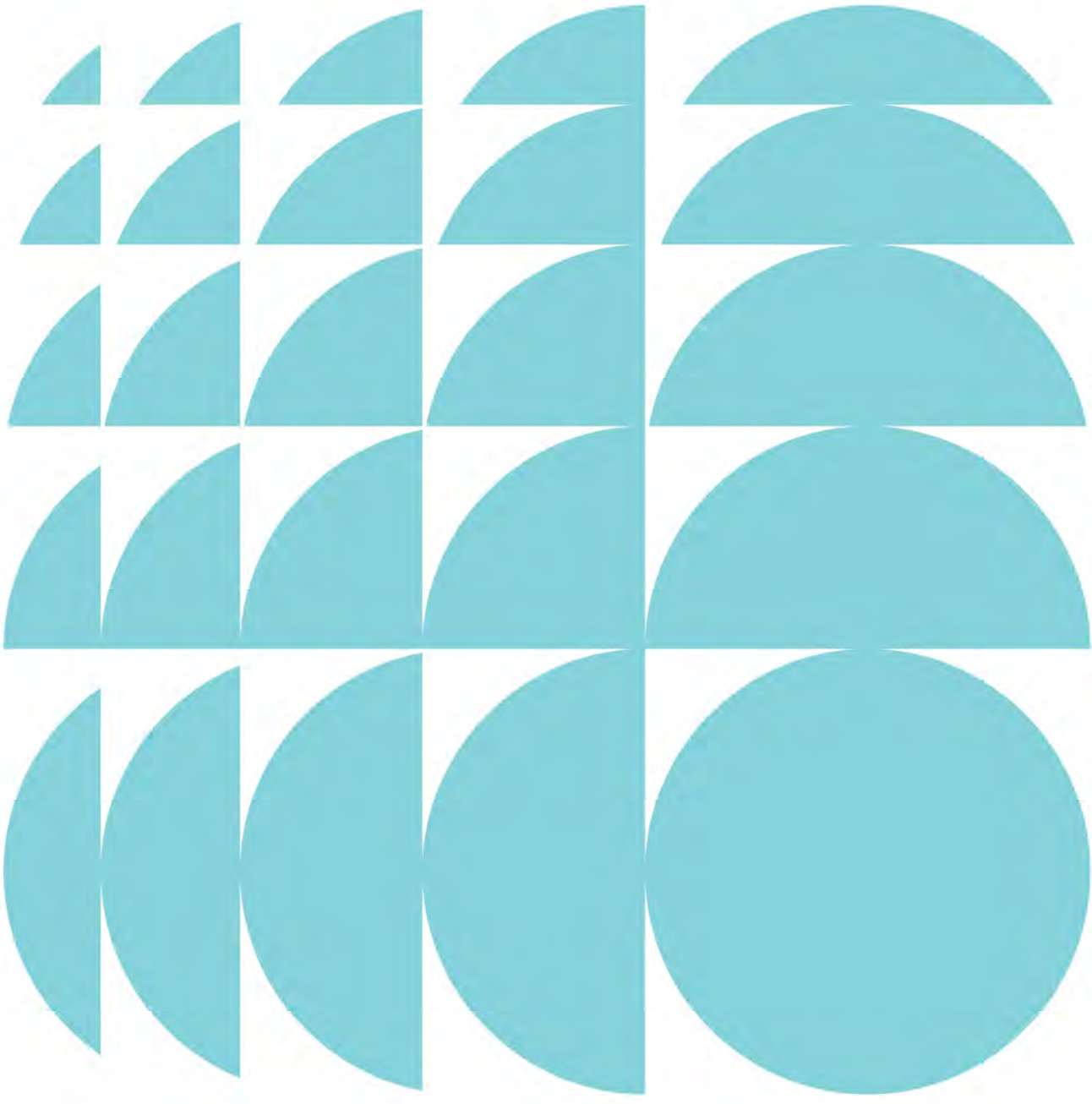
ETHOS URBAN

Environmental Impact Statement
New Public School in Wagga Wagga
Estella Road, Estella

Submitted to Department of Planning, Industry and Environment
On behalf of NSW Department of Education - School Infrastructure NSW

27 October 2019 | 218064



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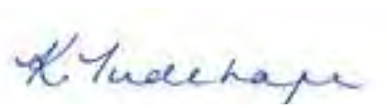

Kate Tudehope 27 October 2019

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Development Application Details	
Applicant name	NSW Department of Education
Applicant address	259 George St, Sydney
Land to be developed	Estella Road, Estella
Proposed development	Construction and operation of a new school in Wagga Wagga as described in Section 3.0 of this Environmental Impact Statement
Prepared by	
Name	Chris McGillick
Qualifications	BPlan (Hons)
Address	173 Sussex Street, Sydney
In respect of	State Significant Development - Development Application
Certification	
	I certify that I have prepared the content of this EIS and to the best of my knowledge: it is in accordance with Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*; all available information that is relevant to the environmental assessment of the development to which the statement relates and the information contained in the statement is neither false nor misleading.
Signature	
Name	Chris McGillick
Date	27/10/2019

Executive Summary

Purpose of this Report

This submission to the Department of Planning, Industry and Environment (the Department) comprises an Environmental Impact Statement (EIS) for a Development Application under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) related to the construction and operation of a new public school in Wagga Wagga at Estella Road, Estella.

The proposed development of a new school at Wagga Wagga is considered to be a State Significant Development (SSD) under Schedule 1 of *State Environmental Planning Policy (State and Regional Development)* 2011 (SRD SEPP) as the proposal seeks consent for the establishment of a new school.

A request for the issue of Secretary's Environmental Assessment Requirements (SEARs) was sought on 13 July 2018. Accordingly, the SEARs were issued on 8 August 2018. This submission is in accordance with the Department's guidelines for SSD applications lodged under Part 4 of the EP&A Act, and addresses the issues raised in the SEARs.

Overview of the Project

The Development Application (DA) seeks approval for the construction and operation of a new public school in Wagga Wagga, including:

- Construction of six (6) new 2-storey school buildings comprising:
  - Collaborative learning spaces;
  - Classrooms;
  - Offices for teachers and administrative staff;
  - Hall; and
  - Library.
- Associated site landscaping and open space improvements;
- Parking, pick up and set down and loading facilities;
- Removal of trees;
- Substation; and
- School signage.

The Site

The site is located at Estella Road, Estella in the Wagga Wagga Local Government Area approximately 4.5 kilometres north of the Wagga Wagga CBD. The site has an area of approximately 3ha and is legally known as Lot 1 in DP 1253855.

Planning Context

Section 5.0 of the EIS considers all applicable legislation in detail. The proposal is consistent with the requirements of all relevant SEPPs. The site is zoned SP2 – Infrastructure: Educational Establishment. The proposal is permissible with consent and meets the objectives of the subject zone.

Environmental Impacts and Mitigation Measures

This EIS provides an assessment of the environmental impacts of the project in accordance with the SEARs and sets out the undertakings made by NSW Department of Education - School Infrastructure NSW (SINSW) to manage and minimise potential impacts arising from the development.

Conclusion and Justification

The EIS addresses the SEARs, and the proposal provides for a new public school with modern facilities. The potential impacts of the development are acceptable and are able to be managed. Having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development, the carrying out of the project is justified for the following reasons:

- The assessment of this proposal has demonstrated that the development will not generate any environmental impacts that cannot be appropriately managed and is consistent with the relevant planning controls for the site.
- The development will provide a significant new piece of social and educational infrastructure, providing a new school with permanent teaching spaces to accommodate 480 students upon opening, with the ability to support greater student numbers into the future. The provision of a new teaching and education facility will support and strengthen the availability of education facilities in the region.
- The area and shape of the site allows for the provision of new teaching and education facilities that meet the special design requirements for the proposed uses, whilst not resulting in any significant adverse impacts on surrounding uses.
- The development will deliver shared and joint use facilities to be used by the local community, Council and CSU providing greater value for money to the public.
- The proposed redevelopment is anticipated to have positive social outcomes in ensuring that local residents have access to high quality educational facilities.

Given the above it is considered that the SSD application has merit and can be supported by the Department and the Minister for Planning and Public Spaces.

1.0 Introduction

This EIS is submitted to the Department pursuant to Part 4 of the EP&A Act in support of an application for SSD for the construction of a new public school in Wagga Wagga at Estella Road, Estella.

Development for the purposes of a new school is identified in Schedule 1 of *the* SDRP SEPP and is therefore declared to be SSD for the purposes of the EP&A Act.

The report has been prepared by Ethos Urban on behalf of SINSW, and is based on the Architectural Plans provided by Perumal Pedavoli Architects (see **Appendix A**) and other supporting technical information appended to the report (see Table of Contents).

This EIS has been prepared in accordance with the requirements of Part 4 of the EP&A Act, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), and the SEARs for the preparation of the EIS, which are included at **Appendix C.** This EIS should be read in conjunction with the supporting information and plans appended to and accompanying this report.

1.1 Overview of Proposed Development

This application seeks approval for the following development:

- Construction of six (6) new 2-storey school buildings comprising:
  - Collaborative learning spaces;
  - Classrooms;
  - Offices for teachers and administrative staff;
  - Hall; and
  - Library.
- Associated site landscaping and open space improvements;
- Parking, pick up and set down and loading facilities;
- Removal of trees;
- Substation; and
- School signage.

An artist impression of the new school entry is shown at **Figure 1**.

1.2 Objectives of the Development

The primary objective of the proposed development is to increase capacity in the Estella locality to meet the growing demand for public education. The proposed development will introduce a new school that will accommodate increased student enrolments, expected as a result of the doubling of the Estella population between 2016 and 2031. The project will also enable the school to provide vibrant community and joint-use facilities.

Project objectives include to:

- Meet the need of the north Wagga Wagga area, specifically in the Estella and Boorooma residential development areas;
- Partners with Charles Sturt University (CSU) and Wagga Wagga City Council to create a unique school within a vibrant education and community precinct;
- Provide an education environment, in partnership with CSU, that will foster and support the use of evidence based, collaborative and innovative teaching practices to ensure a quality education for all;
- Engage with the community through shared facilities and connection with the adjacent sporting field;
- Provide learning opportunities by engaging with the Wiradjuri heritage of the local context;
- Be integrated into, and maximise the use of, the natural environment; and

- Design environments that are sensitive to Wiradjuri culture, involving the notion of “caring for Country”, which was the basis for much of traditional Wiradjuri existence.

Figure 1 Artist impression of the new school entrance

Source: Perumal Pedavoli Architects

1.3 Background

In 2018 planning for the new school in Wagga Wagga was undertaken by project architects Hayball, who developed an early concept and design in consultation with a range of partners including PRG’s, Indigenous groups, Council, the NSW Government Architect and SINSW Technical Stakeholders. Following this initial design development, the site boundary was amended by moving the eastern (north-south) boundary further west, making the site slightly narrower (by approximately 10 metres). Subsequently, the design was refined in 2019 by Perumal Pedavoli Architects, which is the subject of this application. A comparison between the 2018 and 2019 scheme is shown at **Figure 2**.

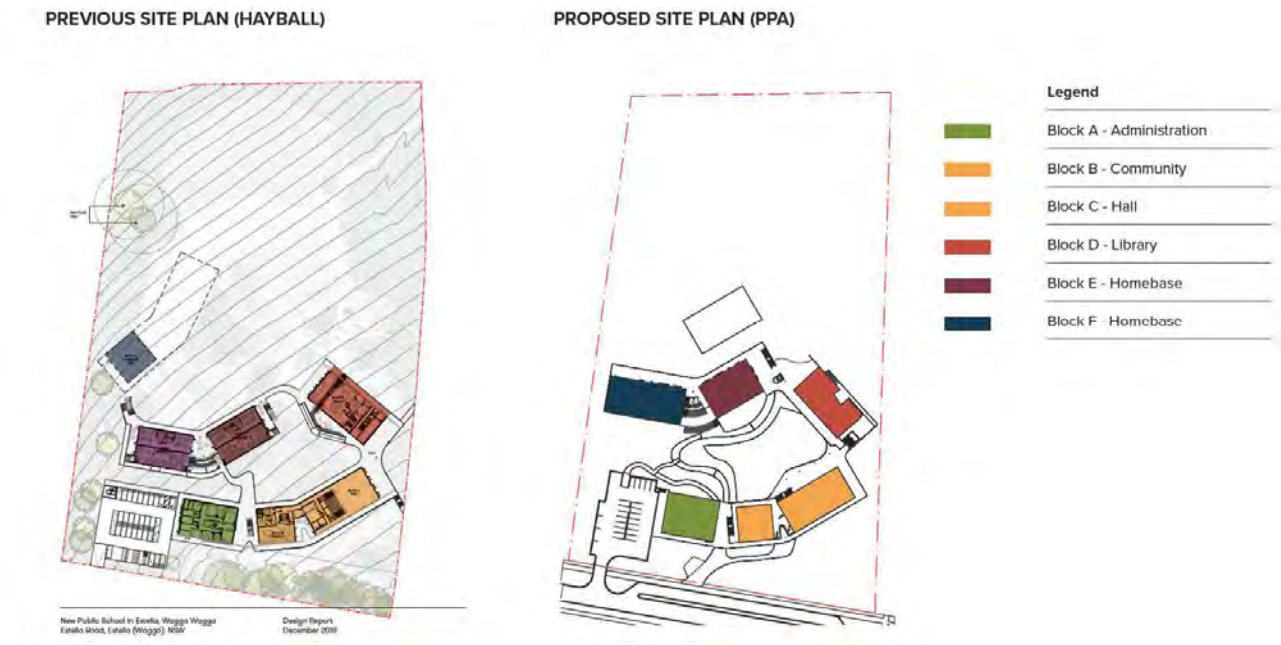

Figure 2 Comparison of the 2018 and 2019 site planning

Source: Perumal Pedavoli Architects

1.4 Analysis of Alternatives

Strategic Need for the Proposal

The Wagga Wagga LGA will experience a population increase of approximaty 15%, or 9,600 people, between 2016 and 2031. The age profile population forecasts also reflect a large increase of children of primary school age (5-14 years) which are expected to increase from 8,900 in 2016 to 9,600 in 2031 (7.9% increase).

Whilst the population of the wider Wagga Wagga area is set to increase, more significant population growth is forecast in the suburbs of Estella and Boorooma, due to new residential development occurring in the area. As a result of this growth, the proportion of households with children in Estella is expected to almost triple by 2031 (from 329 to 900) and the population of children of primary school age is set to more than triple (from 316 in 2016 to 989 in 2031).

The Wagga Wagga City Council urban release program identifies further areas in Estella to be released for urban development. As the land is yet to be rezoned, the impact that this additional land will have on population projections is yet to be quantified, however it is estimated that the developments will provide approximately 2,500 to 3,000 new lots. As such, it is likely that the growth rate in Estella will be higher than projected.

Whilst the Wagga City Primary Community Group (the school group) has capacity, the surplus teaching spaces are not appropriately located to cater for students within the Estella and Boorooma areas. This is resulting in students being required to travel long distances to reach a school with capacity.

The proposed new school will capture a large proportion of the population growth within the region, enabling students to attend school closer to home and will help to meet the long-term projected increase in the demand for government primary schooling.

The school will also provide joint and shared facilities in partnership with Council and CSU. Both the NSW Department of Education and Greater Sydney Commission support the use of joint and shared use agreements to increase the flexibility and capacity of local social infrastructure. Additionally, there is no public library in the vicinity of Estella, and the school library may provide a more accessible option for library floorspace for nearby residents.

The proposal will also result in more appropriate, purpose-built permanent spaces for teaching and learning. The modern facilities will contribute to achieving the school's education objectives, improving the learning outcomes of students and the experiences of both teaching and non-teaching staff.

The facilities will also contribute to meeting the NSW Department of Education's goal that "school infrastructure meets the needs of a growing population and enables future-focused learning and teaching".

Alternative Options

SINSW has explored a number of options for the school layout and design as part of the master plan analysis including massing in the north and south of the site, with varying building and landscape relationships. The four concept options are shown at **Figure 3** – **Figure 6** below. These are considered in more detail in the Design Report at **Appendix B**.

