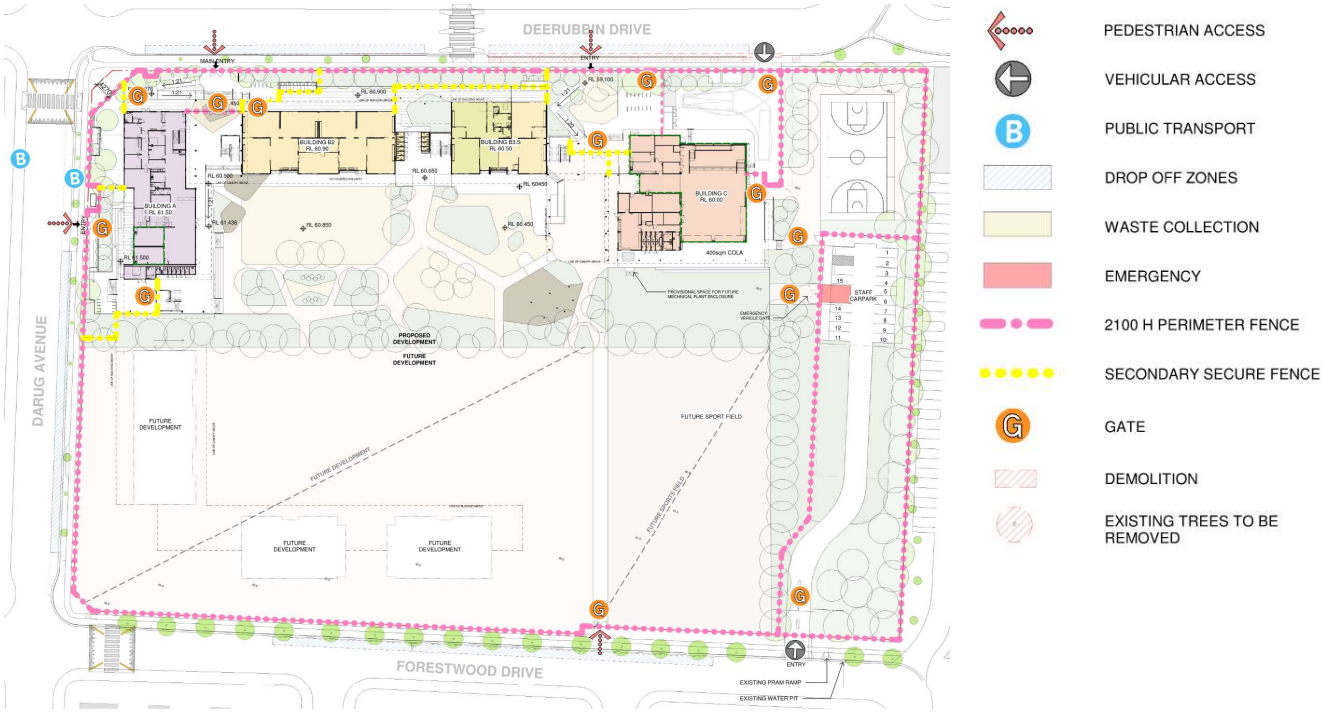
One vehicle entry located on Forestwood Drive will provide a dedicated access to the staff carpark. A separate service vehicle accessible from the Deerubbin Drive will provide access to the waste collection area.

### 4.9.2 Site Security

The following diagram/ drawings illustrate the extent of site security fences and access points. The perimeter fencing will be constructed in 2.1m high proprietary fencing. This provides general site security for crime prevention.

Secondary security fences and gates are made in a combination of proprietary fencing system and purpose made privacy fencing. The secondary security creates a boundary where students are highly supervise-able within the school courtyards.

There will be no temporary fencing to separate the outdoor play area to the area designated future development of the school, as the cost of temporary fencing is prohibited. The school will be informed to strictly use only the formal outdoor play areas as outlined within this development. The use of the vacant site as informal play will be discouraged.

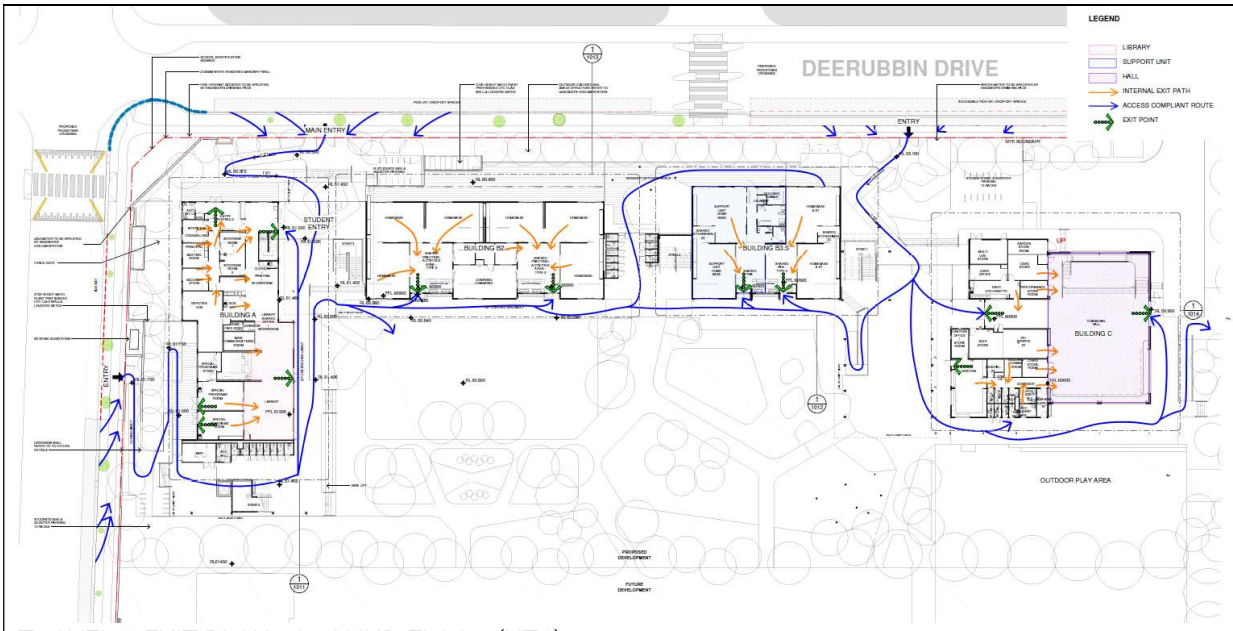



OVERALL SITE SECURITY PLAN (NTS)
Refer to Architectural Drawing A-0113

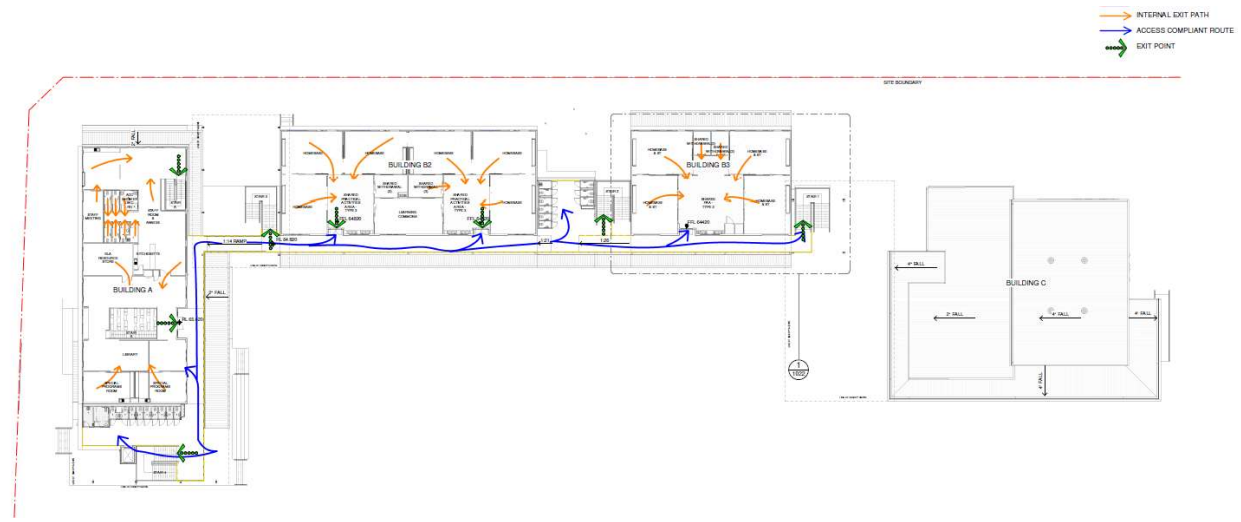
### 4.9.3 Egress paths and evacuation strategy

The following egress path diagram illustrates the following:

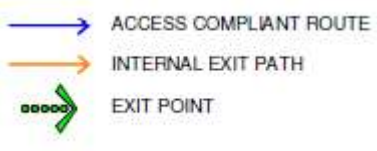
- Access compliant path by use of 1:20 walkway to address level changes across the site
- Building entry and exit points, and
- General flow of occupants in the buildings




TRAVEL & EXIT PLAN - GROUND FLOOR (NTS)




TRAVEL & EXIT PLAN - LEVEL 1 (NTS)



## 4.10 Visual Impact Statement

The appended Visual Impact Statement Report considers the visual impact of the proposed development of the New Primary School in Mulgoa Rise. The report provides photo montages to illustrate pre & post development impact to the precinct. At completion, The New Primary School in Mulgoa Rise, will provide a community hub. The school aims to compliment the creation of a civic hub within Glenmore Park.

The below table summarises the proposal against the relevant criteria

| View | Location | CRITERIA | | | Consistent with Planning Instruments |
|---|---|---|---|---|---|
| | | Sensitivity | Magnitude | Visual Impact | |
| 1 | View 1 – Deerubbin Dr looking East | High | High | High | ✔ |
| 2 | View 2 – Deerubbin Dr looking South West | Moderate-high | Moderate -high | Moderate-high | ✔ |
| 3 | View 3 – Darug Ave looking South | High | High | High | ✔ |
| 4 | View 4 – Forestwood Dr looking West | Moderate | Moderate | Moderate | ✔ |
| 5 | View 5 – Corner of Deerubbin Dr & Darug Ave | Moderate | Moderate | Moderate | ✔ |

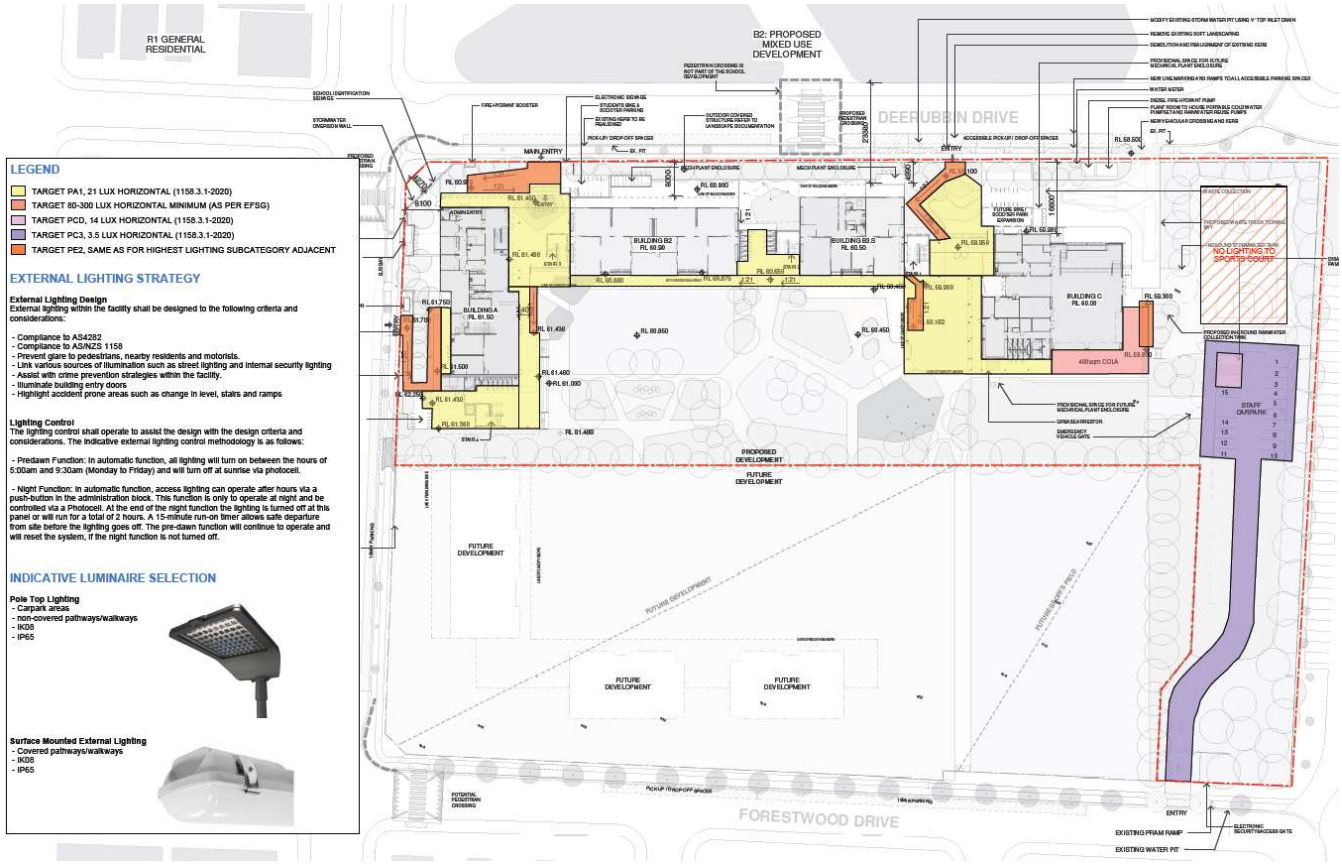
An assessment of the proposal has been made against relevant factors such as existing place character of the primary visual catchment, sensitivity, magnitude, applicable planning instruments, the need for mitigation strategies and measures and consideration of residual impact.

