EJE Integrity Innovation Inspiration

ARCHITECTURAL DESIGN QUALITY REPORT

NORTHERN RIVERS FLOOD RECOVERY - RICHMOND RIVER HIGH CAMPUS REDEVELOPMENT

DUNOON ROAD, NORTH LISMORE

Figure 0.01: View looking NE over surrounding landscape from the proposed site (Source: EJE Architecture)

Prepared by EJE Architecture
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Abbreviations

ACHAR	Aboriginal Cultural Heritage Assessment Report
APZ	Asset Protection Zone
AECG	NSW Aboriginal Education Consultative Group
BCA	Building Code of Australia
CFC	Compressed Fibre Cement
CPTED	Crime Prevention Through Environmental Design
CwC	Connection with Country
DCP	Development Control Plan
DHW	Domestic Hot Water
DoE	NSW Department of Education
COLA	Covered Outdoor Learning Area
EFSG	Educational Facilities Standards and Guidelines
ESD	Ecologically Sustainable Development
GANSW	Government Architect NSW
GLS	General Learning Space
HIR	Heritage Impact Report
HVAC	Heating, Ventilation and Air-Conditioning
KoP (Kit of Parts)	A collection of engineered components that can be fitted together to complete a structure
Landscaping	The process of making a site or other piece of land more attractive by altering the existing design, adding ornamental features, and planting trees and shrubs
LEP	Local Environment Plan
MMC (Modern Methods of Construction)	Modern Methods of Construction is a design and construction process combining off-site manufacturing and on-site assembly to deliver school infrastructure
OSHC	Outside School Hours Care
PCG	Project Control Group
PRG	Project Reference Group
PMF	Probable Maximum Flood
RRHC	Richmond River High Campus
SINSW	School Infrastructure NSW
SLS	Support Learning Space
SDRP	School Design Review Panel
TSG	Technical Services Group
VET	Vocational Education and Training

NORTHERN RIVERS FLOOD RECOVERY - RICHMOND RIVER HIGH CAMPUS REDEVELOPMENT

DUNOON ROAD, NORTH LISMORE

DESIGN VERIFICATION STATEMENT

I am a qualified Architect registered with the Architects Registration Board of New South Wales, Registration Number 5493. I hereby verify that I have led the design for the proposed Northern Rivers Flood Recovery - Richmond River High Campus Redevelopment, as outlined in the Architectural Plans prepared by EJE, dated 27th June 2025.

This Architectural Design Report has been prepared to support a Review of Environmental Factors (REF) for the rebuild of Richmond River High Campus (the activity) (RRHC). The REF has been prepared to support an approval for the RRHC development under Section 68 of the NSW Reconstruction Authority Act 2022 (RA Act).

The activity will be carried out at Richmond River High Campus (RRHC) located Dunoon Road, North Lismore (the site).
The purpose of this report is to show how the design achieves the Transport and Infrastructure SEPP design principles and Design Quality Principles set out in the GANSW (Government Architect NSW) Design Guide for Schools, and to provide a design response for the proposed activity.

Project Description:
The proposed activity comprises the relocation and rebuild of the Richmond River High Campus from its existing temporary location alongside The Rivers Secondary College Lismore High Campus at East Lismore to the site at 163 and 170 Alexandra Parade, North Lismore.

The school will be delivered in one stage. A detailed description of the proposal is as follows:

1. Demolition of existing features including existing buildings, cattle drinking well, cattle sheds, and wire fencing, and removal of trees to accommodate school development.
2. Construction of a new three (3) storey building on the southeastern portion of the site for the proposed public secondary school including:
    a. General and Specialist Learning Spaces and Workshops
    b. Administration and Staff facilities,
    c. Library, Hall and Movement Studio
    d. Construction, Hospitality and Agricultural Learning Facilities
    e. Amenity, Plant, Circulation and Storage areas
    f. Outdoor Learning Spaces and play spaces
3. Landscaping including tree planting.
4. Public domain works comprising:

    - Access road off Dunoon Road, comprising a separate shared bicycle/pedestrian pathway, and internal access roundabout.
    - Kiss and ride drop-off and pick up zones.
    - Bus transport arrangements with a separate bus zone.

5. Outdoor spaces, including assembly zones, agricultural spaces, sports fields, games courts, dancing circles, yarning and dancing circles, seating and shade structures.
6. Car parking spaces, including accessible spaces and provision for EV charging spaces.

Kathy Gresham, Director
Registered Architect (No 5493)

REVIEW OF DESIGN QUALITY PRINCIPLES

GANSW DESIGN GUIDE FOR SCHOOLS

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PART A

OVERVIEW

DESIGN PROCESS

OVERVIEW

SITE DESCRIPTION

The site is located at Dunoon Road, North Lismore, also known as 163 and 170 Alexandra Parade, North Lismore. The site comprises of 3 separate lots, located to the north of Alexandra Parade, with Dunoon Road running parallel to the eastern boundary of the site.
The site is legally described as:

- Lot 1 DP 539012
- Lot 2 DP 539012
- Lot 1 DP 376007

The site area is approximately 33.53 hectares. The proposed activity will be undertaken mainly within the north-eastern portion of the site. The site is outlined in Figure 0.02.

Figure 0.02: Aerial image of site (source: Nearmaps)

PROPOSED ACTIVITY DESCRIPTION

The proposed activity comprises the relocation and rebuild of the Richmond River High Campus from its existing temporary location alongside The Rivers Secondary College Lismore High Campus at East Lismore to the site at 163 and 170 Alexandra Parade, North Lismore.
The school will be delivered in one stage. A detailed description of the proposal is as follows:

1. Demolition of existing features including existing buildings, cattle drinking well, cattle sheds, and wire fencing, and removal of trees to accommodate school development.

2. Construction of new 3-storey buildings on the southeastern portion of the site for the proposed public secondary school including:
    a. General and Specialist Learning Spaces and Workshops
    b. Administration and Staff facilities,
    c. Library, Hall and Movement Studio
    d. Construction, Hospitality and Agricultural Learning Facilities
    e. Amenity, Plant, Circulation and Storage areas
    f. Outdoor Learning Spaces and play spaces
3. Landscaping including tree planting.
4. Public domain works comprising:
    - Access road off Dunoon Road, comprising a separate shared bicycle/pedestrian pathway, and internal access roundabout.
    - Kiss and ride drop-off and pick up zones.
    - Bus transport arrangements with a separate bus zone.
5. Outdoor spaces including assembly zones, agricultural spaces, sports fields, games courts, dancing circles, yarning and dancing circles, seating and shade structures.
6. On-site carparking, including accessible spaces and provision for EV charging spaces.

Figure 0.03 below show the scope of works.

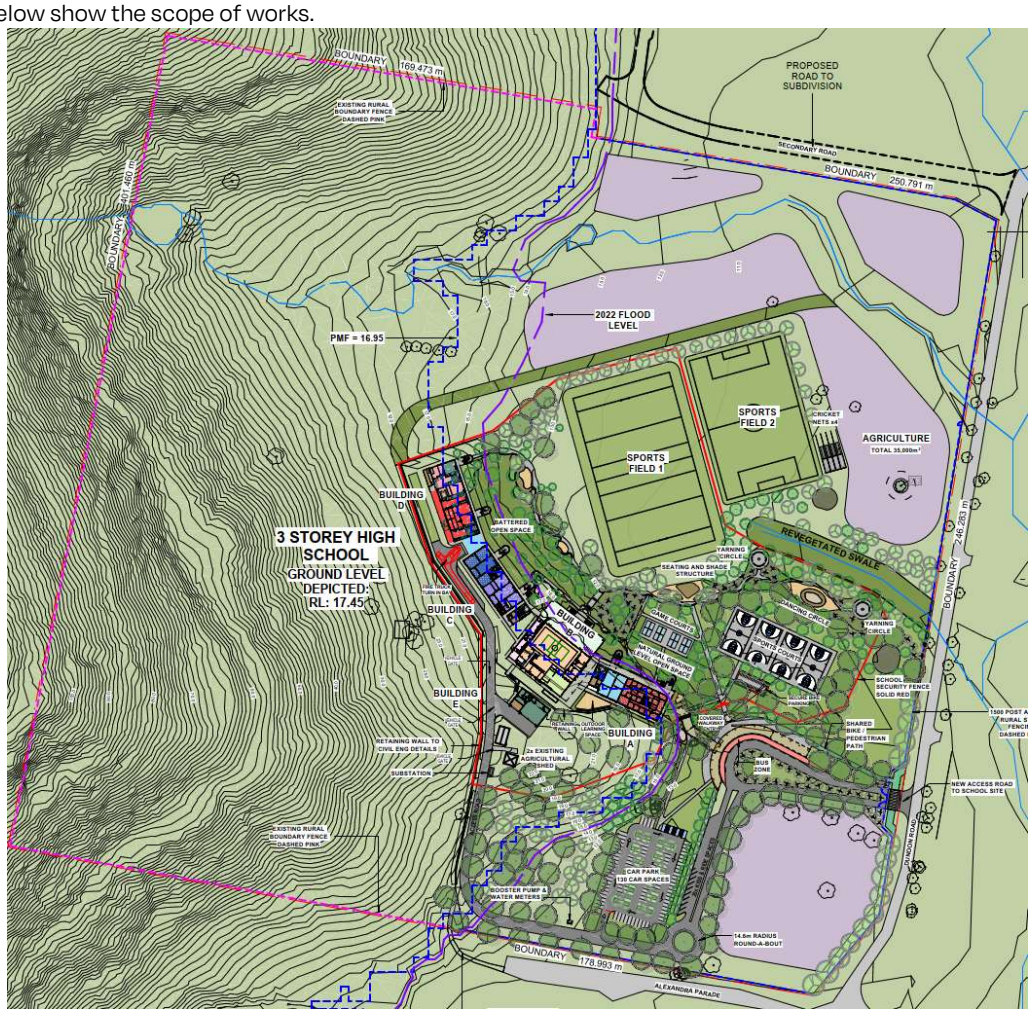


Figure 0.03: Proposed Site Plan and Scope of Works (Source: EJE Architecture)

KEY CONSIDERATIONS OF THE DESIGN PROCESS

1. Connection with Country (CwC) and design to reflect Indigenous Heritage
2. Reinforcing Community Connections and opportunities for Joint Use
3. Incorporation of Ecologically Sustainable Development (ESD) principles
4. Creation of Open Space and enhancement of the Landscape
5. Standardised Design and incorporation of the Pattern Book developed by School Infrastructure NSW (SINSW)
6. Flood resilience of the Northern Rivers Flood Recovery – Richmond River High Campus Redevelopment

DESIGN PROCESS

DESIGN PROCESS AND APPROACH

The proposed Richmond River High Campus – Flood Recovery Rebuild is the result of an ongoing rigorous design process that commenced at the Master Planning phase and continued through to Concept and Schematic Design phases.

During the process options for the school layout and location of facilities were explored, and a wide variety of consultation was undertaken, resulting in a design that addresses the needs of stakeholders, project budget and allows for future growth.

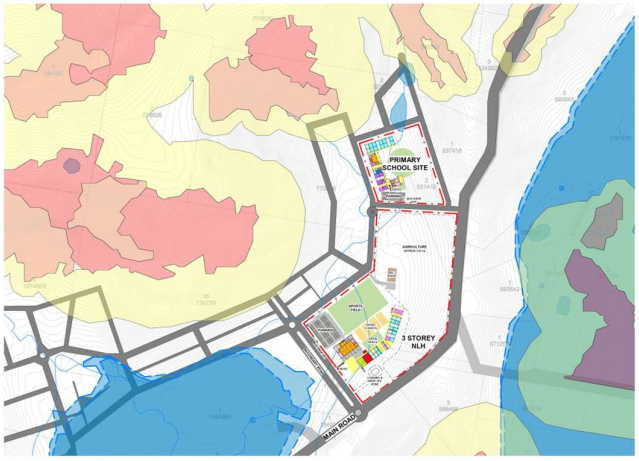
MASTER PLANNING

The development of the Master Plan options was in response to the scope provided by SINSW, which included:

- Analysing the requirements for an upgraded High School to accommodate 660 students with the potential to include a Primary School, for 230 students, and Preschool, to accommodate 20 students.
- Consideration of alternative sites
- Analysis of flood impact and other potential risk

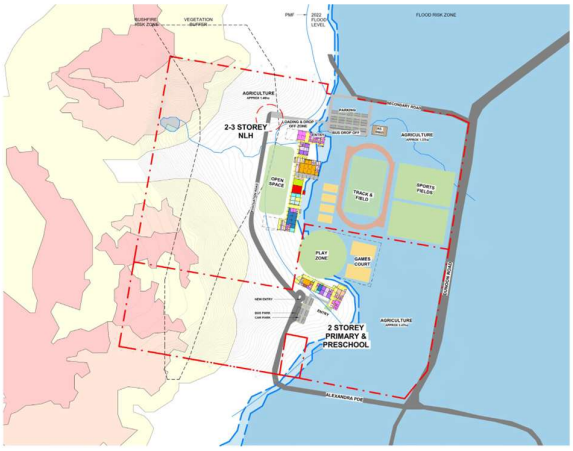
This process included the participation of various Stakeholders which formed the Project Reference Group (PRG). A collaborative approach has been ongoing during this process to ensure viable options were considered and ultimately put forward for consideration.

Analysis of the Project Brief, existing Site information and Stakeholder feedback led to consideration of a wide range of Master Plan Options including the consideration of alternative sites for the rebuild as outlined in Figures 0.04 - 0.08 below:



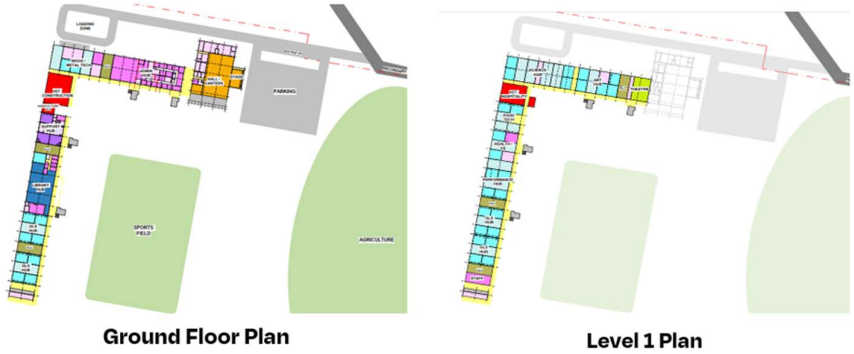
Masterplan Allura South – Site B - Option 6 – Overall

Figure 0.04: Alternative Site Allura South (Source – EJE Architecture)



Draft Masterplan – Showground Site A - Option 2 Overall

Figure 0.05: Alternative Site Showground (Source – EJE Architecture)



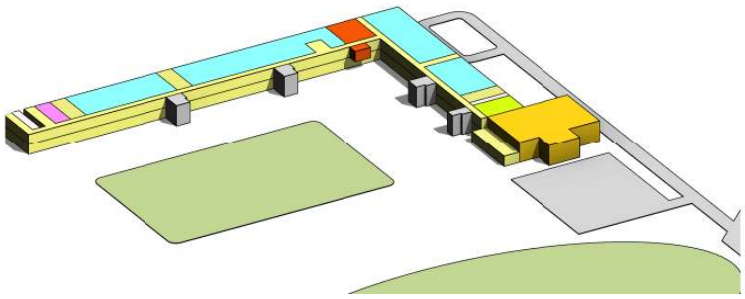


Figure 0.06: Dunoon Road Site (previously Showground) Option 1 (Source – EJE Architecture)

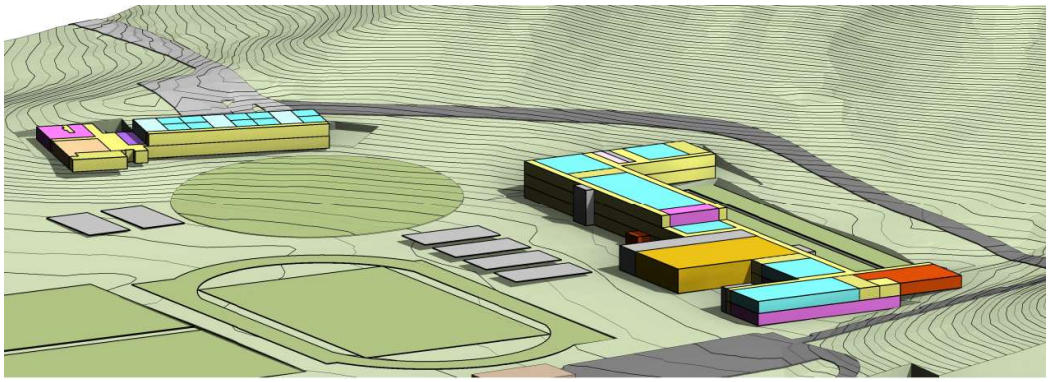


Figure 0.07: Dunoon Road Site Option 2 (Source – EJE Architecture)

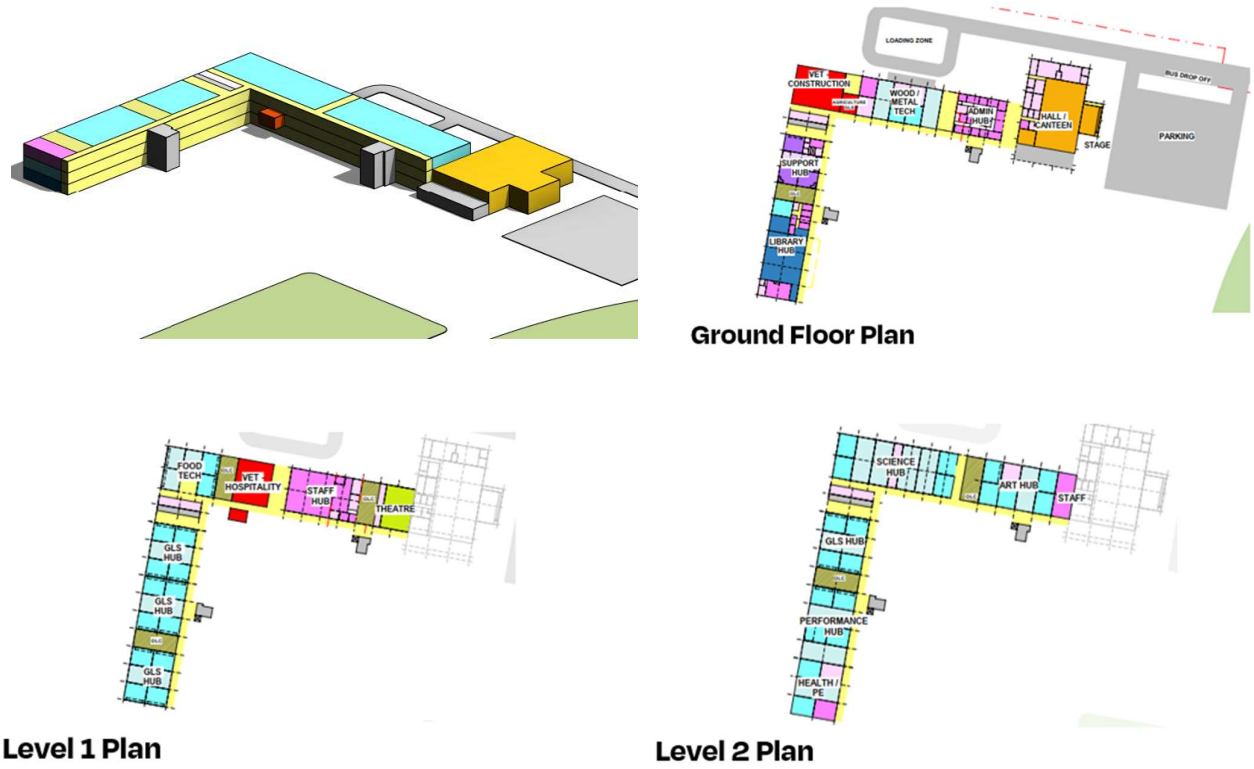
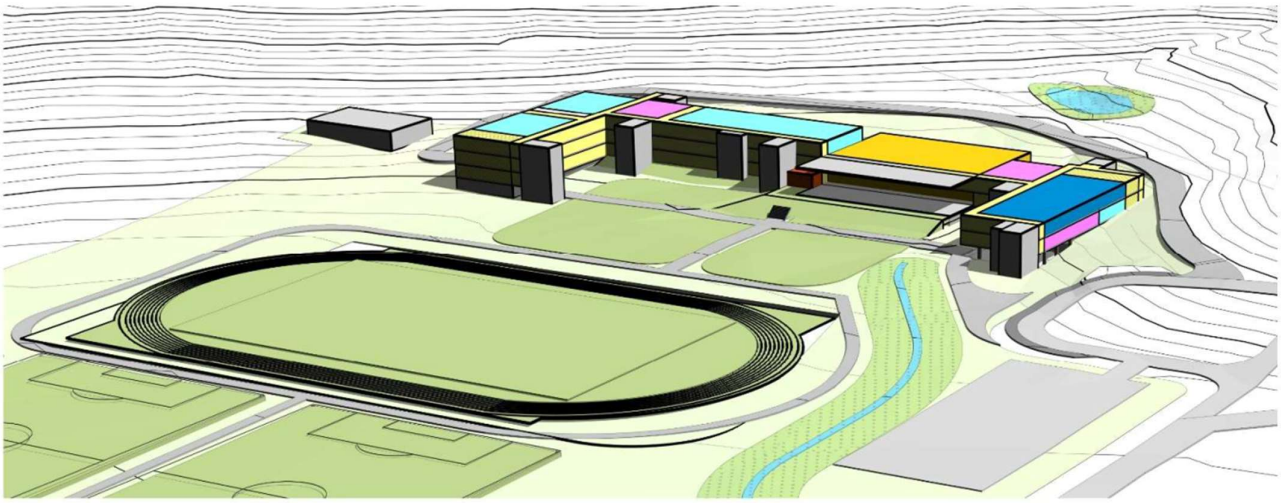


Figure 0.08: Dunoon Road Site Option 3 (Source – EJE Architecture)

CONCEPT DESIGN

At the end of the Master Plan process, after analysis of the varying Options and substantial feedback from key stakeholders, the preferred Master Plan Option 2 was settled upon and developed further. This Option provides for a 660 student High School, with 3 support classrooms and 37 general learning spaces, as well as specialised technology rooms, a science block, theatre, gymnasium, admin, library, and VET Hospitality, Construction, and Agriculture teaching spaces.
Further development of a primary school and preschool on this site was not required as the decision was made to rebuild Lismore South Public School and Preschool on the existing site at Kyogle Street.
The preferred Option developed from the Master Plan process formed the basis for development of the Concept Design, to enable refinement of cost and to respond to site constraints, analysis, regulatory and operational requirements, and is illustrated in Figure 0.09



Overall 3D View

Ground Floor Plan

Level 1 Plan

Level 2 Plan

Floor Plans

Figure 0.09: Preferred Master Plan Option – Overall 3D View (Source: EJE Architecture)

DESIGN PROCESS / CONSULTATION

- **Templates** - The design considered EFSG requirements, standard Learning Hub templates, and the SINSW Pattern Book that use standardised grids for consistent room sizes and structural spacing and therefore building components.

- **EFSG** - The Educational Facilities Standards and Guidelines (EFSG) are referenced to determine the functional spaces and their requirements based on the school size. Stakeholders from the EFSG were consulted and feedback was provided with regard to adaption of the Standardised Learning Hub templates for this specific site and building position relative to the existing buildings.

- **TSG** - The technical stakeholder groups were given opportunity to review the designs to raise any concerns or feedback with respect to the design. This included accessibility, flooding, geotechnical, security, maintenance, safety, traffic and cost.

- **PRG** – The project reference group met regularly so that input from stakeholders could be considered throughout the design before signing off on the Concept Design.

- **Connection with Country** – Connection with Country meetings were held to discuss the Richmond River High Campus – Flood Recovery Rebuild with Bundjalung and Widjabul Wia-bal community and NSW Aboriginal Education Consultative Group (AECG) members. These meetings helped to inform the design allowing it to better respond to Country and incorporate the input from the local community.

SCHEMATIC DESIGN

The following design processes were important contributors to the development of the Schematic Design:

Pattern Book and Standard Hub Templates-
Continuing to develop the layouts using the Pattern Book and standard Hub Templates. This enabled the approved Concept Design to be developed to follow the standardised designs, whilst responding to specific site requirements, Stakeholder requirements and regulatory requirements resulting in the final Schematic Design.

Connection to Country – A consultant was engaged to facilitate group consultation sessions with the local Indigenous Community to discuss the project and their engagement and input into design development.

Building Scale -
Another major design principle throughout Concept and Schematic Design development has been consideration of the building scale on the site and impact to the surrounding landscape. Although the Design proposes a like for like replacement (and comparable maximum student capacity) the built form was designed to respond to the needs of the school and the flood planning requirements. Key principles have been followed to mitigate the impact of these buildings.