Figure 3 Concept option 1

Source: Hayball

Figure 4 Concept option 2

Source: Hayball

Figure 5 Concept option 3

Source: Hayball

Figure 6 Concept option 4

Source: Hayball

Do Nothing

Under the 'do nothing' scenario, there would be no additional school facilities delivered in northern Wagga Wagga to accommodate the projected increase in student numbers. This would result in students living in northern Wagga Wagga needing to travel substantial distances to attend a school which has capacity, which is not a sustainable outcome in the longer term due to population trends in the Estella and Boorooma areas.

Proposal

The proposal involves undertaking the development as outlined in this SSD DA (as described at **Section 3.0**). The proposal builds on Concept Option 1, which was identified as the preferred option from the masterplan analysis. The proposal incorporates a meandering path (river), connecting and containing outdoor spaces, representing the river

as a source of life and as a journey of development or educational journey. The river narrative and design intent is explored in detail in the Design Report by Perumal Pedavoli Architects at **Appendix B**. The proposed site plan layout is shown at **Figure 7** below.

Figure 7 Proposed site plan layout

Source: Perumal Pedavoli Architects

Future Expansion

The master planning of the site has considered the placement of 8 possible future home bases, such that their location is considered in the overall scheme. Future expansion would continue the meandering-built form arrangement to the north. This would be subject to a separate planning application.

1.5 Secretary's Requirements

In accordance with section 4.39 of the EP&A Act, the Secretary of the (then) Department of Planning and Environment issued the requirements for the preparation of the EIS on 8 August 2018. A copy of the Secretary's Environmental Assessment Requirements (SEARs) is included at **Appendix C**.

Table 1 provides a detailed summary of the individual matters listed in the SEARs and identifies where each of these requirements has been addressed in this report and the accompanying technical studies.

Table 1 Secretary's Requirements

Requirement	Location in Environmental Assessment	
General		
The Environmental Impact Statement (EIS) must be prepared in accordance with, and meet the minimum requirements of clauses 6 and 7 of Schedule 2 the *Environmental Planning and Assessment Regulation 2000* (the Regulation).	Environmental Impact Statement	
Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development.	Section 6.0	
Where relevant, the assessment of the key issues below, and any other significant issues identified in the risk assessment, must include: • adequate baseline data • consideration of potential cumulative impacts due to other development in the vicinity (completed, underway or proposed) • measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment.	Section 5.0 Section 7.0	
The EIS must be accompanied by a report from a qualified quantity surveyor providing: • a detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the Regulation) of the proposal, including details of all assumptions and components from which the CIV calculation is derived • an estimate of the jobs that will be created by the future development during the construction and operational phases of the development • certification that the information provided is accurate at the date of preparation.	Refer to CIV statement is provided under separate cover	
Key Issues	**Report / EIS**	**Technical Study**
Statutory and Strategic Context		
Address the statutory provisions contained in all relevant environmental planning instruments, including: • Biodiversity Conservation Act 2016 • State Environmental Planning Policy (State & Regional Development) 2011 • State Environmental Planning Policy (Infrastructure 2007) • State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 • State Environmental Planning Policy No. 64 – Advertising and Signage • State Environmental Planning Policy No.55 – Remediation of Land • Draft State Environmental Planning Policy (Remediation of Land) • Draft State Environment Planning Policy (Environment) • Wagga Wagga Local Environment Plan 2010	Section 5.1, 5.2	Appendix B Appendix F Appendix L
Detail the nature and extent of any prohibitions that apply to the development.	Section 5.1	-
Identify compliance with the development standards applying to the site and provide justification for any contravention of the development standards.	Section 5.1	-
Policies		
Address the relevant planning provisions, goals and strategic planning objectives in the following: • NSW State Priorities	Section 5.1	Appendix F

Requirement	Location in Environmental Assessment	
• Future Transport Strategy 2056 • State Infrastructure Strategy 2018 – 2038 Building the Momentum • Crime Prevention Through Environmental Design (CPTED) Principles • Healthy Urban Development Checklist (NSW Health) • Better Placed: An integrated design policy for the built environment of New South Wales (Government Architect NSW, 2017) • Riverina Murray Regional Plan 2036 • Wagga Wagga Spatial Plan 2013-2043 • Wagga Wagga Integrated Transport Strategy and Implementation Plan 2040 • Wagga Wagga Development Control Plan 2005 (if appropriate) • Wagga Wagga Development Control Plan 2010 and • Draft Wagga Wagga City Council Activation Strategy 2040.		
Operation		
Provide details of the proposed school operations, including staff and student numbers, school hours of operation, and operational details of any proposed before/after school care services and/or community use of school facilities	Section 3.5, 3.6, 3.10	Appendix B
Provide a detailed justification of suitability of the site to accommodate the proposal.	Section 1.4, 3.0, 5.1, 5.4.1, 5.4.2, 5.4.3, 5.6, 5.21, 5.22	Appendix B
Built Form and Urban Design		
Address the height, density, bulk and scale, setbacks and interface of the proposal in relation to the surrounding development, topography, streetscape and any public open spaces.	Section 5.3, 5.4.2, 5.4.3	Appendix B Appendix Y
Address design quality and built form, with specific consideration of the overall site layout, streetscape, open spaces, façade, rooftop, massing, setbacks, building articulation, materials, and colours.	Section 3.7, 3.7.4, 5.3.1, 5.4	Appendix B
Provide details of any digital signage boards, including size, location and finishes.	Section 3.7.6, 5.2	Appendix A and B
Clearly demonstrate how design quality will be achieved in accordance with Schedule 4 Schools – Design Quality Principles of *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* and the Government Architect NSW Design Guide for Schools.	Section 5.1	Appendix B
Detail how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development.	Section 3.11, 3.9.3, 5.5.6, 5.7.2	Appendix A Appendix B Appendix H Appendix O
Provide detailed site and context analysis to justify the proposed site planning and design approach including massing options and preferred strategy for future development.	Section 1.4	Appendix B
Provide a detailed site-wide landscape strategy, including consideration of equity and amenity of outdoor play spaces, and integration with built form, security, shade, topography and existing vegetation.	Section 3.8	Appendix D
Provide a visual impact assessment that identifies any potential impacts on the surrounding built environment and landscape including views to and from the site and any adjoining heritage items.	Section 5.4.3	Appendix Y
Address CPTED Principles.	Section 5.4.5	Appendix B
Demonstrate good environmental amenity including access to natural daylight and ventilation, acoustic separation, access to landscape and outdoor spaces and future flexibility.	Section 3.7, 5.4, 5.7	Appendix B Appendix D Appendix H
Environmental Amenity		
Assess amenity impacts on the surrounding locality, including solar access, visual privacy, visual amenity, overshadowing and acoustic impacts.	Section 5.3.1, 5.4.1, 5.4.2, 5.4.3, 5.7	Appendix B Appendix H

Requirement	Location in Environmental Assessment	
Conduct a view analysis to the site from key vantage points and streetscape locations (photomontages or perspectives should be provided showing the building envelope and likely future development).	Section 5.4.3	Appendix Y
Include a lighting strategy and measures to reduce spill into the surrounding sensitive receivers.	Section 3.7.5	Appendix B
Identify any proposed use of the school outside of school hours (including weekends) and assess any resultant amenity impacts on the immediate locality and proposed mitigation measures.	Section 3.6, 3.15, 5.7.2	Appendix B Appendix H
Detail amenity impacts including solar access, acoustic impacts, visual privacy, view loss, overshadowing and wind impacts. A high level of environmental amenity for any surrounding residential land uses must be demonstrated.	Section 5.4, 5.4.1, 5.4.2, 5.4.3, 5.4.4, 5.7	Appendix B
Staging		
Provide details regarding the staging of the proposed development (if any).	3.13.1	-
Transport and Accessibility		
Accurate details of the current daily and peak hour vehicle, existing and future public transport networks and pedestrian and cycle movement provided on the road network located adjacent to the proposed development	Section 5.5	Appendix F
Details of estimated total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and bicycle trips based on surveys of the existing and similar schools within the local area		
The adequacy of existing public transport or any future public transport infrastructure within the vicinity of the site, pedestrian and bicycle networks and associated infrastructure to meet the likely future demand of the proposed development		
Measures to integrate the development with the existing/future public transport network		
The impact of trips generated by the development on nearby intersections, with consideration of the cumulative impacts from other approved developments in the vicinity, and the need/associated funding for, and details of, upgrades or road improvement works, if required (Traffic modelling is to be		
The identification of infrastructure required to ameliorate any impacts on traffic efficiency and road safety impacts associated with the proposed development, including details on improvements required to affected intersections, additional school bus routes along bus capable roads (i minimum 3.5 m wide travel lanes), additional bus stops or bus bays		
Details of travel demand management measures to minimise the impact on general traffic and bus operations, including details of a location-specific sustainable travel plan (Green Travel Plan and specific Workplace travel plan) and the provision of facilities to increase the non-car mode share for travel to and from the site		
The proposed walking and cycling access arrangements and connections to public transport services		
The proposed access arrangements, including car and bus pick-up/drop-off facilities, and measures to mitigate any associated traffic impacts and impacts on public transport, pedestrian and bicycle networks, including pedestrian crossings and refuges and speed control devices and zones		
Proposed bicycle parking provision, including end of trip facilities, in secure, convenient, accessible areas close to main entries incorporating lighting and passive surveillance		
Proposed number of on-site car parking spaces for teaching staff and visitors and corresponding compliance with existing parking codes and justification for the level of car parking provided on-site		
An assessment of the cumulative on-street parking impacts of cars and bus pick-up/drop-off, staff parking and any other parking demands associated with the development		
An assessment of road and pedestrian safety adjacent to the proposed development and the details of required road safety measures and personal safety in line with CPTED		

Requirement	Location in Environmental Assessment	
Emergency vehicle access, service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times)		
The preparation of a preliminary Construction Traffic and Pedestrian Management Plan to demonstrate the proposed management of the impact in relation to construction traffic addressing the following: • assessment of cumulative impacts associated with other construction activities (if any) • an assessment of road safety at key intersection and locations subject to heavy vehicle construction traffic movements and high pedestrian activity • details of construction program detailing the anticipated construction duration and highlighting significant and milestone stages and events during the construction process • details of anticipated peak hour and daily construction vehicle movements to and from the site • details of on-site car parking and access arrangements of construction vehicles, construction workers to and from the site, emergency vehicles and service vehicle • details of temporary cycling and pedestrian access during construction.		
Relevant Policies and Guidelines: • Guide to Traffic Generating Developments (Roads and Maritime Services) • EIS Guidelines – Road and Related Facilities (DoPI) • Cycling Aspects of Austroads Guides • NSW Planning Guidelines for Walking and Cycling • Austroads Guide to Traffic Management Part 3: Traffic Studies and Analysis • Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development • Standards Australia AS2890.3 (Bicycle Parking Facilities)		
Ecologically Sustainable Development (ESD)		
Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Regulation) will be incorporated in the design and ongoing operation phases of the development.	Section 3.11, 5.19	Appendix S Appendix Z
Include a framework for how the future development will be designed to consider and reflect national best practice sustainable building principles to improve environmental performance and reduce ecological impact. This should be based on a materiality assessment and include waste reduction design measures, future proofing, use of sustainable and low-carbon materials, energy and water efficient design (including water sensitive urban design) and technology and use of renewable energy.		
Include preliminary consideration of building performance and mitigation of climate change, including consideration of Green Star Performance.		
Provide a statement regarding how the design of the future development is responsive to the CSIRO projected impacts of climate change, specifically: • hotter days and more frequent heatwave events • extended drought periods • more extreme rainfall events • gustier wind conditions • how these will inform landscape design, material selection and social equity aspects (respite/shelter areas).		
Relevant Policies and Guidelines: NSW and ACT Government Regional Climate Modelling (NARCliM) climate change projections.		
Social Impacts		
Include an assessment of the social consequences of the schools' relative location and decanting activities if proposed.	Section 5.6	Appendix G
Aboriginal Heritage		
Address Aboriginal Cultural Heritage (ACH) in accordance with the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011) and Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW)	Section 5.10	Appendix K

Requirement	Location in Environmental Assessment	
The EIS must demonstrate attempts to avoid any impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the EIS must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.		
Noise and Vibration		
Identify and provide a quantitative assessment of the main noise and vibration generating sources during demolition, site preparation, bulk excavation, construction. Outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land.	Section 5.7	Appendix H
Identify and assess operational noise, including consideration of any public-address system, school bell, mechanical services (e.g. air conditioning plant), use of any school hall for concerts etc. (both during and outside school hours) and any out of hours community use of school facilities, and outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land.		
Relevant Policies and Guidelines: • NSW Noise Policy for Industry 2017 (EPA) • Interim Construction Noise Guideline (DECC) • Assessing Vibration: A Technical Guideline 2006 • Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning 2008).		
Contamination		
Assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP 55.	Section 5.11	Appendix L
Undertake a hazardous materials survey of all existing structures and infrastructure prior to any demolition or site preparation works.		
Relevant Policies and Guidelines: • Managing Land Contamination: Planning Guidelines - SEPP 55 Remediation of Land (DUAP).		
Utilities		
Prepare an Infrastructure Management Plan in consultation with relevant agencies, detailing information on the existing capacity and any augmentation and easement requirements of the development for the provision of utilities including staging of infrastructure.	Section 3.12	Appendix U
Prepare an Integrated Water Management Plan detailing any proposed alternative water supplies, proposed end uses of potable and non-potable water, and water sensitive urban design.	Section 5.15	Appendix U Appendix N Appendix Z
Contributions		
Address Council's 'Section 94/94A Contribution Plan' and/or details of any Voluntary Planning Agreement, which may be required to be amended because of the proposed development.	Section 3.14	-
Drainage		
Detail measures to minimise operational water quality impacts on surface waters and groundwater.	Section 5.15	Appendix N
Stormwater plans detailing the proposed methods of drainage without impacting on the downstream properties.		
Relevant Policies and Guidelines: • Guidelines for development adjoining land and water managed by DECCW (OEH, 2013).		
Flooding		
Identify flood risk on-site (detailing the most recent flood studies for the project area) and consideration of any relevant provisions of the NSW Floodplain Development Manual (2005), including the potential effects of climate change, sea level rise and an increase in rainfall intensity. If there is a material flood risk, include design solutions for mitigation.	Section 5.15.4	Appendix N

Requirement	Location in Environmental Assessment	
Bushfire		
Address bushfire hazard and, if relevant, prepare a report that addresses the requirements for Special Fire Protection Purpose Development as detailed in Planning for Bush Fire Protection 2006 (NSW RFS).	Section 5.18	Appendix R
Biodiversity Assessment		
Identify and address the requirements of the *Biodiversity Conservation Act 2016* relevant to the State significant development application.	Section 5.8	Appendix I
Where a Biodiversity Development Assessment Report is not required, engage a suitably qualified person to assess and document the flora and fauna impacts related to the proposal.		
Where the land is subject to a Biodiversity Certification Order, evidence of this Order and the terms is to be provided. *Note: Notwithstanding these requirements, the Biodiversity Conservation Act 2016 requires that State Significant Development Applications be accompanied by a Biodiversity Development Assessment Report unless otherwise specified under the Act.*		
Sediment, Erosion and Dust Controls		
Detail measures and procedures to minimise and manage the generation and off-site transmission of sediment, dust and fine particles.	Section 5.15.3	Appendix N Appendix T
Relevant Policies and Guidelines: • Managing Urban Stormwater – Soils & Construction Volume 1 2004 (Landcom) • Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA) • Guidelines for development adjoining land and water managed by DECCW (OEH, 2013).		
Waste		
Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.	Section 5.16	Appendix O Appendix P
Construction Hours		
Identify proposed construction hours and provide details of the instances where it is expected that works will be required to be carried out outside the standard construction hours.	Section 3.13.3	Appendix H Appendix H
Plans and Documents	**Report**	**Technical Study**
The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Environmental Planning and Assessment Regulation 2000. Provide these as part of the EIS rather than as separate documents.		
Architectural drawings showing key dimensions, RLs, scale bar and north point, including • plans, sections and elevation of the proposal at no less than 1:200 showing indicative furniture layouts and program • illustrated materials schedule including physical or digital samples board with correct proportional representation of materials, nominated colours and finishes • details of proposed signage, including size, location and finishes • detailed annotated wall sections at 1:20 scale that demonstrate typical cladding, window and floor details, including materials and general construction quality • site plans and operations statement demonstrating the after hours and community use strategy	-	Appendix A
Site Survey Plan, showing existing levels, location and height of existing and adjacent structures / buildings site boundaries and remnant and planted vegetation on the site	-	Appendix V
Site Analysis Plan, including: • site and context plans that demonstrate principles for future development and expansion, built form character and open space network	-	Appendix A Appendix B