On this basis, this Visual Impact Assessment concludes that at completion, the New Primary School in Mulgoa Rise has an acceptable visual impact for the benefit of the precinct, the civic hub and the community.

## 4.11 External Lighting

The following external lighting strategy has been prepared in consultation with the appointed electrical engineer for the project.

The proposed lighting as part of the new Primary School works consists of security lighting to provide low illumination levels to pathways and a new car park. The design will be done in accordance with "AS1158:2020 Lighting for the roads and public spaces" and "AS4282.2019 – Control of the obtrusive effects of outdoor lighting."




The above image has been prepared by the project's Electrical Engineer (NDY) to illustrate the extent of proposed external lighting. Full drawing is available as an attachment to this report.

In accordance with "AS1158:2020 Part 3.1: Pedestrian area (category P) lighting" each area containing external lighting of the new works has been categorised as:

| AREA | AS1158:2020 Part 3.1 - Category |
|---|---|
| External Walkways | Category PA1 |
| Car Park | Category PC3 |
| Disabled Carpark | Category PCD |

In accordance with "AS4282.2019 – Control of the obtrusive effects of outdoor lighting" the lighting installation must not provide adverse effects to surrounding properties.

The mitigation of any adverse effects will be managed through the use of:

- Selection of luminaires with tight beam control
- Where applicable Luminaires are to be mounted on adjustable brackets
- Luminaires that are dimmable
- Where applicable glare shields such as back shields or louvres
- The use of timers to automatically turn off or dim lighting system as required

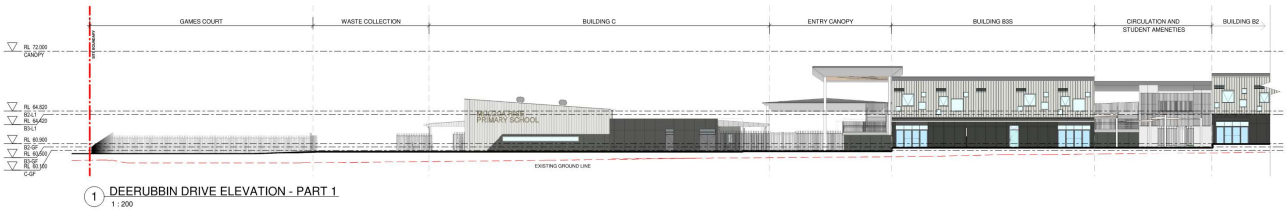
## 4.12 Building Envelope

The buildings at the new Primary School are mostly two storey construction. The scale of 2 storey buildings is sympathetic to the future mixed used development and the surrounding residences. The highest building / structure across the site is at RL 72.000m, an approximately 11m tall structure.

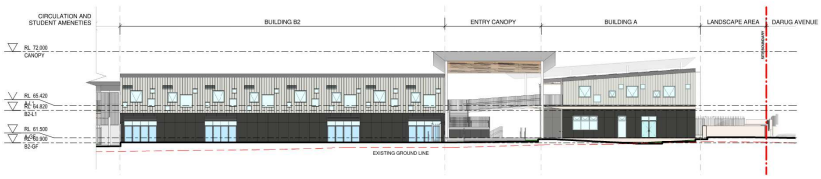
### 4.12.1 Construction Methodology

The school buildings have been designed with consideration to conventional method of construction combined with some prefabricated building elements to allow maximum flexibility in the delivery of this project.

### 4.12.2 Streetscape

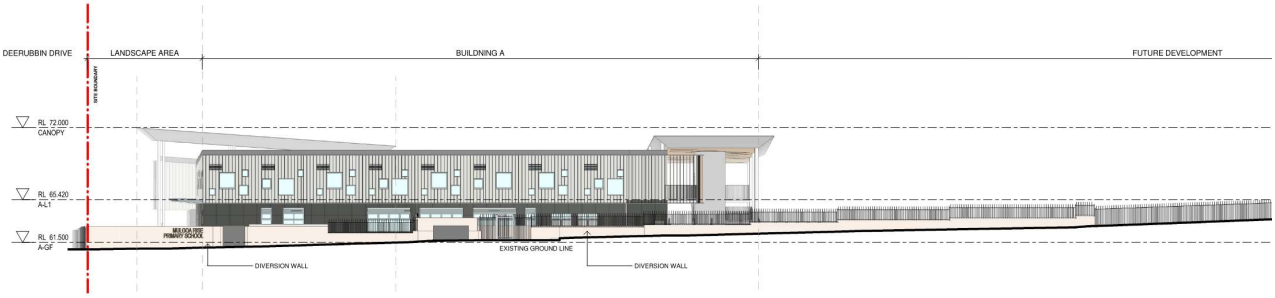



1 DEERUBBIN DRIVE ELEVATION - PART 1
1 : 200




2 DEERUBBIN DRIVE ELEVATION - PART 2
1 : 200

The two storey buildings will complete the evolving streetscape of Deerubbin Drive




3 DARUG AVENUE STREET ELEVATION
1 : 200

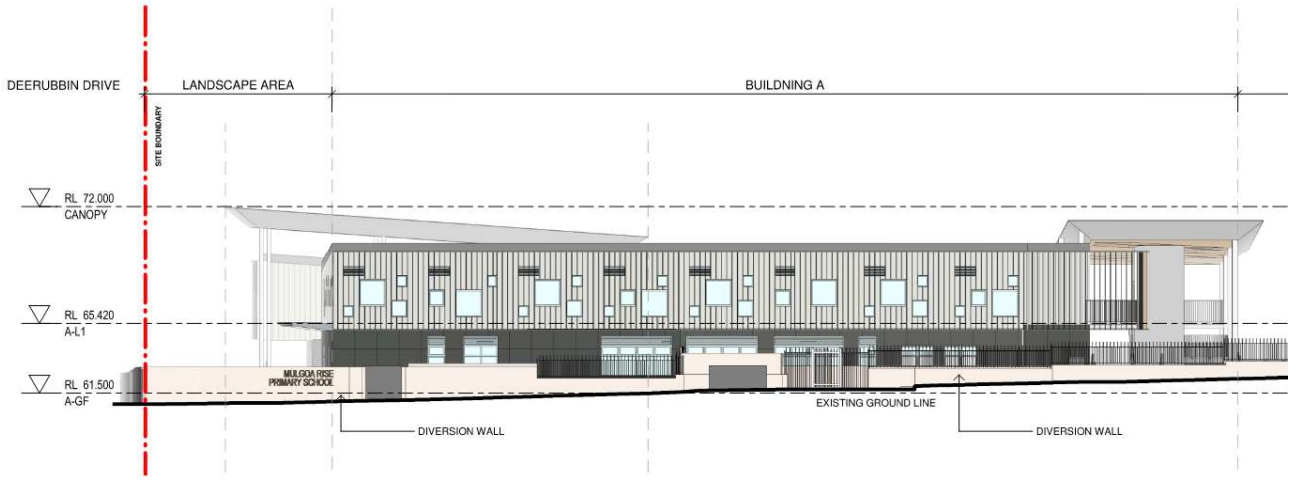
Street Elevation along Darug Avenue provide respectful built form scale & outlook to the neighbouring residences (NTS)

## 4.12.3 Elevations

The main building fabric consists of concrete floors as the primary building support structures and lightweight frame secondary structure. The buildings will be encased in following external cladding materials:

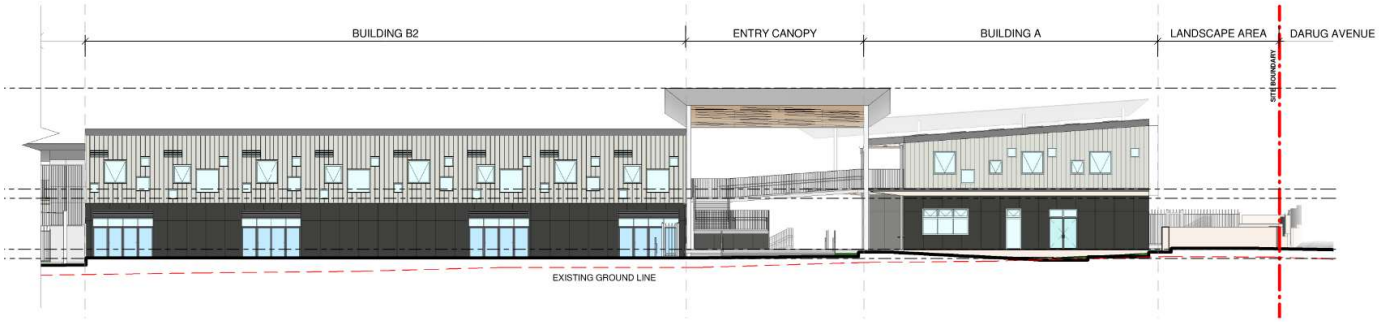
- Prefinished metal cladding
- Colour through Fibre Cement Cladding
- Prefinished aluminium cladding
- Prefinished Fibre Cement soffit lining
- Prefinished Metal Soffit Lining with interlocking panels
- Prefinished Aluminium Wall Cladding Trim

The selected building materials are durable, easy to maintain and aesthetically pleasing.




3 DARUG AVENUE STREET ELEVATION
1 : 200

The above elevation shows the extent of the proposed development along Darug Ave.



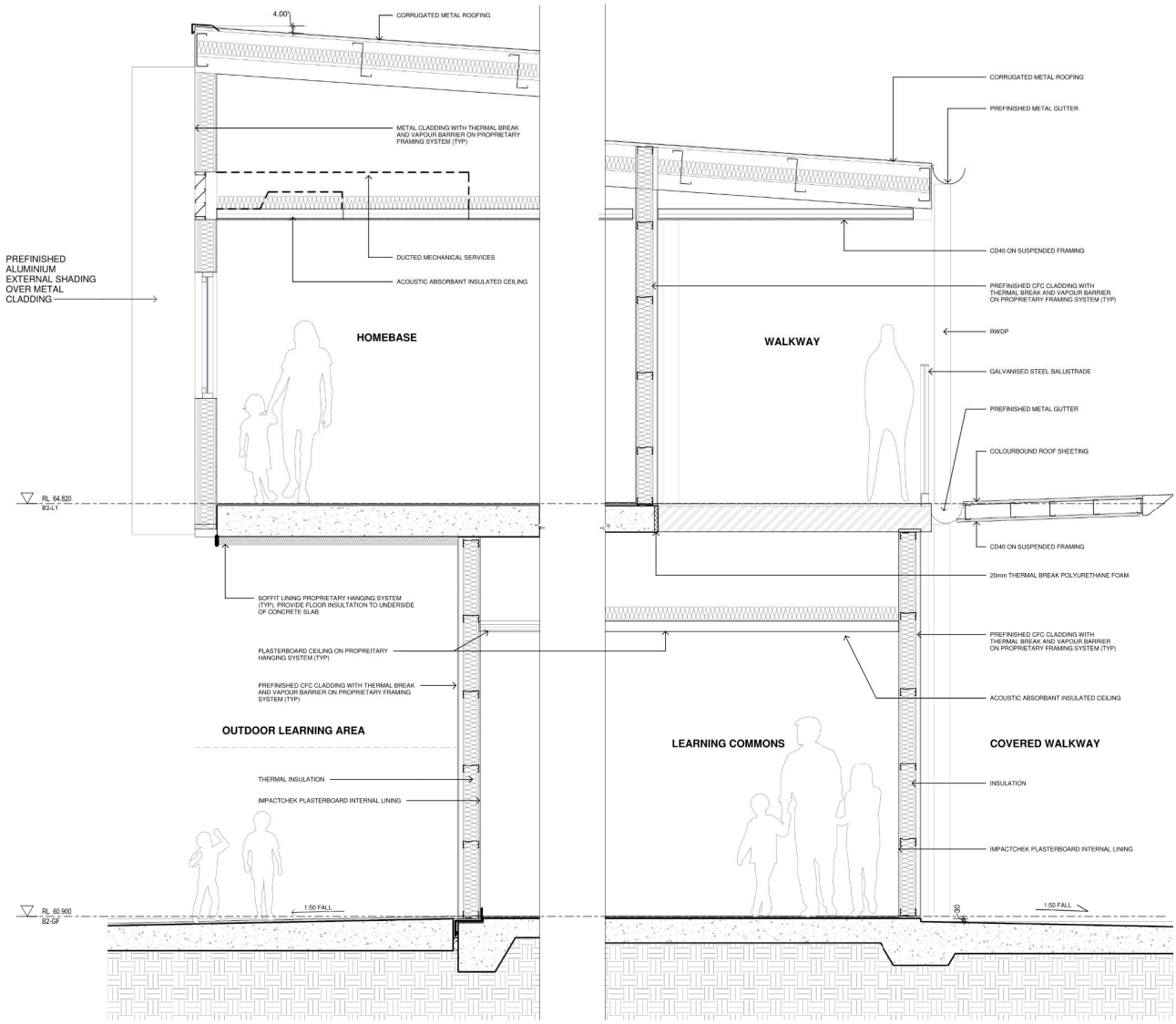

2 DEERUBBIN DRIVE ELEVATION
1 : 200

The above images shows the western portion of buildings facing Deerubbin Drive. Building A is the Administration & Library building and Building B2 is the 12 homebases learning block.