- The arc-shaped building follows the contours of the sloped landscape, following the line between the Probable Maximum Flood (PMF) flood level and the bushfire Asset Protection Zone (APZ) line. By following the contours, site excavation was also reduced, and the landscape can better relate to the built form.
- The height of the proposed new building has been determined by the flood level, and the standardized Pattern Book template. The new building sits 500mm higher than the PMF level with a small section of undercroft area below the southern building.
- The building has been set well away from the boundaries, in part to mitigate flood risk, but also to reduce the visual impact of the built form on the site. Greater setbacks have been provided to the southern and eastern boundaries to

accommodate existing trees and residential buildings, and to provide large open areas for sporting fields, agricultural plots, and landscaping buffer elements.

Site Investigations

As the schematic design has progressed detailed site investigations have continued to provide more accurate input particularly with the site survey, geotechnical testing and flood studies.
Geotechnical investigation has provided information indicating landslip risk in the northern sector of the site where the buildings were positioned for the presentations to the SDRP. This final schematic design has addressed this risk by moving the building south out of the landslip zone.

Stakeholder Consultation –

- **User Groups**: Regular consultation has resulted in the design more closely reflecting the specific requirements of the school.
- **Community Consultation**: SINSW has organised community consultation drop-in sessions during the Concept and Schematic phases
- **Design Team Meetings**: Held regularly to coordinate the design with specialist consultants
- **PRG Meetings**: Held to consultant and inform the school community and the DoE of the project status and discuss issues.
- **EFSG, TRG Meetings**: Held at key milestone for review by the SINSW to provide specialist feedback to the design team
- **State Design Review Panel**:
    - The project was presented to the SDRP twice, as outlined below:
    - 24th April 2024: Master Plan process at the initial presentation
    - 27th November 2024: Further development of the design during the Schematic Phase in response to the Panel's initial comments.
    - The feedback from the SDRP Panel following the 2nd SDRP has been responded to within the final Schematic Architectural Design where relevant, noting that moving the buildings south away from the creek has now made some of the feedback less applicable.

The responses to the SDRP presentation and comments are enclosed as Appendices to this document:
Appendix 1: GANSW Comments from SDRP No. 1
Appendix 2: Response to GANSW Comments from SDRP No.1
Appendix 3: GANSW Comments from SDRP No. 2
Appendix 4: Response to GANSW Comments from SDRP No. 2

The current design reflects the Response to GANSW Comments from SDRP No.2 as outlined in Appendix 2.

PART B

SEPP PRINCIPLES

PRINCIPLE 1: RESPONSIVE TO CONTEXT

PRINCIPLE 2: SUSTAINABLE, EFFICIENT AND RESILIENT

PRINCIPLE 3: ACCESSIBLE AND INCLUSIVE

PRINCIPLE 4: HEALTHY AND SAFE

PRINCIPLE 5: FUNCTIONAL AND COMFORTABLE

PRINCIPLE 6: FLEXIBLE AND ADAPTABLE

PRINCIPLE 7: VISUAL APPEAL

1. PRINCIPLE 1: RESPONSIVE TO CONTEXT

1.1. Schools should be designed to respond to and enhance the positive qualities of their surroundings.

1.2. In designing built forms and landscapes, consideration should be given to a Country-centred approach and respond to site conditions such as orientation, topography, natural systems, Aboriginal and European cultural heritage and the impacts of climate change.

1.3. Landscapes should be integrated into the overall design to improve amenity and to help mitigate negative impacts on the streetscape and neighbouring sites.

1.1 DUNOON ROAD SITE CONTEXT

The proposed Richmond River High Campus will be established as the major High School for North Lismore and its broader catchment area. The proposed site is located within 3km from Lismore CBD. Dunoon Road is the major road running along the eastern boundary of the site. The Richmond River Rail Line, which is being converted into a cycle path, passes close by to the southeastern corner of the site. The land is currently agricultural land with three residential homes and related building on the southern portion of the site.

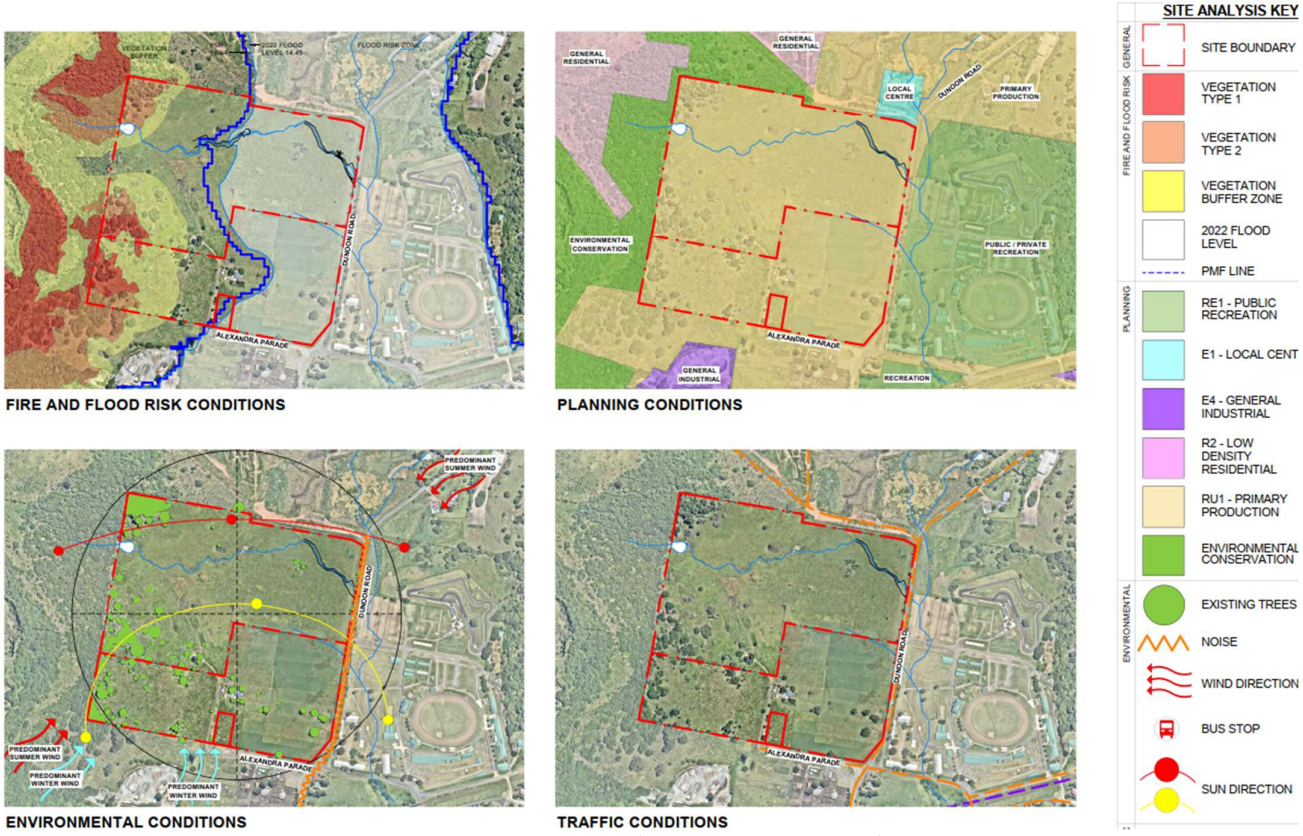


Figure 1.01: Site Analysis (Source: EJE Architecture)

Figure 1.02: From Dunoon Road looking towards Showground Site

Figure 1.03: Existing residential building on site

Figure 1.04: Northern slope impacting building location

Figure 1.05: Waterway crossing the site

Figure 1.06: Western slope impacting building location

Figure 1.07: Existing dam on the north end of site

Figure 1.08: Site from Dunoon Road looking west

Figure 1.09: Site Boundary along Dunoon Road looking South

1.2 DUNOON ROAD SITE CHARACTERISTICS

The site analysis undertaken by EJE identified the following characteristics:

- The site has an area of 33.53ha over 3 Lots in a rectangular shape.
- The site is currently used as agricultural land with two residential buildings and several agricultural sheds located in the southern portion of the site.
- The west is bound by a hill formation, whilst the east and south around bound by Dunoon Road and Alexandra Parade respectively. The eastern boundary facing Dunoon Road will be the location of the proposed driveway entry and access road.
- The western side of the site is sloped whilst the eastern side of the site is generally level although is within the PMF and 2022 flood level and is undesirable for building development.
- There are no heritage listed buildings on the site.
- There is extensive agricultural fencing around the site dividing it up into agricultural plots.
- The existing buildings are all built above the PMF Flood level although the entry roads are prone to flooding
- Established existing trees along Dunoon Road and the western hill formation frontages are an important feature of the area.
- There are no bus drop-off and pickup areas in this area but with the development bus routes will be proposed to facilitate students getting to the school.
- There are no footpaths or pedestrian access to the existing site due to its private agricultural use and location.

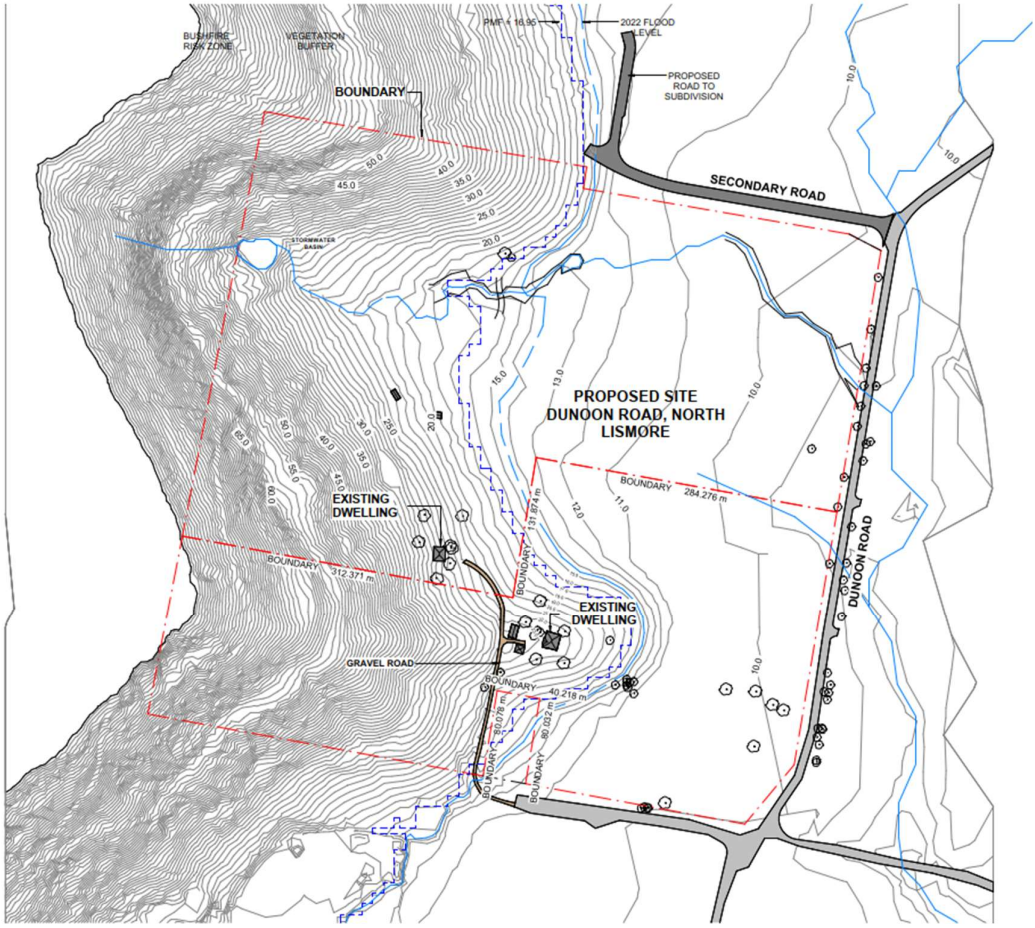


Figure 1.10: Existing site plan (Source: EJE Architecture)

1.3 EXISTING LANDSCAPE CHARACTER

- Due to the primary use of the site being agricultural land, the existing vegetation is predominantly low grasses and bushes with scattered trees across the site and a denser canopy cover to the west.
- The vegetation communities across the site consist of:
    - Type 1: Far North Hoop Pine Dry Rainforest
    - Type 2: Lower Richmond Hills Dry-Subtropical Rainforest
    - Type 3: Far North Lowlands Basalt Grassy Forest
    - Type 4: Northern Hinterland Grey Gum-Turpentine Mesic Forest
- There are a mix of native and introduced species on the site, most assumed to be planted.
- Several trees have been categorised as having a high retention value. These species include 'Forest Red Gum, 'Black Wattle', and 'Moreton Bay Fig'

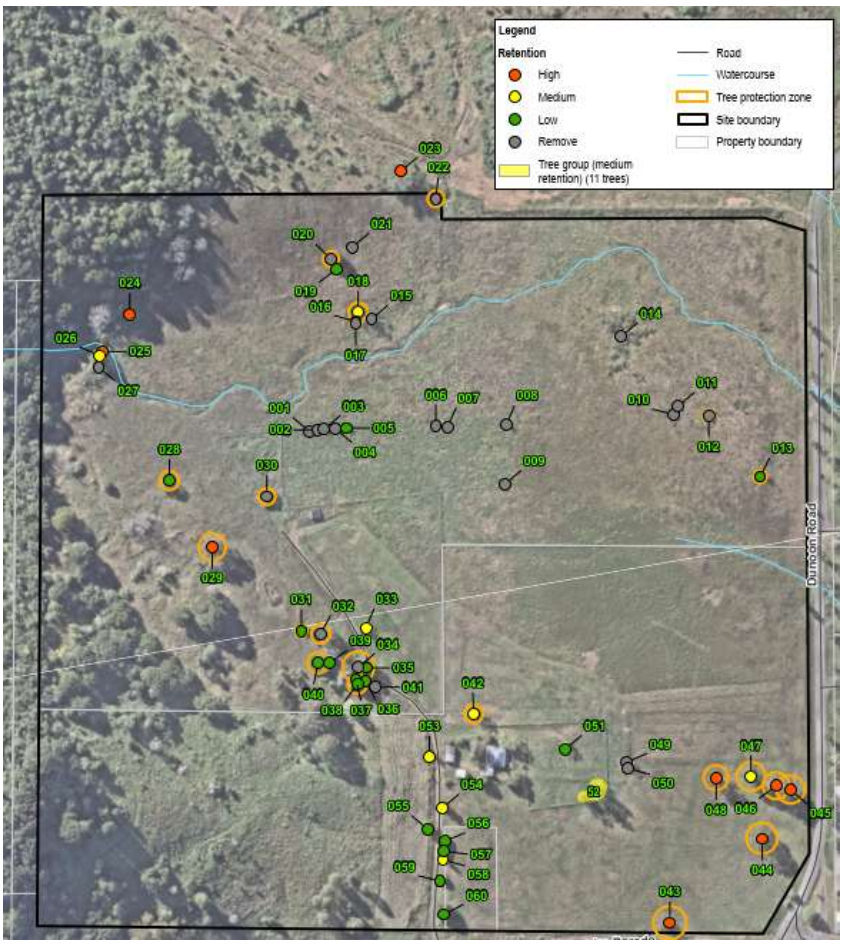


Figure 1.11: Draft Tree retention value diagram (Source: GHD)

Moreton Bay Fig

Forest Red Gum

Figure 1.12: High retention value trees on site (Source GHD)

1.4 PROPOSED PHYSICAL CONTEXT

The opportunity to enhance the physical context of the site will be achieved by increasing the landscaping and tree coverage around the site and proposing the change from agricultural use to educational use. The strategies to improve the physical context of the site include:

- Positioning the proposed open C-shaped building to overlook the valley, follow the contours of the land and provide views out from the building to the surrounding context.
- Set the building away from all boundaries to provide large areas for landscaping and improvement of the natural context from an agricultural landscape to an endemic planting palette. There is also the opportunity to partially hide the building behind the landscaping to reduce the visual impact of the building in the landscape.
- Increasing the canopy coverage to a minimum 30% coverage in high use areas to provide shade and reduce the Urban Heat Island (UHI) effect.
- Position the building above the PMF level to increase durability, and flood resistance.
- The amended design still facilitates the kiss and drop onsite to the western side of the support Hub in Building C and separated from the general kiss and drop and bus zones to the southeast corner of the site.
- Locate the car park towards the southern boundary of the site and accessed from the Dunoon Rd driveway.
- Reduce the footprint of the building by proposing a three-storey building. This reduces the impact on this land and provides reasonable travel distances for students to walk daily.
-

Figure 1.14: Concept Design Render – Aerial View from Corner of Dunoon Road and Secondary Road (Source: EJE Architecture)

Figure 1.15: Proposed RRHC Satellite image (Source: EJE Architecture)

1.5 VISUAL ANALYSIS OF NEIGHBORHOOD CHARACTER AND STREETSCAPE

The 33.53ha site located at North Lismore, and bound by Dunoon Road (east), Alexandra Parade (south) and the proposed Secondary Road (north), with the site sloping up to the western hill formation. The site is currently zoned RU1 Primary Production with a current application rezoning the site to SP2 Educational Establishment, C2 Environmental Conversation, and C3 Environmental Management. The area to the north of the site is zoned R1 General Residential, C2, C3, and RU1. To the east across Dunoon Rd, is zoned RE1 Public Recreation and RE2 Private Recreation.

The Lismore Showground is located to the east of the site on the other side of Dunoon Road. The residential zone to the north is currently undeveloped, however it is part of the North Lismore Plateau Urban Release Area with current approval for subdivision of 85 lots. To the southeast of the site the old Richmond River rail line is located and is in the process of being converted into a 123km cycleway connecting Casino to Murwillumbah.

The agricultural low-level grasses and bushes on the site are the dominant streetscape elements and contribute to the local North Lismore character. Existing residential and agricultural buildings sit within the landscape away from the boundaries. Improvement of the landscape is an important design component, ensuring that the new buildings are set generously back from the boundary, allowing room for significant landscaping to become the primary visual element on the site.

Figure 1.16: View looking east along Alexandra Parade toward the Showground (Source: EJE Architecture)

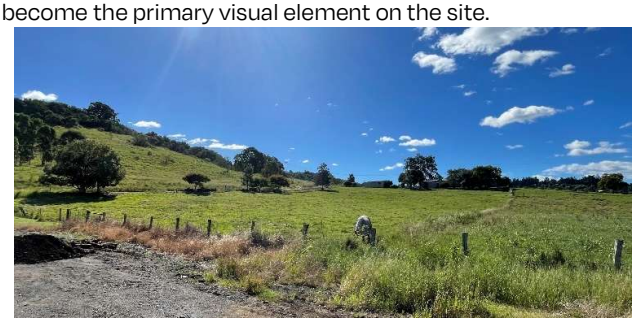


Figure 1.17: View looking north towards Residential Buildings from Alexandra Parade (Source: EJE Architecture)

Figure 1.18: View looking NW from the Corner of Dunoon Road and Alexandra Parade (Source: EJE Architecture)

Figure 1.19: View looking SW from the corner of Dunoon Road and Proposed Secondary Road (Source: EJE Architecture)

Figure 1.20: View looking NE from Residential Buildings to Dunoon Road (Source: EJE Architecture)

Figure 1.21: View looking SE across the Showground Site from Dunoon Road (Source: Google)

A COMPREHENSIVE VISUAL IMPACT ASSESSMENT (VIA) HAS BEEN CARRIED BY TERRAS LANDSCAPE ARCHITECTS WITH KEY FINDINGS NOTED BELOW.

Streetscape 1: Corner of Dunoon Road and Alexandra Parade (VIA Viewpoint 8)

The proposed siting of the five buildings including three, 3-storey buildings (A, C & D) and two single storey building (B & E) follows the contours and depressions of the landscape. The buildings have been placed 500mm above the PMF level to mitigate the risk of flood damage. The single pitched roofs are raked towards the central sporting fields as per the standard Pattern Book design. The buildings are generally set back between 165m - 250m from the nearest boundaries reducing the visual scale, whilst providing ample opportunity for landscaping and tree canopy coverage to filter and soften the visual impact of the buildings from the street. A photomontage of the proposed building from the corner of Dunoon Road and Alexandra Parade is indicated in Figure 1.23. This is viewed approximately 230m away, looking NW across proposed agricultural plots. It is a primary corner of the site when travelling north along Dunoon Road. Most of the building sits behind the natural contours and proposed tree canopy once matured. Gaps will reveal the form of the building and provide opportunity for signage elements. The VIA considers the impact to be moderate.

Figure 1.22: Original image from corner of Dunoon Road and Alexandra Parade (Source: EJE Architecture)

Figure 1.23: Streetscape image from corner of Dunoon Road and Alexandra Parade (Source: EJE Architecture)

Streetscape 2: View Along Dunoon Road (VIA Viewpoint 7)

The view looking west of the proposed building from the east along Dunoon Road is indicated in Figure 1.25. Due to the low lying nature of the eastern portion of the site the building is set back significantly (approx. 330m) from the boundary, with the sporting facilities and agricultural plots located on the lower flood prone portion of the site in the foreground. In this view, the building forms can be seen nestled at the base of the hill. Additionally, and once established, the significant landscaping elements throughout the development and along the eastern boundary will provide ample screening of the school from Dunoon Rd.

Figure 1.24: Original image from Dunoon Road (Source: EJE Architecture)

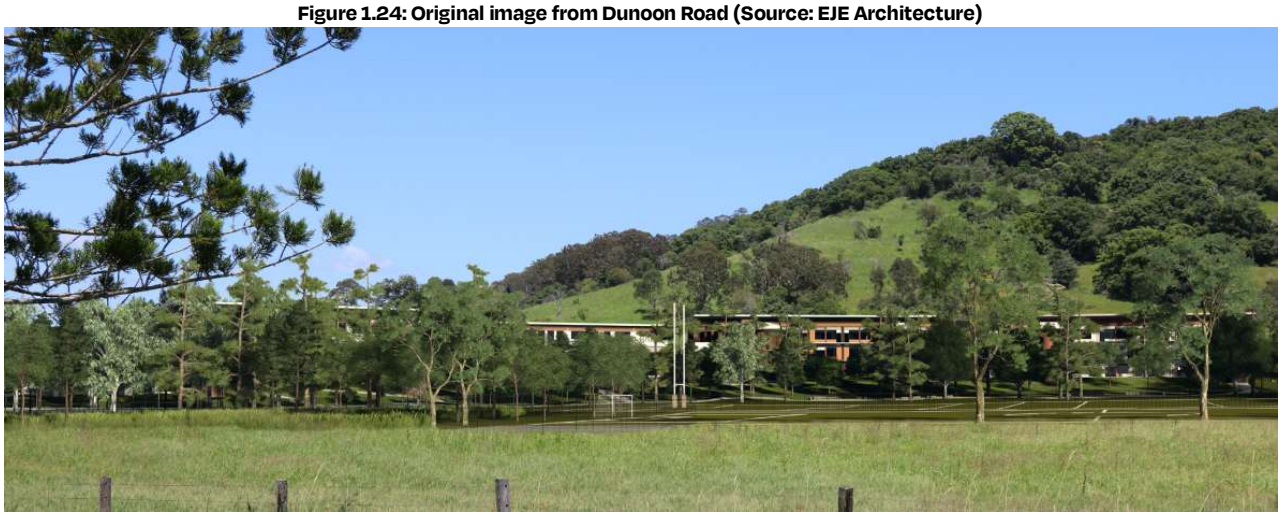


Figure 1.25: Streetscape image from Dunoon Road (Source: EJE Architecture)

Streetscape 3: Corner of Dunoon Road and Proposed Secondary Road (VIA Viewpoint 5)

This view looking SW towards the proposed buildings and the corner of Dunoon Road is indicated in Figure 1.27. Similarly to the other Streetscapes, the building is set up to 360m behind the significant proposed boundary tree planting. In this view the six building forms peak through the gaps of the landscape elements. The building is higher than the surrounding agricultural and residential buildings but by setting the proposed building away from the building it has an appropriate scale for the purpose of the building and within the context.