Requirement	Location in Environmental Assessment	
• active transport linkages with existing, proposed and potential footpaths and bicycle paths and public transport links • site and context plans that demonstrate principles for future network, active transport linkages with existing, proposed and potential footpaths and bicycle paths and public transport links		
Sediment and Erosion Control Plan	-	Appendix N
Shadow Diagrams	-	Appendix A
View analysis, photomontages and architectural renders, including those from public vantage points	-	Appendix Y
Landscape architectural drawings showing key dimensions, RLs, scale bar and north point, including: • integrated landscape plans at appropriate scale, with detail of new and retained planting, shade structures, materials and finishes proposed including articulation of playground spaces • plan identifying significant trees, trees to be removed and trees to be retained or transplanted	-	Appendix D
Design report to demonstrate how design quality will be achieved in accordance with the above Key Issues including: • architectural design statement • diagrams, structure plan, illustrations and drawings to clarify the design intent of the proposal • detailed site and context analysis • analysis of options considered including building envelope study to justify the proposed site planning and design approach • visual impact assessment identifying potential impacts on the surrounding built environment and adjoining heritage items • summary of feedback provided by Government Architect NSW and NSW State Design Review Panel (SDRP) and responses to this advice • summary report of consultation with the community and response to any feedback provided	-	Appendix B
Geotechnical and Structural Report	-	Appendix M Appendix W
Accessibility Report	-	Appendix Q
Arborist Report	-	Appendix J
Schedule of materials and finishes.	-	Appendix A
Consultation		
During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups, special interest groups including local Aboriginal land councils and registered Aboriginal stakeholders and affected landowners. In particular, you must consult with: • City of Wagga Wagga • Government Architect NSW (through the NSW SDRP process) • NSW Rural Fire Service • Transport for NSW and • Roads and Maritime Services.	Section 4.0	Appendix E
Consultation should commence as soon as practicable to agree the scope of investigation.		
The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.		
If you do not lodge a development application and EIS for the development within two years of the issue date of these SEARs, you must consult further with the Planning Secretary in relation to the preparation of the EIS.	-	-

Requirement	Location in Environmental Assessment	
The assessment of the key issues listed above must consider relevant guidelines, policies, and plans as identified.	-	-

2.0 Site Analysis

2.1 Site Location and Context

The site is located within the City of Wagga Wagga Local Government Area. The City of Wagga Wagga is situated in the Riverina region of south-western New South Wales. The site is approximately 4km north of the Wagga Wagga town centre and approximately 20kms from the Hume Highway, the main highway that connects Wagga Wagga to Sydney and Melbourne.

The site is located within the grounds of CSU, on the northern edge of Estella. Estella is a northern suburb of Wagga Wagga.

The site's locational context is shown at **Figure 8**.

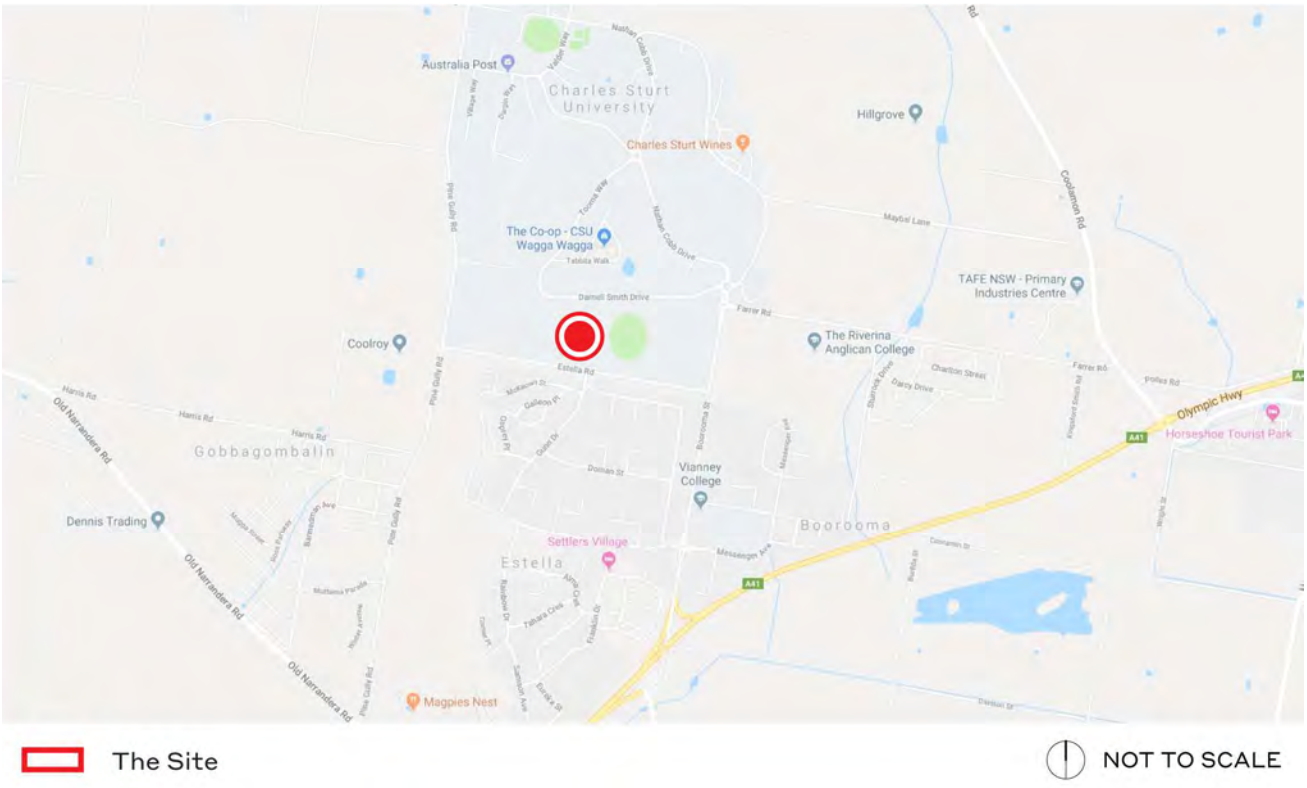

Figure 8 Locational context

Source: Googlemap and Ethos Urban

2.2 Site Description

The site is a vacant piece of land, located to the west of Peter Hastie Oval within the CSU campus. The site comprises a single lot, legally described as Lot 1 in DP 1253855. The site is regularly shaped and is approximately 3ha in area. The land is owned by the Department of Education.

It is noted that the Lot has recently changed as a result of a minor change to the lot boundary (to reduce the width). The former Lot was Part Lot 4 in DP 1253855 (see **Section 1.3**).

A Survey Plan is located at **Appendix V**. An aerial photo of the site is shown at **Figure 9**.

Figure 9 Aerial photograph of the site

Source: Nearmap and Ethos Urban

2.2.1 Existing Development

The site is largely cleared of development with the exception of a fence that traverses the site north – south between Estella Road and the car park to the north of the site (**Figure 13** and **Figure 14**). A walkway crosses a concrete ramp and stormwater channel on the southern boundary on Estella Road (**Figure 15**).

2.2.2 Topography

The site falls from a high point of RL235m in the north-west to RL217m in the south-east with a cross fall of 18m. The site has a southerly aspect with a gently incline of 8%.

2.2.3 Vegetation

The site features areas of planted native vegetation along its eastern and western edge. The centre of the site contains derived native grassland.

2.2.4 Bushfire

The site is affected by the 100m Vegetation Buffer of the Wagga Wagga Bushfire Prone Land Map. The affected part of the site is the north-eastern most corner of the site.

2.2.5 Heritage

The site is not identified as a being a heritage item or being within a heritage conservation area. It is noted that the following heritage items are located within CSU, approximately 600m to the north of the site:

- Experiment Farm Manager's Residence (former);
- Former Cannery; and

- Principal's Residence (former), Riverina Murray Institute of Higher Education, Cobb Elevator and Granary Building Foundations.

Photographs of the site are provided at **Figure 10** – **Figure 15**.

Figure 10 Estella Road (looking east)

Figure 11 Southern area of the site

Figure 12 Northern area of the site

Figure 13 Existing fence on-site

Figure 14 Paved walking path aligning the eastern boundary

Figure 15 Existing stormwater channel adjacent to Estella Road

2.3 Surrounding Development

The land surrounding the site is predominantly suburban and rural in nature within the outskirts of the northern suburbs of Wagga Wagga. Further detail regarding the development surrounding the site is described below:

- **To the north**: To the immediate north, the site adjoins an at-grade car park for CSU off Darnell Smith Drive (CP04 and CP06). Further north is the CSU campus with the closest buildings being Building 21 and the residential Buildings 26-29.
- **To the south**: The residential suburb of Estella is located south of the site. Estella is predominantly comprised of single level detached residential dwellings.
- **To the east**: The site fronts Peter Hastie Oval and the grounds of the CSU campus.
- **To the west**: The vacant grounds of CSU extend to the west of the site.

Figure 16 Northern CSU car park CP04

Figure 17 Estella residential dwelling

Figure 18 Peter Hastie Oval

Figure 19 CSU campus Building 21

Figure 20 Northern boundary interface with CSU car park CP06

Figure 21 CSU campus residential Building 29

3.0 Description of the Development

This section of the report provides a detailed description of the proposed development. Architectural drawings are included at **Appendix A**.

This application seeks approval for the following development:

- Construction of six (6) new 2-storey school buildings comprising:
  - Collaborative learning spaces;
  - Classrooms;
  - Offices for teachers and administrative staff;
  - Hall; and
  - Library.
- Associated site landscaping and open space improvements;
- Parking, pick up and set down and loading facilities;
- Removal of trees;
- Substation; and
- School signage.

Artist impressions of the proposed development are shown at **Figure 22** and **Figure 23**.

Figure 22 Artist impression of the new school

Source: Perumal Pedavoli Architects

Figure 23 Artist impression of Block C (viewed from Peter Hastie Oval to the east)

Source: Perumal Pedavoli Architects

3.1 Development/Urban Design Principles

The planning and design principles adopted for the proposed development respond directly to the Education SEPP Design Quality Principles and include:

- **Context, built form and landscape:** Schools should be designed to respond and enhance the positive qualities of their setting, landscape and heritage, including Aboriginal cultural heritage.
- **Sustainable, efficient and durable:** Schools should be designed to be durable, resilient and adaptable, enabling them to evolve over time to meet future requirements.
- **Accessible and inclusive:** Schools should actively seek opportunities for their facilities to be shared with the community and cater for activities outside of school hours.
- **Health and safety:** Good school development optimises health, safety and security within its boundaries and the surrounding public domain, and balances this with the need to create a welcoming and accessible environment.
- **Amenity:** Schools should provide pleasant and engaging spaces that are accessible for a wide range of educational, informal and community activities, while also considering the amenity of adjacent development and the local neighbourhood.
- **Whole of life, flexible and adaptive:** School design should consider future needs and take a whole-of-lifecycle approach underpinned by site wide strategic and spatial planning.
- **Aesthetics:** School buildings and their landscape setting should be aesthetically pleasing by achieving a built form that has good proportions and a balanced composition of elements.

A Design Verification Statement that addresses how the proposed school redevelopment meets each of these design principles has been prepared by the project architects, Perumal Pedavoli Architects, and is available at **Appendix B**. Discussion of the Education SEPP Design Principles is provided at **Section 5.1**.

3.2 Numerical Overview

The key numeric development information is summarised in **Table 2**.

Table 2 Key development information

Component	Proposal
Site area	Approximately 3ha
Maximum height	12.3 metres
Gross Floor Area	3,578m^2
Student population	480

3.3 Site Preparation

The site will require minor grading to provide the foundation of the new buildings. The existing fence that traverses the site will be removed prior to the works commencing.

3.4 Tree Removal

Seven trees are proposed to be removed in order to accommodate the development. A tree removal plan is provided as part of the Landscape Plans at **Appendix D**. Further discussion of tree removal is provided at **Section 5.9** and the Arborist Report prepared by Wade Ryan (**Appendix J**).

3.5 Teacher and Student Numbers

The school will accommodate 480 students (from Kindergarten to Year 6), 24 teachers and 8 staff.

The school incorporates Core 21 facilities in accordance with Educational Facilities Standards and Guidelines (EFSG).

3.6 Hours of Operation

The school's main hours are between 9.00am and 3.00pm, Monday - Friday.

The school will provide out of school hours services between 6.30am – 9:00am and 3:00pm - 6:00pm, Monday - Friday.

Community and joint use facilities would operate outside of the school's main hours.

3.7 Proposed Development

3.7.1 Built Form

The proposal includes construction of six (6) buildings ranging from 1 - 2 storeys, referred to as Block A – Block F (**Figure 24**). The buildings are arranged in a circular shaped arrangement and are all connected by a level path with covered walkway that follows the grade of the site. Each building is generally regularly shaped to allow for an efficient layout and design.

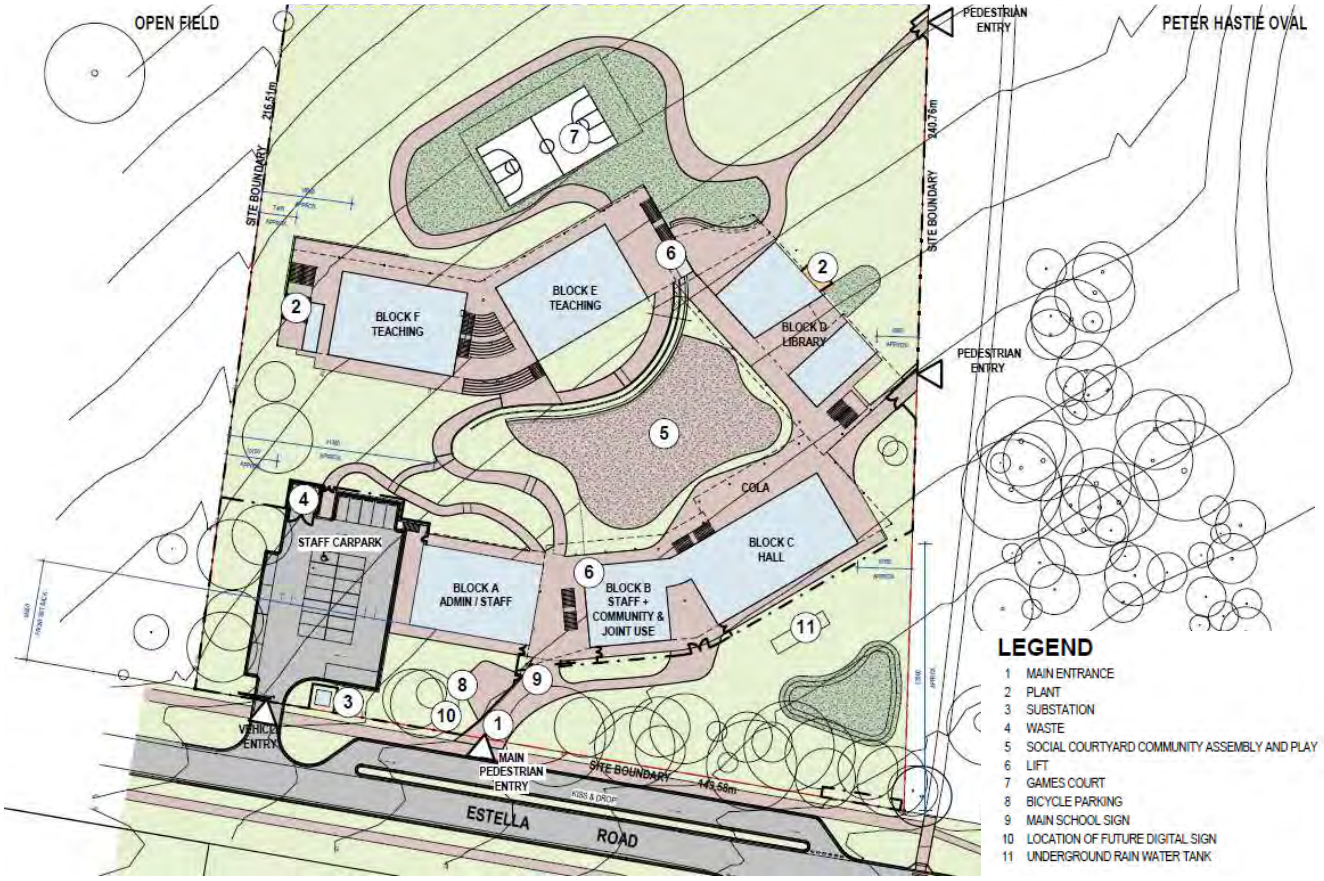

Figure 24 Building arrangement plan

Source: Perumal Pedavoli Architects

Building Height

The tallest building (Block E) has a height of 234.34 RL to the top of the roof line. This equates to 12.3m in height and is inclusive of two floors.