## 4.12.4 Façade Details

The total performance of the building which includes external enveloping walls, roofs and flooring will meet the requirement of NCC 2019 Clause J1.2(e) and will feature the following inclusions:

- Thermal breaks are required for all envelope walls
- The roof construction requires thermal breaks to roof framing and reflective foil




Above : a typical section details (NTS)

## 4.12.5 Artist Impressions

Aerial Perspective (NTS)

The view at the corner of Darug Ave & Deerubbin Drive (NTS)

A perspective from the Open Play Area & the Multipurpose Hall in the background.

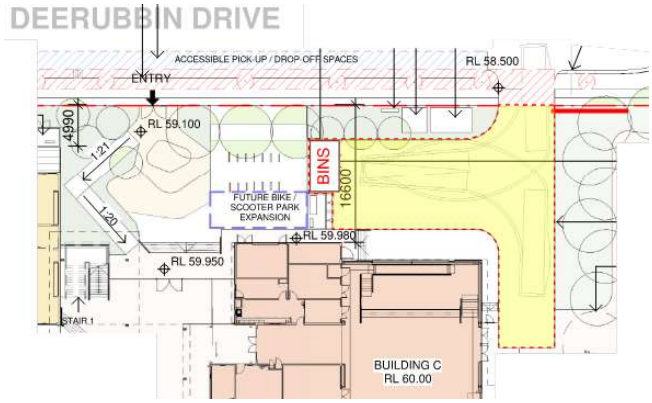
Perspective from the Assembly / Meeting Point & looking toward the main covered entry.

## 4.12.6 Site Services Vehicle Access

During school hours, all visitors are required to sign in at the reception. Special access to the waste collection & staff carpark may be granted for services and emergency vehicles.

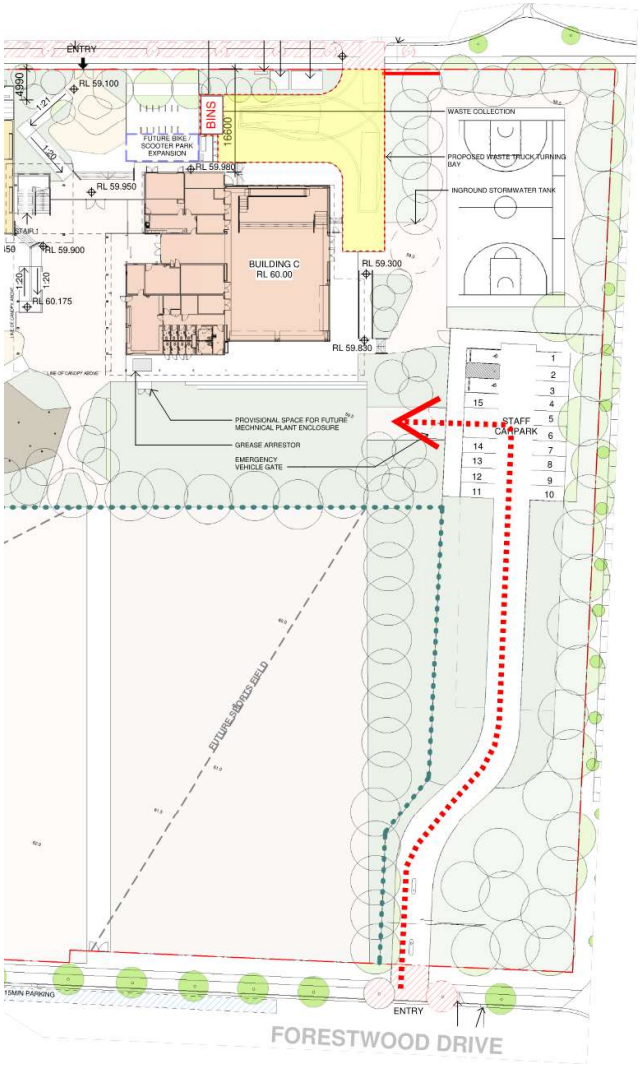
WASTE COLLECTION & MAINTENANCE ACCESS

The waste collection area is located at the north east corner of the school site and accessible from Deerubbin Drive. For pedestrian safety, a sliding gate will be used to separate the waste collection area from the pedestrian footpath.




EMERGENCY ACCESS

The carpark entrance & driveway have been designed to accommodate an ambulance access. This accessway will take an emergency vehicle directly to the emergency entrance.



# 5 ENVIRONMENTAL AMENITIES

## 5.1 Planning - External Spaces

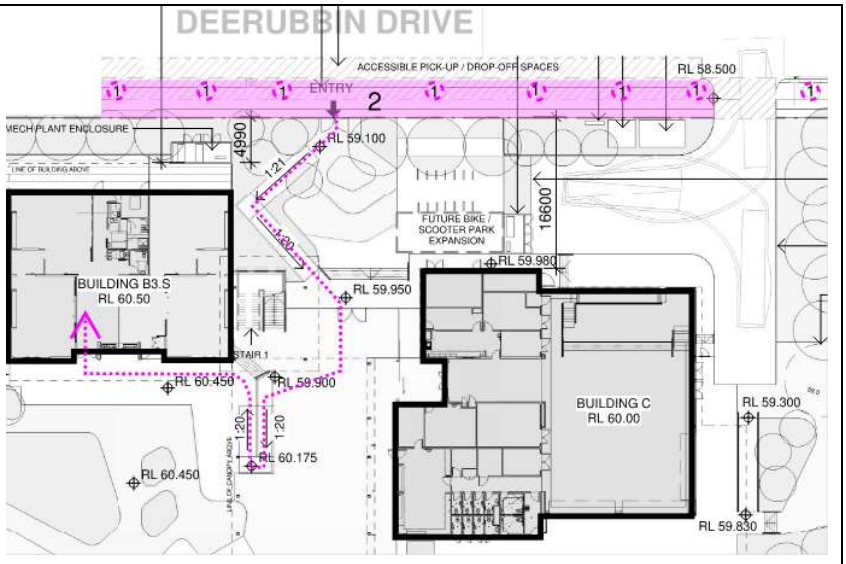
### 5.1.1 Public Domain – Works Outside the School Boundary

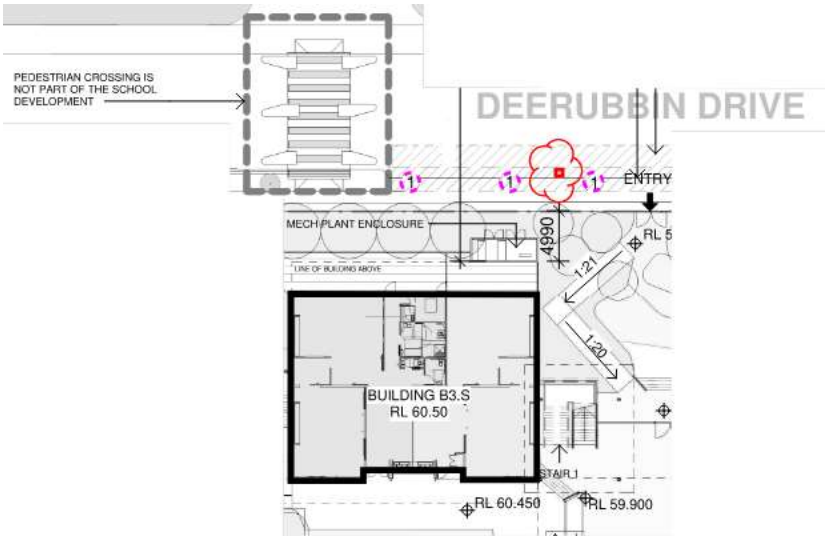
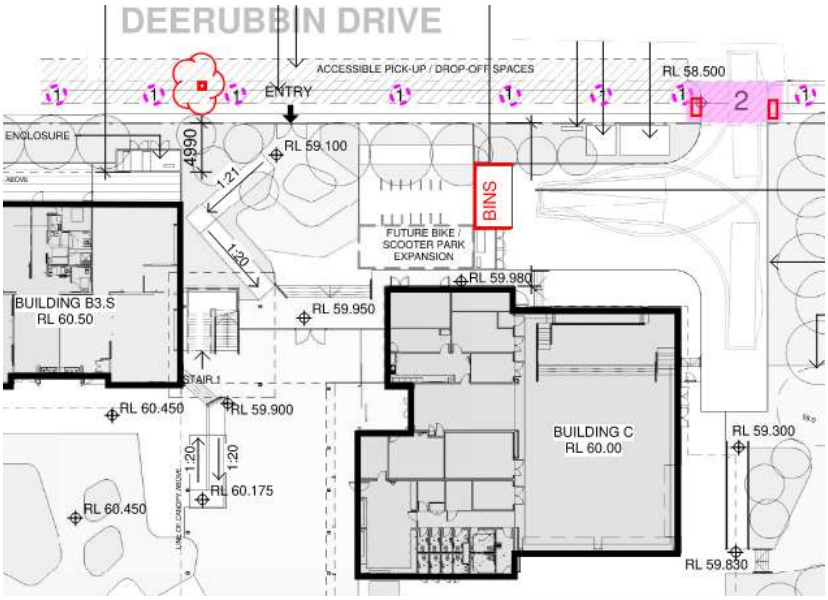
At completion, the new Primary School will provide the following potential shared use facilities:

- Multipurpose Hall,
- Library and the associated Special Program Units (multipurpose rooms)
- Outdoor Sporting Facilities.
- Working parents will have the opportunity to use the Outside School Hours Care (OSHC) services.

These facilities will potentially make the new Primary School, the centre of local communities which brings people together and create opportunities for learning, work and play.

The primary school development triggers the requirement for public domain scope of works outside the school site. The extent of public domain works have been designed in collaboration with SINSW and Penrith City Council. The following diagrams communicate the extent of proposed works to occur outside the school boundary and their contribution to support the school activities during and outside school hours. This section of the report should be read in conjunction with the Transport & Traffic Assessment report.

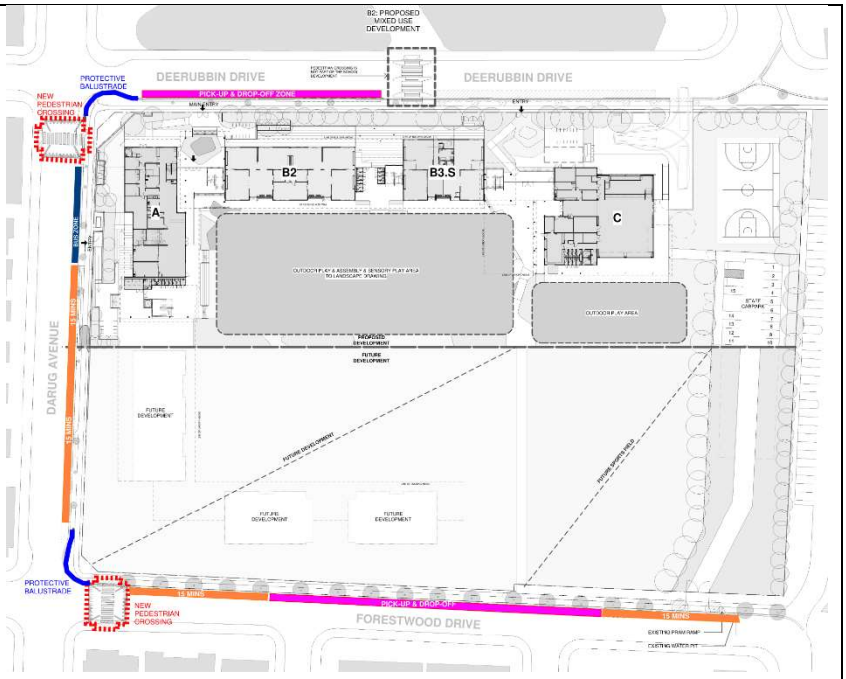
| | |
|---|---|
| ACCESS TO SUPPORT UNIT HUB<br><br>The following diagram illustrates the path from Deerubbin Drive to the proposed Support Unit Hub, the supported learning hub.<br><br>The area marked with No.2 on this diagram indicates the extent of the proposed modification to existing kerb & landscape to create 3.2m wide access compliant pick up & drop off bays along Deerubbin Drive.<br><br>The items marked with No.1 on this diagram shows the extent of existing trees to be removed to provide clearance for wheelchair compliance bays & ramps. |  |

| | |
|---|---|
| ALTERATION TO EXISTING STORMWATER PIT.<br><br>The area highlighted in revision cloud indicates the location of an existing stormwater pit. Due to the proposed kerbside alteration mentioned above, this side inlet stormwater pit will be replaced with a "V" drain with top inlet grate. |  |
| SERVICE VEHICLE ACCESS<br><br>The area marked with no.2 indicates the extent of proposed modification to the existing footpath & landscape to create a designated services vehicle crossover to the bin collection area from the Deerubbin Drive. An access compliant ramp & tactile padwill be constructed at either side of the crossover to provide continuation of the pedestrian footpath along Deerubbin Drive.<br><br>The vehicle crossovers must be in accordance with Council's details as per the attached SKC26 (for an industrial / commercial development). |  |

PICK UP & DROP OFF
15 MINUTES PARKING
& PEDESTRIAN SAFETY

The following diagram shows the extent of the proposed:

- School pick-up & drop-off zone complete with the associated signs
- Extent of proposed 15 minutes parking during school hours and associated new parking restriction signage at these locations
- Introduce a pedestrian crossing on Darug Avenue & Forestwood Drive
- Extent of protective balustrade at corner of streets.
- Relocate the existing bus stop and sign on Darug Ave by 5.1m due south.