Figure 1.26: Original image from 60 Dunoon Road to the north of the site (Source: EJE Architecture)

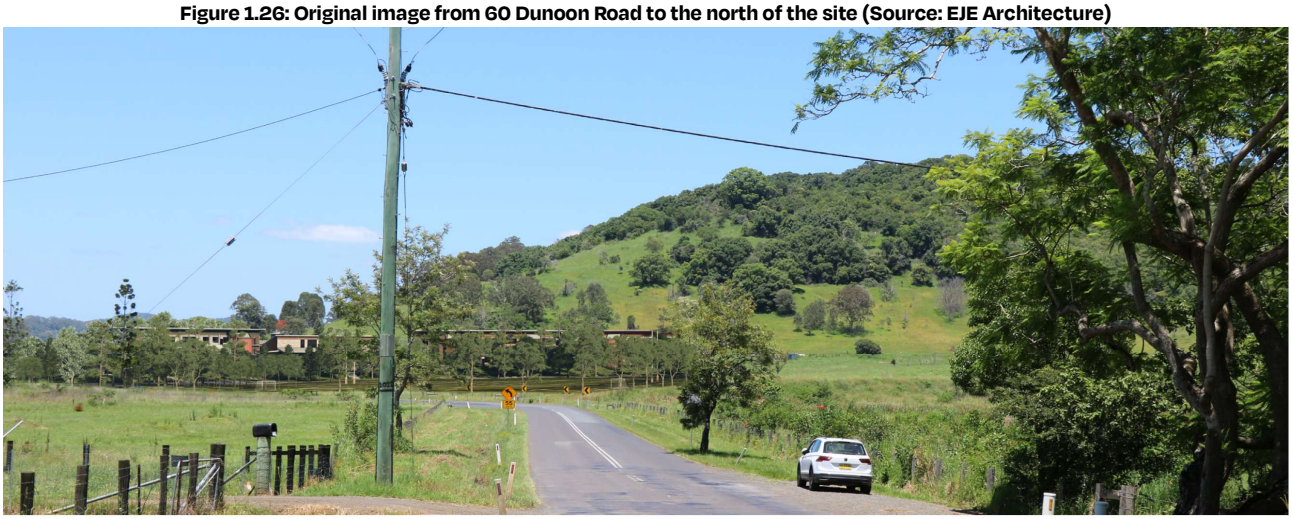


Figure 1.27: Streetscape image from 60 Dunoon Road to the north of the site (Source: EJE Architecture)

1.6 ABORIGINAL CONSULTATION AND CULTURAL HERITAGE

1.6.1 ABORIGINAL CULTURAL HERITAGE:

The Aboriginal Cultural Heritage Assessment Report (ACHAR) investigation identified that:

- The Widjabul Wia-bal people of the Bundjalung Nation hold native title over the project area.
- The site has high social and aesthetic significance for the local Aboriginal community.
- The primary Aboriginal sites nearby are within 700m to 1km of the project site and are associated with cultural sites.
- There are no sites recorded on an Aboriginal Heritage Information Management System (AHIMS) inside the study area.
- The site has a high social and aesthetic significance for the local Aboriginal community and holds connections to the echidna djurabihl.
- During site investigations aboriginal artefacts were found in displaced contexts and provided little functional information. However, the artefacts hold educational value and provide opportunities to teach the wider community about the Aboriginal significance of the area.

The outcomes of the site investigations can be found in the final ACHAR included in the REF.

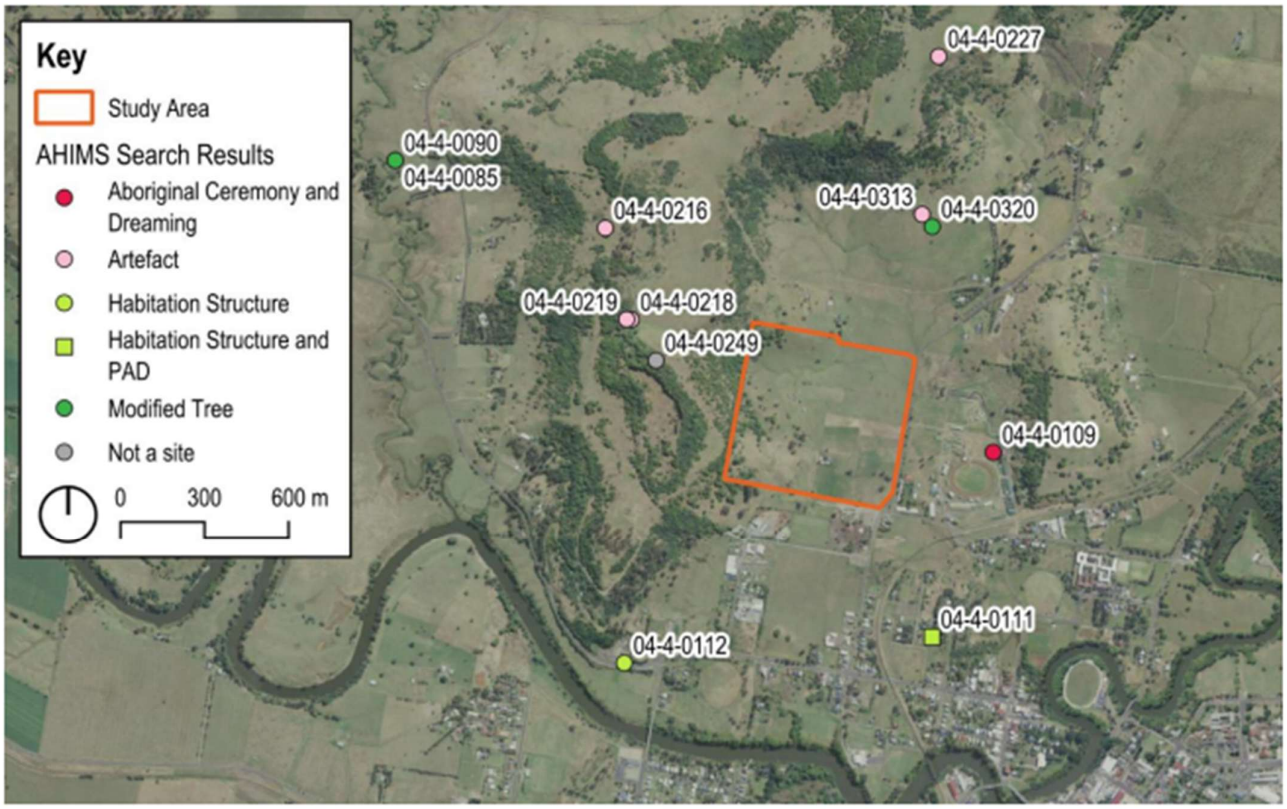


Figure 1.28: AHIMS result within close proximity of the study area from Heritage NSW AHIMS (Source: GML Heritage)

1.6.2 COMMUNITY CONSULTATION

Community consultation meetings have been held with Widjabul Wia-bal community groups with Brendan Blakeley of Elumni Consulting. These meetings were held to discuss ways to acknowledge and celebrate Bundjalung Culture and Country and provide a safe and inclusive learning environment for all students. These meetings identified 5 ways for the design to achieve this:

1. Telling Bundjalung Stories
2. Gathering on Bundjalung Country
3. Healing and Respecting Bundjalung Country
4. Celebrating Bundjalung Language
5. Connecting Through Sport

These recommendations were considered and developed into the design through the architecture and the landscape design. Some of these features include:

- Separate cultural gathering spaces are incorporated within the design and located within the landscape.
- A native and endemic planting palette has been included across the site.
- Signage and QR Codes will be placed around the garden beds to teach the students about Bundjalung stories and language.
- Planting is proposed to be staged to allow student participation, encouraging them to learn about Bundjalung Country and Culture through plants.
- A mural wall will be incorporated into the hall to celebrate Indigenous sports men and women.
- The landscape design will include artwork with reference to Widjabul Wia-bal cultural heritage.

The planting and landscape materials palette will continue to be developed in consultation with Widjabul Wia-bal representatives and the AECG. These palettes are proposed to be utilised site wide to ensure integration and continuity.

Figure 1.29: Connection to Country landscape strategies (Source: Terras)

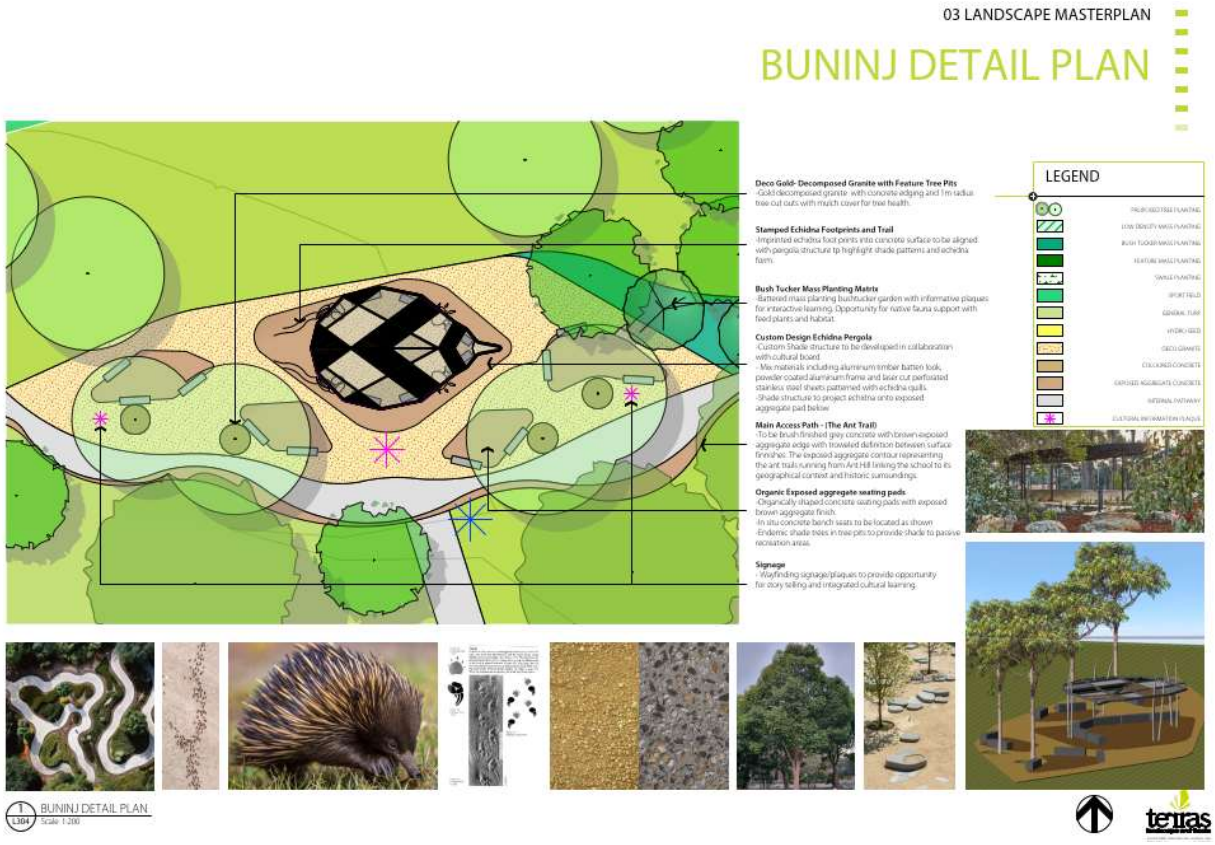


Figure 1.30: Connection to Country landscape strategies (Source: Terras)

Further information is provided in Section 11. Connection With Country. This section details the outcomes from the Connection with Country Workshops and the architectural and landscape responses to these items.

1.7 EUROPEAN HERITAGE

A Statement of Heritage Impact Report (HIR) for the REF prepared by TZG for the Dunoon Road site has determined that the site and buildings on the site are not identified as an item of heritage significance or within a Heritage Conservation Area.

Within the vicinity of the site, the existing Richmond River High Campus and the Railway viaduct along Alexandra Parade are both considered items of heritage value. Early investigations suggested the buildings on the site were thought to potentially have local heritage significance due to a strong connection with the pioneering Murray family. However, the HIR notes the existing buildings do not meet the threshold for heritage listing. These structures are proposed to be demolished and would have minimal impact on the heritage items in the vicinity.

The new buildings are to provide a modern and integrated learning facility which provides students with an opportunity for contemporary teaching methods. The character of the site is maintained with a significant portion of the site to the southeast kept as agricultural land, close to the location of the existing farmhouse buildings. The proposed buildings are designed to be resilient during a flood event, raised 500mm above the PMF flood level and designed with a durable material palette that responds to the landscape.

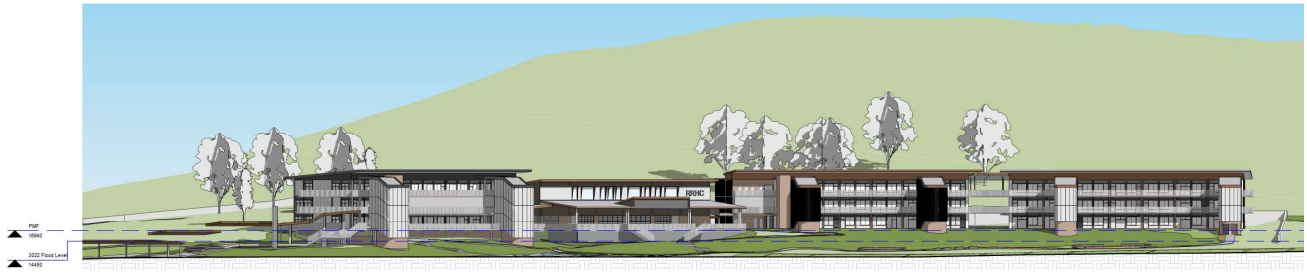


Figure 1.31: South-Eastern Elevation (Source: EJE Architecture)

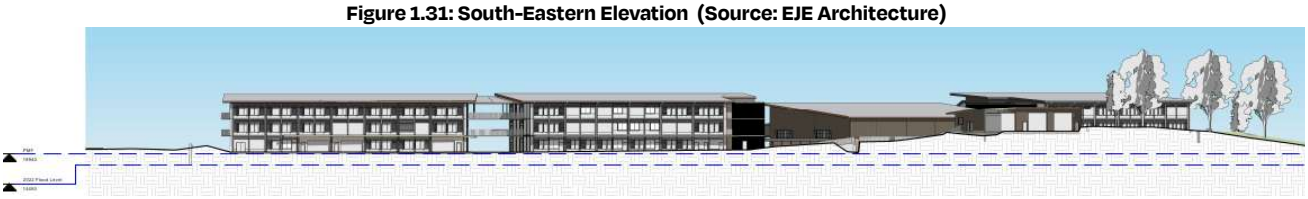


Figure 1.32: South-Western Elevation (Source: EJE Architecture)

Figure 1.33: Image of existing farmhouse buildings visible from Alexandra Parade (Source: EJE Architecture)

1.8 SPATIAL ORGANISATION

The site analysis and options explored in the Master Plan indicate that the optimum result for the site was to create a three storey C-shaped building which follows the contours of the landscape and is placed above the PMF level. This increases the flood resilience of the building, reduces excavation on the site, and reduces the building footprints. The C-shaped design opening to the east provides an opportunity for the hall to open out towards the relatively flat valley which has been designated for a large sporting area. The buildings have been set away from the boundaries of the site to provide opportunities for landscaping and revegetation of the land. This position allows the building to address the major Dunoon Road and provide views out to the surrounding landscape and Lismore in the distance. Within the buildings there are several areas which have been located specifically to optimise the design and efficiency of planning.

1.8.1 BUILDING A – ADMIN AND LIBRARY BUILDING

Building A is the first building when entering the site and is the location of the Admin, Staff hub, Library, and General Learning Space (GLS) hubs. This prominent position on site allows students, staff, and visitors to be welcomed and received into the site. Building A is accessed directly from the bus drop to the east and from the carpark to the south. A feature entry arch provides opportunity for an Indigenous welcome sign and artwork to be provided along the paths to welcome visitors to the site and Country.

Figure 1.34: NE Overall View of Building A & SE View of Feature Entry to Building A (Source: EJE Architecture)

1.8.2 BUILDING B – THE HALL AND THEATRE

Building B is the second building accessed on the site and is the location of the Hall/canteen and Theatre (movement studio). This is a like-for-like replacement of the River Theatre from the existing site. The theatre is a place for school performances to the wider school community. Its proximity to the school entry is conducive to potential use by the wider community theatre and performing art groups. It will be the "gem" of the site, reflecting the school culture and values, and is a place that the wider

school community will regularly use. This position is the second closest to the car parking and school entrance for easy access for the community and is positioned to overlook the surrounding landscape and valley.

Figure 1.35: 3D NE View of Building B (Source: EJE Architecture)

The Hall is combined with the theatre to provide an opportunity for these two spaces to work together in tandem during larger school events. The Hall is the central building in the school, positioned to relate to the fields and outdoor sporting facilities and with the provision of the canteen will be a central gathering place for the students and school community. Its location toward the front of the school is to provide easy access for visitors and students from the site entrance and car parking. The attached Covered Outdoor Learning Area (COLA) provides further space for the hall to break out into and provides protection during rain events and hot weather.

1.8.3 BUILDING C – HOSPITALITY AND FOOD TECH, SUPPORT, PE, AND SCIENCE HUB

Building C contains the Vocational Education and Training (VET) Hospitality, food and textiles classrooms, Support hub, PE classrooms, and Science Hub. Its proximity to the Hall allows these spaces to assist during large school events and creates opportunities for the students and teachers to easily use both spaces during class. The access road which wraps around the western façade of the building provides disabled access to the support classrooms in this building and is a short distance from this space.

Figure 1.7: 3D NE View of Building C (Source: EJE Architecture)

1.8.4 BUILDING D – CONSTRUCTION, WOOD AND METAL TECH, ART AND GLS BUILDING

Building D contains the VET Construction, Wood and Metal Technology and Art facilities, and the majority of the GLS Hubs. The positioning of the Construction and Tech classrooms provides access to the drop off zone for material deliveries and positions these typically noisy areas in the furthest point in the school to reduce distraction to other spaces.

Figure 1.38: 3D Eastern View of Building D (Source: EJE Architecture)

1.8.5 BUILDING E – THE AGRICULTURE SHED

Building E is the dedicated agriculture facility with a large workshop/demonstration and storage space making up most of the space. An office, amenities, material storage are also located in this building to support agriculture learning activities. The school waste room has also been located in this building.

Figure 1.39: 3D Southwestern View of Building E

1.8.6 OUTDOOR FACILITIES

Outdoor facilities included in the design include:

1. **Car parking, Kiss and Drop, and Bus Stops**: Located to be visible from the Dunoon Rd for easy wayfinding around the site.
2. **Access road**: Wrapping around the western façade of the building, provides access for vehicles delivering materials for the VET and Technology classrooms as well as an additional drop off point for disabled access to the site.
3. **Shaded Seating & Battered Lawn**: Facing the sporting fields and shaded with trees. This provides a place for students and the community to gather and watch sporting events.
4. **Entrance feature and school signage**: To welcome people to the site and provide easy wayfinding from the vehicle and pedestrian entries to the school.
5. **Sport courts, fields, and an athletics track**: Outdoor area dedicated to sporting facilities. Courts and fields are orientated in a North/South direction. Opportunity for the wider community to use these facilities
6. **Bicycle store**: Provided close to the sporting facilities and the main school entrance. This facilitates and encourages students to cycle to school as a green transportation opportunity.
7. **COLA areas**: Covered outdoor areas for learning, breakout space, weather protection. Desired by the school due to the hot, humid and rainy weather often experienced in North Lismore.
8. **Agricultural plots**: Provided to maintain the existing agricultural programs run by the school. Approximately 6ha of land has been provided for this facility and will be maintained by the students and teachers within the agricultural programs.

Figure 1.40: 3D Site View (Source: EJE Architecture)

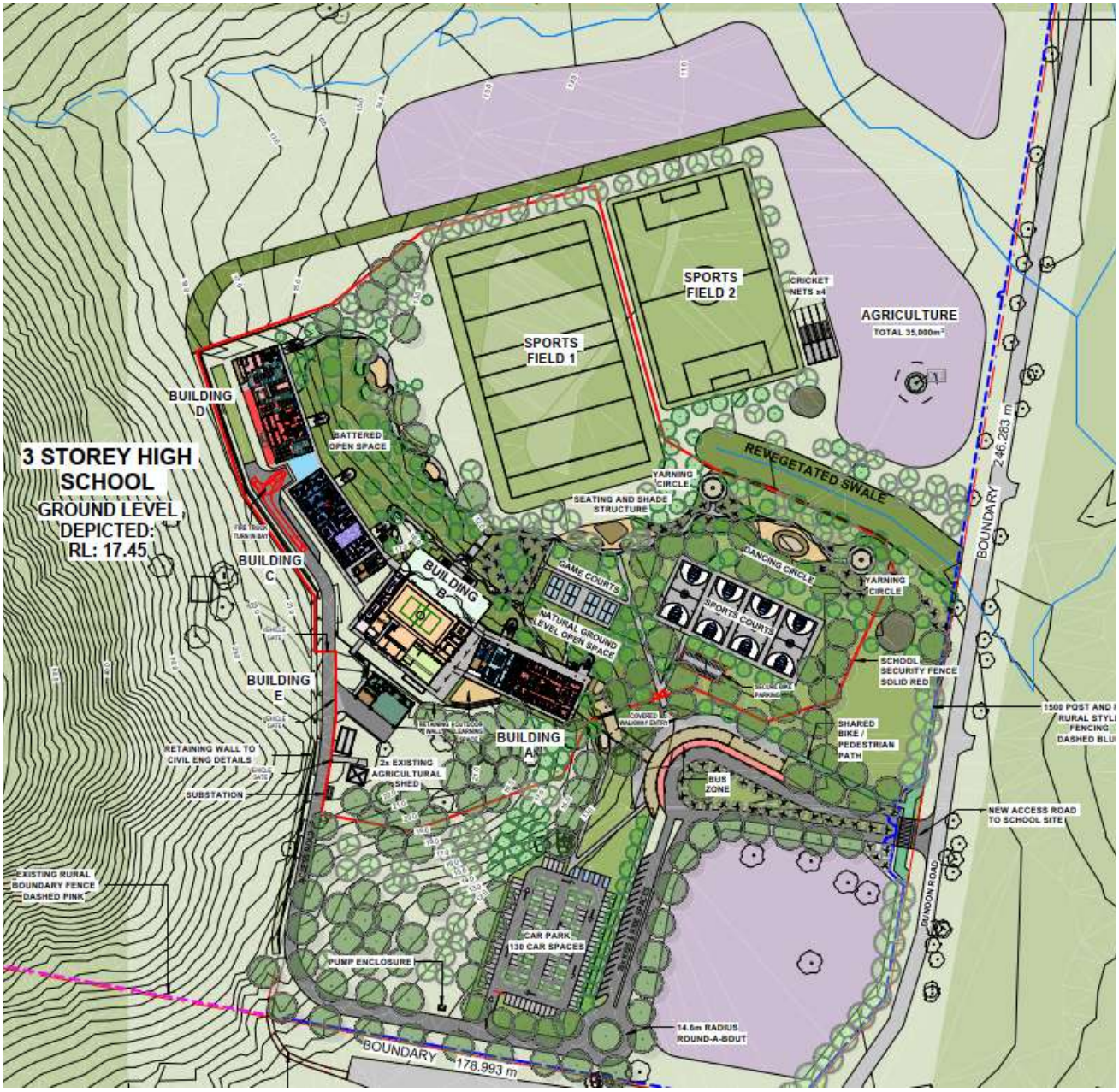


Figure 1.41: Site Plan (Source: EJE Architecture)

1.9 LANDSCAPE DESIGN

The principles for the Landscape design were developed in conjunction with the Architecture team to inform the placement of the building. The Connection with Country consultation process also helped to inform the design and provided an opportunity for the Landscape to help educate the school community and provide a welcoming and safe place for all people visiting and using the site.

Landscape design principles and strategies:

- Connection with Country principles developed in the consultation process informed the design to include artworks, two yarning circle connected by a river edge bush tucker walk, a dust dance space and native plant selection with focus on endemic species. The incorporation of local language and educational QR links, and planting selection plaques. These are all designed to reflect Bundjalung and Widjabul Wia-bal stories, language, and culture providing opportunities for learning, gathering, and reflection.
- In consultation with the elected cultural board, the Buninj (echidna) a topographic feature located centrally on site was identified as a key cultural element that could inform the central landscape feature of the school. Located in the focal point of the school, the echidna landscape feature faces towards Jumping Ant Hill with a winding Ant Trail access ramp linking the upper main assembly area to the lower sportified and greater playground.
- The retention of natural water courses on site were a key consideration during the placement of the buildings and landscape features during the design process. They are a significant feature of the site and provide character to the local area.
- The North-Eastern aspect design choice takes into consideration the natural topography of the site providing access for cooling north easterly breezes and shelter from the harsh westerly sun and harbouring key view lines through to the adjacent 'Ant Hill' and the valley.
- The addition of battered landscapes to the east of the building provides microclimate cooled recreational spaces for student interactions and helping to settle the built structure into its natural surroundings.
- The canopy coverage of the developed site area will be increased to a minimum of 30% to reduce the Heat Island Effect and provide shade through the playground while increasing biodiversity and supporting endemic flora and fauna.
- Passive surveillance will be maximised throughout the site for monitoring of students.
- Native and endemic plant selection has been provided for reduced maintenance and water requirements while providing sense of place.

Figure 1.42: Landscape Masterplan (Source: Terras)

1.10 LANDSCAPE ZONES

A range of landscape zones have been created that can be used for both passive recreation as well as for outdoor learning. These areas are shown below in Figure 1.43.