Building Setbacks

The new school is set back 20m from the Estella Road frontage providing an extensive buffer to existing sensitive receivers in the locality. Blocks B and C are setback between 40m and approximately 65m from dwellings to the south. Blocks C and D are set back from the eastern boundary by 8-10m, while Block F is setback 7.5m from the western boundary. The school buildings are over 100m from the northern boundary.

3.7.2 Building Uses and Gross Floor Area

Table 3 Summary of Building Uses and Gross Floor Area

Building	Use	Gross Floor Area
Block A	Administration	345m^2
Block B	Community and CSU joint and shared facilities, staff room	478m^2
Block C	Hall, Community share spaces	523m^2
Block D	Library and Canteen	551m^2
Block E	Learning spaces	820m^2
Block F	Learning spaces	861m^2
Total		3,578m^2

Note. GFA has been rounded to the nearest whole number

3.7.3 Learning Spaces

Innovative learning spaces are designed to provide high amenity in a flexible and adaptable environment. The learning spaces (indoor and outdoor) can accommodate practical activities, presentations, performance, collaboration, independent studies, project-based learning, team teaching and direct instruction. The spaces are easily adapted to create various settings and can be adapted to support different learning behaviours.

An example of the learning environment and its operation is provided at **Figure 25** and **Figure 26**.

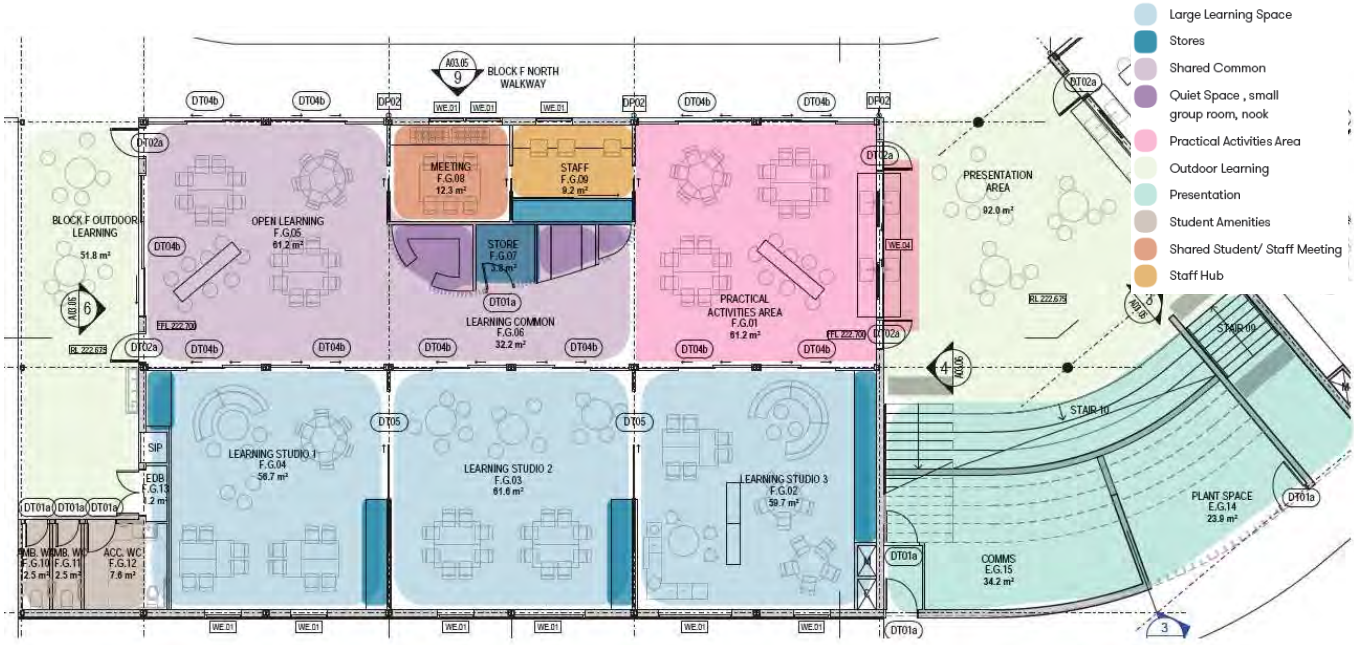

Figure 25 Example of Block F learning layout

Source: Hayball

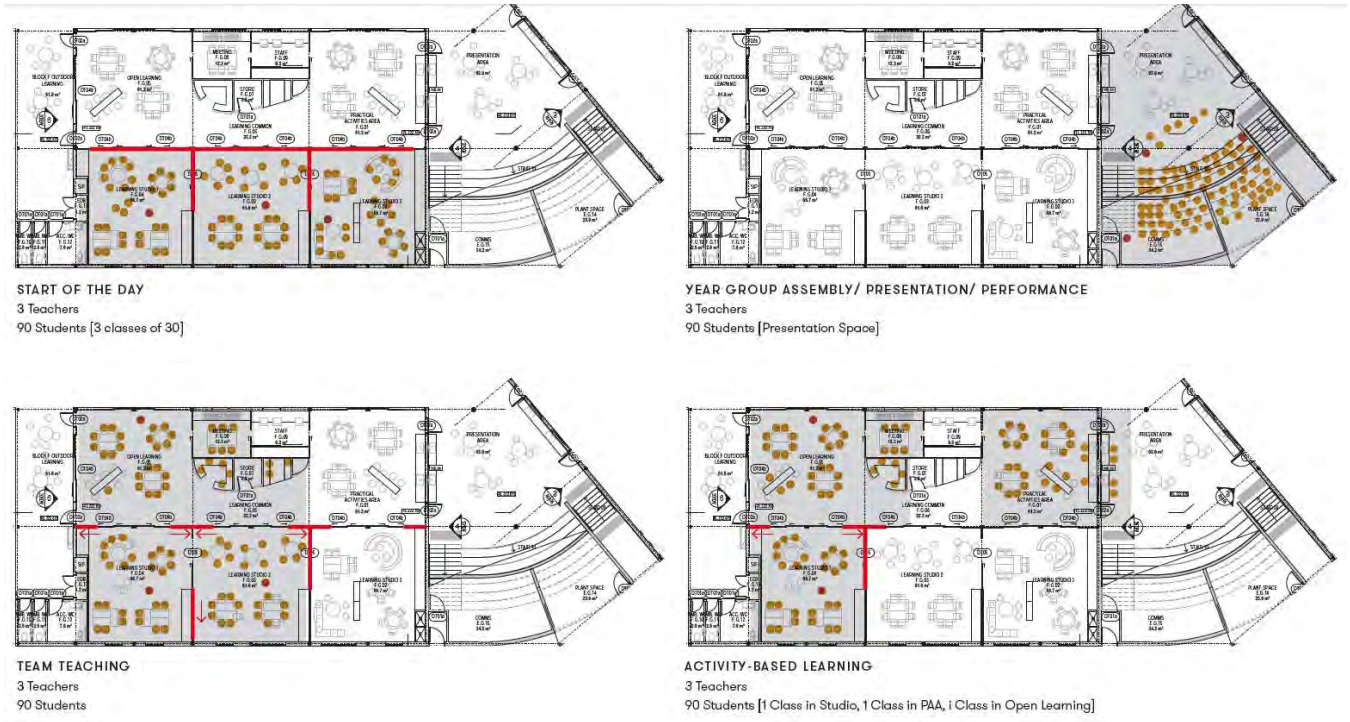

Figure 26 Block E learning function across the day

Source: Hayball

3.7.4 External Materials and Finishes

The external materials and finishes generally feature a subdued 'base' graphite palette that includes metal cladding, cemental cladding and aluminium batten screens. Accent colours for doors, frames, window hood reveals and balustrade panels will incorporate more vibrant colours used as a wayfinding device, identifying each block colour that is revealed at entry points, door and windows.

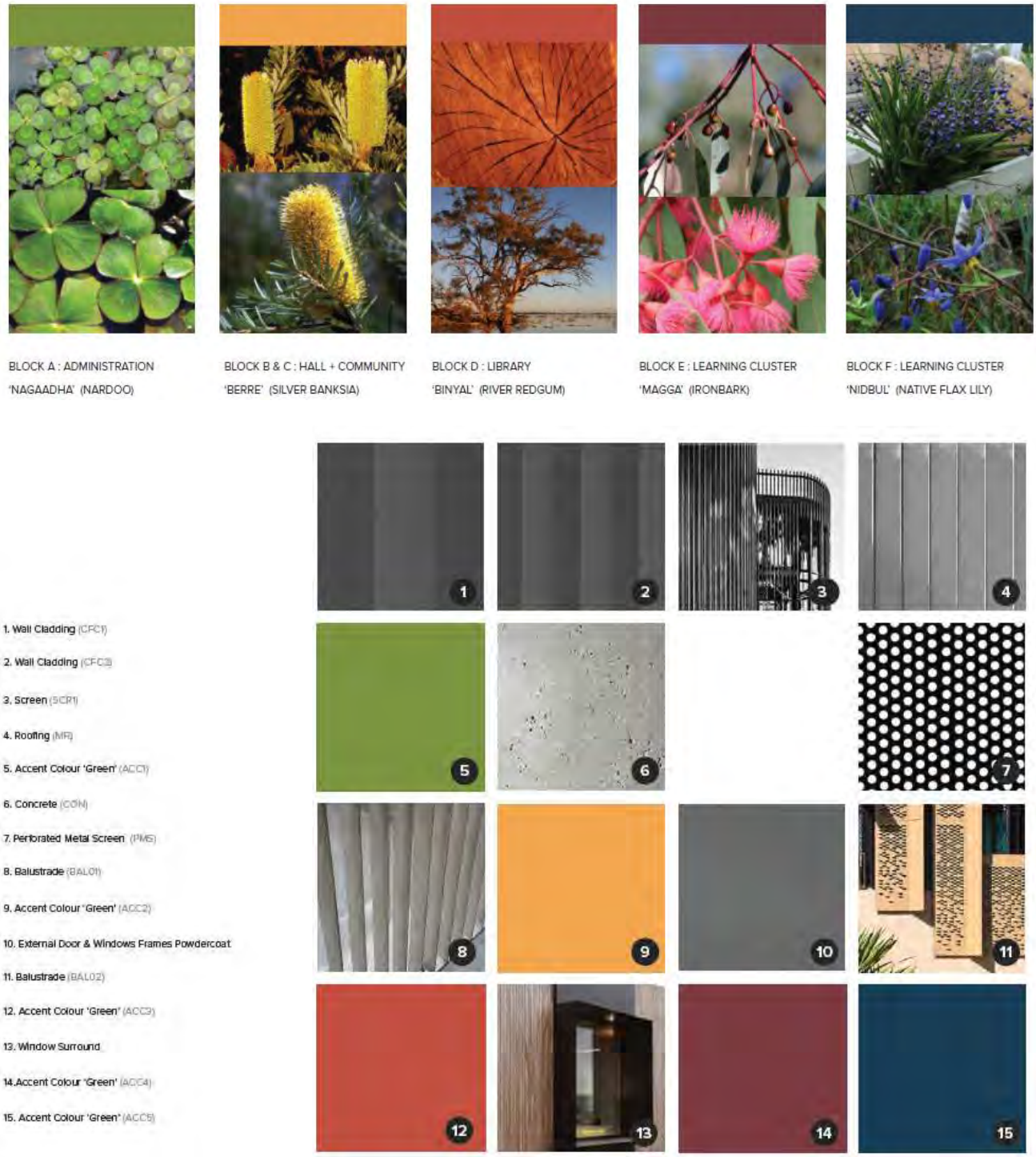

Figure 27 External material and finishes strategy

Source: Perumal Pedavoli Architects

3.7.5 Lighting Strategy

All external lighting will be respectful to neighbours and will limit light spill. Lighting will comply with the requirements of *AS 4282 Control of the obtrusive effects of outdoor lighting*. The lighting strategy is explored further in the Design Report at **Appendix B** and is shown below at **Figure 28**.

Figure 28 Proposed lighting strategy

Source: Perumal Pedavoli Architects

3.7.6 Signage

Approval for signage is sought for the main building sign at the Estella Road entrance (10.2m x 0.4m).

Figure 29 Proposed school building signage

Source: Perumal Pedavoli Architects

The Design Report identifies the potential location of a future digital sign, adjacent to the Estella Road entry. The details of this sign are not known at this stage and approval will be sought by a separate application, if required.

State Environmental Planning Policy No 64—Advertising and Signage (SEPP 64) is addressed at **Section 5.1**.

3.7.7 Perimeter Fencing

The site will be secured with fencing required by the School Security Unit. The front fencing is set back from the boundary at the main entry to ensure a landscaped presentation to the street. Multiple entry points facilitate students, staff and community pedestrian movement across the site. The fence strategy is further described in the Design Report at **Appendix B**.

3.8 Landscaping

A Landscape Plan and Report has been prepared by Taylor Brammer and is available at **Appendix D**. The master plan for the School has evolved through extensive research into the needs of the school community and respecting the Aboriginal custodianship of country. Considerations of the existing site, the school buildings, Wiradjuri influence of forms, learning, play and planting are compiled as layers to create an outcome that respects the exchange between Wiradjuri and European cultures.

The southern part of the school grounds feature both active and flexible spaces that respond to the school and community uses in that area (**Figure 30**). The northern part of the school features more passive recreation spaces including large grassed areas and retained native vegetation.

Eucalyptus trees frame the main entry with the fence line set back to the building edge to create a community activated space with herb and vegetable gardens, and a water garden biofilter. Beyond the school's entry gates is a large landscaped courtyard space that includes playful line markings and landscape finishes which provide opportunities for play, while also offering a large flexible open space for various school needs. The courtyard is surrounded by shade trees and a variety of seating and gathering spaces.

New plantings will consist of primarily local native, and NSW native species suitable for the site's mircoclimate. Tree species are selected to provide visual amenity and shade with a mix of evergreen and deciduous trees proposed.

Figure 30 Landscape plan

Source: Taylor Brammer

3.9 Parking and Site Access

3.9.1 Pedestrian Access

The primary entry to the school will be via Estella Road. Additional entry points are provided to the adjoining walkway that extends along the eastern boundary, providing connections from the north and south and to Peter Hastie Oval in the east.

Pedestrian Crossing

To improve safety for pedestrians two (2) new pedestrian crossings are proposed on Estella Road and Gunn Drive (see **Figure 31**).

3.9.2 Vehicular Access and Parking

Vehicles will access the car park for the school via the new crossover on Estella Road. The new car park provides 22 parking spaces for staff and visitors to the school and has capacity to service the future expansion of the school. One (1) accessible parking space is provided.

3.9.3 Service Vehicles

Waste collection and loading will be undertaken from the waste pad within the car park. A parking space for a medium rigid vehicle is also provided within the main car park.

3.9.4 Bicycle Parking

An enclosed bicycle parking area is proposed at the front of the school, close to the main entry. The secure enclosure will accommodate 40 bicycles. End of trip facilities including shower and lockers are proposed for staff.