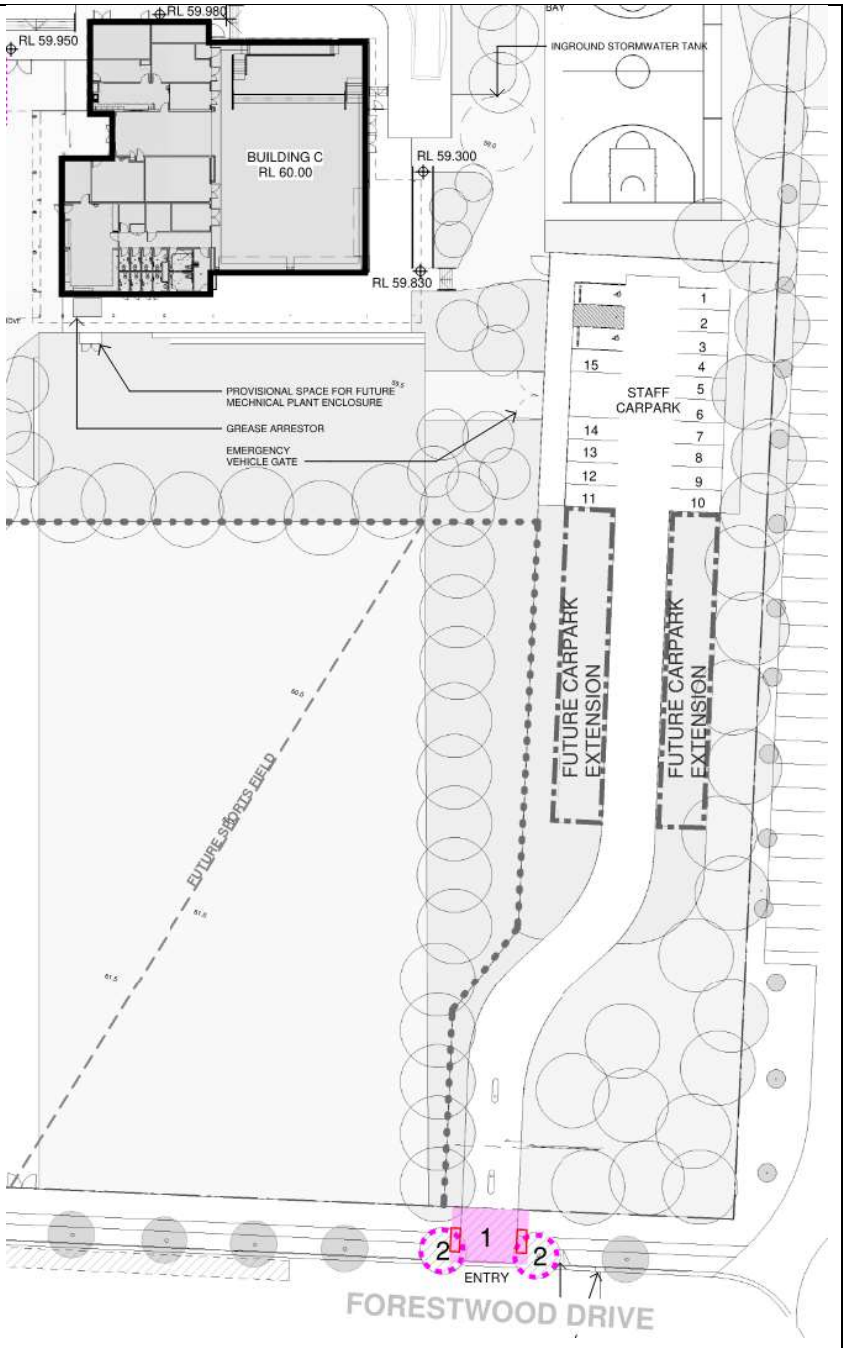



CARPARK ENTRY

The staff carpark is located adjacent to the eastern school site boundary. The proposed development will provide 17 carbays including 2 accessible bays for staff use only. The school masterplan shows spatial allowance for future carpark expansion.

The driveway to the carpark is accessible via Forestwood Drive. This driveway necessitates a vehicle crossover to be created on Forestwood Drive (Marked No 1 on the diagram). An access compliant ramp & tactile pad will be created on either side of crossover to provide continuous pedestrian path along Forestwood Drive.

The proposed vehicle crossover will result in the loss of two existing trees as marked with no 2 on the drawing. The vehicle crossovers must be in accordance with Council's details as per the attached SKC26 (for an industrial / commercial development).



| | |
|---|---|
| TREE REMOVAL<br><br>This development will result in a total loss of 11 existing trees, 8 on Deerubbiin Drive, 1 on Darug Ave and 2 on Forestwood Drive. Trees to be removed are marked "X" on the diagram to the right.<br><br>Acknowledging the impact of tree loss to the street front, the school landscape design offers new line of trees that set back from the footpath. The new landscape will provide shade and compensate the loss of street trees, making a positive contribution to the streetscape. |  |

### 5.1.2 Site Acoustic Planning Consideration

The school buildings are arranged in a linear arrangement to predominantly address Deerubbin Drive. The building shape acts as a noise barrier to prevent noise transmission from inside the school ground to the surrounding, predominantly residential development.

The Multipurpose Hall (Building C) is facing away from the future mixed-use Development. This strategic planning / orientation aims to disperse the noise transmission from the Hall onto the school open court & play areas.

Play equipment area is located to the south of Learning Blocks in the centre of the site and away from the site boundaries.

### 5.1.3 Sun Study

The school buildings are well set back from Deerubbin Ave. The school buildings have been positioned in cognisance of the likely future built form on the mixed-use site to the north and to ensure they are not negatively impacted by shadows from that development, refer images below.

1 SHADOW DIAGRAM JUNE 21 9AM

2 SHADOW DIAGRAM JUNE 21 12PM

3 SHADOW DIAGRAM JUNE 21 3PM

4 SHADOW DIAGRAM DEC 21 9AM

5 SHADOW DIAGRAM DEC 21 12PM

6 SHADOW DIAGRAM DEC 21 3PM

### 5.1.4 Plant location

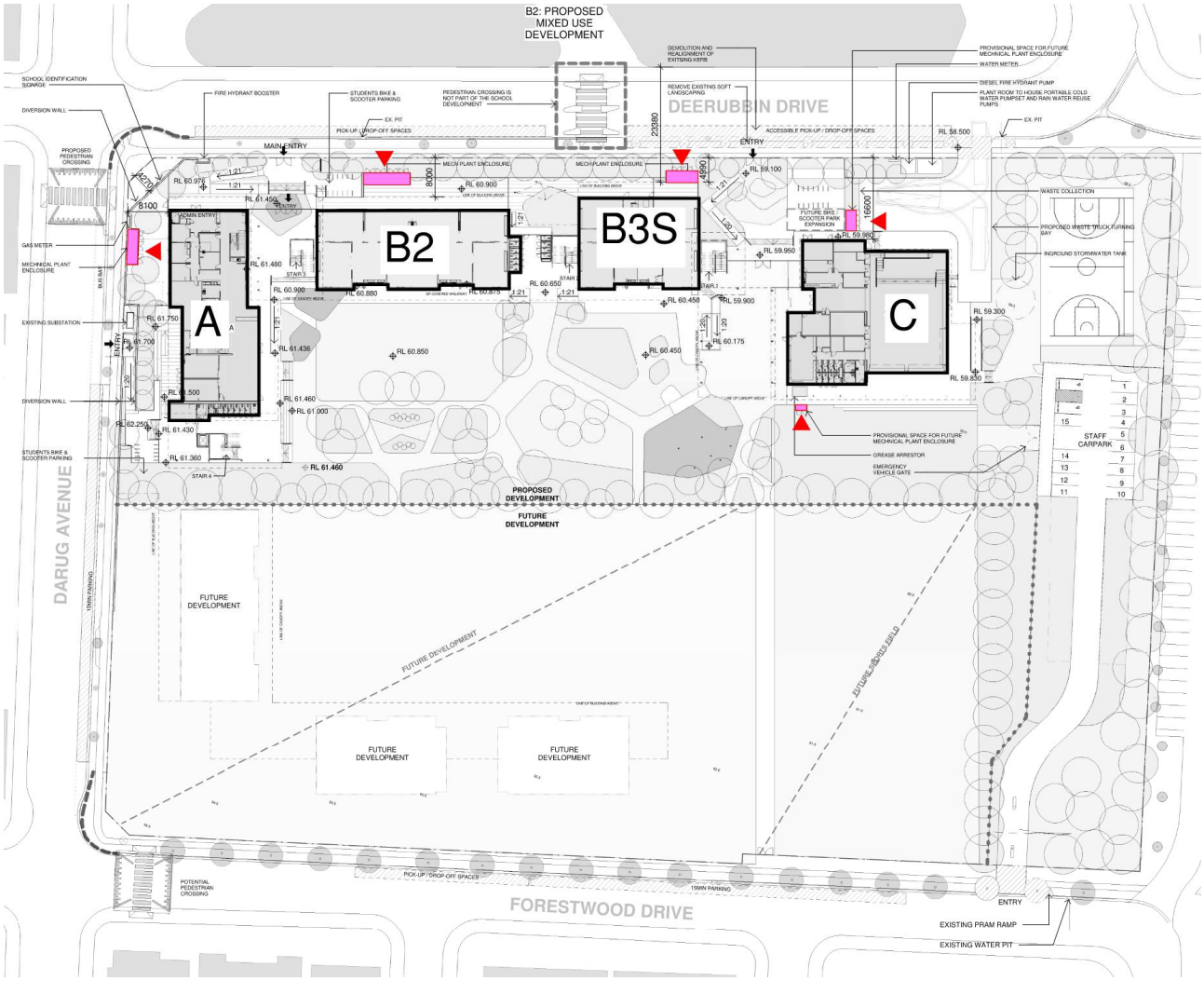
The mechanical plant enclosures are located on ground floor, one adjacent to each building block. A mechanical plant consists of several upward discharge air condition condenser units. Each enclosure will be well screened in fibre cement cladded walls on 3 sides and a set of screened gates for maintenance access.

The following diagrams illustrate the location of the 5 mechanical plants adjacent to their corresponding buildings. The red arrows represent position of accessible screen gates for maintenance.

- Building A – Mechanical Plant is located near the north west corner of the site
- Building B2 & B3S – Mechanical Plant enclosures are located adjacent to a north facing courtyard and facing away from the outdoor learning area. This enclosure will be well screened behind dense vegetation.
- Building C – The main Mechanical Plant is located on the north east corner of building C and facing the bin collection areas. A separate small mechanical plant is located to the south of building C.

Mechanical plants are strategically positioned using the following planning strategy:

- Use the rear solid wall of an enclosure to deflect plant noise away from the neighbouring residences.
- Use dense vegetation to screen mechanical plant from visibility
- Use the rear solid wall of an enclosure to deflect plant noise away Homebases (classrooms).

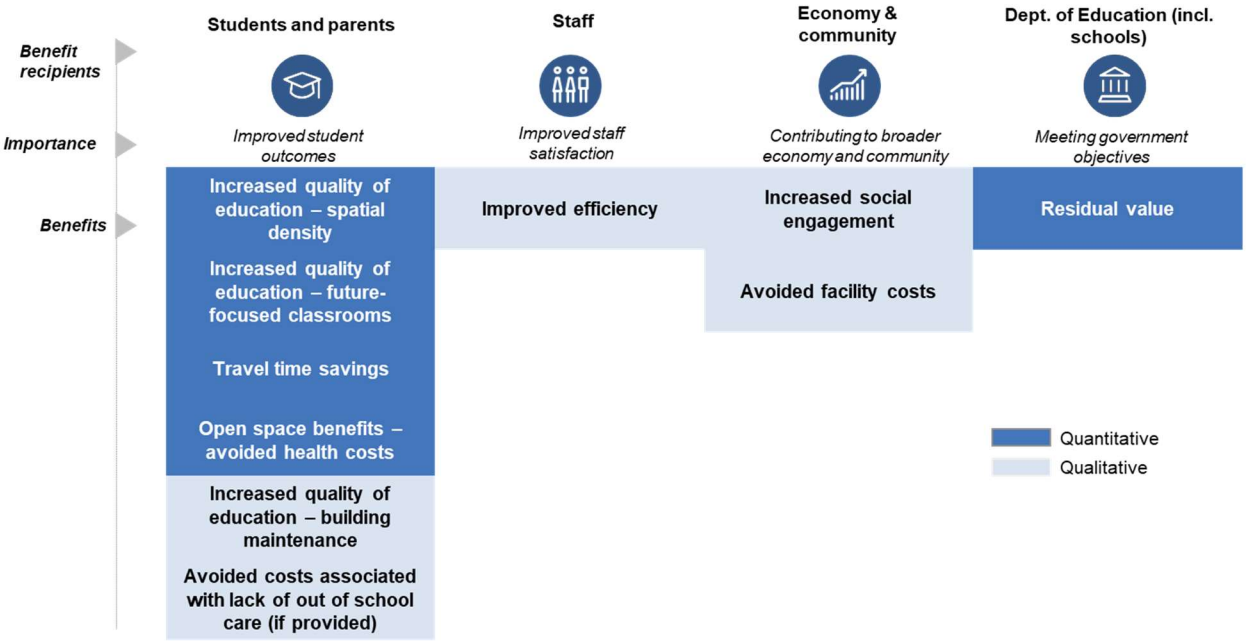


### 5.1.5 Industry contribution

The new Primary School in Mulgoa Rise will benefit various stakeholder groups and the school will contribute to the local education and economy. The construction of the school will create job opportunities in NSW.