- **Central Assembly Area:** With views to the Echidna Landscape feature provides a space for the school community to gather for assemblies and events with the opportunity to spill out onto battered turfed area and access to the greater play space.
- **Access Ramp**: The Ant Trail provides ramp access from the main building to the greater play space while providing interest as a landscape architectural feature and creating seating pockets to encourage student interaction.
- **Ball Courts and Sport Fields:** Ball Courts, Soccer and Football Fields with informal perimeter Running Track to encourage athletic training and health and fitness activities for students.
- **Bike Parking:** Student Bike Parking with direct link to pedestrian school access from Dunoon Rd.
- **Bush Tucker River Walk:** Endemic Bushtucker plants with information plinths to be planted along the watercourse for immersive student learning and to encourage students to engage with nature. Quiet study or social turfed pockets providing opportunities for students to gather and find a sense of community. The natural watercourse feature celebrates the importance of waterways for the greater Lismore area and the fertility of waterways. Natural grass mass planting throughout the watercourse to create water like movement with sculptural scour protection rock formations to slow water flow during inundation.
- **Yarning Circles and Dust Dance Space:** To provide places for cultural knowledge sharing and ceremonies with materials and plants that evoke the lands original spirit creating a sense of place.
- **Pedestrian Access:** Direct pedestrian and bike school access from Dunoon Road to connect with potential future footpath upgrade and kiss and drop zone.
- **Agriculture:** Providing opportunities for agricultural learning and practices
- **Outdoor Recreation**: Flexible tiered grass recreational space and concrete bleacher seating and direct stair access between building and sport fields.
- **Courtyard**: Entry feature courtyard with dense greening feature plants and potential for art instillations.
- **Support Learning**: Intimate landscape pockets for quiet learning opportunities separated from the rest of the playground.
- **Outdoor Classroom**: Canopy shaded concrete bleachers to providing the opportunity for a full class to conduct learning in the outdoors.
- **Main Entry and Welcome to Country:** Providing an inclusive welcoming front for the school with art installations and significant plantings on either side of the bridge.
- **Hoop Pine Stand:** Significant tree planting of Hoop Pines that are historically endemic species to this area and culturally important to the Widjabul Wia-bal people.

Figure 1.43: Landscape Plans indicating Activity Zones (Source: Terras)

1	Main Assembly Area - Cola	14	Bush Tucker Walk
2	Main Pedestrian Access Ramp- The Ant Trail	15	Cultural Dance Space
3	Steep Batter Mass Planting	16	Yarning Circle 2
4	Ball Courts	17	Pedestrian Access from Dunoon Road
5	Turf Batter	18	Netball Courts
6	Outdoor Learning Space imprinted Echinda footprint	19	Bike Parking
7	Outdoor classroom and hall backstage spill area with concrete bleacher seating and canopy shading	20	Main School Entry- Signs and Welcome To Country Walk
8	Rugby Field	21	Kiss and Drop Feature Plants and Flag Poles
9	Soccer Field	22	Agricultural Area
10	Cricket Nets x 4	23	School Entry Feature Sign
11	Custom Echidna shade structure with organic exposed aggregate seating pockets	24	Main school entry ramp access
12	Yarning Circle 1	25	Car Park
13	Natural Water Course	26	Agricultural Shed

1.11 VEGETATION COMMUNITIES

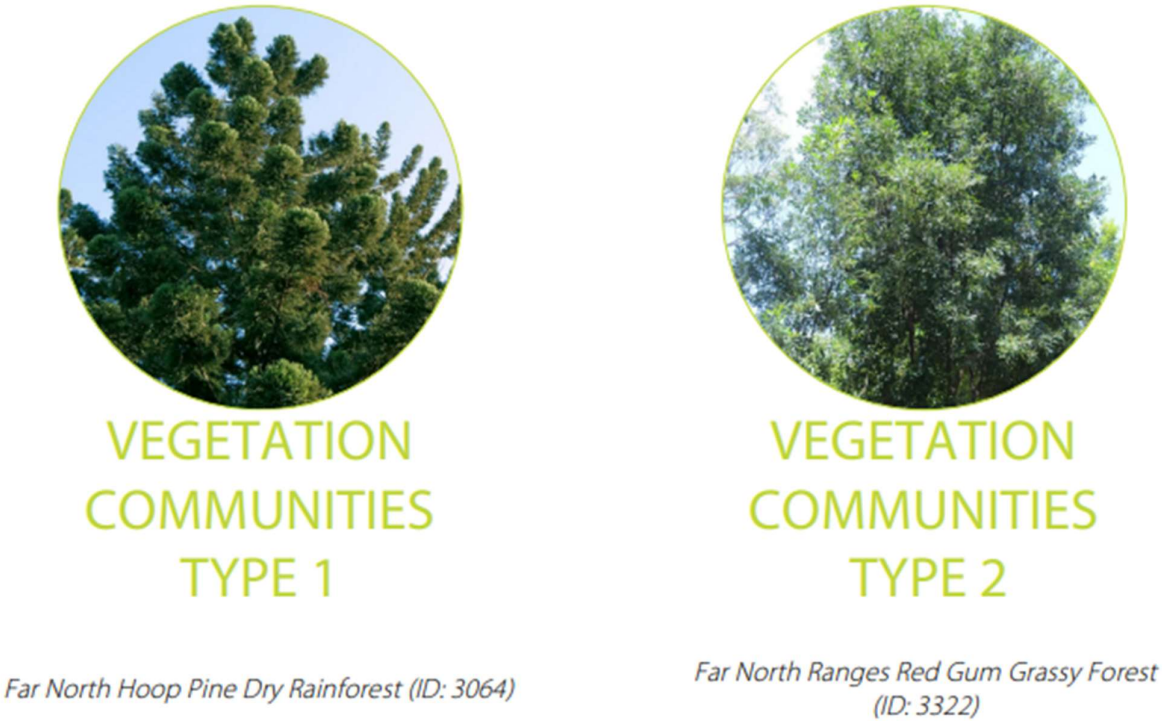


Figure 1.44: Vegetation communities extract from landscape design (Source: Terras)

Vegetation Community Type 1:
Although highly degraded, the presence of regenerating rainforest species suggest this community is a highly degraded form of CTP Far North Hoop Pine Dry Rainforest.
Current site conditions see Camphor Laurel and Large Leafed Privet dominate this closed forest/shrub land. A sparse secondary tree layer occurs comprising pioneer subtropical rainforest species including Red Kamala, Guioa, Forest Sandpaper Fig, Rough-leaved Elm and Sweet Pittosporum. A weedy understory of Privet and Lantana occurs in places. The ground layer is typically bare where canopy cover is afforded. Shade Grass and Rough Maidenhair occur occasionally with Crofton Weed and Mistflower throughout. Vines/ scramblers occur including Cockspur and Climbing Asparagus Fern Species present include, but are not limited to:
Canopy Species:

- Mallotus phillipensis
- Guioa semiglauca
- Ficus fraseri
- Aphananthe phillipinensis
- Pittosporum undulatum

Ground-Stratum:

- Ottochloa gracillima
- Adiantum hispidulum
- Adenophora riparia
- Maclura cochinensis
- Asparagus plumosus

Vegetation Community Type 2:
Based on the presence of Forest Red Gum, this community is representative of a degraded variant of PCT 3322 Far North Ranges Red Gum Grassy Forest. On site Forest Red Gum (Eucalyptus tereticornis) in two locations with ground covers comprised of majority exotic pasture grasses. pioneer dry rainforest and red gum saplings comprise the understory elements of these areas. Species present include, but are not limited to:
Canopy Species:

- Forest Red Gum,
- Eucalyptus tereticornis

Mid Stratum:

- Forest Red Gum Saplings
- Pioneer Dry rainforest saplings

Ground-Stratum:

- Mixed Exotic Pasture grasses

1.12 LANDSCAPE MATERIALS

The proposed material palette is inspired by the site's history and heritage. The rich floodplains and wetlands provide fertile land throughout Lismore, with sedimentary and volcanic rocks such as rhyolite and granite being the predominant materials. Wetland trees such as Ficus macrophylla will be used to create a sense of place. Local timber is proposed in a variety of applications throughout the site with the introduction of coloured concrete to create interest speaking to the natural earthy colours of the surrounding landscapes. Granite Boulder seating along the waterway and in the cultural learning spaces references the geological base of the site. Planting endemic vegetation will help create a sense of place unique to the site. Swathes of native grasses are proposed to reinforce movement and the site's relationship to water. The introduction of Bush tucker plants
represents the fertility of the greater Lismore area while creating opportunities for outdoor and cultural learning.

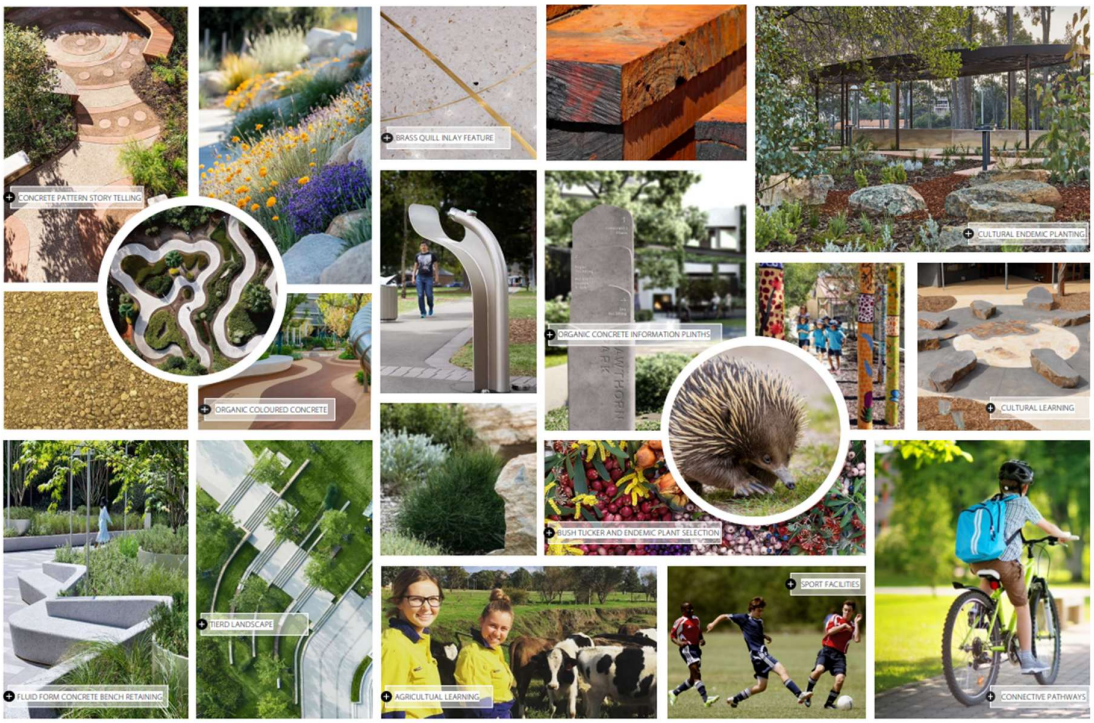


Figure 1.45: Material palette from landscape plan (Source: Terras)

2. PRINCIPLE 2: SUSTAINABLE, EFFICIENT, AND RESILIENT

2.1. Good school design combines positive environmental, social and economic outcomes and should align with the principles of caring for Country.
2.2. Schools should be designed to be durable and resilient in an evolving climate.
2.3. Schools and their grounds should be designed to minimise the consumption of energy, water and other natural resources and reduce waste.

2.1 SUSTAINABILITY STRATEGY

This project is targeting a 4-star Green Star Buildings v1 Rating and NCC 2022 Section J – Energy Efficiency. The project framework requires adoption of Net-Zero ready design features, and features to support a circular economy. There is also a strong focus on features to support indoor environmental quality.
The project includes the following sustainability framework:

- Passive Design using the appropriate extents of glazing, combined with shading and envelop thermal performance to minimise active energy use and provide comfort.
- Learning spaces have natural ventilation and ceiling fans to allow passive cooling for a majority of the year, providing the opportunity to minimise the use of mechanical systems.
- Building services such as HVAC and lighting with energy performance over minimum prescribed standards.
- Electrification of hot water plants as a strategy to integrate net zero ready design principles.
- Photovoltaic panels on the roof for onsite energy generation.
- Specifying the use of low impact / low toxicity materials.
- Use of recycled materials in concrete
- Materials from accredited sustainable supply chains and suppliers.
- Energy and water efficient fittings and appliances
- Waste will be reduced by recycling of suitable paper and plastic products.

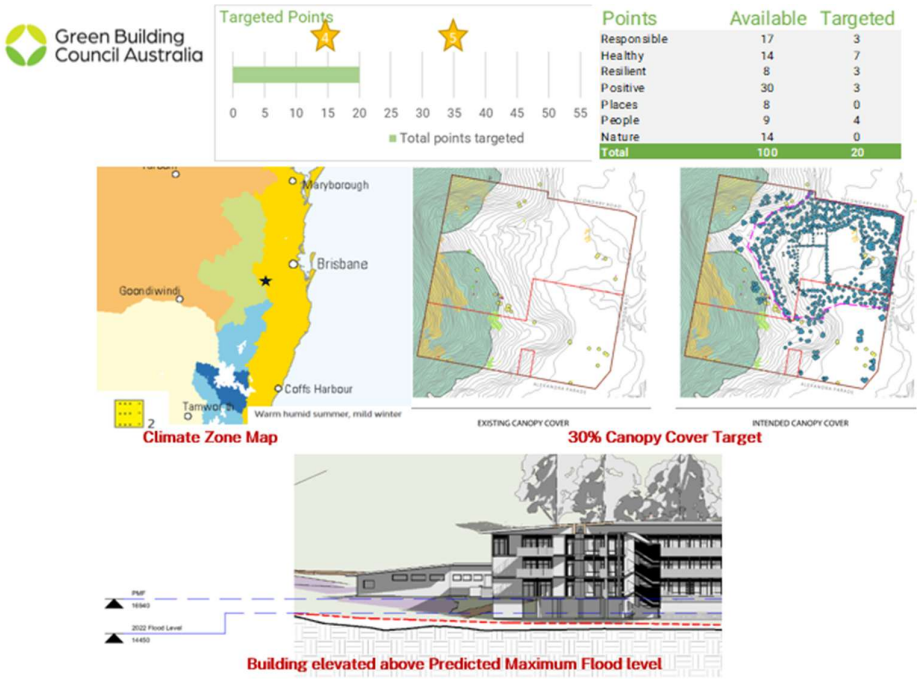


Figure 2.01: Sustainability Targets (Source: LCI)

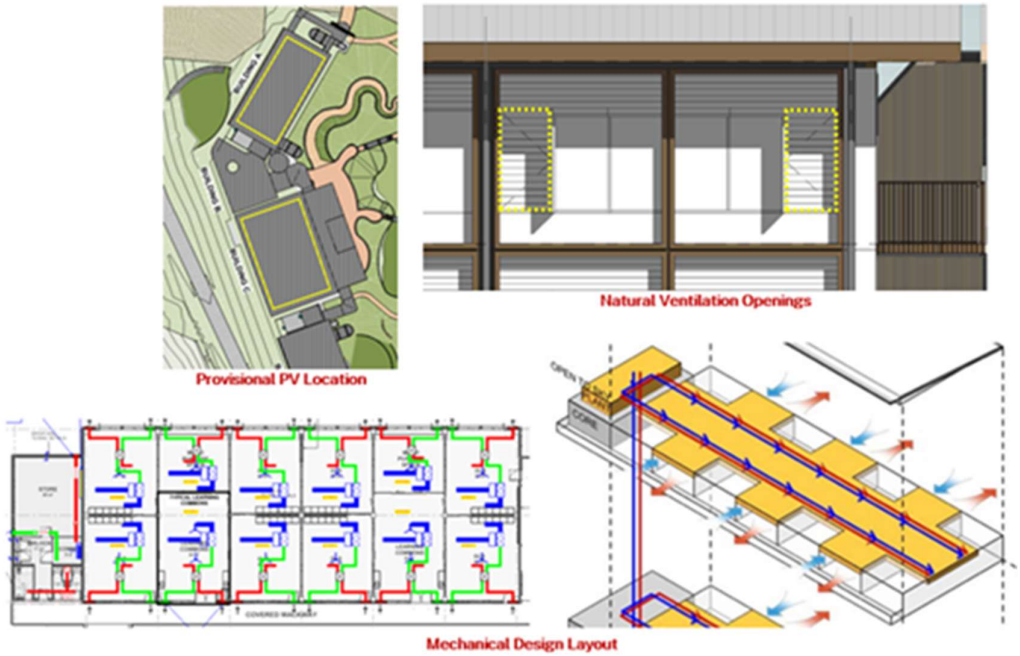


Figure 2.02: Net Zero by 2050 Strategy (Source: LCI)

2.2 PASSIVE DESIGN PRINCIPLES

The project includes the following passive design features designed to improve amenity and minimise reliance on mechanical systems.

- Natural light is generally provided to habitable spaces.
- Natural ventilation is provided in all teaching spaces and the Hall.
- Areas of paving without shade have been minimised on the site, however a requirement by SINSW that sport courts and car parking be provided will be shaded as much as possible with tree planting.
- Substantial new planting of trees will be incorporated, and the species have been selected to maximise shade potential.
- Outdoor spaces have been designed to benefit from local microclimates, and outdoor communal areas are designed to be shaded by either open covered areas or with vegetation.
- With the proposed landscape design, a 30% tree canopy coverage is achieved in the active area of the site.

2.3 NET ZERO DESIGN STRATEGIES

The project sustainability framework includes adoption of Net Zero design principles, and the design currently includes several features to support this including:

- Using passive design and energy efficient Heating, Ventilation and Air-Conditioning (HVAC) and Domestic Hot Water (DHW) systems to reduce energy demand and consumption.
- Electric heat pump hot water systems with instantaneous boost system for areas with intermittent high-water demand. Electrification is a key net zero strategy for buildings and enables projects to use green power or benefit from the decarbonisation of the grid over time.
- Space provided on the roof for a mounted solar photovoltaic (PV) system. This will provide renewable energy and offset some of the project grid electrical demand.

Once implemented, the Department of Education will need to ensure the building has its remaining energy sourced from 100% renewable power.

2.4 WATER SENSITIVE URBAN DESIGN

Water Sensitive Urban Design (WSUD): Stormwater quantity controls are outlined in the Lismore City Council Development Control Plan (DCP) – Chapter 22 – Water Sensitive Design. The site will require a new stormwater drainage system including:

- Inlet pipes and pits
- Grassed swales
- Inground drainage pits and inground on site detention tanks
- Overland flow paths to be retained where possible

These mitigation measures will minimise the development impact on the natural water cycle. Due to the flood prone nature of the site, overland flow paths will be designed to cater for an increased frequency of discharge. Generally, stormwater will drain from the West to the East towards Dunoon Road.

Stormwater: Onsite stormwater detention (OSD) tanks are required on site due to the increased impervious area proposed in the development. By removing a portion of stormwater runoff, the proposed OSD reduce stormwater peak discharges and volumes to downstream catchments. They also improve the quality of stormwater discharged to the receiving environment.

Rainwater Reuse / Water Conservation: Two rainwater tanks have been proposed for the site and shall be incorporated into the stormwater drainage system. The two 5000L rainwater harvesting tanks has been proposed near Building E and will serve as irrigation for the site.

Education: Opportunities to educate the school community on Water Sensitive Urban Design principles will be included in the detail design of the project. This includes information signage at tank and infiltration trench locations, and real time evaluation of water collection and reuse as part of the Building Management System.

2.5 DURABLE MATERIALS

The proposed buildings will use robust prefinished cladding materials that are durable and require minimum ongoing maintenance. The materials predominantly used on the façade below the PMF Level for resilience are masonry and reinforced concrete. On some of the buildings at ground level, blockwork/face brick may be used, with the remainder being predominately prefinished compressed fibre cement (CFC). On level 1, and level 2 walls CFC will be used, and powder coated aluminium for feature elements, screens, frames, hoods, etc. The roof will be a Colorbond steel profiled roof sheet. The image and material palette shown in figures 2.03 and 2.04 indicates colour choices and pattern. Details can be found in the architectural documents.

Figure 2.03: Artistic render of Building A indicating material palette shown below (Source: EJE Architecture)

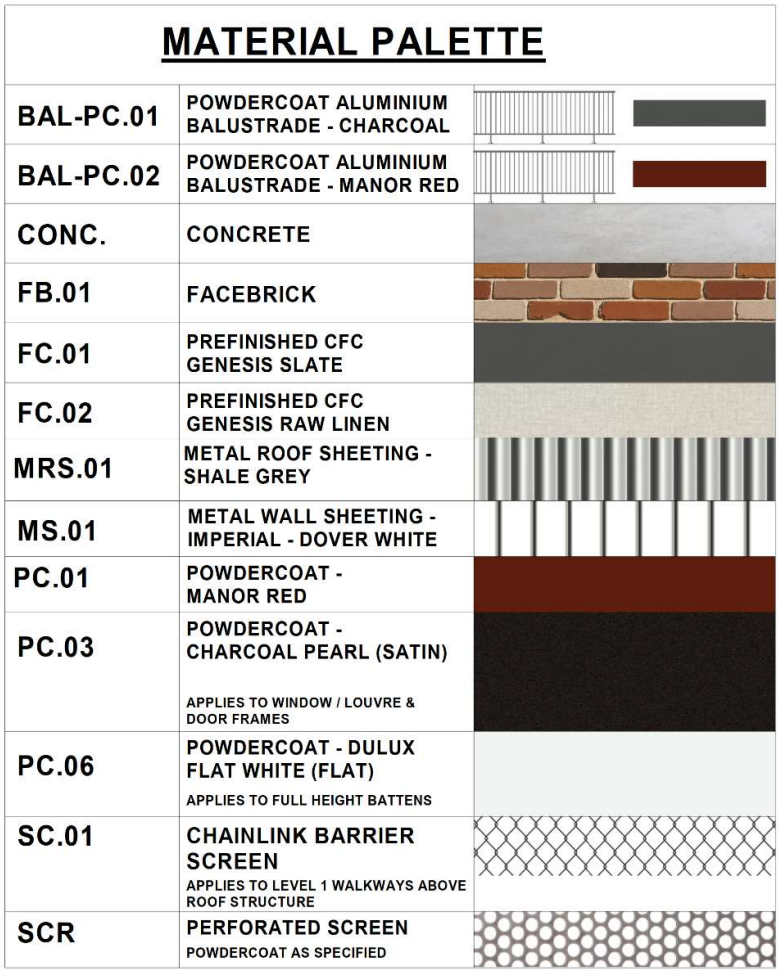


Figure 2.04: Extracts taken from External Finishes Schedule (Source: EJE Architecture)

3. PRINCIPLE 3: ACCESSIBLE AND INCLUSIVE

3.1. School buildings and grounds should be welcoming, easy to navigate and accessible and inclusive for people with differing needs and abilities.
3.2. Schools should be designed to respond to the needs of children of different ages and developmental stages, foster a sense of belonging and seek to reflect the cultural diversity of the student body and community.
3.3. Schools should be designed to enable sharing of facilities with the community and to cater for activities outside of school hours.

3.1 SITE ENTRIES

There is one main entry to the site, from Dunoon Road, with a two-way vehicle entrance and separate pedestrian/bike path. The entrances will be marked with signage for clear wayfinding around the site and are to be clearly visible from the street.