3.9.5 Pick Up / Set Down Zone

A pick up / set down bay (90 metres in length) that is separated from Estella Road is proposed in front of the school. The bay can accommodate 15 cars (see **Figure 31**). The proposed arrangements will be subject to agreement by Council and are further discussed at **Section 5.5**.

3.9.6 School Bus Zone

A school bus layby is proposed to be located on Estella Road to the east of the school. The bus layby has been designed to be adequate for the capacity of the school, providing space for at least two (2) buses at a time (see **Figure 31**).

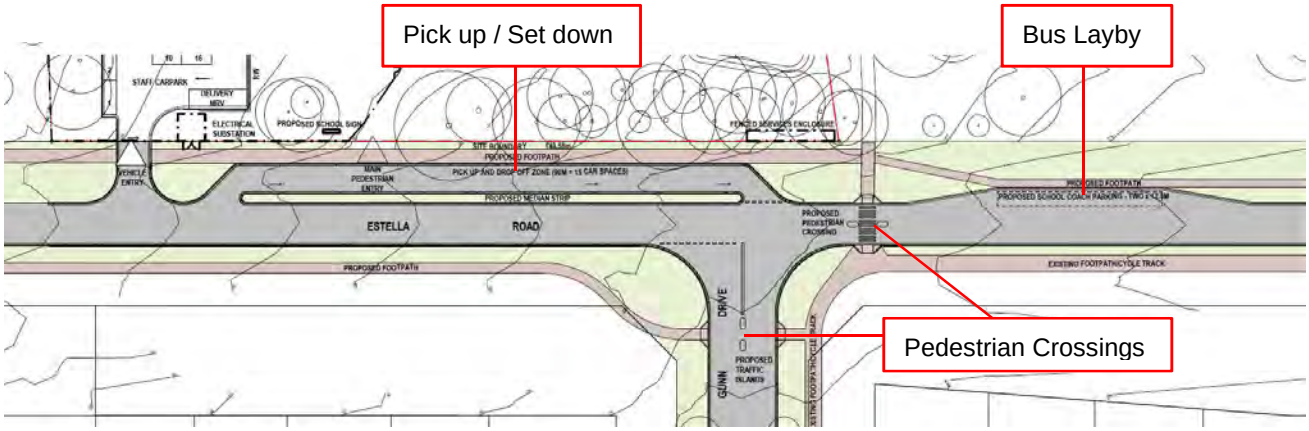

Figure 31 School pick up and set down arrangements

Source: Perumal Pedavoli Architects

3.10 Community Use and School Facilities

The school includes joint use facilities with joint use partners, Wagga Wagga City Council and CSU. These facilities include Council community rooms and associated amenities which can be accessed by the community during and outside of school hours. These facilities are located adjacent to the school's main entry for ease of access.

The school hall is also proposed as a joint use facility and will be available to the community outside of school hours.

A CSU staff professional learning space and meeting rooms are provided in Block B and will be available for CSU students and staff, particularly those in the teaching learning stream, providing exposure to a school professional environment. These spaces will be available within and outside of school hours.

In the front of the school is a community courtyard which is accessible by the community outside of school hours.

Opportunities for shared use and weekend community access are still being considered. Joint use agreements are in negotiations with CSU and Council. Further shared use opportunities may include:

- Utilising the library for community uses;
- Use of school courtyards for fetes or markets; and
- Use of learning spaces for adult or community education classes.

3.11 Environmentally Sustainable Development

Building performance has been considered in the design of the proposal including building performance measures considered to reduce resource consumption and carbon emissions, and impact on climate change. Sustainability aspirations for the project are aligned with good design practice, including designing to reduce energy and water use, reducing waste and considering locally sourced, recycled materials within the design.

The project has incorporated initiatives to create cooler microclimates such as shading, selection of materials with a high solar reflectance index and vegetation. Optimisation of the passive architectural design (shading, building fabric, natural ventilation) is key to the project strategy.

The proposal will incorporate a number of measures to ensure the project achieves high levels of environmental sustainability to minimise consumption of resources, water and energy, including (but not limited to):

Resources

- Use of best practice materials for steel, timber and permanent formwork; and
- Consideration of characteristics including durability, recycled content, location, embodied carbon and toxicity where feasible for other materials selection such as plasterboard, certified timber and concrete with supplementary cementitious materials.

Energy

- Building envelope performance – efficient building fabric and glazing selection to reduce thermal comfort demands; and
- Efficient systems selection to reduce operational energy consumption.

Water

- Rainwater harvesting for water re-use, to reduce use of drinking water in non-potable applications, such as irrigation and toilet flushing;
- Selection of high efficiency fittings and fixtures to reduce operational consumption of potable water;
- Implement water sensitive urban design (WSUD) initiatives to improve the water quality of stormwater and reduce peak flow and runoff; and
- Plant species selected for the site will be native or have a low irrigation demand.

Environmentally sustainable measures that respond to climate change impacts include:

Temperature increase and greater heatwave frequency

- Passive building design features to reduce/dampen the effects of increasing temperature, such as solar shading and solar control glazing;
- The use of mixed mode ventilation, with the use of air conditioning during peak conditions. This is to ensure that appropriate internal conditions can be achieved and maintained as temperatures continue to rise; and
- Landscaping has also been proposed to reduce urban heat island effect.

Extended drought periods

- Consideration of native low water landscaping to reduce potable water consumption; and
- Rainwater harvesting and low flow fixtures and fittings.

Increased intensity of extreme rainfall events

- Consideration of increased drainage capacities to reduce flooding of roofs and hard surfaces; and
- Assessment of design of the building to address post development probable maximum flood (PMF) level.

Higher wind gusts

- Design of windows and openings with controls to limit the impact of gustier wind conditions for internal spaces; and

- Landscaping to buffer strong winds to outdoor areas.

3.12 Infrastructure and Services

An Infrastructure Management Plan has been prepared by Northrop (**Appendix U**) that outlines the existing infrastructure, information on existing capacity and any augmentation to services required for the proposal. A summary is provided below.

3.12.1 Electricity

The new school will be serviced via existing high voltage infrastructure on Estella Road. A review of the capacity of electrical services has been undertaken and confirms that to meet the needs of the new school, a on-site 750 kVA kiosk substation is required. The new substation is to be located between Estella Road and the new car park, as shown at **Figure 32**.

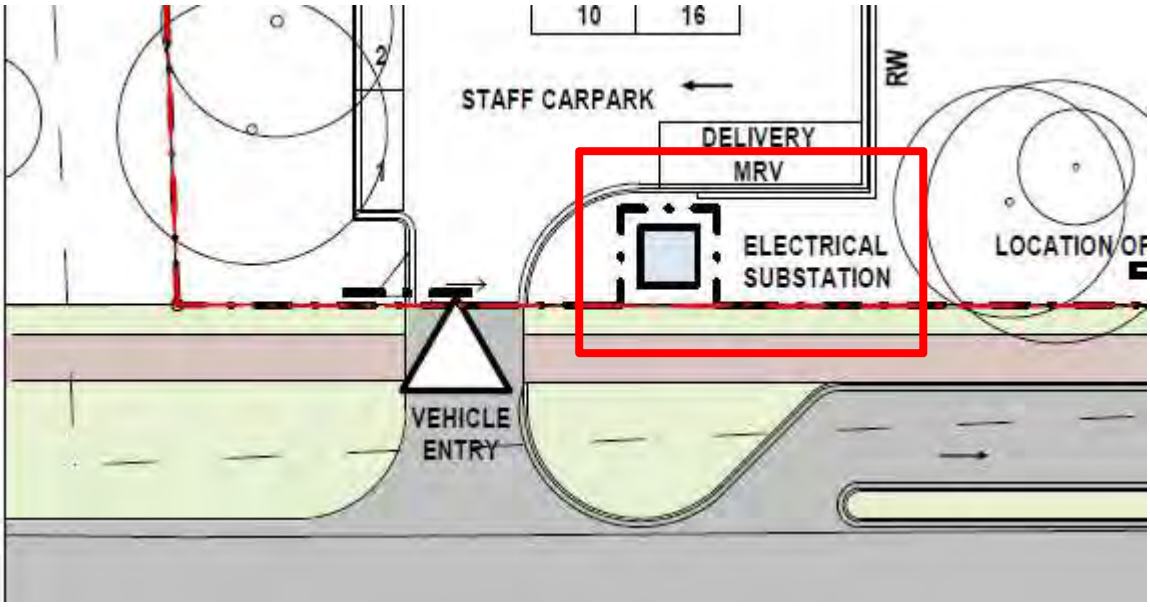

Figure 32 Substation location

Source: Perumal Pedavoli Architects

3.12.2 Telecommunications

The site will connect to the NBN network which is available in the locality. CSU has requested a new fibre connection between its campus to the north and the school.

3.12.3 Water and Sewer

The new school can connect to existing water and sewer supply on Estella Road. The existing drainage system has enough capacity to serve the proposal.

A rainwater harvesting system will be installed to council requirements. The system will collect roof areas and drain to above ground rainwater storage tanks for storage and re-use to non-potable fixtures.

3.12.4 Gas

The site has access to gas mains at the intersection of Estella Road and Gunn Street. An application to APA Group Natural Gas will be made as part of the project.

3.13 Construction

3.13.1 Staging

The school is proposed to open in 2021. The construction program will be confirmed upon appointment of a contractor. A staging plan will be prepared and provided to the Department prior to the commencement of construction if staging is required.

3.13.2 Construction and Operational Jobs

- Construction jobs – 290
- Operational jobs - 32

3.13.3 Construction Hours

The proposed hours of construction align with the standard interim construction noise guideline construction hours and are as follows:

- Monday to Friday inclusive: 7.00am to 6.00pm;
- Saturday: 8.00am to 1.00pm; and
- No work on Sundays and Public Holidays

3.14 Contributions

The relevant contributions plan for the site is the Wagga Wagga Section 94A Levy Contribution Plan 2006. The purpose of the Plan is to enable Council to require a contribution towards the provision, extension or augmentation of public amenities and public services that will, or are likely to be, required as a consequence of development within the LGA.

The following planning policies support the best practice of exempting community infrastructure from paying contributions:

Circular D6 – Crown Development Applications and Conditions or Consent

Exemption from contributions is supported by Planning Circular (Circular D6) relating to Crown Development Applications, issued by the then Department of Urban Affairs and Planning. Circular D6 sets out the circumstances in which it is appropriate for a consent authority to seek the approval of the applicant or the Minister to impose conditions of consent. Circular D6 notes that where a consent authority intends to levy contributions on Crown Development, they must be justified, and consideration should be given to the Crown's role in providing a community service, the cost of which is accountable to all taxpayers in the State.

The currency of Circular D6 is confirmed in the Draft Development Contributions Practice Note – July 2005, which states "the current limitation on imposition of levies on Crown Developments as outlined in Circulate D6…remain in force."

SINSW is a Government agency which relies on government grants to provide new facilities for the local community.

The levying of a development contribution would divert a portion of these public funds, which have been specifically provided to fund a school redevelopment, to local services without any direct nexus to the impact on those services.

The inherent public character of the proposed development contrasts with a strictly commercial development where a full levy might be considered reasonable. The nature of the development means that the infrastructure which Council typically seeks to levy for will largely be provided by the school for use by staff and the public, including the library, hall and sports grounds which are available for community use as outlined at **Section 3.10**.

4.0 Consultation

In accordance with the SEARs issued for this project, consultation was undertaken with relevant public authorities, the community and Council.

A summary of the consultation undertaken to-date with Council, the State Design Review Panel (SDRP), the community and relevant agencies is provided at **Appendix E**. Several consultants have undertaken additional consultation with relevant parties during the preparation of their reports.

Agency and Council Consultation

SINSW has been engaged in ongoing consultation with Council regarding the development including the design and use of the joint use aspects of the proposal. Meetings to discuss the detailed design of the proposal and other matters including project scope, onsite parking, access, flooding and services infrastructure were held on 21 August 2018, 29 August 2018 and 3 September 2018. A further meeting was held on 10 September 2019 to discuss matters relating to traffic, pedestrian accessibility and site services. The issues raised are addressed as part of the design and EIS assessment.

RMS was contacted on 18 December 2018 regarding the proposal. Initial feedback was received including the design of pick/up and set down arrangements and on-site parking and have been considered in the evolution of the design. Further consultation was undertaken by Ason Group in preparing the Traffic Impact Assessment (**Appendix F**). RMS confirmed that they would provide more formal feedback during the exhibition process.

TfNSW was contacted on 19 December 2018 regarding the proposal. Further consultation was undertaken by Ason Group in preparing the Traffic Impact Assessment (**Appendix F**).

Peterson Bushfire consulted with the NSW Rural Fire Service in preparing their environmental assessment, provided at **Appendix R**.

A summary of meeting details prepared by Hansen Yucken is provided at **Appendix E**.

Local Aboriginal Groups

Aboriginal Narrative Design Workshops were held with the local Aboriginal Education Consultant Group and local Wiradjuri elders. The purpose of the workshops was to engage with the Aboriginal members of the community, establish relationships, and to listen to their stories, with the intent to respect and celebrate the local Aboriginal cultural heritage of the Wiradjuri in the design of the school, and to discuss how the Aboriginal cultural heritage of the Wiradjuri could be interpreted into the design of the school.

Formal consultation with the Aboriginal organisations was undertaken in accordance with *Aboriginal cultural heritage consultation requirements for proponents 2010* as outlined at **Section 5.10**.

The project team consulted with the Metropolitan Local Aboriginal Land Council (MLALC) in preparation of the Aboriginal Archaeological Survey Report. The MLALC did not raise any concerns over the proposal.

NSW Government Architect

Representatives of SINSW and original project architects Hayball met with the Office of the Government Architect NSW on 10 December 2018 to present and review the design of the school in line with ‘Better Placed – An integrated design policy for the built environment of NSW 2017’.

The project was subsequently presented to the Government Architect on 24 September 2019, providing an update to the design progression that has been led by Perumal Pedavoli. Notwithstanding requests for some additional information, no significant issues were raised, and the design has the support of the Government Architect. The meeting minutes and a detailed response to these minutes are provided at **Appendix E**.

Further consultation will be undertaken in accordance with the requirements of the Government Architect.

Community Consultation

SINSW has undertaken ongoing consultation and engagement with the local community during the design development. The community consultation and engagement strategy has comprised:

- Consultation with school representative groups;
- Engagement with the local community;
- Project website with ongoing updated information on the proposal;
- Project information at public locations; and
- Media announcements.

The proposed development will be placed on public exhibition for 28 days in accordance with clause 83 of the *Environmental Planning and Assessment Regulation 2000*. During the public exhibition period Council, State agencies and the public will have an opportunity to make submissions on the project.

5.0 Environmental Assessment

This section of the report assesses and responds to the environmental impacts of the proposed DA. It addresses the matters for consideration set out in the SEARs (see **Section 1.5**). The Mitigation Measures at **Section 7.0** complement the findings of this section.

5.1 Relevant EPIs, Policies and Guidelines

The relevant strategies, environmental planning instruments, policies and guidelines as set out in the SEARs are addressed in **Table 4**.

Table 4 Summary of consistency with relevant Strategies, EPIs, Policies and Guidelines

Instrument/Strategy	Comments
Strategic Plans	
NSW State Priorities	NSW State Priorities are twelve high-level priorities for the State, being: • Creating jobs; • Delivering infrastructure; • Driving public sector diversity; • Improving education results; • Improving government services; • Improving service levels in hospitals; • Keeping our environment clean; • Making houses more affordable; • Protecting our kids; • Reducing domestic violence reoffending; • Reducing youth homelessness; and • Tackling childhood obesity. The proposal seeks to deliver a new primary school and create additional educational capacity in regional New South Wales. The proposal will therefore contribute to the provision of infrastructure, as well as jobs and education, thereby contributing to strengthening the local and regional economy.
Future Transport Strategy 2056	The Future Transport Strategy 2056 sets the 40-year vision, directions and outcomes framework for customer mobility in NSW and will guide transport investment over the longer term. This Strategy aims to place the customer at the centre and with feedback harness the rapid advancement of technology and innovation across the transport system to transform customer experience, improve communities and boost economic performance (TfNSW 2017). The proposal is consistent with the Strategy by delivering increased educational capacity in regional New South Wales. The proposal does not prevent the objectives of the Strategy from being achieved.
State Infrastructure Strategy 2018 - 2038 Building the Momentum	The proposal is consistent with the State Infrastructure Strategy by: • Delivering school infrastructure to keep pace with student numbers; and • Providing modern, digitally enabled learning environments.
Crime Prevention Through Environmental Design (CPTED) Principles	Refer to **Section 5.4.5**.
Healthy Urban Development Checklist (NSW Health)	The proposed development is consistent with the HUD checklist in that it: • Provides recreation facilities within the school campus which promotes and encourages physical activity and exercise; • Is accessible by public transport and is encouraging of active transport; • Is within a walkable neighbourhood enabling parents and children to arrive by alternative modes; • Has been designed having regard to preventing crime and promoting a sense of security for future students and teachers having regard to the CPTED principles; • Will respond to existing community needs and current gaps in educational facilities in the region; and • Has been designed to minimise disturbance and health effects associated with noise, odour and light pollution, and has been designed to address the potential for hazards (both natural and manmade) and address their mitigation.