As much as practicable, the design team aims to promote off site manufacture of building parts . The advantages of off-site construction include:

- Expediting construction with little to no impact from the outside weather condition
- Construction that happens in a more controlled environment opens opportunity for training young apprentices in a safer work environment.
- Increase productivity & high degree of quality control due to working in a weather controlled environment, a factory.
- reduce on-site construction waste;
- potential reduction of carbon footprint compared with conventional construction; speed of construction.




Source: SINSW, Deloitte (2020)

# 6 TRANSPORT & ACCESSIBILITY

## 6.1 Walk to School

Students and staff are encouraged to walk to school should they live within the walkable catchment. Three pedestrian crossings, one per each of the 3 streets surrounding the school, will be introduced to support safe walk to school initiative. Crossings are strategically positioned in responding to the neighbouring pathways and plaza. The development and construction of the pedestrian crossing on Deerubbin Drive is subject to a separate planning application by others.

## 6.2 Ride to School & Staff EOT

For those who choose to cycle to school, the proposed school will be equipped with adequate bike/ scooter parking for students and End of Trip (EoT) facilities for school staff.

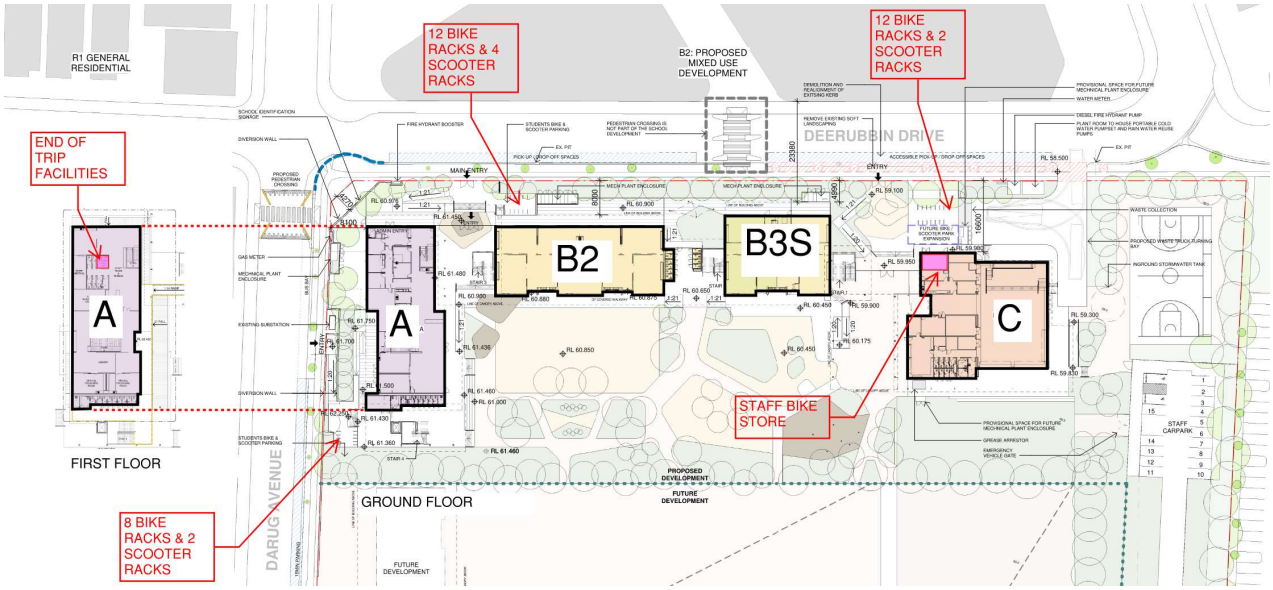
The following scooter & bike parking will be provided at the completion of the construction.

| Location | Bike Racks (2 bikes per rack) | Scooter Racks (10 scooter per racks) | Total No of racks |
|---|---|---|---|
| Darug Ave | 8 racks | 2 racks | 10 racks |
| Deerubbin Drv (Main Entry) | 12 racks | 4 racks | 16 racks |
| Deerubbin Drv (After Hour Entry) | 12 racks | 2 racks | 14 racks |
| | 32 racks (64 bikes) | 8 racks (80 Scooters) | 40 racks |

STAFF EOT FACILITIES

At completion, the proposed development of the new Primary School in Mulgoa Rise will attract 27 staff. Onsite parking will be restricted & allocated to staff by the school. Only 17 bays (including 2 accessible bays) will be provided in this development. Staff are encouraged to take public transport or cycle to work. The following EoT facilities are included to support the 'green' travel initiative:

- 1 staff unisex accessible WC with shower located on Level 1 of Building A, the Administration Building.
- A secured Shared Multi Use storeroom may be equipped with bike racks




Part site plan (NTS) – location of Bike & scooter park & Staff EOT.

## 6.3 Public Transport

The existing bus stop on Darug Ave will be used as a designated & safe place for students who are using the public transport services. Refer to traffic consultant report.

## 6.4 Pick Up & Drop Off

Whilst driving children to school is not promoted, parent pick-up & drop-off zones and 15 minutes parking zones will be provided along the three bounding streets.

## 6.5 Staff Parking

A staff carpark will be provided along the eastern boundary of the school site and accessible from the Forestwood Drive. This proposed development features 17 staff car bays including 2 accessible bays. Access compliant path will be introduced to connect the carpark to Building C, Multipurpose Hall and the rest of the school.

# 7 APPENDICES

The following supporting documents have been prepared by NBRSARCHITECTURE to assist on the architectural design of the proposed development.

- GANSW & PCC Comment Register
  This register contains formal issue of GANSW & PCC comments and corresponding responses.
- Architectural Design Drawings:

| DRAWING NUMBER | SHEET NAME |
|---|---|
| 20415-NBRS-DR-A-SSDA-0001 | COVER |
| 20415-NBRS-DR-A-SSDA-0003 | SHADOW DIAGRAMS |
| 20415-NBRS-DR-A-SSDA-0101 | SITE SURVEY |
| 20415-NBRS-DR-A-SSDA-0102 | SITE ANALYSIS |
| 20415-NBRS-DR-A-SSDA-0110 | SITE PLAN |
| 20415-NBRS-DR-A-SSDA-0113 | SITE ACCESS AND SECURITY PLAN |
| 20415-NBRS-DR-A-SSDA-0115 | SITE SECTIONS |
| 20415-NBRS-DR-A-SSDA-0999 | CAR PARK PLAN |
| 20415-NBRS-DR-A-SSDA-1000 | OVERALL GROUND FLOOR PLAN |
| 20415-NBRS-DR-A-SSDA-1001 | OVERALL L1 PLAN |
| 20415-NBRS-DR-A-SSDA-1002 | OVERALL ROOF PLAN |
| 20415-NBRS-DR-A-SSDA-1011 | BLOCK A - GF PLAN |
| 20415-NBRS-DR-A-SSDA-1012 | BLOCK B3 - GF PLAN |
| 20415-NBRS-DR-A-SSDA-1013 | BLOCK B2 - GF PLAN |
| 20415-NBRS-DR-A-SSDA-1014 | BLOCK C - GF PLAN |
| 20415-NBRS-DR-A-SSDA-1021 | BLOCK A - LEVEL 1 PLAN |
| 20415-NBRS-DR-A-SSDA-1022 | BLOCK B3 - LEVEL 1 PLAN |
| 20415-NBRS-DR-A-SSDA-1023 | BLOCK B2 - LEVEL 1 PLAN |
| 20415-NBRS-DR-A-SSDA-3010 | SITE ELEVATIONS |
| 20415-NBRS-DR-A-SSDA-3011 | BUILDING A - ELEVATIONS |
| 20415-NBRS-DR-A-SSDA-3012 | BUILDING B3 - ELEVATIONS |
| 20415-NBRS-DR-A-SSDA-3013 | BUILDING B2 - ELEVATIONS |
| 20415-NBRS-DR-A-SSDA-3014 | BUILDING C - ELEVATIONS |
| 20415-NBRS-DR-A-SSDA-4001 | BUILDING A - SECTIONS |
| 20415-NBRS-DR-A-SSDA-4002 | BUILDING - SECTIONS |
| 20415-NBRS-DR-A-SSDA-4003 | BUILDING - DETAIL SECTIONS |
| 20415-NBRS-DR-A-SSDA-7001 | 3D IMAGE 1 |
| 20415-NBRS-DR-A-SSDA-7002 | 3D IMAGE 2 |
| 20415-NBRS-DR-A-SSDA-7003 | 3D IMAGE 3 |
| 20415-NBRS-DR-A-SSDA-7004 | 3D IMAGE 4 |
| 20415-NBRS-DR-A-SSDA-7010 | SIGNAGE |
| 20415-NBRS-DR-A-SSDA-8001 | EXTERNAL FINISHES |

- Visual Impact Statement
- Crime Prevention Through Environmental Design (CPTED)

COMMENT REGISTER - GANSW & PCC

The following comment register lists the various issues raised and discussed with Government Architect of NSW and Penrith City Council

## NEW PRIMARY SCHOOL IN MULGOA RISE

GANSW & PCC COMMENT REGISTER - REV 3

PROJECT NO : 20415

ISSUE DATE : 16 August 2021

| Ref No. | Date Raised | Raised by | Issue Name | Comments | Attention Required by | Response |
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| **Government Architect NSW** | | | | | | |
| GA1 | 26/03/2021 | GANSW | Masterplan & Landscaping | The masterplan is a reasonable approach to the project and is supported. The preferred masterplan option, as sketched, has a clarity and openness that creates more considered outdoor spaces between the classrooms than the developed scheme. Consider how these qualities can be reincorporated into the preferred masterplan option. | ARCHITECTURE | Outdoor spaces & Outdoor learning areas have been included in the design. |
| GA2 | 26/03/2021 | GANSW | Masterplan & Landscaping | The 1:100 flood level is driving the overall planning of the scheme and these constraints need to be interrogated to ensure the optimal plan for the school. Clearly indicate these constraints on the masterplan and clarify which classrooms are required to be raised, providing information on how level changes will be mitigated and the location of existing stormwater pits. | CIVIL & ARCHITECTURE | Noted. 500mm freeboard is applicable under all buildings. The overland flow path has been established in collaboration with the Civil Eng.<br><br>Refer to Civil Engineer report.<br><br>Location of existing stormwater pits please refer to relevant civil drawings. |
| GA3 | 26/03/2021 | GANSW | Masterplan & Landscaping | There are inconsistencies between the landscape plan and the masterplan. The landscape plan shows more generous outdoor spaces and has more flowing paths than is suggested by the rigid modules of the architectural plans. Provide revised plans that resolve and clearly illustrates these conditions. | LANDSCAPE | Noted. The landscape plan is an updated to address more organic design with inclusion of several break-out and shaded areas. Please refer appended revised landscape plan. |
| GA4 | 26/03/2021 | GANSW | Masterplan & Landscaping | It is understood that these buildings will be delivered through the DFMA model and will therefore incorporate design elements common to many schools across the State. Illustrate techniques to contextualise and provide individual character to the buildings and overall school grounds. The landscape design in particular should be utilised to soften the modules and provide connections to outdoor areas. | ARCHITECTURE | The project individuality design response is in the interior and landscape design.<br><br>The landscape design provides clear structure & connections to outdoor spaces and links between buildings. Trees with mass planting located within the courtyard and around the buildings are proposed to soften the building edges. |