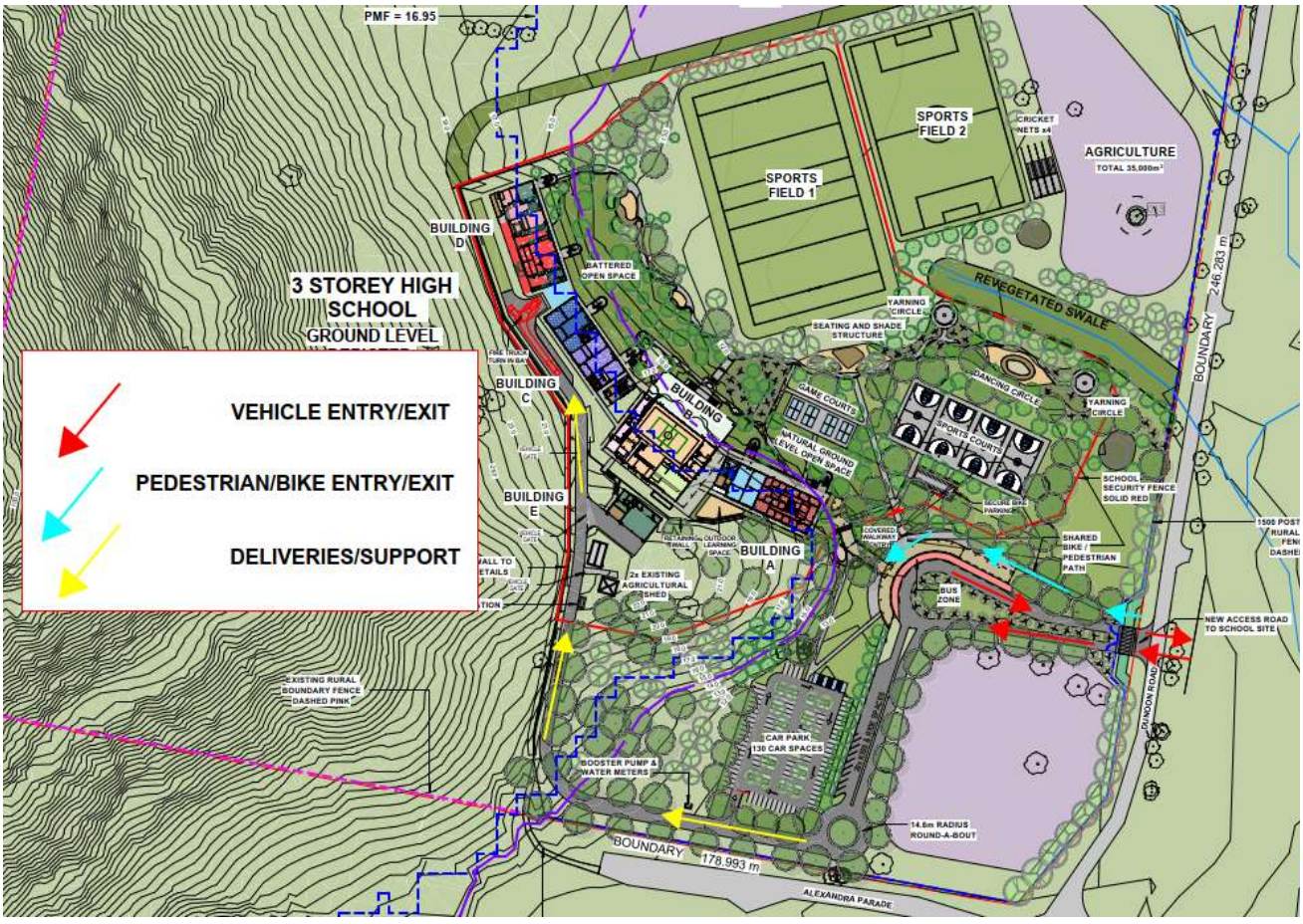


Figure 3.01: Site Entries Diagram (Source: EJE Architecture)

The pedestrian entrance to the north of the vehicle entry is for student and visitor use and is completely separated from the driveway. It links to the bus set down area with covered walkway providing all weather protection and then connecting to the main entry covered walkway to the Administration (Building A). From the bus drop off and pick up area students and visitors are drawn up to the building entry under a feature arch hosting the school signage. The entry path also connects to the secure

bike parking area, sports courts, games courts and sports fields. This entrance point is located close to Building A for easy wayfinding into the school. This entrance point is to have gates for security purposes, with details to be developed in the Design Development Stage of the design.

Vehicle entry to the site is from Dunoon Road, providing access for buses, parents kiss and ride, deliveries, staff and students. The driveway separates buses from the kiss and ride drop off zone; with the first roundabout enabling buses to safely turn and provide adequate sit-down zones, and cars continuing to a second roundabout that directs cars to the kiss and ride parking, staff carpark or to the access road for delivery and support drop-off. Security gates will limit access onto the site after hours and is to be managed by the school. The access road continues past the carpark and wraps around the western side of the buildings, generally following the contours of the landscape and existing property driveway. The access road is to be used for secondary support drop off, deliveries and waste collection.

Figure 3.02: Aerial Render showing entry and connection to Building A (Source: EJE Architecture)

3.2 SIGNAGE

- Details for key visible building and public signage on the site is included in the architectural documentation. Minor path wayfinding signs will be developed during construction phase documentation and with further consultation with the school. The site has been designed to comply with AS1428.1 and AS1428.2. Further information on the signage concept can be found in section 10. Signage Strategies.
- Key signage for school identification is anticipated to be provided on the proposed building outlined in section 10 which will be developed in consultation with the school and key stakeholders during detail design.

3.3 ACCESSIBILITY

- Two lifts have been provided in key locations close to the main entrance of Administration/Library (Building A) and near the Support, Hospitality and Science Hubs (Building C) to allow inclusive access for all staff and students and to assist with transporting goods and equipment to upper levels.

- New graded accessible pathways are provided from the footpath entry around the site to the building where the main entrances are indicated.
- An AS1428.2 compliant 1 in 14 ramp is provided within the Hall the access the stage from the basketball court enabling access for all users.
- Disabled parking has been provided within the onsite car park near the main entrance to the school. This will enable a continuous path of travel from the car park to the school and general access for wheelchair and mobility aid users.
- The network of paths throughout the site are to be AS1428.2 compliant and connect to each area of the school.
- Hearing induction loops are proposed for the new Library and Hall, whilst portable systems will be provided for learning areas and classrooms.
- Colours and finishes are selected to meet the requirements AS1428.1 and the Building Code of Australia (BCA) and assist users with visual impairment. This includes colour contrast for internal and external spaces.
- Accessible and ambulant amenities on all levels of the new buildings are provided.
- Security of the building has been considered with good passive sightlines maximised from the Secondary Road and strengthened through opening of the site, providing clear visual connections between buildings, whilst maintaining accessibility and inclusiveness.
- The landscape design has established a variety of defined external spaces for active and passive uses, as well as being inclusive by recognising variable user groups.

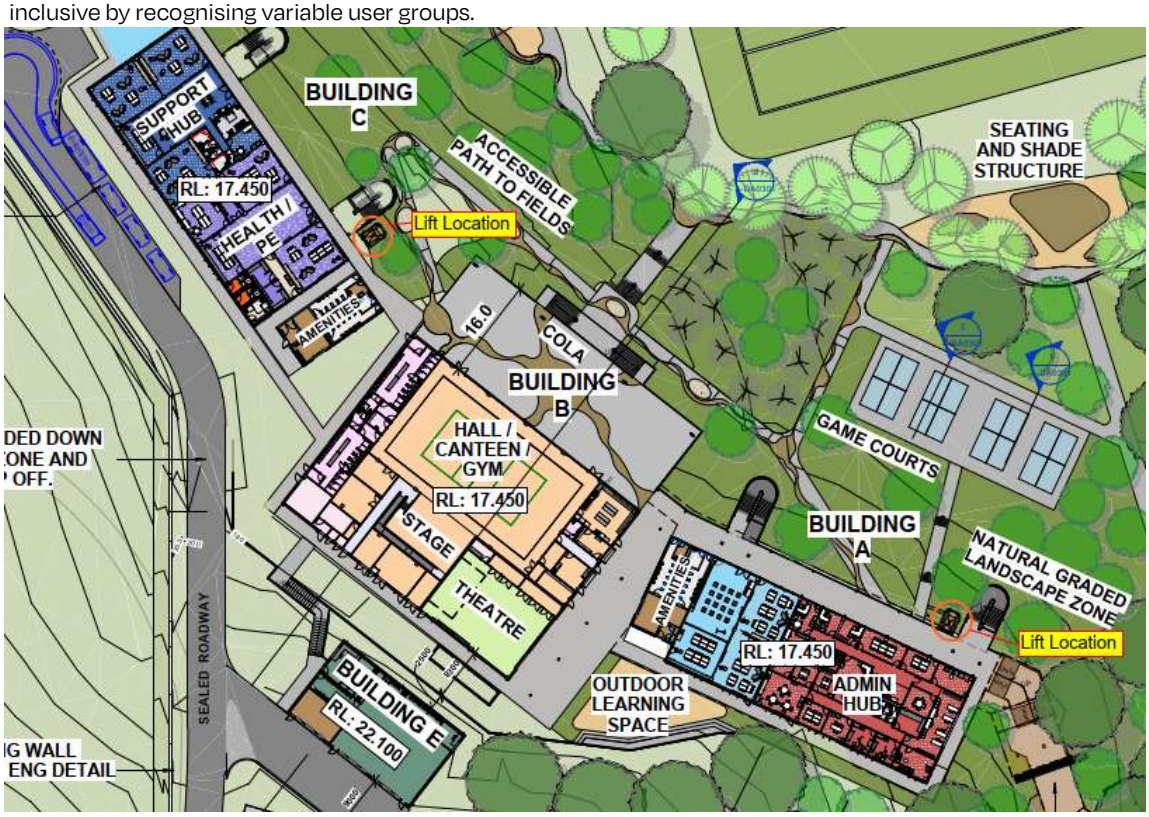


Figure 3.03: Lifts located to provide disabled access to all levels of the buildings (Source: EJE Architecture)

3.4 SHARED USE

Building B (The Hall & Theatre) and the Sport Fields and Sport Courts have been placed and designed with consideration to providing access to these facilities to the wider Community after hours. These are in a cluster which can be easily surveyed and separated from the rest of the school. Access to these spaces will be determined and managed by the school administration.

4. PRINCIPLE 4: HEALTHY AND SAFE

4.1. Good school design should support wellbeing by creating healthy internal and external environments.
4.2. The design should ensure safety and security within the school boundaries, while maintaining a welcoming address and accessible environment.
4.3 In designing schools, consideration should be given to connections, transport networks and safe routes for travel to and from school.

4.1 HEALTHY BUILDINGS

The buildings are designed and orientated to maximise natural light and ventilation whilst addressing the surrounding landscape and creating inviting outdoor spaces. The buildings are designed to achieve a 4 Star Greenstar Design Rating, considering passive cooling, heating, natural light, occupant comfort and safe material use.

To protect students from sun and rain during outdoor activities a large COLA, and smaller covered areas have been included in the design, creating sheltered areas to protect the students from the elements. A wider covered walkway has been provided from the main entrance near Building A through to the Building C COLA area. Covered walkways link the buildings and provide weather protection whilst moving between spaces.

4.2 SAFETY

- **Building Location** - The new buildings have been located relatively close to the car parking and bus drop-off and have been provided with clearly recognisable, accessible, and safe pedestrian entries. The new pedestrian accessways are also separated from vehicle driveways, and where possible they avoid crossing paths with vehicles.
- **Entry Points and Cycling Connection** – The rural location of the site has resulted in a lack of pedestrian pathways connecting to the site. To the south-east the Richmond River Rail Trail Cycleway is in development and once complete will provide a safe cycle way connecting Casino to Murwillumbah. With residential development proposed to the north there is the potential for these areas to connect to the school through pedestrian footpaths and cycleways which will provide a safe alternative method of travelling to and from the school grounds. These proposed entries will also directly link to the onsite secure bicycle parking area near the outdoor sporting facilities.
- **Fencing** - The proposal will provide secure perimeter using 2150mm high powder coated steel palisade fencing around the main active school site. This fencing will provide security and safety around the main school facilities. Existing rural fencing will be maintained and made good around the perimeter of the whole site to allow the school to maintain the rural character of the site.
- **Landscaping**: The buildings are set back from the boundaries allowing active and landscaped spaces to be located toward the boundary. The landscape design along the Secondary Road and Dunoon Road creates a welcoming interface between the school and the public realm whilst still maintaining visual permeability with the existing rural fencing.
- **Amenities** - To provide the safe use and accessibility of toilets, the design proposes stacked amenities and services block that are conveniently located throughout the building on each level. These include ambulant and accessible WC's and can be monitored from the central school grounds.

5. PRINCIPLE 5: FUNCTIONAL AND COMFORTABLE

5.1. Schools should have comfortable and engaging spaces that are accessible for a wide range of formal and informal educational and community activities.

5.2. In designing schools, consideration should be given to the amenity of adjacent development, access to sunlight, natural ventilation, proximity to vegetation and landscape, outlook and visual and acoustic privacy.

5.3. Schools should include appropriate indoor and outdoor learning and play spaces, access to services and adequate storage.

5.1 NEIGHBOURHOOD

The rebuild of Richmond River High Campus will facilitate the future development of North Lismore in response to the flood events of 2022 and the rebuild and relocation efforts underway in Lismore. It will provide key infrastructure for the North Lismore Plateau Urban Release Area. The proposed Richmond River High Campus intends to engage with the community and the surrounding environment through the positioning of the new buildings to provide extensive landscaping opportunities to rehabilitate the site and to create connections through the provision of community spaces, and access to school facilities. The buildings reflect and respect the surrounding context, whilst offering inviting, lively additions, with a variety of shared educational and active spaces. The new development will give the school renewed presence and identity within the community, strengthening its position within the North Lismore neighbourhood.

5.2 NOISE MITIGATION

The Richmond River High Campus is bound by three local roads, with Dunoon Road being the main road through North Lismore. Although traffic noise may be present during school hours, the building is set well away from the boundaries and well above the road, reducing the distraction of potentially noisy traffic. Landscaping at the boundaries of the site will also help to provide an additional level of noise buffering, and a visual screen from the street.
Other mitigation measures to the buildings include the use of wall/roof insulation, nominated glass thickness and wall construction detailed to achieve the specified acoustic ratings. Details of the building requirements and impact of external noise can be found in the 100% Conceptual Acoustic Design Report by Pulse White Noise Acoustics.
The current approval for 85 housing lots to the north of the secondary road has been considered in the layout of the buildings. The nosier operations such as construction, metal, woodwork and agricultural facilities have been located to the south of the development. Building A is set approximately 200m away from the northern boundary and the car park plus substantial planting provides a buffer to the residential area.

Figure 5.01: Screening effect of proposed vegetation along Dunoon Road (Source: EJE Architecture)

5.3 STAGE CONSIDERATION AND FLEXIBLE DESIGN

Indoor -The school has been designed with Learning Spaces spread across the buildings and a variety of staff hubs and specialist spaces provided throughout the buildings. This spread and variety of spaces across the site allows the school to manage the stages as required. Access to technology is provided across all areas to facilitate flexibility of use for all subjects and stages. A regular grid and modular design has been implemented across the buildings to allow for potential future expansion.

Outdoor - A variety of outdoor zones have been provided including COLA areas, games courts, tiered seating areas, sporting fields, and cultural areas and are incorporated into overall the landscape design. This will facilitate the organisation of a variety of informal and formal activities across the stages and subjects, whether it be for cultural, support, exercise, or subject specific purposes. The buildings are positioned to overlook the outdoor areas for passive surveillance and reinforce the connection to nature.

5.4 NATURAL LIGHT AND VENTILATION

The footprints of the new buildings are designed using the EFSG standard templates which allows for ample access to natural light and ventilation to all learning areas.

- Central Learning Commons located within clusters of 4 classrooms, provides opportunity for cross-ventilation. This can be utilised by the adjoining classrooms with the provision of large sliding doors to enable opening to the Learning Commons as needed.
- Buildings have been positioned in a C-shape facing east. This provides each buildings an opportunity to capture the sunlight and cross ventilation in a different way.
- The hall is provided with translucent vertical folding doors across the width of the eastern wall which combined with high level glazing will provide abundant natural light.
- The position of the building within a valley between two hill formations will allow cooling breezes channelled through the valley from the northeast and southwest to ventilate the buildings particularly in the morning and afternoon.
- Along the western facades hoods have been placed over the glazing to protect the rooms for harsh western sunlight.
- Most of the learning spaces have been positioned with a northeast aspect to collect morning and midday sunlight and prevent hot western sunlight from entering the learning spaces.
- As the buildings are positioned well away from the boundaries and neighbouring properties, overshadowing of adjacent properties will not occur. Refer to architectural drawings for shadow diagrams.

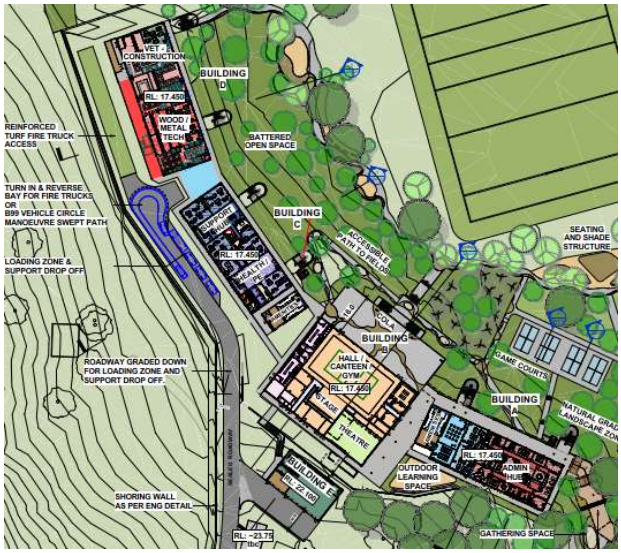


Figure 5.02: Ground Floor plan indicating C-shaped building and orientation to a predominantly NE direction (Source: EJE Architecture)

5.5 OUTLOOK AND PRIVACY

Learning spaces in the Richmond River High Campus facility have many opportunities for an outlook over the landscaped grounds and surrounding context. The buildings are set back away from the boundaries which, in combination with the extensive landscaping, will mitigate overlooking neighbouring properties.

- The C-shaped building captures the views over the school landscaping, sporting fields and courts, and to the surrounding local context. The building orientation provides views across Dunoon Road of the showground and further south towards Lismore township.
- Most learning spaces in Richmond River High Campus face the central landscaped grounds. Where the learning spaces face west these rooms have views of the hill formation and local landscape.
- The outlook is emphasised for students, with use of an external covered walkway on the internal side of the C-shaped building linking the learning areas of the facility. These walkways face the landscaped internal courtyard.

Figure 5.03: Aerial Perspective of school site (Source: EJE Architecture)

5.6 STORAGE, AMENITY, AND SERVICES

- The school is designed with multiple Amenity, Services and Storage blocks stacked above each other for efficiency and easy wayfinding. This helps to standardise the services provision across the building and simplifies the cable runs and reticulation of sewer and water services.
- As the buildings are positioned above the PMF level all services and storage areas are placed out of the flood risk zone.
- Storage is provided to meet SINSW EFSG standards requirements for each Learning Space. This is predominately provided in the form of joinery and loose furniture.
- Large storage areas are provided in the hall facility for chairs and equipment for the Basketball Court.

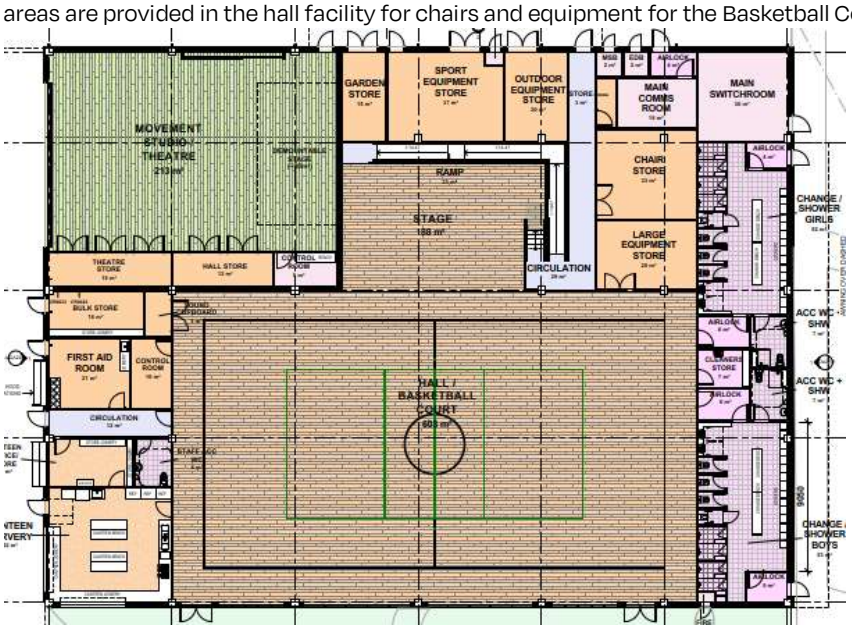


Figure 5.04: Building B Hall with large quantity of amenities and storage provided (Source: EJE Architecture)

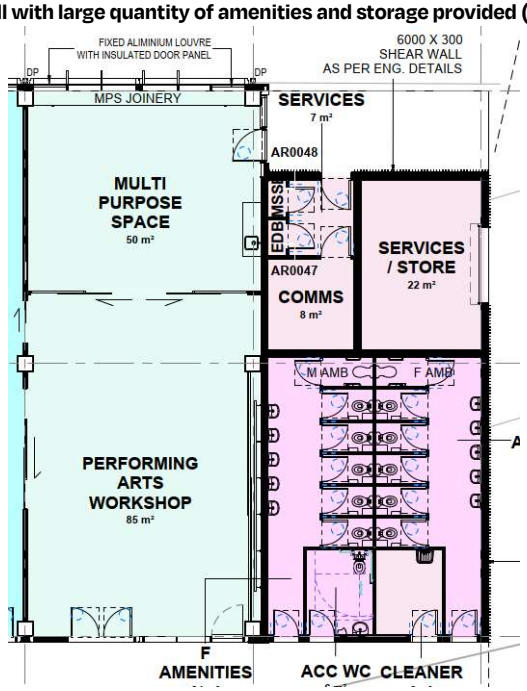


Figure 5.05: Building A Amenity Block typically to be stacked from GF to L2 (Source: EJE Architecture)

6. PRINCIPLE 6: FLEXIBLE AND ADAPTABLE

6.1. In designing schools, consideration should be given to future needs and take a long-term approach that is informed by site-wide strategic and spatial planning.

6.2. Good design for schools should deliver high environmental performance and ease of adaptation and maximise multi-use facilities.

6.3. Schools should be adaptable to evolving teaching methods, future growth and changes in climate, and should minimise the environmental impact of the school across its life cycle.

6.1 DEVELOPMENT OF THE MASTERPLAN

As part of the Masterplan process, a range of Options were developed and considered by the design team, considering items such as:

- Alternate sites around Lismore and Richmond River area
- Optimum building locations to relate to topography, sunlight and ventilation orientation, internal management of the school
- Bulk and scale of proposed buildings
- Provision, quality, and variety of open space
- Links to the Community and after-hours access zones

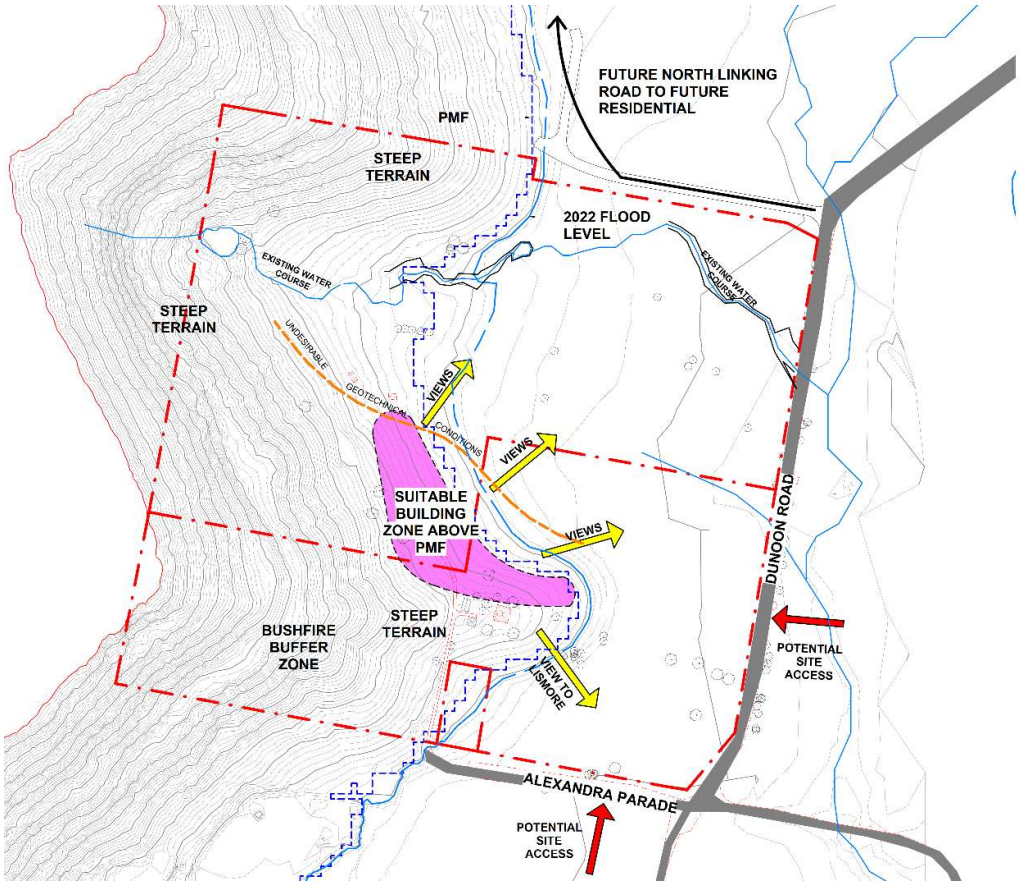


Figure 6.01: Opportunities and Constraints diagram (Source: EJE Architecture)

Due diligence site investigations were completed to support and test the design during preliminary design stages, including Geotechnical and Contamination assessments; Detailed Site Surveys; Flooding; Aboriginal Cultural Heritage; European Heritage; Social Impact; Arboricultural Assessment; Traffic Generation and Green Travel Plans; and Noise Assessments. Further investigations have since been completed on the Dunoon Road site once access was provided.
The Masterplan aims to improve the flood resilience of the school, raising the school above the PMF flood level, as well as providing a clear entry into the school, enhancing the street presence and providing a connection to the wider Community. This has been achieved through the positioning of the new buildings to functionally relate to the landscape, local environment, and the development of entrance and circulation into the site.