Instrument/Strategy	Comments	
Riverina Murray Regional Plan 2036	The proposal is consistent with the Riverina Murray Regional Plan. In particular, the proposal is consistent with Direction 6.3 by delivering joint venture opportunities with shared community and school facilities integrated into the school design. The proposal will also meet Direction 28 and will deliver a healthy built environment which allows children and the community to access school and joint use facilities in the growing north Wagga suburbs.	
Wagga Wagga Spatial Plan 2013-2043	The site is identified as being community infrastructure land according to the spatial plan. The proposal maintains this use with additional education facilities, providing on-going community infrastructure. Consistent with the Plan the proposal will deliver expanded education options in the LGA, with joint use facilities improving access to community infrastructure in the northern suburbs of Wagga.	
Wagga Wagga Integrated Transport Strategy and Implementation Plan 2040	The new school is located in an area of large population growth in Wagga's north. By locating the school close to children, the school will enable more effective transport including alternative travel modes such as by walking, cycle and scooter. The Transport Strategy and Implementation Plan has been considered as part of the Traffic Impact Assessment. Traffic impacts are further explored at **Section 5.5**.	
Draft Wagga Wagga City Council Activation Strategy 2040	Consistent with the Draft Activation Strategy the proposed school will be part of the local community with inclusive shared use facilities that will be accessible to the public. The proposal will also deliver new education facilities in an area with a growing population, particularly young families with children. Accordingly, the school is appropriately located to service the Estella precinct and will deliver redevelopment opportunities for underutilised educational land, in accordance with the strategy.	
Better Placed: An integrated design policy for the built environment of NSW	Better Placed has been developed by the Government Architect as an integrated design policy for the built environment of NSW. It includes seven distinct objectives that have been created to define the key considerations in the design of the built environment. A review of the proposal's consistency with the principles of Better Placed is provided below.	
	Objective 1. Better fit contextual, local and of its place	The school responds to the surrounding context, including the topography and existing mature vegetation, integrating with these and providing a scale befitting the school while respecting the local character. The adopted materials and colours incorporate visual interest drawing inspiration from local and indigenous themes.
	Objective 2. Better performance sustainable, adaptable and durable	SINSW has taken a responsible approach to ensuring the principles of ESD are incorporated into the school ensuring effective and environmentally responsive ESD initiatives. ESD is further explored in detail at **Section 3.11** and **5.19**.
	Objective 3. Better for community inclusive, connected and diverse	The school incorporates accessible access to all spaces to cater to the varying needs of students, staff and public who will use the facilities. Shared and joint use facilities will enable use of the school by community and CSU.
	Objective 4. Better for people safe, comfortable and liveable	The school has sought to balance the operational needs of the school while providing fit for purpose buildings that incorporate high quality design features to make staff and students more comfortable. The school provides passive surveillance to all spaces surrounding the building consistent with CPTED principles ensuring the site will be a safe and useable space.
	Objective 5. Better working functional, efficient and fit for purpose	The school provides modern learning spaces that align with SINSW and Department of Education standards and objectives.
	Objective 6. Better value creating and adding value	The school will cater for the increased education demands, whilst meeting the NSW Government's budget for the works. Joint and shared facilities, use of robust materials and adherence to education design requirements will ensure the new school will deliver better value for the NSW Government.
	Objective 7. Better look and feel engaging, inviting and attractive	The design principles that have informed the design are outlined by Perumal Pedavoli Architects in the Design Report at **Appendix B**.

<table>
<tr><th>Instrument/Strategy</th><th>Comments</th></tr>
<tr><td colspan="2">State Legislation</td></tr>
<tr><td>EP&A Act</td><td>The proposed development is consistent with the objects of the EP&A Act, in particular:
It promotes the social welfare of the community;
It allows for the orderly and economic development of land; and
It is development for public purposes and will facilitate the delivery of community services.
The proposed development is consistent with Division 4.7 of the EP&A Act, particularly for the following reasons:
The development has been declared to have state significance;
The development is not prohibited by an environmental planning instrument; and
The development has been evaluated and assessed against the relevant heads of consideration under section 4.15(1).</td></tr>
<tr><td>EP&A Regulations</td><td>The EIS has addressed the specific criteria within clause 6 and clause 7 of Schedule 2 of the EP&A Regulation. Similarly, the EIS has addressed the principles of ecologically sustainable development through the precautionary principle (and other considerations), which assesses the threats of any serious or irreversible environmental damage.

As required by clause 7(1)(d)(v) of Schedule 2, the following additional approvals will be required in order to permit the proposed development to occur.

<table>
<tr><th>Act</th><th>Approval Required</th></tr>
<tr><td colspan="2">Legislation that does not apply to State Significant Development</td></tr>
<tr><td>Coastal Protection Act 1979</td><td>N/A</td></tr>
<tr><td>Fisheries Management Act 1994</td><td>N/A</td></tr>
<tr><td>Heritage Act 1977</td><td>N/A</td></tr>
<tr><td>National Parks and Wildlife Act 1974</td><td>N/A</td></tr>
<tr><td>Native Vegetation Act 2003</td><td>N/A</td></tr>
<tr><td>Rural Fires Act 1997</td><td>N/A</td></tr>
<tr><td>Water Management Act 2000</td><td>N/A</td></tr>
<tr><td colspan="2">Legislation that must be applied consistently</td></tr>
<tr><td>Fisheries Management Act 1994</td><td>No</td></tr>
<tr><td>Mine Subsidence Compensation Act 1961</td><td>No</td></tr>
<tr><td>Mining Act 1992</td><td>No</td></tr>
<tr><td>Petroleum (Onshore) Act 1991</td><td>No</td></tr>
<tr><td>Protection of the Environment Operations Act 1997</td><td>No</td></tr>
<tr><td>Roads Act 1993</td><td>Yes – refer to Section 5.1</td></tr>
<tr><td>Pipelines Act 1967</td><td>No</td></tr>
</table></td></tr>
<tr><td>Roads Act 1993</td><td>The proposed works within Estella Road relate to a public road. Accordingly, consent from Council is required under section 138 of the Roads Act 1993. SINSW has consulted with Council regarding the proposed works as outlined at Section 5.0 and Appendix F.

SINSW will seek approval under section 138 of the Roads Act prior t the commencement of the relevant works</td></tr>
<tr><td>Biodiversity Conservation Act 2016</td><td>An assessment of Biodiversity impacts is provided at Section 0. A Biodiversity Development Application Report is provided at Appendix I.</td></tr>
<tr><td>State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017</td><td>Under clause 35(6) of the Education SEPP, the consent authority must take into consideration (a) the design quality of the development when evaluated in accordance with the design quality principles set out in Schedule 4 (see below) and (b) whether the development enables the use of school facilities (including recreational facilities) to be shared with the community.

With regards to clause 35(6)(b), refer to Section 3.10.</td></tr>
</table>

Instrument/Strategy	Comments
State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 Schedule 4 Schools—design quality principles	In accordance with clause 35(6)(a), a Design Verification Statement has been prepared by Perumal Pedavoli Architects (**Appendix B**) that responds to each of the design quality principles set out in Schedule 4, including: 1 Context, built form and Landscape; 2 Sustainable, Efficient and Durable; 3 Accessible and inclusive; 4 Health and safety; 5 Amenity; 6 Whole of life, flexible and adaptive; and 7 Aestetics. The architect has met with the Office of the Government Architect to ensure that these design quality principles have been met. In accordance with Clause 57 of the Education SEPP, the proposal is required to be referred to RMS as traffic generating development as the new school will accommodate more than 50 students.
SEPP 55	The Phase I Environmental Site Assessment and Soil Contamination assessment prepared for the site (see **Appendix L**) demonstrates that the site is suitable for the proposed development.
Draft State Environmental Planning Policy (Remediation of Land)	The proposal remains consistent with the Draft policy as the proposed assessment has been undertaken in accordance with SEPP 55 as outlined further at **Section 5.11**.
Draft State Environmental Planning Policy (Environment)	The Draft consolidated SEPP proposes to simplify the planning rules for a number of water catchments, waterways, urban bushland, and Willandra Lakes World Heritage Property. The relevant matters for consideration in the draft SEPP do not apply to the site.
SEPP (State and Regional Development)	In accordance with Schedule 1 development for the purpose of a new school is identified as SSD.
State Environmental Planning Policy No. 64 – Advertising and Signage	The following signage is proposed: • Main entrance sign – 10.2m x 0.4m. Refer to **Section 5.2** for an assessment of SEPP 64.

Local Planning Instruments and Controls		
Wagga Wagga Local Environmental Plan 2010	Clause 2.3 Land Use Table	The proposed Educational Establishment use is permissible with development consent in the SP2 Educational Establishment zone.
	Clause 4.3 Height of Buildings	There is no height of building control that applies to the site.
	Clause 4.4 Floor Space Ratio	There is no floor space ratio control that applies to the site.
Wagga Wagga Development Control Plan 2010	Part 2.2 Off Street Parking	Refer to **Section 5.5**
	Part 2.6 Erosion and Sediment Control	Refer to **Section 5.15**

5.2 State Environmental Planning Policy 64 – Advertising and Signage

SEPP 64 applies to all signage that, under an Environmental Planning Instrument, can be displayed with or without development consent and is visible from any public place or public reserve.

For the purposes of this assessment under SEPP 64, the proposed signs are considered to fall under the definition of building identification signage. This is because the signs indicate the building name, and do not include any advertising relating to a third party who does not carry out business on the premises.

The proposed signage is consistent with the objectives of SEPP 64 and satisfies the criteria specified in Schedule 1 of SEPP 64 as follows:

Clause 3 states the aims and objectives of SEPP 64 which are:

(a) to ensure that signage (including advertising):
i. is compatible with the desired amenity and visual character of an area, and
ii. provides effective communication in suitable locations, and
iii. is of high-quality design and finish, and
(b) to regulate signage (but not content) under Part 4 of the Act, and
(c) to provide time-limited consents for the display of certain advertisements.
(d) to regulate the display of advertisements in transport corridors, and
(e) to ensure that public benefits may be derived from advertising in and adjacent to transport corridors.

The proposal is consistent with the above aims and objectives, in that it will:

- Feature a distinct and high-quality design;
- Effectively communicate to the public the location and use of the building at the primary school entrance;
- Positively contribute to the streetscape and ensure minimal visual disruption by integrating with the building and landscape design; and
- Make use of high-quality materials and finishes.

Schedule 1 of SEPP 64 contains a range of assessment criteria. The way in which the proposed development meets the assessment criteria is set out in **Table 5**.

Table 5 SEPP 64 assessment

Schedule 1 Assessment Criteria	Comments	Compliance
Character of the area		
Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?	The proposed development is compatible with the desired character of the new school.	Y
Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	The proposed development is generally consistent with the nature and siting of the building as a public building providing education services. Accordingly, the lettering is clear and legible in communicating the use of the building to the public.	Y
Special areas		
Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?	The proposed signage is consistent with the CSU precinct. The location is not part of any heritage area or environmentally sensitive areas.	Y
Views and vistas		
Does the proposal obscure or compromise important views?	The proposed signage is integrated with the existing buildings and landscape design and therefore will not result in any obstruction of views, and the location and content of signage will not otherwise compromise important views within the precinct.	Y
Does the proposal dominate the skyline and reduce the quality of vistas?	The proposed signage is appropriate for the scale of the buildings and intended use as a building identification sign.	Y
Does the proposal respect the viewing rights of other advertisers?	The proposed signage does not impact upon the viewing rights of other advertisers.	Y
Streetscape, setting or landscape		
Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?	The scale, proportion and form of the proposed signage is consistent with the setting of the school facilities and is appropriate in the setting.	Y
Does the proposal reduce clutter by rationalising and simplifying existing advertising?	The proposed signage contributes to the visual interest of the streetscape by contributing to the identification and recognition of the school.	Y
Does the proposal screen unsightliness?	The proposed signage is integrated with the architecture of the buildings and landscape and will enhance the appearance of the buildings.	Y

Schedule 1 Assessment Criteria	Comments	Compliance
Does the proposal protrude above buildings, structures or tree canopies in the area or locality?	The proposed signage does not protrude above the building.	Y
Does the proposal require ongoing vegetation management?	The proposed signage will not require ongoing vegetation management.	Y
Site and building		
Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?	The proposed signage has been designed to be fully compatible with the architecture of the buildings.	Y
Does the proposal respect important features of the site or building, or both?	The proposed signage has been located in the most architecturally appropriate locations to assist in place identification and wayfinding.	Y
Does the proposal show innovation and imagination in its relationship to the site or building, or both?	The proposed signage has been fully integrated with the building and landscape architecture.	Y
Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?	No safety devices, platforms, lighting devices or logos are incorporated as an integral part of the signage.	Y
Illumination		
Would illumination result in unacceptable glare?	No illumination of signage is proposed.	Y
Would illumination affect safety for pedestrians, vehicles or aircraft?		Y
Would illumination detract from the amenity of any residence or other form of accommodation?		Y
Can the intensity of the illumination be adjusted, if necessary?		Y
Is the illumination subject to a curfew?		Y
Safety		
Would the proposal reduce the safety for any public road?	The proposed signage is located well within the school and has been located in order to avoid any impacts on public roads, and views to building signage will generally be presented to entrances.	Y
Would the proposal reduce the safety for pedestrians or bicyclists?	The proposed signage is located well within the school and will be located above ground level and will not distract from essential sight lines for pedestrians and cyclists.	Y
Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?	The proposed signage is located well within the school and will be integrated with the buildings and will not obscure sight lines from public area.	Y

5.3 Built Form and Urban Design

5.3.1 Density, Bulk, Scale and Setbacks

The new school generally has a low scale-built form, being up to two storeys (maximum of 12.3m) across multiple, regular sized buildings spaced across the southern portion of the site. The built form provides greater efficiency by accommodating density vertically, while respecting the medium and low-density scale and form in the locality, where taller education buildings (2-3 storeys) feature at CSU to the north and 1-2 storey residential development to the south.

The new development is substantially setback from surrounding development, being between 40m and 65m from dwellings to the south and over 200m from the buildings of CSU to the north. The Estella Road setback allows for the retention of existing mature Yellow Box trees along the front boundary, screening the school further.

5.4 Amenity Impacts

5.4.1 Overshadowing and Solar Access

Overshadowing to adjoining properties and solar access within the site has been shown in the shadow diagrams provided by Perumal Pedavoli Architects (**Appendix A**) see **Figure 33** - **Figure 35**. The shadow diagrams demonstrate that the proposal does not result in any overshadowing to adjoining residential properties with shadows largely restricted to within the school grounds during mid-winter with minor shadows extending to the adjoining vacant land and Estella Road. The impact of these shadows is limited to the early morning and late afternoon and substantial solar access is maintained to these areas across the day. The adjoining land is owned by CSU and zoned SP2 Educational Establishment. Accordingly, the shadowing of this land is considered acceptable based on likely future development to be for educational purposes and not residential.

Sufficient amenity is also provided for future users of the site, with satisfactory solar access maintained to key open spaces. The central courtyard receives sunlight in the morning with progressively greater overshadowing into the afternoon at mid-winter. Notwithstanding, there is significant open space and play areas across the school that receive uninterrupted sunlight.