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| GA5 | 26/03/2021 | GANSW | Masterplan & Landscaping | The school is located on a greenfield site in a new suburb which presents the opportunity for it to act as a landmark within this new community. The hall should be set forward in relation to the homebases as a public asset as well as to anchor the school. | ARCHITECTURE | The Hall is a single storey building with voluminous interior catering for multipurpose use eg. sports, performances etc. The design intents to utilise the 2 storey buildings, Building A, B2 & the Entry Canopies along Deerubbin Drive & Darug Ave to create sizeable landmark & presence of the school within the new community. The Hall is centrally located in responding to the school courtyards & outdoor play areas. |
| GA6 | 26/03/2021 | GANSW | Masterplan & Landscaping | Consider the different character of the adjoining streets and how the school edge should respond to these. Deerubbin Drive is proposed as an urban edge with mixed used development and the street edge created by the hall and the homebases can be brought forward to respond to this condition. Darug Ave is more suburban in character and the proposed setback along this edge supports this condition. Provide street sections demonstrating how the school buildings respond to their adjoining context | ARCHITECTURE | The two-storey construction of Mulgoa Rise Public School and the future Commercial Development will be complementary in scale and complete the streetscape along Deerubbin Drive. Along Deerubbin Drive, medium to large canopy trees with understorey planting are proposed as a privacy screening between homebases and mixed-use development. Medium sized shrubs are used to soften the interface of school security fence and footpath<br><br>Darug Avenue, a lusher and a landscaped setback is proposed as a landscape buffer between residential and school buildings. The school buildings & structures are well setback from the site boundary to respect the proportion and scale so to enhance pedestrian friendly suburbia neighbourhood street.<br><br>Please refer to Visual Impact Statement and site section for reference |
| GA7 | 26/03/2021 | GANSW | Masterplan & Landscaping | The community access to facilities is supported. Indicate on the masterplan which zones are accessible to the public after hours | ARCHITECTURE | Facilities accessible for after school hours use are noted on "Site Circulation, Security and Fence Plan" |
| GA8 | 26/03/2021 | GANSW | Masterplan & Landscaping | The space between homebases in the masterplan marked as a 'green spine' will have little solar access as it is on the southern side, consider the amenity and function of this space. Provide solar access diagrams for the outdoor spaces at morning, lunch and after school times | LANDSCAPE | The 'green spine' will offer intimate courtyard space with seating spaces for smaller group gathering/ outdoor classroom. This courtyard will feature planting selection that are suitable for use in a south-facing courtyard. |
| GA9 | 26/03/2021 | GANSW | Masterplan & Landscaping | As this site is located in western Sydney it can experience varying climatic changes, illustrate how the outdoor assembly area is proposed to be used in extreme weather days | LANDSCAPE | Large canopy trees are proposed to provide spots of shade and protective areas for small gathering. The project aims to meet 40% canopy coverage when matured as per the recommended guidelines. |
| GA10 | 26/03/2021 | GANSW | Masterplan & Landscaping | The carpark and waste disposal area appear very loosely planned and oversized for their function. Establish if the waste area requires a full turning circle and develop this area to incorporate more efficient space planning, minimising impervious ground surfaces and maximising landscaping | TRAFFIC & ARCHITECTURE | Car park and waste collection entry is positioned to provide optimum number of continuous pick up and drop off bays to the west of the carpark crossover. The layout of carpark & bin enclosure considers:<br>- Staff safety by separating car park & waste collection area<br>- Avoid pockets of areas with low supervision.<br>- Well screened carpark & waste collection by using native trees and ground cover grasses to provide a softened and hardy southern landscaped edge |
| GA11 | 26/03/2021 | GANSW | Masterplan & Landscaping | Clarify if there is a bicycle and/or pedestrian pathway along Surveyor's Creek and how this will link into the school, illustrating bicycle parking areas and their architectural treatment | TRAFFIC & ARCHITECTURE | Refer to traffic engineer's report for the extent of existing bike path connectivity |

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| GA12 | 26/03/2021 | GANSW | Masterplan & Landscaping | Look at the opportunity to include more landscaping to be delivered as part of Stage 1. Clarify how the zone marked for Stage 2 is to be used at Stage 1 | LANDSCAPE | The scope of landscape work is limited to the proposed development area only. |
| GA13 | 26/03/2021 | GANSW | Masterplan & Landscaping | Explore opportunities for early planting to establish landscape during an early phase of site works and before the school modules are constructed | LANDSCAPE | Establish planting at an early stage is not recommended, as there will be large machinery operating on site that can damage the installed planting stock |
| GA14 | 26/03/2021 | GANSW | Masterplan & Landscaping | The swale and the bridge shown in the landscape design for Stage 2 are supported. The concept of the swale can be used to inform more of the physical decisions on the site for both stages | LANDSCAPE | Noted. Where appropriate, the concept of the swale will be considered |
| GA15 | 26/03/2021 | GANSW | Masterplan & Landscaping | Clarify the proposed landscape will achieve 40% tree canopy cover in line with State targets, noting that carparking spaces should be included in site calculations | LANDSCAPE | The breakdown of Nominal 40% tree canopy cover is stated in the Urban Design report. |
| GA16 | 26/03/2021 | GANSW | Masterplan & Landscaping | Provide detail as to the type of fencing to be used. Use built form as an alternative barrier and street edge where possible | LANDSCAPE & ARCHITECTURE | A combination of masonry & metal fencing will be used at the perimeter of the site. Please refer to Landscape drawings for the extent & types of fences. |
| GA17 | 26/03/2021 | GANSW | Masterplan & Landscaping | the drop off and pick up arrangement along three roads are quite complex and will have a significant impact on surrounding uses. Provide information and modelling to support this approach and illustrate how impacts are to be mitigated | TRAFFIC & ARCHITECTURE | Refer to the traffic engineer's report for the South/ North catchment analysis that influences the proposed parents pickup-dropoff routes. |
| GA18 | 26/03/2021 | GANSW | Aboriginal Cultural Heritage | The Indigenous landscaping components should be considered as an integrated whole rather than a discrete element of the landscape design | LANDSCAPE | Noted. The landscape design is Inspired by the site history and cultural background of Mulgoa Rise where two indigenous nations intersect. The landscape design of the new Primary School aims to create the 'meeting place' for students and local communities that celebrates the original characters and culture of the land, encourages active and passive recreations as well as knowledge sharing beyond the classroom. |
| GA19 | 26/03/2021 | GANSW | Aboriginal Cultural Heritage | The bush tucker garden should be developed in consultation with local aboriginal groups. Further consider how planting can bring back the native species and work to heal country and restore the endemic Cumberland Plain | LANDSCAPE | Bush tucker garden is to be developed. Planting selection is driven by native species and where appropriate, endemic species will be used to contribute to healing the country and restoring the Cumberland Plain landscape |
| GA20 | 26/03/2021 | GANSW | Aboriginal Cultural Heritage | The importance of water to the local Aboriginal culture and the presence of watercourses on the site can inform the design. This was a rich and fertile area due to the presence of water on the site. Consider how this can inform a living cultural practice at the school, for example around the care of waterways, growing and preparation of food, etc | PM | subject to detailed design |
| GA21 | 26/03/2021 | GANSW | Architectural Expression | Consider opportunities as to how the DfMA can be used to create an individualised response and built character that is specific to Mulgoa Rise. As the site used to be a quarry consider how this history can be brought into the design of the school and the landscape | ARCHITECTURE | The project individuality design response is in the interior and landscape design.<br><br>The landscape design provides clear structure & connections to outdoor spaces and links between buildings. Trees with mass planting located within the courtyard and around the buildings are proposed to soften the building edges. |

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| GA22 | 26/03/2021 | GANSW | Architectural Expression | Provide diagrams and sections illustrating how the edges of the school will incorporate shade and seating areas. Show sun angles | LANDSCAPE | A well balanced of shaded seating areas and open play areas are provided within the internal courtyards. Refer to landscape drawings. |
| GA23 | 26/03/2021 | GANSW | Architectural Expression | Where classrooms are elevated show compliant ramps and walkways on the plan. Provide accurate sections through the site indicating floor levels of the schools and the spaces between | ARCHITECTURE | level changes are mitigated by using 1:20 grade walkways. Refer to the accessible & exit path drawings |
| GA24 | 26/03/2021 | GANSW | Architectural Expression | More details are required on the architectural expression to the school including materiality. The awning elements to the pathways as well as to the COLA require further detail and illustration | ARCHITECTURE | Refer to the 4 artist impression renders included in the architectural drawing set |
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| PENRITH CITY COUNCIL | | | | | | |
| PCC1 | 25/03/2021 | PCC | Initial steps | As outlined within the body of these notes, there was a suggestion during the meeting that the indicated extent of overland flow and flooding affectation may not be as significant as diagrammatically reflected within the concept plans prepared. This is a critical aspect to investigate and clarify with Council's Development Engineers, as the outcome of these discussions may alter spatial restrictions on the site as well as flood planning level requirements which in turn affects finished floor levels. It is strongly encouraged that engagement directly with Council's Development Engineers<br><br>be pursued in the first instance, to verify if the current spatial arrangement or level differences across the site can or should be refined | CIVIL | Council indicated that no two dimensional flood modelling of the site had been undertaken. Woolacotts engaged a subcontractor to undertake a two dimensional flood study to confirm overland flow flooding. Refer to the Flood Impact Assessment prepared by Woolacotts |
| PCC2 | 25/03/2021 | PCC | Initial steps | Following clarification on overland and flooding, address of the traffic and parking matters is suggested. The concept plans require realignment of kerb lines for accessible drop off / pick up as well as pedestrian crossings, line marking and sign posting. It is recommended that in principle support for the road works and parking arrangements be discussed and secured with Council's Traffic Engineers and Development Engineers in the progression of the SSD documentation, so as to ensure that no complications will arise during later stages of the development including Section 138 Roads Act applications and engagement with the Local Traffic Committee | TRAFFIC | Signage and line marking plans have been submitted to Council and no objections have been made. |
| PCC3 | 25/03/2021 | PCC | Initial steps | Following clarification on overland and flooding, an opportunity review developed landscape plans would be appreciated as the setback zones to the public road network and the resulting streetscape outcomes will be a key consideration for Council when the SSD application is lodged. This includes planting densities and pot sizes, selected species, fencing, lighting and any irrigation measures proposed | LANDSCAPE | Planting densities and pot sizes, selected species, fencing, and irrigation measures are proposed. Refer appended landscape plans for information |
| PCC4 | 25/03/2021 | PCC | Initial steps | The outcome of the State Governments Design Review Panel process should be outlined to Council to confirm if there are any implications to the design or arrangement of the built form that has broader implications on other considerations applicable to the development | ARCHITECTURE | Please refer to the above SDRP comments and responses. |

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| PCC5 | 25/03/2021 | PCC | Engineering | Council's engineering requirements for development, including policies and specifications listed herein, can be located on Council's website at the following link: https://www.penrithcity.nsw.gov.au/Building-and-Development/Development-Applications/Engineering-requirements-for-developments/ | ALL | New link found https://www.penrithcity.nsw.gov.au/building-development/development/engineering-requirements-for-development-subdivision |
| PCC6 | 25/03/2021 | PCC | Engineering | All engineering works must be designed and constructed in accordance with Council's *Design Guidelines for Engineering Works for Subdivisions and Developments* and Council's *Engineering Construction Specification for Civil Works* | ALL | NOTED |
| PCC7 | 25/03/2021 | PCC | Stormwater management | Stormwater drainage for the site must be in accordance with the following<br>o Council's Development Control Plan,<br>o Stormwater Drainage Specification for Building Developments policy, and<br>o Water Sensitive Urban Design Policy and Technical Guidelines. | CIVIL | The proposed schematic civil design is in accordance with Council's requirements and comments from the Pre-DA meeting. Refer to the Civil Engineering Report by Woolacotts |
| PCC8 | 25/03/2021 | PCC | Stormwater management | A stormwater concept plan, accompanied by a supporting report and calculations, should be submitted with the application to the Department | CIVIL | Refer to the Civil Engineering Report by Woolacotts |
| PCC9 | 25/03/2021 | PCC | Stormwater management | Stormwater from the site is to be discharged into the drainage system within Deerubbin Drive along the northern boundary of the site. During construction of the subdivision, stub pipe connections were constructed to inside the property boundary to allow for future connection of stormwater. Please refer to an extract of the approved Construction Certificate plans (Ref: CCX11/0033) at the end of these notes, depicting the design catchment along with an extract of the Works as Executed plans showing the available connections at pits 1/8A, 1/9A, 1/10A & 1/11A | CIVIL | Stormwater runoff from the proposed development will connect into Council's nominated discharge point (i.e. the drainage system along Deerubbin Drive along the northern boundary of the site. Refer to the Civil Engineering Report by Woolacotts |
| PCC10 | 25/03/2021 | PCC | Stormwater management | Water quality and water quantity treatment systems have been previously provided as part of the parent subdivision works. Pending capacity of the existing street drainage systems, On-site Stormwater Detention (OSD) is not required for the site | CIVIL | Woolacotts contacted Penrith City Council via telephone discussion on the 30th March 2021 who confirmed that due to the parent subdivision works previously undertaken, water quality modelling (using the program MUSIC) is not required for the site. However, Woolacotts will provide site specific WSUD measures including rainwater reuse, litter baskets in grated inlet pits, small grassed swales and grassed buffer strips. Refer to the Civil Engineering Report by Woolacotts |
| PCC11 | 25/03/2021 | PCC | Stormwater management | A water sensitive urban design strategy prepared by a suitably qualified person is to be provided for the site. The strategy shall address water conservation, water quality, water quantity, and operation and maintenance. The strategy should demonstrate compliance with Council's Water Sensitive Urban Design Policy and Technical Guideline and include any Music Modelling (SQZ files) | CIVIL | Refer comment PCC10 above. |
| PCC12 | 25/03/2021 | PCC | Stormwater management | A sediment and erosion control plan shall be submitted with the application. Adequate sediment and erosion control measures shall be provided to prevent sediment loads entering the bio-retention basins within the Glenmore Park Riparian Corridor which are already online | STRUCTURE / CIVIL | A Sediment and Erosion Control plan and details have been prepared. Refer to the Civil Engineering Report by Woolacotts |