6.2 POTENTIAL FOR FUTURE GROWTH

The site is restricted by both the location of the flood levels, geotechnical slip zone, bushfire hazard zone, and existing watercourses. The proposed design is positioned between these areas and although restricted there is potential for future expansion to the south following the contours of the landscape. Additional, further expansion could be positioned to the east, but this would need to be raised above the PMF level for flood mitigation. Within the existing scope of work for Richmond River High Campus the provision for future expansion has not been greatly considered due to the movement away from Lismore due to increasing flood risk.

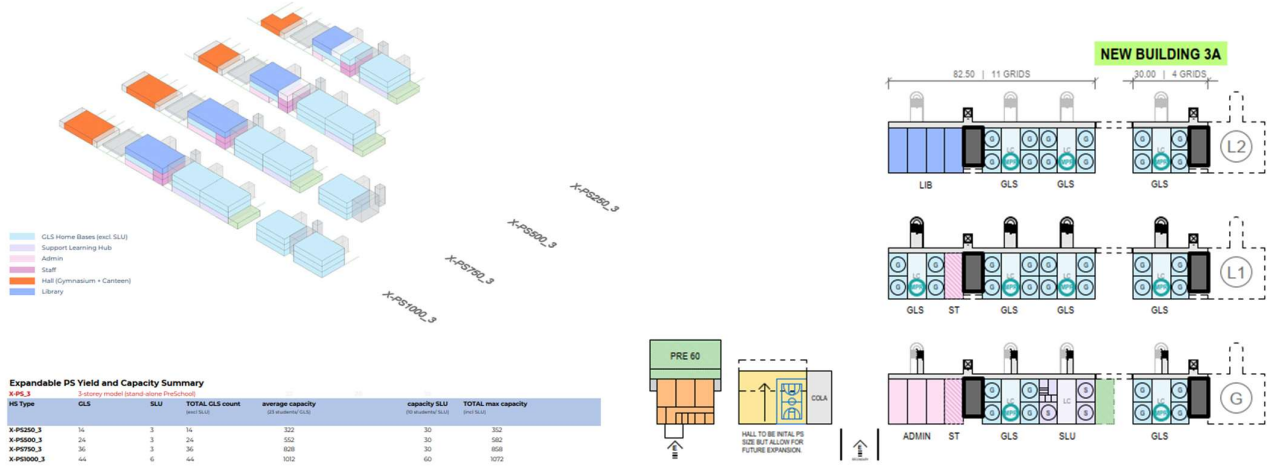


Figure 6.02: Extracts from Pattern Book Vol 1 indicating intent of Pattern Book Design is to provide an expandable layout (Source: SINSW)

6.3 MODERN METHODS OF CONSTRUCTION, STANDARDISED LAYOUTS, AND THE PATTERN BOOK TEMPLATE

The design of the building has been primarily influenced by the SINSW Modern Methods of Construction (MMoC) Guidelines, the Standardised Hub Layouts, and the recent adoption of the Pattern Book Template developed and executed by SINSW. The spaces have been designed to fit within consistent planning grids to create efficiencies across school projects, and encourage innovative MMoC methods, including prefabrication, and increasing potential for future expansion and growth.
The standardised hub layouts crate a range of Learning Spaces, Specialist Technical Learning Areas, plus Learning Commons Areas that can be designed and used flexibility by the school, encouraging new teaching and learning approaches and the integration of new technologies. Large sliding doors between Learning Spaces and the Learning Commons provides day to day flexibility to support contemporary learning, including team teaching and problem-based learning. This will allow a modular group of four General Learning Spaces to provide areas for collaboration, group learning, presentations, display areas, student breakout zones, and reflective / quiet spaces. Specialist Hubs provide facilities such as Support Units, Admin and Staff Hubs, and Library Facilities. The standardised column grid with non-loading bearing walls allows the building to be reconfigured in the future, allowing for change of use and enable varying educational pedagogies to be adopted.

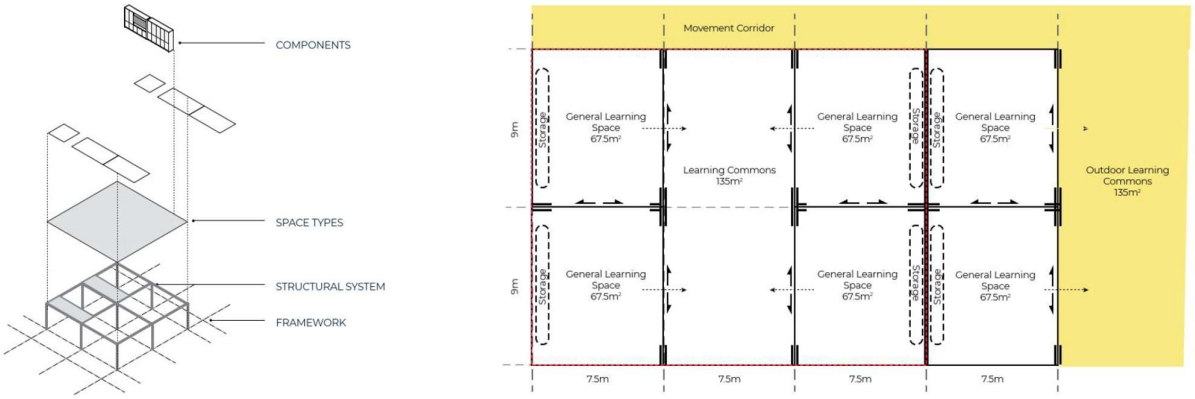


Figure 6.03: Standardised Grid and Templates (Source: SINSW / NSW DoE)

The 9m x 7.5m grid system for Learning Areas has been applied wherever possible to establish the standard learning unit clusters for consistent module construction and efficient structural spans.
The Standardised hub layouts establish the depth of the building footprint at a typical 18m. This has informed the configuration of the footprint in relation to the site constraints of the PMF Level, Bushfire APZ zone, the watercourse to the north and the contours of the land. This has led to a 'C' shaped building footprint that addresses the Dunoon Road and the Central Sporting Area and creates pockets of Outdoor Learning Commons that have access to sunlight and ventilation.
The proposed buildings will incorporate the following features that provide high environmental performance, spatial planning and allow for community use:

- Use of robust, prefinished cladding materials to maximise their lifecycle
- Good environmental performance through the consideration of orientation of learning spaces
- Natural ventilation of Learning Spaces to maximise comfort and minimise need for air-conditioning
- Integrated architectural and landscape design to maximise links between indoor and outdoor spaces
- Use of acoustic and thermal insulation to improve the performance of the building
- Flexible Learning Spaces that can be used by a range of students and different subject areas.
- Raised building footprint to provide flood resilience, maximise opportunities for open space, and maximise opportunity for shaded areas in the climate zone 2 environment.

The Pattern Book template was adopted within the design at the end of the Concept phase and took priority over the MMoC template. A lot of the same concepts and grid sizes from the MMoC are integrated into the Pattern Book template but elements such as modular external wall panels, stair and lift units, and location and size of windows, doors, and louvre systems are all prescribed. This has been undertaken by SINSW to provide efficient construction times, and standardised facilities for education across NSW.

Figure 6.04: Façade components from Pattern Book Volume 2 (Source: SINSW / NSW DoE)

6.4 MULTI-USE FACILITIES AND LINKS TO LOCAL COMMUNITY

The placement of Building A (Admin), Building B (Hall/Theatre) towards the main entrance of the school creates an after-hours zone within the school which can be monitored and has the potential to be isolated during community events. The sporting fields and courts are also related and connected to this zone creating an opportunity for these facilities to be used by the community after hours. The access of these facilities to the wider community positions the school as a central facility within the community. This creates an opportunity to reflect upon the resilience and development of the school community with the Greater Lismore context, whilst enabling the school to embrace a new era of education.

Building B - Theatre, provides the school an opportunity to host performances and presentations to the wider school community and showcase the diversity of interests and talent within the student body. Opening this space up to the wider North Lismore community provides it with a space to explore creative interests and showcase local stories and culture.

Building B - Hall, is the central heart of the school. This facility provides the school a place for large assemblies and end of year presentations. Its location in the centre of the school overlooking the surrounding valley and landscape reflects the community's strength and resilience during difficult times. It is a place for the school community to gather, celebrate, and learn. Within the hall there is opportunity for a mural to be painted to celebrate indigenous athletes including local Bundjalung Olympian Frances Roberts. The proposed hall facility is being investigated as a joint use facility with the wider Community. The facility will have access the onsite car parking and the outdoor sports courts and sporting fields and with the pedestrian footpaths and cycleways there are ample opportunities for the community to use this space.

The school has been designed with the consideration of being able to separate the public use areas from rest of the school areas for after-hours use. By combining of Building A (Admin), Building B (Theatre) and (Hall) as well as the outdoor sport facilities, the potential for large School and Community events is maximised through clear circulation paths and entry points with direct connection to each other and the public domain.

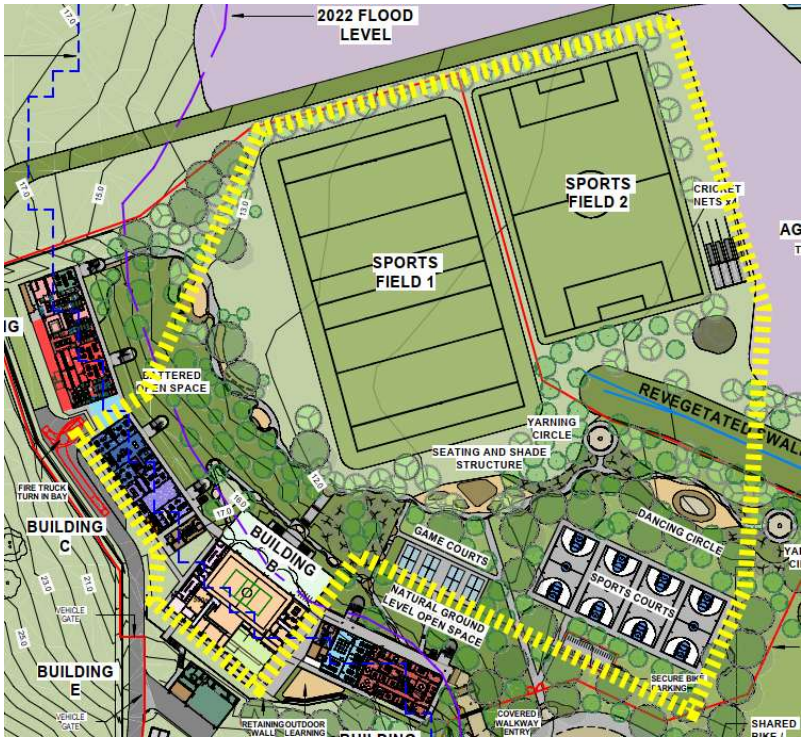


Figure 6.05: Site Plan indicating potential after hours zone. To be managed by the school. (Source: EJE Architecture)

7. PRINCIPLE 7: VISUAL APPEAL

7.1. School buildings and their landscape settings should be aesthetically pleasing by achieving good proportions and a balanced composition of built and natural elements.
7.2. Schools should be designed to respond to and have a positive impact on streetscape amenity and the quality and character of the neighbourhood.
7.3. The identity and street presence of schools should respond to the existing or desired future character of their locations.
7.4. The design of schools should reflect the school's civic role and community significance.

7.1 DESIGN PROCESS AND APPROACH

The proposed RRHC development is the result of an ongoing rigorous design process that commenced at the Master Planning phase and continued through to Concept and Schematic Design phases, resulting in the current design. During the process a wide range of options were explored, examining:

- A variety of sites were explored across the Greater Richmond River Catchment
- Comparisons of the benefits of raising the school to the 2022 flood level or to the PMF level
- Opportunity to locate Lismore South Public School and Ngulliboo Jarjums Preschool on the site
- Alternate building forms and arrangements to explore internal management and relationship opportunities

Consultation with a wide variety of stakeholders was undertaken, including with the local Widjabul Wi-bal Community, Richmond River High Campus Staff, Residents and Community members. Lismore City Council, Technical Stakeholder Group (TSG), and Ausgrid were consulted to understand their technical requirements. The design was also presented twice to the School Design Review Panel (SDRP) for their comments, and the current design considered and responds to the feedback of the SDRP. Refer to Appendix 4: Response to comments from SDRP No. 2

7.2 DEVELOPMENT OF THE BUILDING FORM

The proposed design consolidates the development into a three-storey building that sits above the PMF level. It also reflects the extensive community and stakeholder consultation, exploration of options within this site and alternative sites, and the need for flood resilience. The form is broken up into 5 buildings:

1. Building A: Admin, Library, and Senior Study
2. Building B: Hall and Theatre
3. Building C: Science, Hospitality, Performance, PE, and Support
4. Building D: Construction, Wood/Metal Tech, Art and GLS Hubs
5. Building E: Agriculture

7.2.1 DESIGN PRINCIPLES:

The following design considerations determined the position and form of the proposed Richmond River High Campus:

- Positioning the building and facilities between the flood risk zone, the bushfire APZ zone, and the watercourse
- Rehabilitating the landscape and watercourse post agricultural use
- Establish a building facade that allows for easy wayfinding around the site and breaks up the mass of the building into smaller forms.
- Creation of areas of shade through the incorporation of COLAS, covered walkways, and increasing canopy coverage around the site.
- Creating a feature entrance structure to provide a clear wayfinding experience for students, teachers, and visitors to the site.
- Maximising usable outdoor areas within the school and providing shade, seating, active and passive play areas.
- Creating spaces which are easy to supervise
- Respond to and facilitate local indigenous culture
- Mitigate visual impact on the surrounding environment

The last bullet point is analysed in the Visual Impact Assessment (VIA) prepared by Terras Landscape Architects. It is concluded from this assessment that the visual impact of the development from a design perspective is considered not to be significant due to the siting, scale and screening of the built form, and future context of the urban release area to the north which will change the overall character.

7.2.2 BUILDING A:

Building A is located closest to the main entrance to the school and is positioned to welcome students, teachers, and visitors to the site. Within this building are the following facilities:

- Admin Hub
- Staff Hub
- Library
- Senior Study
- GLS Hub
- Amenities and Services Core

Positioning the Admin Hub in this prominent location allows visitors to check-in to the school when arriving and is an easily identifiable waiting point for students and parents. Vertical circulation in the form of a lift and stairs provides equal opportunity to access to all levels of this building and clear circulation opportunities around the building.

Figure 7.01: Image of Building A showing its relation to the main entry and connection to Building B (Source: EJE Architecture)

7.2.3 BUILDING B:

Building B is located between Building A and Building C and is positioned within the proposed after-hours zone which can be accessed by the wider community. Within this building are the following facilities:

- Theatre/Movement Studio, storage
- Gymnasium with a full basketball court
- Change Facilities
- Storage for items relating to Hall and Sporting functions
- Canteen and related amenities
- Stage
- First Aid Rooms
- Control Room
- COLA
- Services including the Main Switch Room and Comms Rooms for the school

Building B is a single storey building and contains a theatre with high ceilings for acoustic and performance purposes. It is a like-for-like replacement of the old school's River Theatre with the intent of this become the 'gem' of the school. Building B also contains the gymnasium/hall and is positioned within the proposed after-hours zone which can be accessed by the wider community. The high ceilings support the function of the Gymnasium and Basketball Court. The Northeastern Façade can be opened to the attached COLA via large vertical folding glazed doors. This provides further space for large assemblies and school events. Its position adjacent to Building D, allows the VET hospitality, and performance classrooms to service the Hall and Theatre during large events such as end of year celebrations and school performances. Its central position within the school allows students to easily access the hall for assemblies and situates it as the heart of the school community.

Figure 7.03: Render of Building B showing COLA structure and proximity to Building B and C (Source: EJE Architecture)

7.2.4 BUILDING C:

Building C is located between Building B and D and is positioned to support the Hall and Theatre during large functions. Within this building over three levels are the following facilities:

- Food Tech and Textiles Classrooms
- VET Hospitality including an Indoor Bistro
- Support Hub with associated amenities
- Health/PE Hub
- 2x Staff Studies
- Science Hub including 4 x labs, 4x classrooms, and associated perp areas.
- Amenities and Services Core

Vertical circulation, which includes stairs, and a lift is provided adjacent to Building C and close to the hall. This allows students and teachers to easily access the H/Theatre all from the VET Hospitality and Performance Spaces. This also provides equal opportunity to access all facilities including Building D. The inclusion of the support hub in this building on ground level is supported by the school, with disabled access provided from both the car park to the south and the drop off to the west off the access road which wraps around the western façade of the building. This drop-off zone also provides amenity to the Food Tech and VET Hospitality for material and food deliveries.

Figure 7.04: Render of Building C showing vertical circulation cores and connection to Building D (Source: EJE Architecture)

7.2.5 BUILDING D:

Building D is located at the end of the main building cluster, next to Building C, and is positioned away from the majority of the school due to the noisy functions carried out in this building. Within this building are the following facilities:

- Wood and Metal technology Workshop and associated facilities
- VET Construction Hub and associated facilities
- VET Agriculture Classroom
- 3 x GLS Hubs
- Visual Art Hub
- Staff Study and Staff Lounge

Vertical circulation, via stairs, is provided at either end of Building D, with disabled access via the lift at Building C and the covered walkways at each level. The access road drop-off zone behind the building supports the Wood and Metal Tech, Vet Construction and Art classrooms, allowing materials to be delivered in close proximity to these areas.

Figure 7.05: Render of Building D showing connection to Building C (Source: EJE Architecture)

BUILDING E:

Building E is located to the southwest behind Building B close to the access road, and existing agricultural sheds. Within this building are the following facilities:

- Agriculture Main Space
- Tool Store
- Agriculture Office and associated facilities
- Amenities and services to support the isolated location of the building
- Comms Room
- GA Office
- Waste Room for the entire school

This position within the school was ideal for the function of Building E. It is near the access road for deliveries and supporting services and has close access to the existing agricultural sheds. Access to the agriculture plots to the north and northeast of the school buildings is via the access road and informal driveway past the western side of Building D.

Figure 7.06: Render of Building E in relation to Building B behind (Source: EJE Architecture)

7.2.6 OUTDOOR FACILITIES:

The outdoor facilities are designed and located to support the overall function of the school and the buildings whilst supporting Connection with Country. Included with the outdoor facilities are:

- 2x sport fields
- 4 x sports courts
- 4 x cricket nets
- 4 x games courts
- Car parking for approximately 130 cars
- Access road wrapping around the western façade of the building
- 2 x Tiered seating areas
- Agriculture plots
- Cultural areas in the form of yarning circles and dance circles

In addition to these facilities extensive landscaping is proposed, including rehabilitation of the eastern watercourse and the site post agricultural activities. All these facilities are positioned to support the function of the school. The sporting facilities

provide outdoor play amenities for the student's education. The parking supports the community to safely access the site. The access road supports the arrival of disabled visitors and students to the site, as well as the delivery of food and materials for the technology classrooms. The tiered seating, cultural areas and landscaping provide a diversity of passive play spaces for the students to use during lunch and recess. The cultural areas provide safe spaces for Indigenous students to use and for all students to learn about the local Indigenous history.

Figure 7.07: Render of Buninj Echidna Shelter (Source: Terras Landscape Architects)

Figure 7.08: View from Sports Ovals looking West towards the school (Source: EJE Architecture)

Aws stated at the beginning of this section a Visual Impact Assessment (VIA) has been prepared by Terras Landscape Architects. It is concluded from this assessment that the visual impact of the development from a design perspective is considered not to be significant due to the siting, scale and screening of the built form, and future context of the urban release area to the north which will ultimately change the overall character of the area.

Part C

8. CPTED

9. Impact of Outdoor Lighting

10. Signage Strategy

11. Connection with Country

12. Evaluation of Environmental Impact

13. Wind Assessment

8. CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

8.1 NATURAL SURVEILLANCE

Natural surveillance is a strategy of crime prevention which seeks to inhibit criminal activity by designing an environment such that users of a space can 'see or be seen'. The design of Richmond River High Campus incorporates the following principles to address this:

8.1.1 AVOID BLIND CORNERS

The design for Richmond River High Campus is an array of one and three storey buildings placed in a c-shape overlooking the outdoor sporting facilities. As such, the design generally does not have blind corners. Those elements which have potential to form a visual barrier on site have been designed to allow visual permeability. For example, fences are palisade style; and stair balustrades are treated with battens, both of which have a high percentage open space. The function of the amenities block requires it to be a solid element; however, it has been located is such a way that does not isolate any adjacent space and are clearly visible from the internal landscaped zone. There are points of pedestrian filtration between the building which are large enough to allow for surveillance and can be easily monitored by teachers.

8.1.2 PROVIDE ENTRIES WHICH ARE CLEARLY VISIBLE

The main entry to the site is clearly marked with a large feature element over the footpath. In addition, all pedestrian entrances to the school are marked clearly with signage. The main entrance is in close proximity to stairways and lifts with access to the building proper. These elements protrude from the main line of the building and are curved & battened which makes them distinctive from the rest of the building for easy wayfinding.

Figure 8.01: Easy wayfinding around the site via footpaths and visual connections (Source: EJE Architecture)

8.1.3 USE PERMEABLE SECURITY GRILLES AND DOORS

Fences, balustrades & the like are battened & have visual permeability. Doors are glazed with visual permeability minimising areas intruders may be hiding.

8.1.4 ENSURING CLEAR SIGHT LINES IN THE CARPARK

The car park is located approximately 80m to the south of the Administration Building and has clear sightlines throughout. It has a strong visual connection to the administration building which sits approximately 6m higher, overlooking the carpark with uninterrupted views. Vegetation within and around the car park is generally below the eye line allowing for passive surveillance to this area.

8.2 TERRITORIAL REINFORCEMENT

The design for Richmond River High Campus achieves well designed territorial re-enforcement by:

- Incorporating fencing which defines the ownership of the space
- Incorporating signage to all entrances which address the street creating a defined & positive image for the school
- Landscaping for entrances & sporting areas indicating the use of the space as well as defining the space, & creating a sense of place for students incorporating familiar landscaped landmarks
- The communal landscaped areas incorporate large open spaces as well as smaller intimate nooks allowing for many types of use of the space

Figure 8.02: Entrance sequence into the school through feature structure from bus bay (Source: EJE Architecture)

8.3 SPACE / ACTIVITY MANAGEMENT

Space / Activity management refers to monitoring use of an area as well as maintaining it. Where an area is infrequently used spaces are vulnerable to criminal activity & vandalism.
In the case of Richmond River High Campus, the site will be maintained by the Department of Education. The use of the site by unauthorised people will be controlled in part by secure fences & gates.
Regular maintenance of barriers and vegetation will ensure the control of access and maintain passive surveillance by preventing overgrown plants in key locations where line of sight could be obstructed.
Management of activities and students by staff will ensure control of access to spaces and monitoring of their use.

8.4 ACCESS CONTROL

Access Control for a site using physical and symbolic barriers is important part of clearly defining public vs private space. As well as identifying these boundaries, 'Access Control' allows users of a site to recognise pathways into it using landscaping, desire lines & pathways.

As noted above Richmond River High Campus uses physical boundaries such as fences gates & landscaping to define the site. In addition, entrances to buildings incorporate signage as well as highly recognisable elements, such as battened stair wells.

9. IMPACT OF OUTDOOR LIGHTING

LCI, the electrical engineers, have proposed lighting to THE small undercroft area of Building A and external lighting at strategic location of paths, entries, carpark and sporting facilities. Any concerns around light pollution to the neighbouring buildings is considered negligible as there are no adjacent buildings in close proximity.
All the outdoor lighting is to comply with AS/NZS4282:2019 - Control of obtrusive effects of outdoor lighting. This condition applies to the eastern boundary which faces showground and Lismore Kart Club.

LCI have determined that the Services Contractor is to ensure no external luminaire on the project has an Upward Light Output Ration (ULOR) that exceeds 5%, relative to its actual mounted orientation. The Services Contractor is also to ensure that direct illuminance from external luminaires has a maximum illuminance value no greater than 0.5 lux to the boundary, 0.1 lux to 4.5m beyond the site into the night sky.

Overall, the intent of the design is for the impact of outdoor lighting to be limited and not to disturb neighbouring land.

10. SIGNAGE STRATEGY

Key signage for Richmond River High Campus is proposed at the main vehicle and pedestrian entrance to the site off Dunoon Rd to assist in identifying the campus to the public and provide wayfinding.
Additional digital signage is also proposed for the Dunoon Road main entry and at the corner of Dunoon Rd and Alexandra Pde. This signage will provide information to the wider community about school events and student achievements.

School signage or logo's is proposed for building facades with further information to be provided during the detailed design phase, needing to be co-ordinated with the school for the best use of resources and consideration of maintenance.