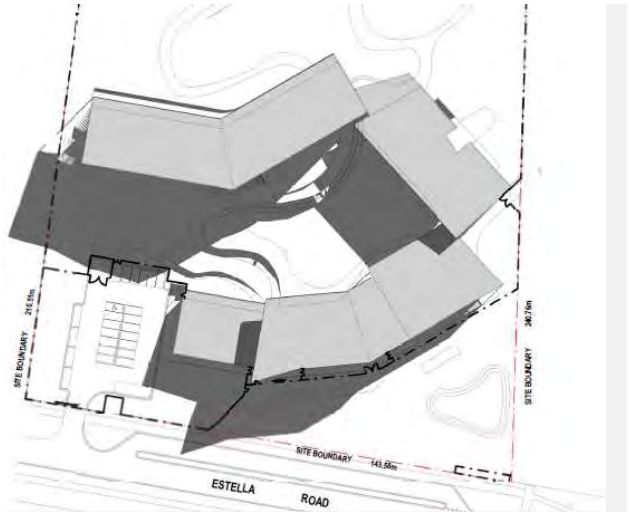

Figure 33 21 June – 9am

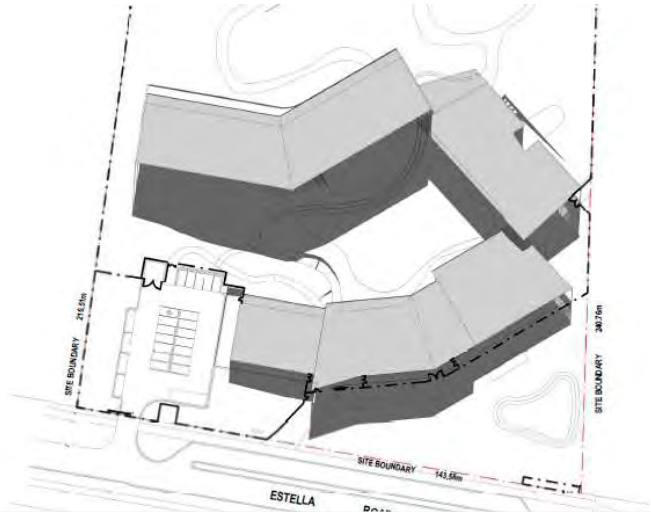

Figure 34 21 June – 12pm

Figure 35 21 June – 3pm

5.4.2 View Loss and Visual Impacts

The site is currently a greenfield site and the proposed development will have some visual impact. However, on balance, the impact is considered acceptable due a range of design measures, such as setbacks, vegetation screening and inclusion of low scale-built form.

As the new development is set back within the school grounds there are significant setbacks to surrounding residential properties, ensuring that the new buildings would not be visually intrusive. The school's grounds feature extensive landscaping and trees which are generally taller than the new buildings, ensuring that the new development will sit within a landscaped setting and will accordingly not be a dominant feature.

A representative view of the school on Estella Road is provided at **Figure 36**. The montage shows that the school will have some impact on the streetscape when compared to the existing landscape, however on balance impacts on views are considered to be minimal.

Views across the school site are limited by boundary features such as fences and vegetation. Whilst the new buildings will be visible from the surrounding area, district views will continue to be available and will not be impacted to any significant extent due to the greenfield nature of the site.

A view analysis of representative views surrounding the site has been prepared by Perumal Pedavoli Architects at **Appendix Y**.

Figure 36 View from Estella Road (looking east)

Source: Perumal Pedavoli Architects

Figure 37 View from Estella Road (looking west)

Source: Perumal Pedavoli Architects

5.4.3 Visual Privacy

The proposal is located centrally within the school grounds with significant setbacks (approximately 65 metres to residential dwellings, opposite Estella Road). The proposed new buildings are oriented to primarily face internally within the site, reducing any overlooking concerns.

5.4.4 Wind Impacts

The school is not expected to generate significant wind impacts which would impact pedestrian activity due to the orientation and low scale nature of each structure. The prevailing wind direction is from the east, which largely aligns with the east-west orientation of the buildings, meaning that wind flows will pass around and over the school with little to no adverse impacts.

5.4.5 Crime Prevention Through Environmental Design (CPTED)

The development implements the principles of Crime Prevention Through Environmental Design (CPTED), as identified in the Department of Planning's guideline titled Crime Prevention and the Assessment of Development Applications (2001) as follows:

Principle 1 – Natural Surveillance

As noted in Crime Prevention and the Assessment of Development Applications, good surveillance means that people can see what others are doing. People feel safe in public areas when they can easily see and interact with others. Would-be offenders are often deterred from committing crime in areas with high levels of surveillance. In accordance with this principle, the development provides surveillance.

The development has been designed to provide passive surveillance over public areas, through the introduction of glazing to provide surveillance opportunities over the public domain and main school entry. This will promote the reality and / or perception that the open spaces are under casual surveillance during both the day and night. This

acts as a way of creating the perception of risk in the minds of potential perpetrators. The well-lit nature of the school environment will also enhance passive surveillance providing continuous activation throughout the site.

In addition, a number of strategies can be adopted to further improve the safety and security of the development. Including:

- Utilise strategically placed capable guardians, such as reception staff, to provide natural surveillance to the building entries; and
- Utilise trees with a high canopy that provide good shade for pedestrians, complemented with low groundcover landscaping to ensure good visibility for pedestrians.

Principle 2 - Access Control

Access controls use physical and symbolic barriers to attract, channel or restrict the movement of pedestrians. As noted in Crime Prevention and the Assessment of Development Applications, effective access controls make it clear where people are permitted to go or not go and makes it difficult for potential offenders to reach and victimise people and damage property.

The public will be free to enter the site during the day. However, all of the entry points into the site are located in areas which will have high user traffic, as well as surveillance from passing pedestrians and motorists. This will ensure that people entering and exiting the school can be clearly seen from public spaces and adjoining school buildings and monitored if necessary.

In addition, a number of strategies can be adopted to further improve the safety and security of the development. Including:

- Use symbolic barriers, such as coloured or different paving materials to clearly define the publicly accessible areas and routes in and around the building; and
- Ensure all access points to the building are appropriately controlled by key / code locks (where necessary) in conjunction with the level of security to be provided to staff.

Principle 3 – Territorial Reinforcement

Territorial reinforcement refers to the clear identification of public spaces, and the creation of a sense of community ownership over such spaces. As noted in the Crime Prevention and the Assessment of Development Applications people feel comfortable in, and are more likely to visit, places which feel owned and cared for. Well used places also reduce opportunities for crime and increase risk to criminals.

Landscaping and fencing around the school differentiates public and private spaces. In addition, a number of strategies can be adopted to further improve the safety and security of the development. Including:

- Continue after hours management measures such as regular security patrols; and
- Ensure building entrances are either locked or well monitored after hours to increase the territorial reinforcement of the building.

Principle 4 – Space Management

Space management refers to providing attractive, well maintained and well used spaces. As noted in Crime Prevention and the Assessment of Development Applications, space management strategies include site cleanliness, rapid repair of vandalism and graffiti and the removal of damaged physical elements.

Durable and high-quality materials are proposed which will ensure that minimal maintenance is required for the proposed development. The use of durable façade treatments will also discourage graffiti or vandalism of the building facades. The continued maintenance of the buildings will ensure that it does not become degraded and will ensure that vandalism of the property is strongly discouraged.

In addition, a number of strategies can be adopted to further improve the safety and security of the development. Including:

- Ensure graffiti is rapidly removed and all public spaces are kept clean and tidy; and

- Use robust materials and graffiti resistant surfaces where possible to mitigate against potential malicious damage.

5.5 Transport and Accessibility

A Traffic Impact Assessment has been prepared by Ason Group and is included at **Appendix F**. The report outlines the existing surrounding road network arrangements and conditions and provides an assessment of the traffic and parking impacts associated with the proposal.

5.5.1 Operational Traffic Impacts

Ason Group has undertaken a detailed review of the RMS School Survey, to identify schools with similar characteristics to the proposed School to derive a trip generation rate for the proposal. The Traffic report indicates traffic generation for the school as follows:

- AM School peak hour - 303 vehicle trips; and
- PM School peak hour - 250 vehicle trips.

Intersection Performance

Based on these trip generation rates and a trip distribution analysis using existing access patterns, key intersections have been assessed. The assessment represents the worst-case scenario for all intersections.

The road network performance has been measured against three parameters, being:

- Level of Service (LOS);
- Degree of Saturation (DOS); and
- Average Vehicle Delay (AVD).

The results of the modelling against these three parameters are shown in **Table 6**.

Table 6 Intersection modelling

Intersection	2020 with school		2030 without school		2030+ with school	
	Critical Movement LOS	Worst Movement Delay (sec)	Critical Movement LOS	Worst Movement Delay (sec)	Critical Movement LOS	Worst Movement Delay (sec)
Estella Rd/ Pine Gully Rd	A	6.6	A	7.7	A	8.4
Estella Rd/ Gunn Dr	A	5.9	A	6.3	A	7.1
Estella Rd/ Boorooma St	A	10.8	E	59.2	F	617.2

The modelling shows that all intersections will continue to operate with satisfactory level of service upon completion of the new school for 2020, maintaining Level of Service A.

Modelling for the future 2030 scenario (without the school) shows that due to population growth at 5% p.a. between 2020 and 2030 the intersection of Estella Road/ Boorooma Street degrades to Level of Service E. The future scenario, inclusive of the traffic generated by the school (480 students) shows the intersection would degrade to Level of Service F.

The assessment confirms that the proposed development for 480 students does not impact the operation of key intersections, with all maintaining the same level of service and having a negligible increase in average delay. However, due to population growth the Estella Road and Boorooma Street intersection will need upgrading in the future with or without the school development.

It is noted that, in the 2008 Council Report for Wagga Wagga Planning Studies, Traffic Management - Boorooma East found that:

> *"The intersection of Boorooma Street and Estella Road would benefit from the construction of a roundabout to assist in reducing travel speeds on Boorooma Street and to provide improved access for traffic entering from*

Estella. A single lane roundabout would be appropriate and would accommodate the projected traffic flows at an acceptable level of service."

It is recommended that Council consider upgrading the Estella Road / Boorooma Street intersection as part of Council's 2023-2027 Operational Plan.

5.5.2 Set down / Pick up

To adequately meet the anticipated future set down/pick up demand, it is proposed to provide a set down/pick up zone on the northern side of Estella Road. The proposed arrangement will be capable of accommodating up to 15 vehicles at any one time (based on a 2-minute pick up/drop off movement) which can accommodate 338 vehicle movements in the peak hour, which is greater than the maximum demand (303 vehicles).

A bus zone is proposed on Estella Road that will cater for two (2) queuing buses, which is considered appropriate to service the school. Proposed set down and pick up arrangements are shown at **Figure 38** below.

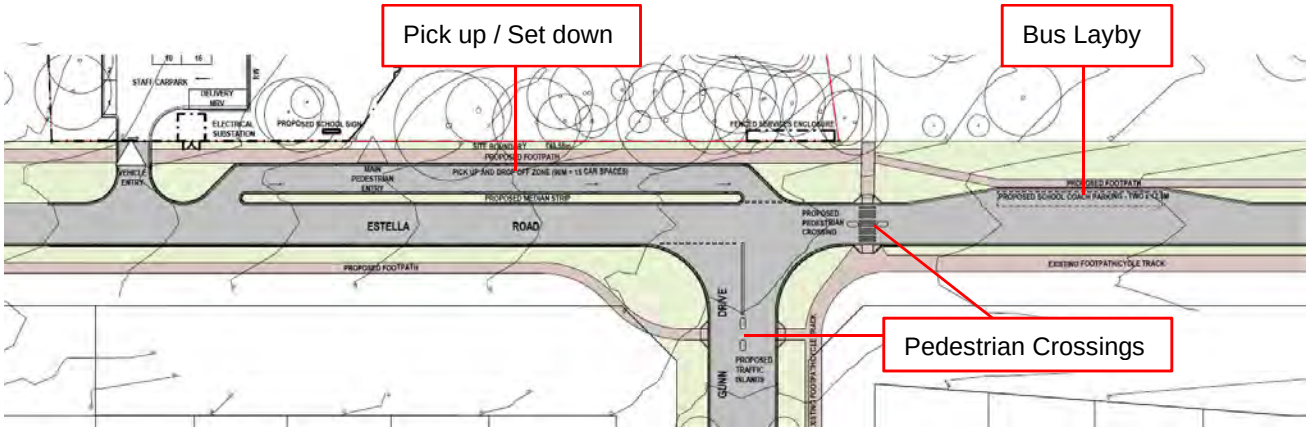

Figure 38 School pick up and set down arrangements

Source: Perumal Pedavoli Architects

To ensure that the proposed pick up and set down zone operates effectively, it is recommended that SINSW prepare a Traffic and Pedestrian Management Plan, prior to operation of the new school, which would be reviewed on an annual basis to establish inefficiencies and areas for improvement in regard to the operation of the pick-up / set down zone.

5.5.3 Operational Parking

Wagga Wagga DCP specifies minimum car parking rates for primary and secondary schools as follows:

- 1 space / two employees plus 1 space / ten senior students (Years 11 and 12)

The school will not accommodate Year 11 or 12 students. The minimum required parking for 24 teachers and 8 staff is 16 spaces. The proposal provides 22 parking spaces, providing sufficient parking for the school staff and joint use facility requirements, and provides sufficient parking to service future expansion of the school.

In accordance with the BCA, 1 (1) accessible parking space is provided.

5.5.4 Bicycle Parking

There is no bicycle parking requirement under Wagga DCP and accordingly, bicycle parking is provided in accordance with Department of Education EFSG which require 40 bicycle parking spaces for a Core 21 school size. A secure area for 40 bicycle parking spaces is provided at the front of the school, adjacent to Estella Road.

5.5.5 Traffic Safety

To ensure a safer pedestrian environment new pedestrian crossing zones are proposed on Estella Road and Gunn Drive in front of the school to safeguard students travelling to and from the school and minimise the risk and potential severity of a crash by reducing vehicle speed and increase motorist awareness via signs, dragon's teeth pavement markings and flashing lights. A children's crossing and pedestrian refuge is also proposed subject to negotiation with Council as the road authority.

5.5.6 Loading Facilities

All waste collection and loading activities will occur at the new loading bay accessed via the Estella Road driveway. Waste services will be undertaken by privately contracted service providers, outside of peak hours to minimise disruption to the peak traffic circumstances. Swept path analysis has been undertaken by Ason Group at **Appendix F**.

5.5.7 Construction Parking

On-site parking is proposed for construction workers to limit parking on local streets. The site is extensive and is capable of accommodating parking of a suitable size and location without impacting the construction activities.

Contractors are also encouraged to carpool or utilise public transport service within the area, thereby further reducing the minimal parking demand.

5.5.8 Construction Traffic

Construction vehicles will access the site via Estella Road and will approach the site from Farrer Road and exit the site via Estella Road to Boorooma Street as shown at **Figure 39**. The routes shown are to be utilised by all construction vehicles travelling to and from the site and represent the shortest route between the local and regional road network which will minimise the impacts of the construction process. An on-site turning area will be provided within the site area so that movement to/from the site is undertaken in a forward direction, at all times.

Light vehicle traffic generation would be generally associated with construction contractor movements to and from the site. The workforce arrival and departure periods (6:30-7:00AM and 6:00-6:30PM) represent the peak construction traffic periods which do not align with standard peak traffic periods. Whilst the construction traffic volumes are yet to be determined, it is expected that these volumes will not exceed the proposed operational volumes as outlined at **Section 5.5.1**.

It is expected that the heavy vehicles would generally arrive outside of peak periods, therefore not contributing to the estimated peak hour volumes.

Accordingly, there is expected to be sufficient capacity on the local street network to accommodate the construction vehicle movements. Accordingly, the impact of construction traffic on local traffic is expected to be negligible.

A Construction Environmental Management Plan will be prepared prior to construction commencing on the site.