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| PCC13 | 25/03/2021 | PCC | Local Overland Flows | It is noted that submitted plans show the lot is impacted by local overland flow flooding requiring provision of 0.5m freeboard to floor levels of buildings. Council's records indicate that the lot is not impacted by any local overland flows and is not coded as being affected by local overland flow flooding. Generally, when a residential subdivision is approved, local overland flows from the catchment are designed to be conveyed within the road system in a safe and acceptable manor and not through private lots unless an easement for drainage is provided to allow for the passage of overland flows through such lots.<br><br>It is suggested that the Hydraulic Engineer make contact with Council to ensure all available information from adjoining subdivisions was utilised when undertaking the flood study. Council will be able to provide scanned PDF plans of the adjoining subdivisions including drainage catchment plans and hydraulic calculations. Please contact the following representative from Council's Engineering Servic | CIVIL | Refer comment PCC1 above. |
| PCC14 | 25/03/2021 | PCC | Local Overland Flows | Any works within the road reserve will require a separate Section 138 Roads Act approval from Penrith City Council as the Roads Authority under the Roads Act. A Section 138 Roads Act application shall be made to Penrith City Council for the raised pedestrian thresholds, modifications to any kerb & gutter or stormwater pits, vehicular crossings, and lead in public utility services. Any application for a Roads Act approval shall include detailed engineering plans that address the following requirements: | CIVIL | NOTE: To be undertaken in detailed design |
| PCC15 | 25/03/2021 | PCC | Local Overland Flows | The design of the raised pedestrian crossing thresholds in Deerubbin Drive and in Darug Avenue shall not have any adverse impact upon the street drainage system nor any overland flow paths that may be conveyed within the street system | CIVIL | The provision of raised thresholds / blisters along Darug Avenue, Deerubbin Drive and Forestwood Drive will result in additional depth of flooding entering the site and neighbouring properties, and will impact the required building FFLs. It is recommended that alternative traffic calming & safety measures are used. |
| PCC16 | 25/03/2021 | PCC | Local Overland Flows | The raised pedestrian crossing threshold in Darug Avenue shall not conflict with the existing kerb inlet pits and lintels, nor have any adverse impact upon inlet capacity | CIVIL | Refer comment PCC15 above |
| PCC17 | 25/03/2021 | PCC | Local Overland Flows | It is noted that the development proposes to widen the existing car parking bays along the frontage of Darug Avenue to accommodate an on-street accessible parking pick-up / drop off bay. It is Council's preference that any accessible parking drop off areas be provided on-site. If the accessible parking bays are to be provided on the street, then the bays shall comply with AS2890.6, requiring widening of the existing parking bay by approximately 0.7m resulting in the loss of street trees. It is Council's preference that the verge area be widened by 0.7m so as street trees can be incorporated into the street scape. Having compensatory plantings within the school grounds, that will be located behind a large palisade fence, will detract from the streetscape | TRAFFIC & ARCHITECTURE | Please note that the Support Unit Pick up & drop off area has been relocated to Deerubbin Drive, East of the proposed pedestrian crossing.<br><br>Parents are not encouraged to park on the pick-up and drop-off bays for longer than a reasonable 'kiss & ride' time so to assist on minimising traffic queing. Off street pick up & drop off will assist in implementing the intended brief kiss & ride behaviour.<br><br>We believe that the scale of school building and the street fronting landscape will create a civic landmark opposite the future mixed used development. |

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| PCC18 | 25/03/2021 | PCC | Local Overland Flows | Any kerb extension / blister treatment / raised threshold treatment in Darug Avenue shall include vehicular turn paths for all turning movements for a 12.5m Heavy Rigid Vehicle at the intersection with Deerubbin Drive | TRAFFIC | refer to the Transport and Traffic Assessment |
| PCC19 | 25/03/2021 | PCC | Local Overland Flows | Details of any pedestrian fencing are to be included | TRAFFIC | refer to the Transport and Traffic Assessment. Safety fences are shown at the south-eastern corner of Darug / Deerubbin and at the north-eastern corner of Darug and Forestwood |
| PCC20 | 25/03/2021 | PCC | Local Overland Flows | The proposed bus bay may impede pedestrian sight lines at the raised pedestrian crossing threshold when a bus is stationary in the bus bay. Pedestrian and vehicular sight distances at the raised crossing are to be assessed and shall include assessment of a bus parked within the bus bay | TRAFFIC | This has been analysed and is addressed in the Transport and Traffic Assessment |
| PCC21 | 25/03/2021 | PCC | Local Overland Flows | Details of the existing bus stop and boarding point are to be included. If the bus boarding point is to be relocated, the applicant shall contact Busways to seek approval | TRAFFIC | This has been analysed and is addressed in the Transport and Traffic Assessment |
| PCC22 | 25/03/2021 | PCC | Local Overland Flows | Details of regulatory 'No Stopping' zones for the raised pedestrian crossing threshold are to be included | TRAFFIC | refer to the Transport and Traffic Assessment |
| PCC23 | 25/03/2021 | PCC | Local Overland Flows | Any signage and line marking within the public road will require approval from Council's Local Traffic Committee | TRAFFIC / CIVIL | NOTE: Civil to specify signage and linemarking for detailed design phase |
| PCC24 | 25/03/2021 | PCC | Local Overland Flows | Any driveways / vehicular crossings shall be located a minimum of 1m from any lintel of a kerb inlet pit and a minimum of 1m from any public utility service lids/covers | | NOTED for detailed design |
| PCC25 | 25/03/2021 | PCC | Local Overland Flows | Bus shelters shall be provided at the existing bus stops on Darug Avenue south of Deerubbin Drive as part of the development | PM | subject to future review |
| PCC26 | 25/03/2021 | PCC | Street Lighting | Any raised pedestrian threshold and associated marked crossings are to be lit in accordance with Australian Standards | CIVIL & ELECT | subject to future review |
| PCC27 | 25/03/2021 | PCC | Earthworks | No retaining walls or filling is permitted for this development which will impede, divert or concentrate stormwater runoff passing through the site | CIVIL | Filling is required to achieve minimum FFL according to Councils Flood Planning Level requirements. Refer Flood Impact Assessment by Woolacotts |
| PCC28 | 25/03/2021 | PCC | Traffic Management & Parking | A Signage and Line marking Plan is required to be included with SSD materials submitted and would likely include Bus Zone signage, No Parking signage (for kiss & ride), any unrestricted parking fronting site (rationale, if none, to be included in traffic report). | TRAFFIC | refer to the Transport and Traffic Assessment |
| PCC29 | 25/03/2021 | PCC | Traffic Management & Parking | The approved location of the Derrubbin Drive crossing as approved within Development Consent No. DA19/0348 should be verified and reflected within the plans as progressed. Information relating to this DA is available on the State Governments Sydney Western City Planning Panel website or Council's DA Tracker. Refer to Condition 79 within the SWCPP Assessment Report.<br><br>https://www.planningportal.nsw.gov.au/planning-panel/mixed-use-development-5<br><br>The design of this crossing should be a raised threshold (wombat) crossing as depicted in plans presented during the meeting | TRAFFIC | This crossing is discussed in the Transport and Traffic Assessment.<br><br>Raised zebra crossings are not the preferred option to reduce risk of flooding into the primary school and adjacent residential properties. |
| PCC30 | 25/03/2021 | PCC | Traffic Management & Parking | Regarding the Darug Ave proposed pedestrian crossing point, Council recommends that the proponent undertake community consultation | PM | Refer to the appended Community Consultation Report |

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| PCC31 | 25/03/2021 | PCC | Traffic Management & Parking | The proposal must also ensure that proposed kerbside blister islands do not unduly impact the effective operation of existing kerb inlet pits | CIVIL & ARCHITECTURE & TRAFFIC | The proposal has considered location of existing kerb inlet pits |
| PCC32 | 25/03/2021 | PCC | Traffic Management & Parking | Pedestrian fencing adjacent to crossings (to corral peds to crossing point) would be appropriate and should be included on plans | TRAFFIC | These have been considered and included, refer to the Transport and Traffic Assessment |
| PCC33 | 25/03/2021 | PCC | Traffic Management & Parking | During the meeting it was suggested that a reliance on Council's car parking may be investigated however as outlined during the meeting, it was considered from a planning and traffic perspective that any development (even a school) should provide sufficient onsite parking to cater for staffing needs without reliance on an adjacent car park which is provided for the community in support of recreational use of adjacent lands. This suggestion would also likely exacerbate on-street congestion resulting in greater competition for available on-street car parking spaces | ALL | 17 carbays (including 2 accessible bays) will be provided in this development. |
| PCC34 | 25/03/2021 | PCC | Traffic Management & Parking | Council requests a detailed Traffic Report be provided for assessment purposes, even though Council is not the determining authority, as it will assist Council in planning appropriate signage and ancillary works (particularly for adjacent sites) and provides further opportunity for feedback on the SSD. The report should include (but not be limited to) the following: | TRAFFIC | refer to the Transport and Traffic Assessment |
| PCC35 | 25/03/2021 | PCC | Traffic Management & Parking | Detail modal share/split and rationale | TRAFFIC | refer to the Transport and Traffic Assessment |
| PCC36 | 25/03/2021 | PCC | Traffic Management & Parking | Include expected traffic generation (numbers of staff and parents) – percentage of car park coverage for staff accessing the site | TRAFFIC | refer to the Transport and Traffic Assessment |
| PCC37 | 25/03/2021 | PCC | Traffic Management & Parking | Address parking (onsite and offsite), demonstrating staff car parking requirements and how this is met onsite | TRAFFIC | refer to the Transport and Traffic Assessment |
| PCC38 | 25/03/2021 | PCC | Traffic Management & Parking | Detail proposed drop off pick up arrangement (signage, timing, etc). Will it operate both morning and afternoon and/or are there alternative arrangements that could work such as allowing longer term parking of an afternoon? | TRAFFIC | refer to the Transport and Traffic Assessment |
| PCC39 | 25/03/2021 | PCC | Traffic Management & Parking | Detail proposed pedestrian connections | TRAFFIC | refer to the Transport and Traffic Assessment |
| PCC40 | 25/03/2021 | PCC | Traffic Management & Parking | Access points/gates (including gate to sporting field, how will this operate) | ARCHITECTURE | noted |
| PCC41 | 25/03/2021 | PCC | Traffic Management & Parking | Include resident consultation results re: proposed Darug Avenue ped crossing in Traffic Report (we can then take it to LTC) | PM | Refer to the appended Community Consultation Report |
| PCC42 | 25/03/2021 | PCC | Traffic Management & Parking | Accessible drop off to comply with clearances/shared zone requirements AS2890.6. and kerb ramp placements for wheelchairs. Must be demonstrated | CIVIL & ARCHITECTURE | Noted. To be addressed in the detailed design stage |
| PCC43 | 25/03/2021 | PCC | Traffic Management & Parking | Waste vehicle swept paths to/from the site, as well as internal manoeuvring swept paths | TRAFFIC & ARCHITECTURE | Refer to Architectural drawing and the Transport and Traffic Assessment |

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| PCC44 | 25/03/2021 | PCC | ENVIRONMENTAL MANAGEMENT | The Environmental Impact Statement must address all applicable environmental considerations relating to the site and the proposed use. This includes an Acoustic Assessment noting the provision of outdoor play areas and any plant associated with the school operations | ARCHITECTURE | Refer to the appended Architectural Design Report |
| PCC45 | 25/03/2021 | PCC | ENVIRONMENTAL MANAGEMENT | The application should be accompanied by a contamination assessment statement that addresses SEPP 55 considerations and ensures that the site is suitable or can be made suitable for the proposed use. It must be noted that via the overlay of SREP 20 and SEPP 55 clause provisions, requires that any remediation proposed on the site would require development consent and the submission of a remedial action plan in support of the application | CIVIL | refer to the appended PSI, DSI & the associated addendum. |
| PCC46 | 25/03/2021 | PCC | Planning & Landscaping | The spatial arrangement of the built form is generally supported due to the presentation and activation of Deerubbin Drive and its interface with the approved mixed development to the north. The architectural building form and COLA features provide a deference in height and articulation which is supported noting that the landscape design will be critical in the ultimate streetscape outcomes achieved. It requested that Council's Landscape Architect be afforded an opportunity to review draft Landscape Plans prior to SSD Application lodgement | PM & LANDSCAPE | The project has noted a consultation meeting with PCC was held on 25 March 2021. A second project update meeting was held with PCC on . |
| PCC47 | 25/03/2021 | PCC | Planning & Landscaping | The proposed finished floor and ground levels and resulting ramping at the intersection of Deerubbin Drive & Darug Avenue will require sufficient planting density and maturity to ameliorate the presentation of any walls or elevated walkways as viewed from this critical intersection | LANDSCAPE | NOTED. 1:20 walkways and planting have been incorporated in the landscape design. |
| PCC48 | 25/03/2021 | PCC | Planning & Landscaping | The provision of sufficient on-site parking is considered a critical element to be addressed in this application. While that parking may be limited to staff only, this is considered necessary without sole reliance on Council's adjacent car park. Further, the separation distance of parking from the Stage 1 building works is of concern given the distance is approximately 150m and would be 200m if the adjacent car park was utilised. Considerations of safety, security and lighting would be critical, not to mention accessibility and accessible staff parking provision. Any investigations for access and use of the adjacent Council car park would require engagement with Council's Property Team and may necessitate a lease agreement or similar arrangement. Please liaise with Jarrod Murphy (Council's Program Manager Business Development and Acquisitions) on (02) 4732 8082 if you wish to pursue these discussions | TRAFFIC & ARCHITECTURE | School staff are encouraged to walk, take public transport or take the advantage of the End of Trip facilities that are being provided. |