Onsite wayfinding and statutory signage will be further developed in consultation with stakeholders to develop and integrate a signage type that can best incorporate the users' needs including the inclusion of Connecting with Country elements.

Positions of signage is indicatively indicated in Figure 10.01 below.

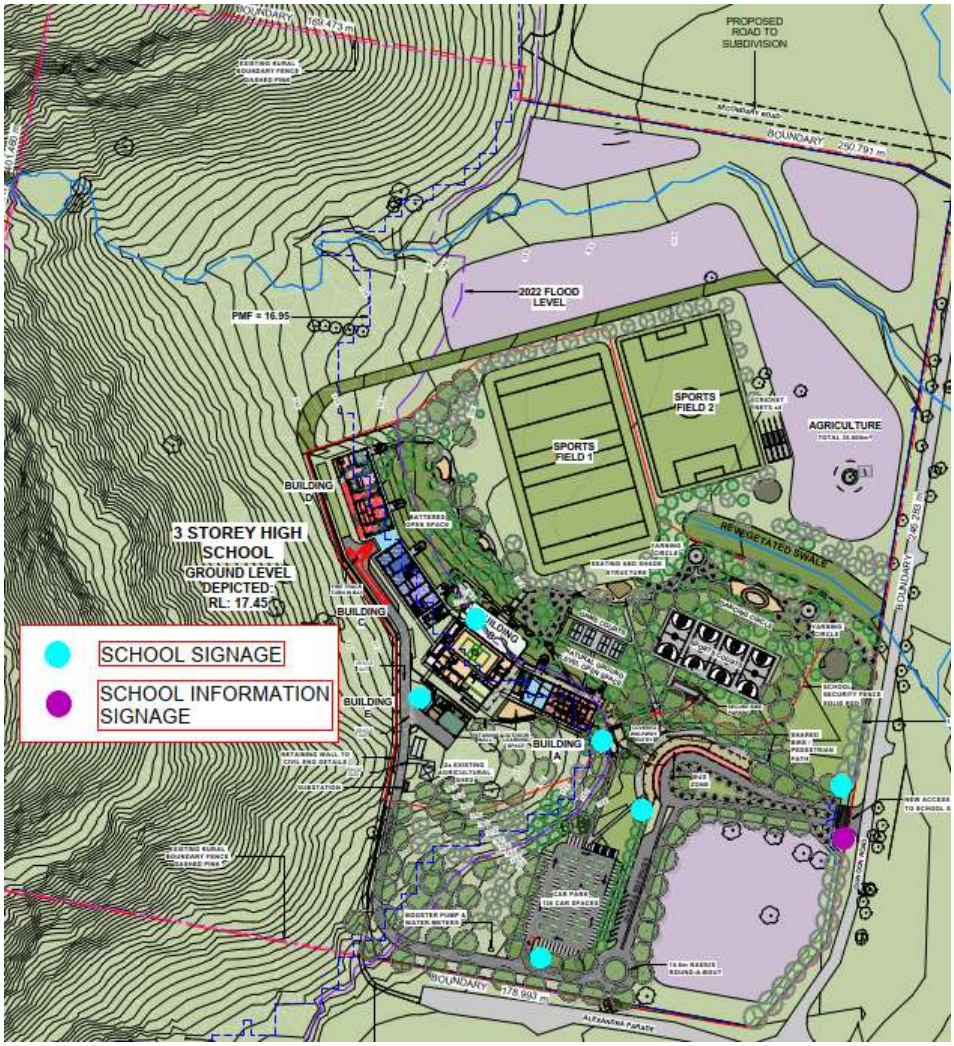


Figure 10.01: Signage Strategy Diagram (Source: EJE Architecture)

11.CONNECTION WITH COUNTRY

Connection with Country meetings have been held during the Schematic design phase and strategies have been developed in conjunction with the Widjabul Wia-bal representatives. There have been both an architectural and landscape response and integration of these strategies within the design. The main strategies developed in the meetings fall under five banners:

1. Telling Bundjalung Stories
2. Gathering on Bundjalung Country
3. Healing and Respecting Bundjalung Country
4. Celebrating Bundjalung Language
5. Connecting Through Sport

Below are the architectural and landscape responses to the Connection with Country workshop outcome summary.

11.1 ARCHITECTURAL RESPONSE:

The architectural response to these strategies includes:

1) The school hall could be a place where Bundjalung artworks are featured.

a) Within the hall areas of wall have been indicated for use as a mural wall to feature Indigenous athletes. This is to be developed in conjunction with the AECG. The exterior of the hall has also been considered as places where local Indigenous artwork can be featured. Allowing the northeastern façade facing the sporting facilities has been identified to be the best location for this due to its prominent nature.

Figure 11.01: Render of Hall and Inspiration imagery featuring Indigenous artwork on building facades (Source: EJE Architecture & SINSW)

2) Having buildings such as the school hall able to open to the outdoors.

a) Both the Theatre and the Hall can be fully opened to outdoor spaces to the northeast and southeast of these facades. This provides the opportunity for breakout space to assist these spaces but also reinforces the connection to the landscape and Widjabul Wia-bal Country

3) Creating outdoor learning spaces.

a) Multiple outdoor learning areas are provided in the design which can be utilised for educational purposes

4) Reducing the prominence of the school buildings through using natural colours. Use artworks for splashes of colour and

have colourful interior spaces.

a) The colour palette of the buildings has been driven by the SINSW Pattern Book Colour Schemes and the surrounding landscape. The building colours range from eucalypt greens to earthy browns and oranges. The only building which deviates from a highly natural palette is the Theatre which has been designated a dusty red tone and is meant to stand out as a visual wayfinding indicator. Where colour has been used on the external façade it's typically been limited to the feature hoods and feature frame for the external curtain walls.

Figure 11.02: View of buildings within the landscape with the materials referencing the local landscape (Source: EJE Architecture)

5) *Using language across the campus through signage and naming.*

a) There are multiple opportunities to achieve this in the design from the name of the buildings, outdoor spaces, and specialised rooms. This is to be further developed in consultation with the school and the AECG.

6) *Featuring images of prominent Aboriginal sportspeople in the gym and basketball court.*

a) As mentioned in 1a the hall provides an opportunity for a large mural wall to be included in the design. This will be developed in consultation with the AECG

- Featuring images of prominent Aboriginal sportspeople in the gym and basketball court.
- Use sport as way to bring parents into the life of the school.

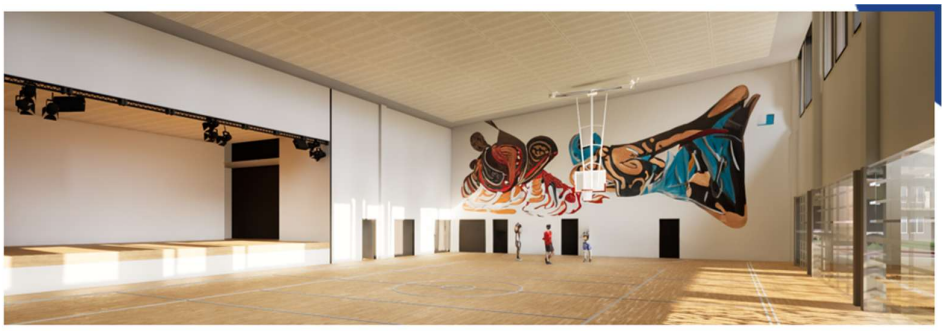


Figure 11.03: Inspiration imagery featuring murals of athletes and sportspeople (Source: EJE Architecture & SINSW)

11.2 LANDSCAPE RESPONSE:

1) Looking at opportunities to incorporate significant stories in artworks embedded in pathways around the campus.
   a) Opportunities have been considered to include artworks and patterns on the footpaths around the school which will reflect local Widjabul Wia-bal stories. These will be developed in the Detailed Design phase and in consultation with the six local families and the AECG.

Figure 11.04: Example Imagery of Totems (Source: EJE Architecture & SINSW)

2) Placing totem poles at the entry to the school.
   a) Location of totem pole have been indicated along the entrance sequence of the school. These will be developed in the Detailed Design phase and in consultation with the local families and the AECG.

3) Creating two yarning circles, one for men and one for women that are secluded. Use local rock and timber for the yarning circles rather than sandstone blocks that aren't from this Country.
   a) Two yarning circles have been shown in the landscape design, one to the western end of the water course and one to the east. This creates two separate cultural spaces to discuss women's and men's business. The material palette for these areas incorporates local timbers and stones to connect to the local environment and Country.
4) Creating a dancing ground as a place where people come together. This could have an earth surface that allows for dust to be created when stomping.
   a) Adjacent to the watercourse and in between the yarning circles, there is a zone for cultural dancing indicated. The proposed materials to be used in this area are to be sourced locally and feature local timbers and stones. The intended ground material is to be exposed earth to allow for dust to be created when stomping during cultural dance.

Figure 11.06: Cultural Spaces included in the design by Terras (Source: Terras/EJE Architecture/SINSW)

5) Having quiet spaces within the gully where students can chill out, be in nature and connect with Country.
   a) The yarning circle and dance areas are intended to provide this opportunity for the students to have a quiet space for relaxations and connection to nature and Country.
6) Restoring the gully to heal Country
   a) The watercourse is to be revegetated with native and locally endemic species of plants.
7) Sourcing local plants for landscaping the campus through the Local Aboriginal Land Council as they have a specialised nursery of locally collected species.
   a) Terras, the landscape architects have reached out to the Local Land Council Nursery to begin identifying and sourcing plants to be used in the landscaping of the school. This is to be further developed and specified in Detailed Design.
8) Using this area as a place to learn about the environment and Bundjalung Country.
   a) The landscape plan indicated that within the revegetated watercourse there are to be natural paths through the area to allow students, teachers, and elders to walk through this area and learn about Country and share local cultural knowledge.
9) Incorporating bush tucker, bush medicine and totem plants.
   a) Within the planting palette there are a variety of bush tucker and bush medicine plants which have been included. Further consultation with the AECG and the Widjabul Wia-bal families will be required to identify the local totem plants recognised in the community.

Sourcing local plants for RRHC through the Local Aboriginal Land Council as they have a specialised nursery of locally collected species.

- Terras have begun the process of connecting to the Ngulingah Nursery to source endemic plants

Incorporating bush tucker, bush medicine and totem plants.

- Terras have specified endemic and native bush tucker, bush medicine, and totem plants.
- Advice to be obtained from the local Widjabul Wia-bal families to identify their totem plants.

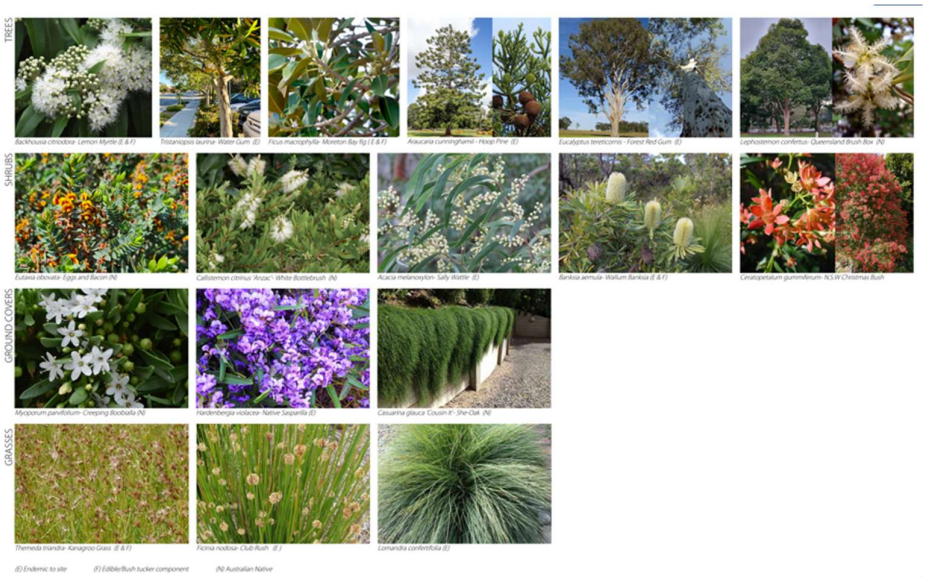


Figure 11.07: Planting Palette proposed by Terras (Source: Terras)

10) Involving students in planting out and caring for Country
    a) Terras have allowed for areas of landscape to be staged to allow multiple opportunities for the students to be involved in planting out and caring for Country. This will need to be further coordinated and organised with the school
11) Using language across the campus through signage and naming.
    a) Opportunities for language to be incorporated into signage and naming of areas have been identified and will be further developed in conjunction with the school and the AECG in the Detailed Design Phase.
12) Using QR codes and new technology to "tell these stories"
    a) Opportunities for local Dreaming Stories to be incorporated into signage and QR Codes around the school have been identified and will be further developed in conjunction with the school, the Widjabul Wia-bal community and the AECG in the Detailed Design Phase.
13) The seating leading down to the oval could be inscribed with the Bundjalung words for the school's values.
    a) Terras have identified that the tiered seating to the sorting areas is an opportunity for language and artwork to be incorporated into the landscape and will be further developed in conjunction with the school and the AECG in the Detailed Design Phase.

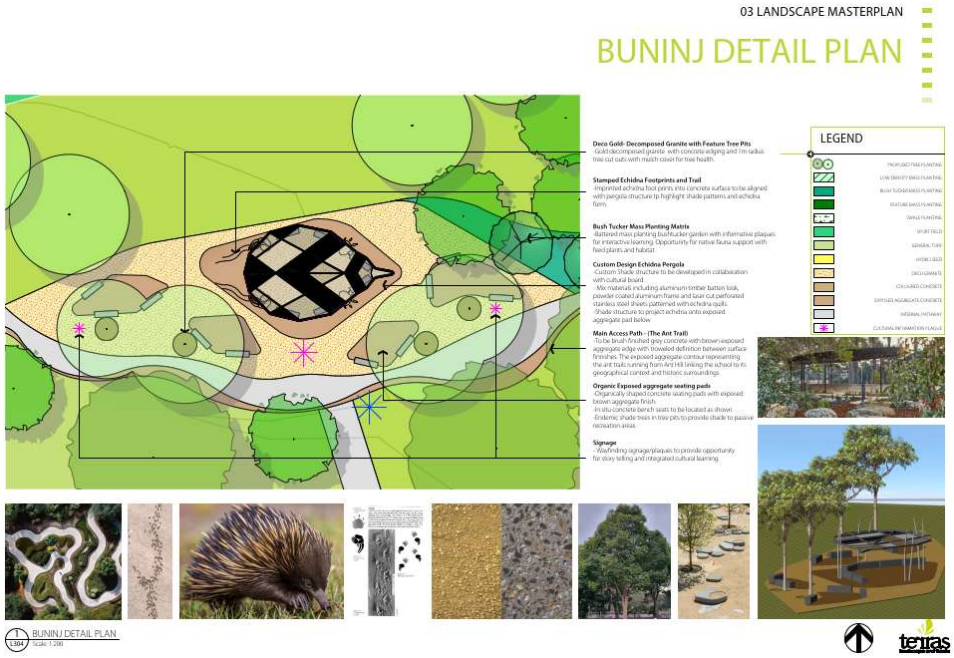


Figure 11.08: Example Imagery of ways language and stories can be including within the landscape design (Source: EJE Architecture & SINSW)

EVALUATION OF ENVIRONMENTAL IMPACT

11.3 VISUAL IMPACT

The buildings have been designed where possible to mitigate the impact on the visual amenity within the context of the activity. Due to the impact of flooding the buildings have been positioned on the site above the PMF level and to reduce the extent of footprint of the buildings it has been developed over three storeys. The local rural buildings in the immediate context are all positioned above the ground floor level of the proposed Richmond River High Campus Buildings. None of these buildings have been determined to have a significant heritage impact in the Heritage Impact Report and the farmhouses are currently proposed to be demolished.

Figure 11.09: Aerial view showing the setback of the buildings from Dunoon Rd.
(Source: EJE Architecture)

Additionally, the building is set well away from the boundaries to maximise the landscaping opportunities around the building to help obscure it from the street and improve privacy to surrounding sites. Planting along the northern and eastern boundaries has been priorities to increase privacy and restore the natural environment after years of agricultural use.

The design of the roof is to sit within the landscape and incorporate natural colours to reduce the appearance of the building array. The form of the buildings is broken up with differing heights and orientations creating an interesting façade.

Figure 11.10 View showing the breakup of buildings and the use of natural colours. (Source: EJE Architecture)

11.4 LIGHT POLLUTION

The placement and design of the exterior lighting is such to ensure there is no light spill to the surrounding neighbourhood.

11.5 OVERSHADOWING

Due to the large nature of the site, rural context, and positioning of the buildings there is no concern of overshadowing neighbouring buildings. The existing farmhouses are proposed to be demolished so there will be no impact to existing buildings

It can also be noted that the future housing development to the northern side of the proposed secondary road will not be impacted by overshadowing from the school development due to the school buildings being south of this site as well as being in the middle of the project site well away from the northern boundary.

11.6 WIND ASSESSMENT

The prominent winds impacting the site will be those channelled through the valley between the two hill formations. The direction of this wind will be from the north-east and the south-west. The building will protect the open space from any winds being channelled over and down the hill from the west. These are typically undesirable 'hot' winds. Cool eastern wind will be able to enter outdoor sporting facilities and ventilate the classrooms and teaching hubs. The positioning of the C-shaped building layout will help to capture cooling northeastern breezes and protect from hotter western winds.

11.7 CONNECTION WITH COUNTRY

The consultation process has developed CwC within the architecture and the landscape design. Some of these features include:

- Separate cultural gathering spaces
- A native and endemic planting palette
- Signage and QR Codes will be placed around the garden beds to teach the students about Bundjalung stories and language
- Planting is proposed to be staged to allow student participation, encouraging them to learn about Bundjalung Country and Culture through plants
- A mural wall will be incorporated into the hall to celebrate Indigenous sports men and women.

- The landscape design will include artwork with reference to Widjabul Wia-bal cultural heritage.

The planting and landscape materials palette will continue to be developed in consultation with Widjabul Wia-bal representatives and the AECG. These palettes are proposed to be utilised site wide to ensure integration and continuity.

11.8 SIGNAGE

The development of artwork, murals and key signage for school identification will be in conjunction with the AECG with ongoing consultation with the school and key stakeholders during final detail designs.

Part D

APPENDIX 1: Advice from SDRP No. 1 & EJE Comments

APPENDIX 2: Response to Comments from SDRP No. 1

APPENDIX 3: Comments from SDRP No. 2

APPENDIX 4: Response to Comments from SDRP No. 2

APPENDIX 1: ADVICE FROM SDRP NO. 1 & EJE COMMENTS

GOVERNMENT
ARCHITECT
NEW SOUTH WALES

6 May 2024

Krystal Porteus
Project Officer
School Infrastructure NSW
krystal.porteus@det.nsw.edu.au

PROJECT: Richmond River High Campus Flood Rebuild
RE: State Design Review Panel – 24th April – Review 1

Dear Krystal,

Thank you for the opportunity to review the above project at this early stage. Please find below a summary of advice and recommendations arising from the design review session held on 24th April 2024.

While the siting of the building on the relatively flat area between the bushfire prone land and flood area is supported, there remain several critical issues that require addressing. Further development of the site planning to respond to the existing topography and site hydrology is recommended. Integration of the Connecting with Country work can help guide the resolution of these issues.

The following elements of the design are supported:

- The key cultural considerations identified in the initial stages of the Connecting with Country engagement process.
- The engagement with the school community and the commitment to respond to the desire for the character of the current campus to be reflected in the new design.
- The ease of access to the facilities intended to be shared with the community.
- The placement of buildings on relatively level terrain, situated in the area clear of bush fire risk and above PMF (Probable Maximum Flood) – subject to the advice below.

The following commentary provides advice and recommendations for the project:

Connecting with Country

While the key cultural considerations arising from an initial engagement with Country process are supported, the proposed design does not appear to reflect those considerations.

1. Engage in a walk on Country to better understand the site from an indigenous perspective, including its ecologies and natural water flows.
2. Maintain a focused response to Designing with Country principles for the design of built form and landscape.
3. Use this project as an opportunity to repair Country, e.g. to restore disrupted ecologies, reinstate vegetation to better manage overland flow during high rain events.
4. Refer to the updated 'Connecting with Country framework' and case studies on the GANSW website for more information and guidance.

Site Strategy

The proposed design appears to prioritise the orthogonal alignment of the road over the natural features of the landscape and topography, and overlooks the opportunity to work with existing level changes and the creek alignment. The presence of a 'seasonal' creek is an opportunity for the design to meaningfully convey a narrative around respect for Country and celebrate the movement of water.

5. Site buildings more naturally within the landscape along existing contours. Optimise the design to minimise the need for retaining walls and unnecessary cut and fill.
6. Recognise the creek and its function in managing overland flow as a key element in the site planning:
    a. preserve the natural alignment of the creek - avoiding the need for significant infrastructure and maintenance cost of engineered solutions,
    b. position buildings to accommodate the natural passage of the creek to minimise the risk and impact of flash flooding.

The access and evacuation provisions for current and long-term operation require further clarification.

7. Clarify the ownership and timing of the delivery of the access road into the school given it is outside the project boundary.
8. Describe the operation of the evacuation roads and any interim measures that will apply if the roads outside of the project boundary are not yet complete when the school opens.

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9. Consider the implications of the future residential developments to the north of the site on the access to the school.
10. Test alternative options for the location of the carpark that bring it closer to the school entry.
11. Investigate the possibility of utilizing the existing level changes in the topography to achieve direct access to the upper levels.
12. Position the internal service road to optimise deliveries to the hall and canteen and better integrate with existing topography.
13. Investigate how the service road can be utilized by the public to access the VET facilities if they are to be shared with the community.

Consider the implications of future growth in the school catchment on campus planning.

14. Further investigate the implication of future residential developments to the north of the site on likely future school population numbers.
15. Illustrate expansion scenarios of the GLS (General Learning Spaces) to accommodate the potential future growth of the school.

Landscape

The character of this beautiful, sloping landscape should be respected and celebrated in the proposed landscape design.

16. Review the landscape strategy by taking cues from the existing topography and landscape features, including the creek, to reinforce the unique existing character of the site.
17. Create a diversity of spaces that better relate to existing topographical conditions with a focus on regenerating native ecologies.
18. Target a minimum of 30% canopy cover across the applicable area of the site to ensure adequate shading to open areas.
19. Integrate the existing dam into the landscape strategy to create outdoor learning opportunities, for example in nature studies.
20. Reduce the extent of the security fencing. Consider landscape alternatives wherever possible to preserve the character of the pastoral landscape, e.g. swales and ha-ha arrangements.

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21. Improve the relationship between the COLA and the adjacent open space – consider suitable treatments for edge conditions and proposed level changes.
22. Ensure the location and orientation of the basketball courts optimally promotes their use.

Architecture

The formality of the proposed design does not respond to the school community's preference for a more informal and articulated arrangement.

23. Relax the application of the MfS (Manufacturing for Schools) templates to introduce greater variation to the building volume, including the following:
    a. introduce breaks within the long building volume to mitigate its scale while revealing glimpses of the natural landscape to the west,
    b. explore the use of COLAs, external learning spaces and open corridors to link the building volumes and to maintain covered access to all spaces,
    c. assess the cost benefit of reducing costly earthworks and minimizing extensive flood water management systems enabled through the implementation of a more site sensitive response.

While it is recognized that the school values the undercroft for its function as a shaded gathering area, an entrance space for the school and a weather protected waiting area for the school bus, there are aspects of the design that require improvement.

24. Create an appropriate arrival space for the school – generously scaled and well-lit – while maintaining the functionality of the undercroft.
25. Improve the functionality of the undercroft areas by addressing level changes, minimizing retaining walls, managing the depth of the space and prioritizing safety in design.
26. Assess the amount of light achieved within each classroom, with a specific focus on the art hub and GLS hub on Level 1, to ensure learning activities are supported by adequate daylight.
27. Reposition vertical circulation elements to mitigate their adverse impact on internal light levels.

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Sustainability and Climate Change

28. Demonstrate how sustainability targets will be achieved and how initiatives are integrated into the site planning and design of buildings, including opportunities for well-integrated Country narratives.
29. Consider using the stormwater collected by the existing dam for site irrigation.
30. Utilise large unshaded roof areas for PVs.
31. Illustrate how the project will contribute to NSW's Net Zero emissions goal by 2050. Refer to 'NSW, DPIE, Net Zero Plan, Stage 1: 2020-2030' for further information.

Requests for the next SDRP

It is recommended that the project return to the SDRP following further development. The issues outlined above are to be addressed at the next SDRP session.

32. In addition to addressing the advice and recommendations above, please provide the following at the next SDRP session:
    a. outcomes from the Walk on Country and update on the outcomes of the Connecting with Country engagement workshops,
    b. developed options with plans, sections and perspectives as appropriate,
    c. existing and proposed contours for the entire site to improve the clarity of the landscape design,
    d. more information on flood modelling, including overland flow management,
    e. bushfire analysis, including any proposed design response and/or mitigation measures,
    f. solar access studies.