| Ref No. | Date Raised | Raised by | Issue Name | Comments | Attention Required by | Response |
|---|---|---|---|---|---|---|
| PCC49 | 25/03/2021 | PCC | Planning & Landscaping | The Penrith LEP 2010 provides a maximum building height of 15m and it should be demonstrated that the proposal complies with this requirement. The proposal should also address the relevant provisions within the Penrith Development Control, Plan 2014 – Part E7 – Glenmore Park (Part B) Stage 2 | ARCHITECTURE | The highest building / structure across the site is at RL 72.00m, an approximately 11m tall structure. |
| PCC50 | 25/03/2021 | PCC | Waste Management | Services Classification: The following controls relate to developments outlined within Part D – Land Use Controls of the Penrith Development Control Plan 2014 | CONSTRUCTION CONSULTANT | noted |
| PCC51 | 25/03/2021 | PCC | Waste Management | Integrated On-site Waste Collection: Waste collection vehicles proposed to service commercial and industrial developments are to be designed in accordance with the vehicle specifications outlined in section 3.5 of the 'Industrial, commercial and mixed-use waste management guideline' document | TRAFFIC | refer to the Transport and Traffic Assessment |
| PCC52 | 25/03/2021 | PCC | Waste Management | On-site Collection (section 2.2.1)<br>The vehicle must be able to safely and efficiently access the site and the nominated collection point to perform on-site waste collection. There must be sufficient manoeuvring area on-site to allow the collection vehicle to enter and exit the site in a forward direction and service the development efficiently with little or no need to reverse | TRAFFIC & ARCHITECTURE | refer to the Transport and Traffic Assessment |
| PCC53 | 25/03/2021 | PCC | Waste Management | Architectural Plans (section 2.2.2)<br>Scaled architectural plans are required to support the development application which demonstrate the site's entry point, vehicle's route of travel and manoeuvring comply with a standard waste collection vehicle (section 3.5). | TRAFFIC & ARCHITECTURE | Refer to Architectural drawing for the layout of the proposed waste collection area |
| PCC54 | 25/03/2021 | PCC | Waste Management | Swept Path Models (section 2.2.3)<br>path models to be provided illustrating how a standard waste collection vehicle (section 3.5) will enter, service and exit the site. A 0.5m unobstructed clearance is required from all obstructions for the vehicle's ingress and egress maneouvres. The model to provide on-street parking on both sides of the road adjacent to the development to demonstrate unobstructed access during a 'business as usual' configuration | TRAFFIC | refer to the Transport and Traffic Assessment |
| PCC55 | 25/03/2021 | PCC | Waste Management | Service Clearances (section 2.2.4)<br>For rear loaded vehicles an additional 2m unobstructed loading zone is required behind the vehicle for the loading of 660L and 1,100L bins. Additionally, a 0.5m side clearance is require on either side of the vehicle for driver movements and accessibility | TRAFFIC & RCC | refer to the Transport and Traffic Assessment |
| PCC56 | 25/03/2021 | PCC | Waste Management | Plan of Operations (2.2.6)<br>All development applications to be submitted with accompanying 'Plan of Operations', outlining proposed; Bin Infrastructure Sizes, Collection Frequency, Waste Collection Vehicle Dimensions, Hours of Collection and Access to Waste Collection Room | CONSTRUCTION CONSULTANT | Refer to Operational Waste Management Plan |
| PCC57 | 25/03/2021 | PCC | Waste Management | **Waste Collection Infrastructure:** Waste collection infrastructure to be provided in accordance with section 3.1 of the *'Industrial, commercial and mixed-use waste management guideline'* document | CONSTRUCTION CONSULTANT | Refer to Section 4 of the OWMP |
| PCC58 | 25/03/2021 | PCC | Waste Management | **Waste Generation Rates:** Proposed generates rates for respective developments are required to be provided to permit waste collection in accordance with section 3.3 of the *'Industrial, commercial and mixed-use waste management guideline'* document | CONSTRUCTION CONSULTANT | Refer to Section 4 of the OWMP |

| Ref No. | Date Raised | Raised by | Issue Name | Comments | Attention Required by | Response |
|---|---|---|---|---|---|---|
| PCC59 | 25/03/2021 | PCC | Waste Management | Waste Collection Rooms: All developments are required to provide a waste collection room integrated wholly within the developments built form to permit a safe and efficient waste collection service. The room to incorporate the following into its design in accordance with section 3.4 of the *'Industrial, commercial and mixed-use waste management guideline'* document | CONSTRUCTION CONSULTANT & ARCHITECTURE | Bin enclosure has 3 sided walls to screen the bins off the adjacent streets. Fully enclosed bin room is not practicable for SINSW Public schools |
| PCC60 | 25/03/2021 | PCC | Waste Management | Waste Infrastructure Guidelines: For further specific waste operational and infrastructure information refer to the 'Industrial, commercial and mixed-use waste management guideline' document attached https://www.penrithcity.nsw.gov.au/Building-and-Development/Development-Applications/Forms/ | CONSTRUCTION CONSULTANT | NOTED |
| PCC61 | 25/03/2021 | PCC | Land Base Guidelines | Bushfire Prone Land will likely require lodgement of a Bushfire Assessment Report | ALL | Mulgoa Rise Public School is located within a developed residential & mixed used area. BAL requirements is not applicable on this project |
| PCC62 | 25/03/2021 | PCC | Land Base Guidelines | Flood Affected Land will require floor levels to Australian Height Datum (AHD) | ARCHITECTURE | NOTED |
| PCC63 | 25/03/2021 | PCC | Land Base Guidelines | Impacts to native vegetation (including grassland) will require an assessment under the NSW Biodiversity Offset Scheme and may require a Biodiversity Assessment Report or a Test of Significance | LANDSCAPE | The current status of the site is a brownfield site with no vegetation. At completion of the school, the project will introduce new vegetation that will attract life form activities to forage in the new trees. |
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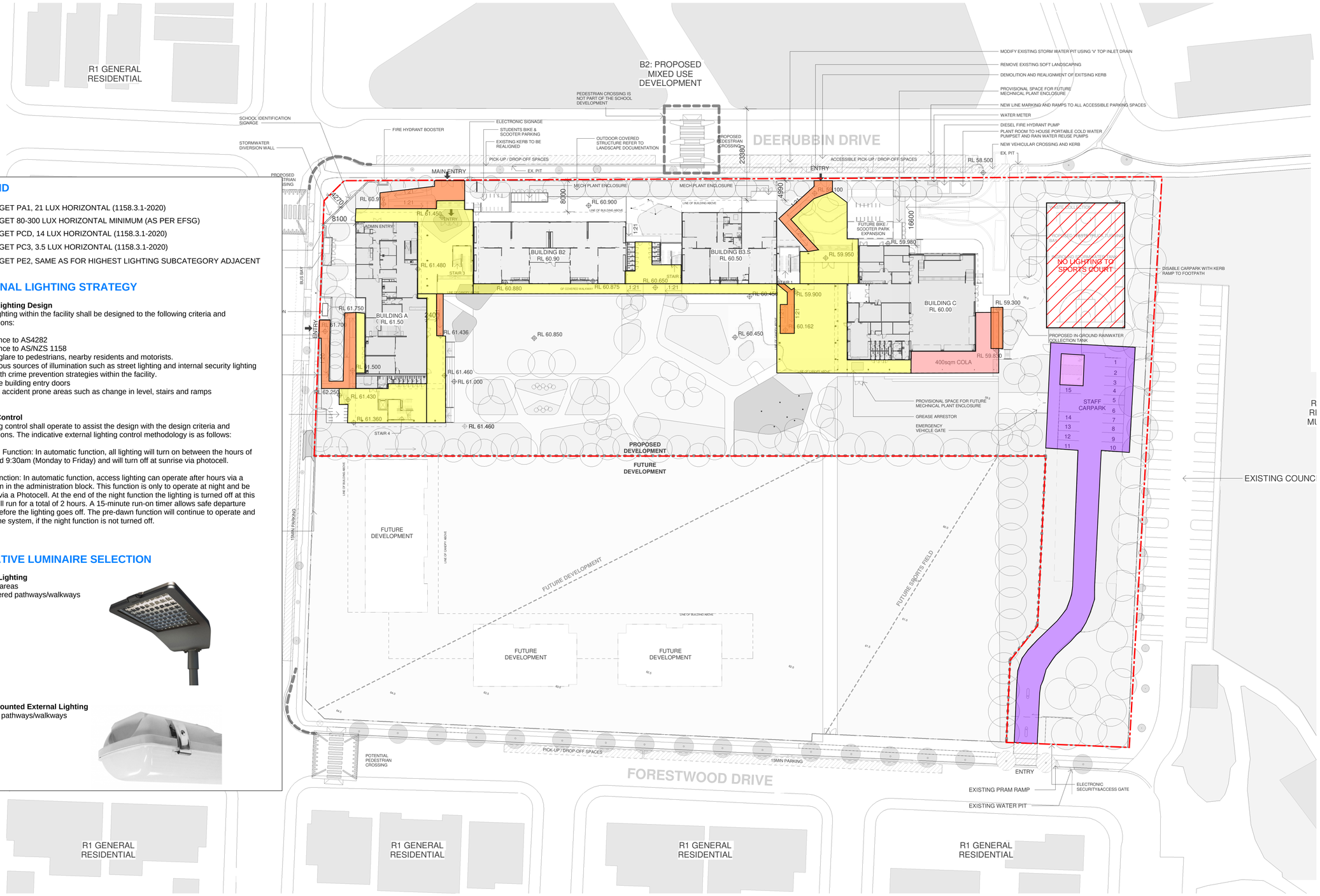
| | | | | | | |

EXTERNAL LIGHTING STRATEGY




## LEGEND

- TARGET PA1, 21 LUX HORIZONTAL (1158.3.1-2020)
- TARGET 80-300 LUX HORIZONTAL MINIMUM (AS PER EFSG)
- TARGET PCD, 14 LUX HORIZONTAL (1158.3.1-2020)
- TARGET PC3, 3.5 LUX HORIZONTAL (1158.3.1-2020)
- TARGET PE2, SAME AS FOR HIGHEST LIGHTING SUBCATEGORY ADJACENT

## EXTERNAL LIGHTING STRATEGY

**External Lighting Design**
External lighting within the facility shall be designed to the following criteria and considerations:

- Compliance to AS4282
- Compliance to AS/NZS 1158
- Prevent glare to pedestrians, nearby residents and motorists.
- Link various sources of illumination such as street lighting and internal security lighting
- Assist with crime prevention strategies within the facility.
- Illuminate building entry doors
- Highlight accident prone areas such as change in level, stairs and ramps

**Lighting Control**
The lighting control shall operate to assist the design with the design criteria and considerations. The indicative external lighting control methodology is as follows:

- Predawn Function: In automatic function, all lighting will turn on between the hours of 5:00am and 9:30am (Monday to Friday) and will turn off at sunrise via photocell.

- Night Function: In automatic function, access lighting can operate after hours via a push-button in the administration block. This function is only to operate at night and be controlled via a Photocell. At the end of the night function the lighting is turned off at this panel or will run for a total of 2 hours. A 15-minute run-on timer allows safe departure from site before the lighting goes off. The pre-dawn function will continue to operate and will reset the system, if the night function is not turned off.

## INDICATIVE LUMINAIRE SELECTION

**Pole Top Lighting**
- Carpark areas
- non-covered pathways/walkways
- IK08
- IP65



**Surface Mounted External Lighting**
- Covered pathways/walkways
- IK08
- IP65



| Rev | Description | Date |
|---|---|---|
| A | SSDA SUBMISSION | 20.08.21 |

THIS DOCUMENTATION IS SCHEMATIC LEVEL ONLY. ALL ALLOWANCES ARE TO BE MADE FOR PROVISION OF PLANT, EQUIPMENT, INFRASTRUCTURE AND OUTLETS AS REQUIRED BY THE EFSG DOCUMENTATION. TO BE FURTHER DEVELOPED AT PHASE 4.

Issue

| No. | Date | Description | Chkd |
|---|---|---|---|
| 1 | 09/03/2021 | ISSUE FOR COORDINATION | |
| 2 | 12/03/2021 | ISSUE FOR COORDINATION | |
| 3 | 19/03/2021 | ISSUE FOR COORDINATION | |
| 4 | 30/03/2021 | ISSUE FOR COORDINATION | |
| 5 | 12/04/2021 | ISSUE FOR COORDINATION | |
| 6 | 16/04/2021 | SD ISSUE | |
| 7 | 23/07/2021 | COORDINATION ISSUE | JL |
| 8 | 16/08/2021 | DRAFT SD ISSUE | |

**PHASE 3 - SCHEMATIC DESIGN**

RICHARD CROOKES CONSTRUCTIONS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Drawing Title
SITE PLAN

Project
NEW PRIMARY SCHOOL IN MULGOA RISE
at
1-23 Forestwood drive, Glenmore Park, NSW 2745, Australia

for
SINSW


Architect
NBRSARCHITECTURE

Sydney
61 2 9922 2344 nbrsarchitecture.c



Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197



ABN 16 002 247



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NDY QA SYSTEM
Reason For Issue
SCHEMATIC DESIGN
Authorisation
By ** : MAR 2021
Verification Of Latest Amendment
By ** : MAR 2021



Project
MULGOA RISE PRIMARY SCHOOL

Title
ELECTRICAL SERVICES
EXTERNAL LIGHTING STRATEGY

Project No.
s38835-001-RHS-
Revit Version
2020
Design
KF
Drawn
SS
Scale
1 : 500 @ A1
Project Commencement
** : MAR 2021
Drawing No.
E-00-012
Revision
A