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Please contact GANSW Design Advisor, Dr Martina Novakova (martina.novakova@dpie.nsw.gov.au), if you have any queries regarding this advice.

Sincerely,

Darlene van der Breggen

Principal Design Advisor

Chair, SDRP

Distribution:

NSW SDRP Panel members	Andrew Nimmo, Elizabeth Carpenter, Roger Jasprizza, Darlene Van Der Breggen (Chair)
GANSW Design Advisor	Martina Novakova
DPE	Madeline Thomas, Srishti Jagdale
SINSW	Dean Birkett, Mark Coyte, Tessa Sharp, Vanessa Levy Mesman, Krystal Porteus, Andrew Robinson
EJE Architecture	Kathy Gresham, Grant Schultz
Terras Landscape Architects	Guy Frostick
TSA Management	Michael Trajkov, Emma Viljoen, Elise Harrison, Nicola Carcary
Gyde Consulting	Mel Krzus
TTW	Philip McAteer
LCI	Cynthia Farah, Zac Duryea

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APPENDIX 2: RESPONSE TO COMMENTS FROM SDRP NO. 1

	SDRP Comment	Responsible	Action / Comment/ resolution	Status
Supported elements	the key cultural considerations identified in the initial stages of the Connecting with Country engagement process.	Note		
	The engagement with the school community and the commitment to respond to the desire of the character of the current campus to be reflected in the new design.	Note		
	The ease of access to the facilities intended to be shared with the community	Note		
	The placement of buildings on relatively level terrain, situated in the area clear of bush fire risk and above PMF (Probable Maximum Flood) - subject to the advice below.	Note		
Connecting with Country	While key cultural considerations arising from an initial engagement with Country process are supported, the proposed design does not appear to reflect those considerations	Note		
	1) Engage in a walk on Country to better understand the site from an indigenous perspective, including its ecologies and natural water flows.	SINSW/TSA	Thorough CwC process to date including: 1) Initiation CwC workshop held 01/05/2024 2) CwC Workshop with Widjabul Wia-bal Gurrumbil Aboriginal Corporation	Closed
	2) Maintain a focused response to Designing with Country principles for the design of built form and landscape.	SINSW/TSA	3) CwC Walk on Country with Widjabul Wia-bal Gurrumbil Aboriginal Corporation, teachers and students held 23/08/2024	Closed
	3) Use this project as an opportunity to repair Country, e.g. to restore disrupted ecologies, reinstate vegetation to better manage overland flow during high rain events.	Terras	4) CwC workshop with School held 24/10/2024 Further CwC workshops and implementation scheduled for the next design phase.	Closed
	4) Refer to the updated 'Connecting with Country framework' and case studies on the GANSW website for more information and guidance.	SINSW/TSA	Refer CwC reports from Elumni Consulting.	Closed
Site Strategy - Topography	The proposed design appears to prioritise the orthogonal alignment of the road over the natural features of the landscape and topography, and overlooks the opportunity to work with existing level changes and the creek alignment. The presence of a 'seasonal' creek is an opportunity for the design to meaningfully convey a narrative around respect for Country and celebrate the movement of water	Note		
	5) Site buildings more naturally within the landscape along existing contours. Optimise the design to minimise the need for retaining walls and unnecessary cut and fill.	EJE	This was completed in May 2024, refer design options developed to satisfy this request. The selected campus design consists of 6 buildings, working with the contours and linked by covered walkways.	Closed
	6) Recognise the creek and its function in managing overland flow as a key element in the site planning	EJE/TTW	This was completed in May 2024 along with survey, flood modelling and civil design development to inform citing of the Project. Refer design options developed to satisfy this request.	Closed
	a) preserve the natural alignment of the creek - avoiding the need for significant infrastructure and maintenance cost of engineered solutions	EJE/TTW	As above.	Closed
	b) position buildings to accommodate the natural passage of the creek to minimise the risk and impact of flash flooding	EJE	As above.	Closed
Site Strategy - Site Access	The access and evacuation provisions for current and long-term operation require further clarification	Note		
	7) Clarify the ownership and timing of the delivery of the access road into the school given it is outside the project boundary	SINSW	NSW Reconstruction Authority to design secondary road. Formal agreement to be developed to outline delivery responsibility and timings.	Open
	8) Describe the operation of the evacuation roads and any interim measures that will apply if the roads outside of the project boundary are not yet complete when the school opens	SINSW	Forms part of the Flood modelling and reporting process in consultation with relevant authorities.	Open
	9) Consider the implications of the future residential developments to the north of the site on the access to the school	Consultants	This has been considered in relevant consultant design and reporting.	Ongoing
	10) Test alternative options for the location of the carpark that bring it closer to the school entry	EJE	Carpark locations were tested, however no suitable alternative location works with the site topography, retention of the existing gully, and flooding constraints. The western access road and vehicular drop off point at the southern end of the building provides access for students and staff with mobility issues, and for deliveries to the adjacent technology areas and the hall/canteen. The proposed design with the pedestrian bridge across the revegetated gully provides a unique and attractive entry providing the opportunity for staff, students and visitors to experience the character and environment of the site.	Closed
	11) Investigate the possibility of utilizing the existing level changes in the topography to achieve direct access to the upper levels.	EJE	The existing topography is being utilized to provide direct access to the undercroft which relates to the sporting field level, whilst the main school activities on the Ground Floor above also have direct access to ground.	Ongoing
	12) Position the internal service road to optimise deliveries to the hall and canteen and better integrate with existing topography	EJE/TTW	This is being refined as design progresses in coordination between architect and civil.	Ongoing
	13) Investigate how the service road can be utilized by the public to access the VET facilities if they are to be shared with the community	EJE	Controlled access may be implemented however security provisions will be implemented to prevent free access through the school.	Closed
Site Strategy - Future Growth	Consider the implications of future growth in the school catchment on campus planning	Note		
	14) Further investigate the implication of future residential developments to the north of the site on likely future school population numbers	SINSW	Noted. Consultation with NSW RA and council continues. School requirements are understood and necessary provisions are considered.	Closed
	15) Illustrate expansion scenarios of the GLS (General Learning Spaces) to accommodate the potential future growth of the school	EJE	Noted. This is a separate exercise that can be completed if require however considered unnecessary at this stage.	Closed
	The character of this beautiful, sloping landscape should be respected and celebrated in the proposed landscape design	Note		

Landscape	16) Review the landscape strategy by taking cues from the existing topography and landscape features, including the creek, to reinforce the unique existing character of the site.	Terras	Done, refer landscape plans. Further refinement through detailed design.	Ongoing
	17) Create a diversity of spaces that better relate to existing topographical conditions with a focus on regenerating native ecologies.	Terras	Done, refer landscape plans. Further refinement through detailed design.	Ongoing
	18) Target a minimum of 30% canopy cover across the applicable area of the site to ensure adequate shading to open areas.	Terras	30% will be targeted for the immediate school area however due to the immense scale of the site this cannot be achieved to the entire lot including agriculture areas.	Closed
	19) Integrate the existing dam into the landscape strategy to create outdoor learning opportunities, for example in nature studies.	Terras	Done, refer landscape plans. Further refinement through detailed design.	Closed
	20) Reduce the extent of the security fencing. Consider landscape alternatives wherever possible to preserve the character of the pastoral landscape, e.g. swales and ha-ha arrangements.	Terras	Fencing strategy progressing with the design. Further refinement through detailed design.	Closed
	21) Improve the relationship between the COLA and the adjacent open space - consider suitable treatments for edge conditions and proposed level changes.	Terras	Orientation amended.	Closed
	22) Ensure the location and orientation of the basketball courts optimally promotes their use.	EJE	Orientation and location amended.	Closed

Architecture -	The formality of the proposed design does not respond to the school community's preference for a more informal and articulated arrangement.	Note		
	23) Relax the application of the MfS (Manufacturing for Schools) templates to introduce greater variation to the building volume, including the following:	Note	MfS methodology no longer being adopted. Revised pattern book approach has been adopted and design amended with consideration for this item given where feasible within the budget and like for like rebuild aspect of this project.	
	a.introduce breaks within the long building volume to mitigate its scale while revealing glimpses of the natural landscape to the west,	EJE	The revised campus design consists of 6 buildings, linked by covered walkways. The distance between buildings varies from 3m to 10m, allowing for natural light and ventilation all around, and visual links to the landscape behind.	Ongoing
	b.explore the use of COLAs, external learning spaces and open corridors to link the building volumes and to maintain covered access to all spaces,	EJE	COLAs, external learning spaces and open corridors are all included to link the building volumes and to maintain covered access.	Open
	c. assess the cost benefit of reducing costly earthworks and minimizing extensive flood water management systems enabled through the implementation of a more site sensitive response.	EJE	Relocating the Campus Buildings to the south of the swale has reduced the extent of stormwater management systems, these are only as required to allow for safety of the building's occupants.	Open

Architecture	While it is recognized that the school values the undercroft for its function as a shaded gathering area, an entrance space for the school and a weather protected waiting area for the school bus, there are aspects of the design that require improvement.	Note		
	24) Create an appropriate arrival space for the school - generously scaled and well-lit - while maintaining the functionality of the undercroft.	EJE	Necessary detail progressing.	Open
	25) Improve the functionality of the undercroft areas by addressing level changes, minimizing retaining walls, managing the depth of the space and prioritizing safety in design.	EJE	The Undercroft on this school is limited to half a floor below Building E, which provides an all weather facility at the Sporting field level. Retaining structures are being value managed in line with cost considerations and SiD requirements.	Ongoing
	26) Assess the amount of light achieved within each classroom, with a specific focus on the art hub and GLS hub on Level 1, to ensure learning activities are supported by adequate daylight.	EJE	Necessary detail progressing as per pattern book design.	Open
	27) Reposition vertical circulation elements to mitigate their adverse impact on internal light levels.	EJE	The Stairs and Lifts are positioned to minimise the impact on internal light levels, noting they are set back 6m from the building face, and positioned wherever possible between buildings, in front of service/amenities areas, or at corners where learning spaces have access to two walls of windows.	Open

Sustainability & Climate Change	28) Demonstrate how sustainability targets will be achieved and how initiatives are integrated into the site planning and design of buildings, including opportunities for well-integrated Country narratives.	LCI	Sustainability consultant engaged and developing ESD reports as per standard requirements.	Open
	29) Consider using the stormwater collected by the existing dam for site irrigation.	TTW	Civil consultant reviewing suitability of this.	Open
	30) Utilise large unshaded roof areas for PVs.	LCI	SI standard guidelines and like for like rebuild insurance requirements to be considered.	Open
	31) Illustrate how the project will contribute to NSW's Net Zero emissions goal by 2050. Refer to 'NSW, DPIE, Net Zero Plan, Stage 1: 2020-2030' for further information.	LCI	Refer to sustainability consultant ESD reports.	Open

Request for next SDRP	It is recommended that the project return to the SDRP following further development. The issues outlined above are to be addressed at the next SDRP session.	Note		
	32) In addition to addressing the advice and recommendations above, please provide the following at the next SDRP session:	Note		
	a) outcomes from the Walk on Country and update on the outcomes of the Connecting with Country engagement workshops,	SINSW	CwC reports have been produced and can be provided as required.	Open
	b) developed options with plans, sections and perspectives as appropriate,	EJE	Current design addressing majority of items can be provided as required.	Open
	c) existing and proposed contours for the entire site to improve the clarity of the landscape design,	Terras	Developed as design progresses.	Open
	d) more information on flood modelling, including overland flow management,	TTW	Flood reports and associated modelling completed in Concept and now again in schematic.	Open
	e) bushfire analysis, including any proposed design response and/or mitigation measures,	GeoLINK	Preliminary bushfire report complete identifying site constraints and development parameters. Bushfire report is being developed with consideration of the design on the site as part of the planning submission.	Open
	f) solar access studies	EJE	As per current design.	Open

APPENDIX 3: COMMENTS FROM SDRP NO. 2

GOVERNMENT
ARCHITECT
NEW SOUTH WALES

6 December 2024

Krystal Porteus
Project Officer
School Infrastructure NSW
krystal.porteus@det.nsw.edu
.au

PROJECT: **Richmond River High campus Flood Rebuild**

RE: **State Design Review Panel – 27th November 2024– Review 2**

Dear Krystal,

Thank you for the opportunity for ongoing review of the above project. Please find below a summary of advice and recommendations arising from the design review session held on 27th November 2024.

The project team is commended for their clear presentation and for integrating the key points of advice and recommendations from the previous session into the updated design. The adoption of the school pattern book design has enabled a better response to the natural conditions of the site, further improving the design. However, there are still concerns regarding access and evacuation that require further resolution.

In addition to items noted in the previous letter, the following elements of the proposal are supported:

- The improved response to the natural features of the site that have enabled a meaningful approach to connecting with Country.
- The use of the creek as a driver for the landscape design and building placement.
- The intention to use the revegetation of the watercourse as an education resource for the students and school community.
- The variety of formal and informal outdoor learning spaces that respond to the unique features of the site.
- The ambition to provide effective natural ventilation in classrooms and reduce the dependency on air-conditioning.
- The intent to capture and store rainwater from the roofs for use in irrigation.
- The aim to source materials for the retaining walls from a local supplier.
- The intention to source endemic and native plants from a local nursery.

Please note the following advice and recommendations for the project, noting that there may be additional commentary arising from post meeting discussion:

Connecting with Country

The revised response to the creek has significantly improved the overall design. However, sightlines to the creek are partially obscured by the tall fencing around the multipurpose courts and the school security fence.

1. Increase the visibility of the creek from the campus heart - for example, by relocating the multipurpose courts to the southern side of Sports Field 1 and reviewing the approach to the school security fence (refer also to item 8).
2. Carefully assess any literal representations in the design such as the goanna pattern. Consider the following:
    a. The appropriateness of using cultural symbols and if used, the context, design and execution of these projects (especially in light of ICIP protocols).
    b. The suitability of that particular paving layout for the functionality and usability required for outdoor spaces.

Site Strategy and Landscape

The team's efforts to ensure that the access road off Dunoon Road (via Secondary Rd) is delivered in time for the school opening are acknowledged. Additional risks associated with landslip obstructing the internal access road, are also noted.

3. Demonstrate how access to and through the site could work in different scenarios.
4. In the event that the Secondary Road is not delivered on time, show how temporary road access, (including from Alexandra Parade) could work to ensure the school can operate on day 1.
5. Considering the land slip risk, explore alternative solutions for road access within the site.
6. Explore alternative locations for the kiss and drop-off area closer to the school. For example, on the northern side of the bus drop-off loop.

While the approach to the landscape design has improved significantly since the previous SDRP, some elements still require resolution for a successful outcome.

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7. Better integrate the landscape design (including levels and level changes) with the architecture to create a more cohesive indoor and outdoor learning environment.
8. Simplify the design and minimise the extent of retaining walls where possible to reduce costs. This could be achieved by the following:
    a. Use embankments instead of retaining walls where possible. b. In relation to the above, minimise balustrades and handrails where possible.
    c. Move Sports Field 1 further north (as per item 1) so that bleachers are centrally positioned along the western side of the field.
    c. In relation to item c, bleachers should be profiled to accommodate spectator seating as well as stairs, which should be aligned with circulation routes.
    d. Reduce the scale and formality of the planter boxes between the bleachers.
9. Review the design of the security fence, considering the following:
    a. Clarify the purpose of the fencing e.g. asset protection, student security / containment. This should inform optimal fence alignments, gate locations etc.
    b. Use of landscaping to conceal the fence and to secure the school campus.
    c. Locating fencing in low-lying areas such as swales to minimise visual impact.
    d. Use of built edges to form secure barriers where appropriate, to reduce the extent and cost of fencing.

Architecture

The pattern book approach has allowed the campus to 'relax' more comfortably into its setting (notwithstanding the land slip risk that still exists). Aligning the creek crossing with primary circulation creates a very clear and legible entry for the campus, and there are opportunities to develop this further.

10. The bridge itself is potentially the most effective entry statement - making the gateway portal redundant. Focus on the bridge design and detailing to create a memorable arrival experience.

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11. Access to the Admin Hub should be directly off the main circulation and visible from the main entry. The current location, tucked behind a stair tower and requiring unnecessary walkways to provide sheltered access, lacks clear visibility and is inconsistent with the otherwise clear circulation logic. Review the layouts to provide direct access as noted above.
12. Maintain meaningful sightlines to the landscape to the west in the gaps created between buildings by:
    a. Relocating the stair tower between buildings D and E so it does not obstruct this opening, while ensuring that daylight access to classrooms is not compromised
    b. Relocating the toilets between buildings C and D to the side to maximise the opening.
13. Consider a bespoke design for the theatre so that it can better serve as a focal point for the community and the school. This could include:
    a. centralising the structure between buildings A and C, to improve its visibility as a destination and
    b. materiality and form that creates a unique, more playful identity.

Sustainability and Climate Change

14. Propose measures to mitigate the heat load from the western sun on the building, for example by increased density of vegetation, to improve its thermal performance.
15. Maximise opportunities for water collection on site, for example in the carpark, to increase the amount of water available for irrigation.

Please contact GANSW Design Advisor, Dr Martina Novakova (martina.novakova@dpie.nsw.gov.au), if you have any queries regarding this advice.

Sincerely,

Darlene van der Breggen
Principal Design Advisor
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GANSW Design Advisor	Martina Novakova
SINSW	Mark Coyte, Vanessa Levy Mesman, Krystal Porteus, Jasna Stajic
EJE Architecture	Kathy Gresham
Terras Landscape Architects	Guy Frostick
Gyde Planning	Mel Krzus
TTW	Philip McAteer, Daniel Bradford
LCI	Cynthia Farah, Zac Duryea

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APPENDIX 4: RESPONSE TO COMMENTS FROM SDRP NO. 2

SDRP No.2 - 27/11/2024	RICHMAOND RIVER HIGH CAMPUS

	SDRP Comment	Responsible	Action / Comment/ resolution	Status
Supported elements	the key cultural considerations identified in the initial stages of the Connecting with Country engagement process.	Note		
	The engagement with the school community and the commitment to respond to the desire of the character of the current campus to be reflected in the new design.	Note		
	The ease of access to the facilities intended to be shared with the community	Note		
	The placement of buildings on relatively level terrain, situated in the area clear of bush fire risk and above PMF (Probable Maximum Flood) - subject to the advice below.	Note		
Connecting with Country	*The revised response to the creek has significantly improved the overall design. However, sightlines to the creek are partially obscured by the tall fencing around the multipurpose courts and the school security fence.*	Note	EJE note that the Buildings have moved further south away from the northern creek due to landslip concerns and the entry from the proposed secondary road has been relocated to Dunoon Rd	
	1) Increase the visibility of the creek from the campus heart - for example, by relocating the multipurpose courts to the southern side of Sports Field 1 and reviewing the approach to the school security fence (refer also to item 8).	EJE	As noted above, the school has moved further south and has minimal direct connection with the northern watercourse. The watercourse will not be touched as part of this development	
	2) Carefully assess any literal representations in the design such as the goanna pattern. Consider the following:			
	a. The appropriateness of using cultural symbols and if used, the context, design and execution of these projects (especially in light of ICIP protocols). .		Connecting with Country design is ongoing with further consultation with the local community. The landscape patterns and features have been further considered and evolved to reflect the local stories and feedback informing the outcome of the desired outdoor spaces and their uses.	
	b. The suitability of that particular paving layout for the functionality and usability required for outdoor spaces.		See note above	
Site Strategy	The team's efforts to ensure that the access road off Dunoon Road (via Secondary Rd) is delivered in time for the school opening are acknowledged. Additional risks associated with landslip obstructing the internal access road, are also noted.	Note		
	3) Demonstrate how access to and through the site could work in different scenarios.	EJE	The development has moved south and access is now via Dunoon Rd.	
	4) In the event that the Secondary Road is not delivered on time, show how temporary road access, (including from Alexandra Parade) could work to ensure the school can operate on day 1.	EJE	The development has moved south and access is now via Dunoon Rd.	
	5) Considering the land slip risk, explore alternative solutions for road access within the site.	EJE	The development has moved south and access is now via Dunoon Rd.	
	6) Explore alternative locations for the kiss and drop-off area closer to the school. For example, on the northern side of the bus drop-off loop.	EJE	The development has moved south and access is now via Dunoon Rd. The kiss and drop area is located on site approximately 100m closer.	
Landscape	While the approach to the landscape design has improved significantly since the previous SDRP, some elements still require resolution for a successful outcome	Note		
	7) Better integrate the landscape design (including levels and level changes) with the architecture to create a more cohesive indoor and outdoor learning environment.	EJE/Terras	The landscape design has been further developed to achieve this.	
	8) Simplify the design and minimise the extent of retaining walls where possible to reduce costs. This could be achieved by the following:	Consultants		
	a. Use embankments instead of retaining walls where possible.	EJE	The latest design has sought to minimise retaining.	
	b. In relation to the above, minimise balustrades and handrails where possible.	EJE	The latest design has sought to minimise retaining.	
	c. Move Sports Field 1 further north (as per item 1) so that bleachers are centrally positioned along the western side of the field.	EJE	The sports fields been positioned to suit the relocated buildings and civil levels and to maximise availble agricultural zones.	
	d. In relation to item c, bleachers should be profiled to accommodate spectator seating as well as stairs, which should be aligned with circulation routes.	EJE	Bleachers have been minimised with the use. of battered slopes	
	9) Review the design of the security fence, considering the following:			
	a. Clarify the purpose of the fencing e.g. asset protection, student security / containment. This should inform optimal fence alignments, gate locations etc.		Final fence design is to be developed with further consultation with SINSw security unit. Currently post ande rail rural style fencing is proposed to street boundaries to maintain the rural character and signify the agricultural nature of the school. Strategic placement of palisade fencing within the site is proposed for security of the facilites and final location of gates will be determined through detail design. Preliminary fencing and gates are shown on the site plan.	
	b. Use of landscaping to conceal the fence and to secure the school campus.		The landscape design hase proposed trees and shrubs along the line of fencing for screening.	
	c. Locating fencing in low-lying areas such as swales to minimise visual impact.		Where possible this may be achieved, but currently there is minimal opportunity.	
	d. Use of built edges to form secure barriers where appropriate, to reduce the extent and cost of fencing.		I f possible, however due to the site being so expansive and to some extent isoltated, SINSW prefers to prevent access to building facades. The western extent of the access road is retained and potentially will act as a barrier and allow fencing to be minimised in this location.	
	The pattern book approach has allowed the campus to 'relax' more comfortably into its setting (notwithstanding the land slip risk that still exists). Aligning the creek crossing with primary circulation creates a very clear and legible entry for the campus, and there are opportunities to develop this further.			
	10) The bridge itself is potentially the most effective entry statement - making the gateway portal redundant. Focus on the bridge design and detailing to create a memorable arrival experience.	EJE	The bridge is now redundant now that the development has moved south and entry is via Dunoon Rd. An entry statement will be made through the path connection from the bus drop-off with the use of the portal and connection with country features	

Architecture -	11) Access to the Admin Hub should be directly off the main circulation and visible from the main entry. The current location, tucked behind a stair tower and requiring unnecessary walkways to provide sheltered access, lacks clear visibility and is inconsistent with the otherwise clear circulation logic. Review the layouts to provide direct access as noted	EJE	The walkway from the bus drop-off and entry path, leads throught the portal to stairs that connect directly to the entry point of Building A.
	12) Maintain meaningful sightlines to the landscape to the west in the gaps created between buildings by:		
	a. Relocating the stair tower between buildings D and E so it does not obstruct this opening, while ensuring that daylight access to classrooms is not compromised	EJE	The stairs between buildings have been relocated.
	b. Relocating the toilets between buildings C and D to the side to maximise the opening.	EJE	The openings between building have been maximised as much as possible without extending the overall footprint too far and comprising its position relative to topographical restraints
	13) Consider a bespoke design for the theatre so that it can better serve as a focal point for the community and the school. This could include:		
	a. centralising the structure between buildings A and C, to improve its visibility as a destination and		Budgetary constraints and the need to minimise overall footprints have resulted in consolidating the theatre within Builiding B (Gym/Hall). The design of this building is driven by the Pattern book, and uniqueness will be achieved through finishes selections, CwC features (murals) and opening up to external spaces.
	b. materiality and form that creates a unique, more playful identity.		Materials will be developed to reflect the space, however now that the theatre is incorportaed into the hall, the patternbook template limits bespoke design.

Sustainability & Climate Change	14) Propose measures to mitigate the heat load from the western sun on the building, for example by increased density of vegetation, to improve its thermal performance.		The Patternbook design provides fixed louvres, horizontal and vertical sunshades to mitigate heat load from the western sun. Due to the steep topograhy and tree studded hill to the west of the development afternoon sun will be minimised.
	15) Maximise opportunities for water collection on site, for example in the carpark, to increase the amount of water available for irrigation.		Water collection is proposed through the use of rianwater tanks on selected buildings. The detail of this will will be worked through in detail design.