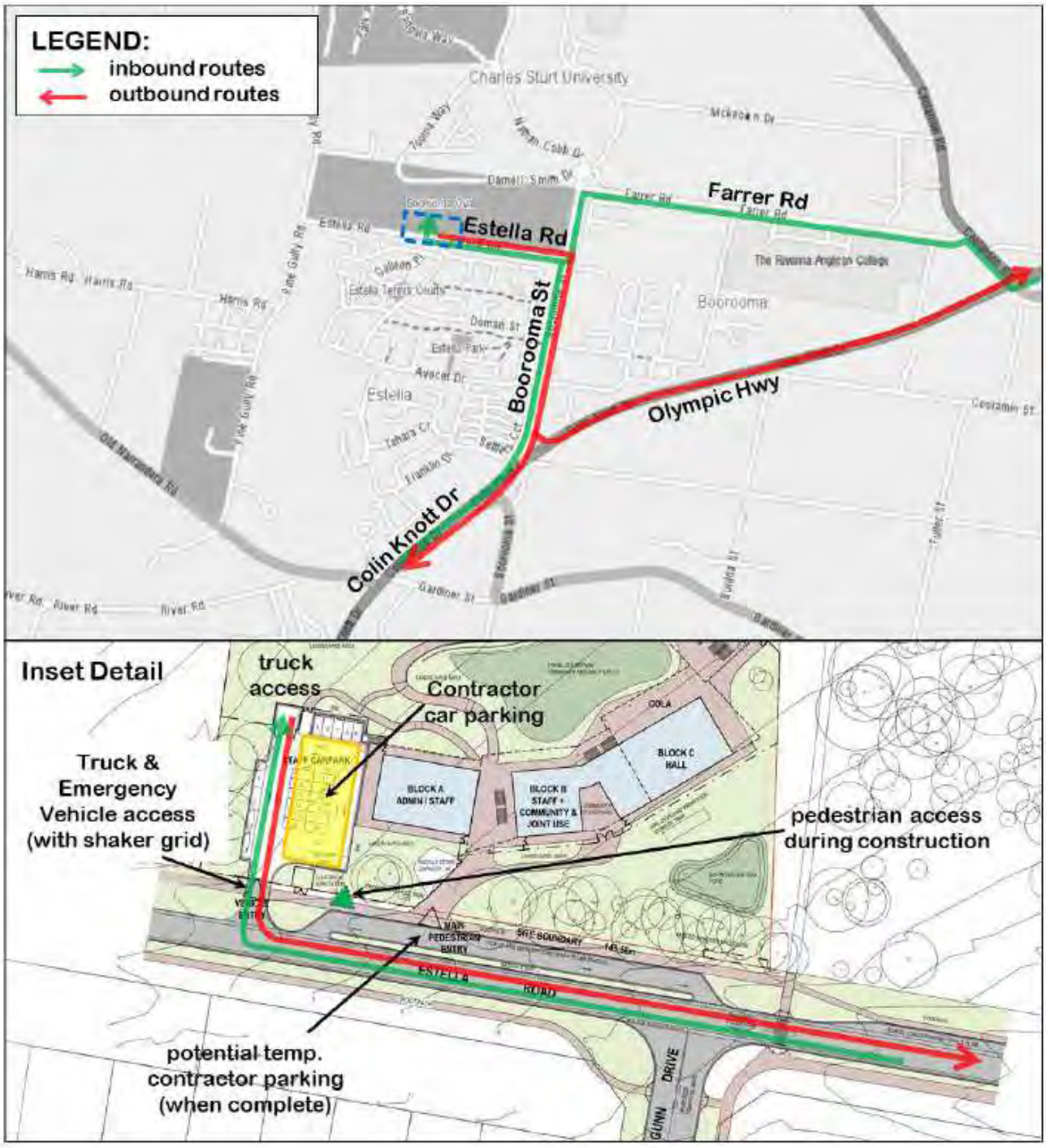

Figure 39 Construction vehicle routes

Source: Ason Group

5.5.9 Green Travel Plan

A Green Travel Plan (GTP) is provided at **Appendix F**. The GTP provides a package of measures with the aim of promoting sustainable transportation. A representative of SINSW will have responsibility for developing, implementing and monitoring the effectiveness of the GTP.

Suggested strategies to influence travel demand include:

- Provide information on walking, cycling and public transport/school buses options;
- Prepare a map showing safe walking routes to/from the school, including indicative walking times;

- Participate in events to promote walking and cycling – examples include Walk to Work/Walk Safely to School Day, Ride2Work/Ride2School Day; and
- Form a Travel Plan Coordinator to facilitate sustainable transport outcomes and facilitate ongoing review and monitoring of the GTP.

5.6 Social Impacts

A Social Impact Statement has been prepared by Ethos Urban and is included at **Appendix G** that considers a range of social impacts arising from the proposal, including impacts associated with access to education opportunities, access to social infrastructure, social impacts of construction, local amenity impacts and safety impacts.

The social impacts of the proposed development are considered to be positive overall, and primarily relate to improved access to education opportunities for students residing in Estella and Boorooma, as well as improved access to social infrastructure for local residents associated with opportunities for joint use of school facilities.

The school site will feature joint use facilities for the community and CSU including community meeting rooms, kitchenette, trainee teacher facilities and public toilets. Core facilities such as the hall and library, will be available for wider community use out of school hours.

Analysis of the social infrastructure context of the site indicates that there is limited access to libraries or community halls within the suburb of Estella. Community facilities within the school site will therefore offer new opportunities for the broader Estella community to access social infrastructure close to their homes.

The proposed development is also likely to generate limited negative social impacts, associated with the construction phase, and with increased noise and traffic congestion associated with operation of the school. The negative impacts of the proposed development can be well mitigated through implementation of a Construction Management Plan and appropriate Plan of Management for the school, including management measures for construction vehicles and local traffic during construction.

On balance, the new school will generate significant long-term social benefits in the local area and broader Wagga Wagga area.

5.7 Noise and Vibration

An Acoustic Assessment has been prepared by Northrop and is included at **Appendix H**. The Assessment has identified the potential acoustic and vibration impacts of the development upon the closest receivers. The closest potentially affected receivers are identified in Figure 1 of the Assessment (**Figure 40**). These include receivers situated to the south of the school, opposite Estella Road.

The existing acoustic environment has been determined using on-site noise monitoring. Based on the background and ambient noise monitoring carried out, Northrop has developed a set of project specific noise criteria (refer to Section 5 of the Acoustic Assessment) and mitigation measures to minimise any impacts from noise and vibration.

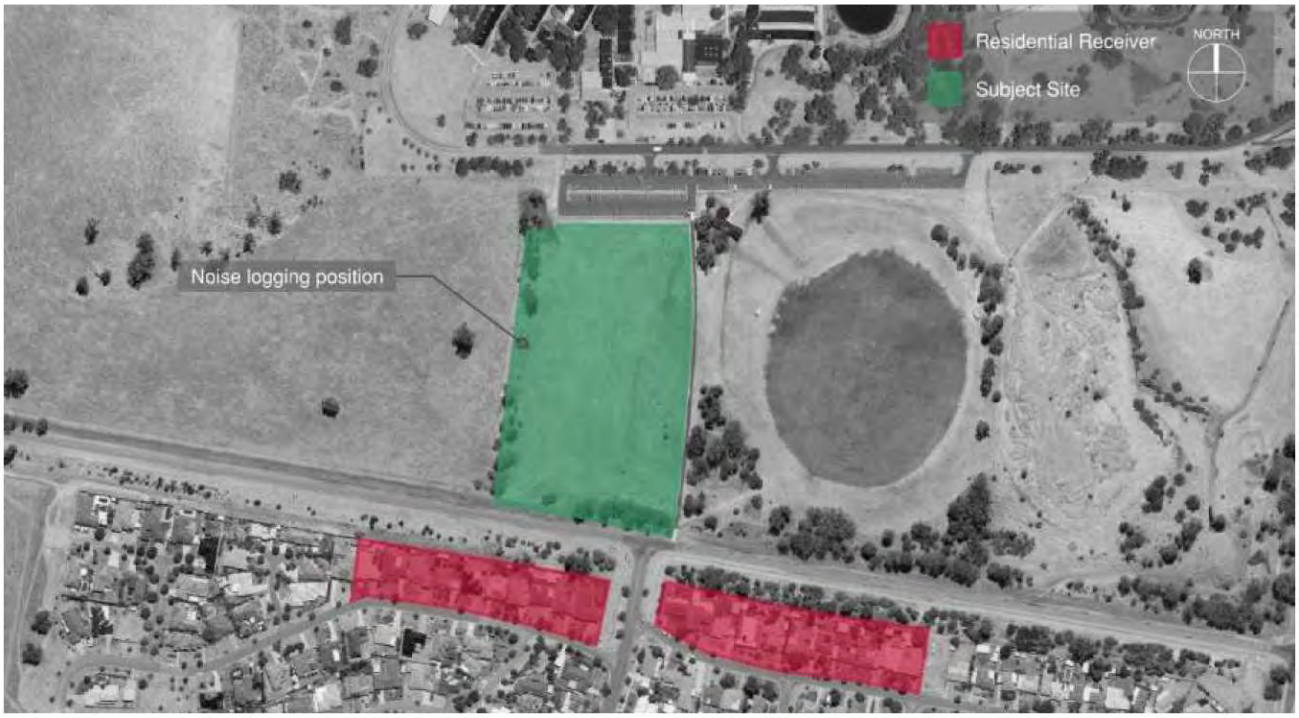

Figure 40 Noise monitoring and receiver locations

Source: Marshall Day Acoustics

5.7.1 Construction Impacts

EPA Guidelines adopt differing strategies for noise control depending on the predicted noise level at the nearest residences. For residential properties, the “noise effected” level occurs when construction noise exceeds ambient levels by more than:

- 10dB(A)Leq(15min) for work during NSW EPA recommended standard construction hours (7am-6pm Monday to Friday and 8am to 1pm on Saturdays); and
- 5dB(A)Leq(15min) for work outside of standard construction hours. For residential properties, the “highly noise effected” level occurs when construction noise exceeds 75dB(A)Leq (15min) at nearby residences.

A summary of noise emission goals is provided at **Table 7** below.

Table 7 Construction Noise Emission Goals

	Noise management level, LAeq(15 min) dB(A)	
Receiver Type	**Noise Affected**	**Highly Noise Affected**
Residential	42	75
Active Recreation (Peter Hastie Oval)	65	

The level of construction noise will depend on the construction activity and where the activity is taking place. Intrusive noise emissions are associated with equipment typically having sound power levels of approximately 115 – 120dB(A)Leq(15min). Some exceedance of the EPA “Noise Effected” target levels may occur at the boundary of existing residences to the south of the school by these activities, however due to the nature of noisy activities the period of exceedance will be intermittent.

Works are proposed to be undertaken within NSW EPA standard construction hours as outlined at **Section 3.13.3**.

Recommended construction mitigation measures that will limit the impact of construction noise are outlined below.

Construction Vibration

Structural vibration as a result of construction activities has been assessed by *Assessing Vibration: A Technical Guideline 2006, NSW Environment Protection Authority (AV:ATG).* Vibration criteria in accordance with the Technical Guidance is outlined at **Table 8**.

Table 8 Construction Vibration Criteria

Daytime (0600-2200hrs)	
Preferred Value, VDV	**Maximum Value, VDV**
0.20	0.40

Marshall Day concludes that due to the distance between the site and the nearest residential properties, no vibration impacts are envisaged.

Construction Mitigation Measures

At this stage, the detailed construction program and methodology has yet to be determined, however the following management measures are proposed to mitigate acoustic and vibration impacts:

- Preparation of a detailed Construction Noise and Vibration Management Plan prior to the commencement of works;
- Manage noise from construction work that might be undertaken outside the recommended standard hours;
- The location of stationary plant (concrete pumps, air-compressors, generators, etc.) as far away as possible from sensitive receivers;
- Using site sheds and other temporary structures or screens/hoarding to limit noise exposure where possible;
- Sealing of openings in the building (temporary or permanent) prior to commencement of internal works to limit noise emission;
- The appropriate choice of low-noise construction equipment and/or methods;
- Modifications to construction equipment or the construction methodology or programme. This may entail programming activities to occur concurrently where a noisy activity will mask a less noisy activity, or, at different times where more than one noisy activity will significantly increase the noise. The programming should also consider the location of the activities due to occur concurrently; and
- Carry out consultation with the community during construction including, but not limited to advance notification of planned activities and expected disruption/effects, construction noise complaints handling procedures.

5.7.2 Operational Impacts

The following operational noise sources from the school have been assessed:

- PA system;
- School bells;
- Mechanical plant;
- Use of the school hall; and
- Out of hours community use.

PA System and School Bell

At this stage the exact design of the PA and school bell system is not known, however Marshall Day recommend that any PA or school bell be designed to achieve compliance with the Noise Policy for Industry (INPfI) airborne noise criteria outlined at **Table 9**.

Table 9 INPfI Airborne Noise Criteria

Receiver	Period	Project Noise Trigger Level, LAeq, 15min,dB
Residential	Day	37
	Evening	37
Active Recreation	When in Use	53

The following is recommended to ensure compliance with the noise criteria:

- Each speaker should not exceed a maximum sound pressure level of approximately 75dBA when measured at 1m from the speaker:
- Speakers should be positioned to minimise noise spill;
- Consider the use of highly directional speaker units;
- A limiter should be incorporated into the PA system to level output;
- The finalised speaker system and limiter should be calibrated with measurements conducted at noise sensitive receivers to ensure compliance with applicable noise criteria; and
- A distributed system of smaller, lower output speakers rather than system of fewer, higher output speakers allows better control of noise spill and lower noise levels.

Mechanical Plant

At this early stage the selection of plant for the proposal has not been finalised and accordingly a detailed acoustic design assessment cannot be undertaken. However, an indicative assessment of primary plant items has been undertaken.

In general, plant will be acoustically treated to prevent noise emissions from adversely impacting the surrounding properties. This may include selecting the quietest plant practicable, or treating the plant with enclosures, barriers, duct lining and silencers as required to comply with noise criteria.

School Hall and Out of Hours Community Use

Building façade materials has been chosen to allow school and community use activities to achieve compliance with noise criteria levels in both day and night time periods. **Table 10** summarises the performance of the proposed façade elements and confirms that compliance is achieved.

The proposed acoustic performance of the façade elements is predicted to allow sufficient noise control of school and community use activities such that noise criteria can be achieved at the residential receivers during both Day and Evening time periods. With façade elements open, noise levels at receivers would increase but would still be compliant with criteria for the Day and Evening periods.

Table 10 Predicted noise levels from School Hall and Community Use

Receiver period	NPfI Criteria, LAeq (15min) dB	Façade Elements Closed		Façade Elements Open	
		Predicted Level LAeq (15 min), dB	Compliance	Predicted Level LAeq (15 min), dB	Compliance
Estella Road – Residential dwellings					
Day	37	<30	✓	35	✓
Evening	37	<30	✓	35	✓
Peter Hastie Oval – Active Recreation					
When in use	53	<30	✓	37	✓

5.8 Biodiversity

A Biodiversity Development Assessment Report (BDAR) has been prepared by NGH Environmental (**Appendix I**), prepared by Accredited Persons under the *NSW Biodiversity Conservation Act 2016* (NSW BC Act). The BDAR has been prepared to meet the requirements of the Biodiversity Assessment Method (BAM) 2016, as established under Section 6.7 of the NSW BC Act.

5.8.1 Flora

A site inspection was undertaken on 25 July 2018 to confirm the Plant Community Types (PCT) present within the site. One PCT was identified on the development site, PCT 277 – Blakely's Red Gum – Yellow Box Grassy Tall Woodland of the NSW South Western Slopes Bioregion. The PCT was stratified into three zones based on the condition and structure of the vegetation and is identified at **Figure 41** below.

Figure 41 Site vegetation zones

Source: NGH Environmental

The built form arrangement has largely been designed to maintain connectivity where possible and avoided impacts to native vegetation. Of the 1.90ha of planted vegetation on site, 1.29ha will be retained.

The proposal will impact 2.3ha of Blakely's Red Gum – Yellow Box Grassy Tall Woodland of the NSW South Western Slopes Bioregion. This is comprised of 1.5ha in the form of derived grassland and 0.8ha in the form of planted vegetation representing the community. The vegetation to be cleared has been cleared in the past and very little remnant vegetation remains. It is identified as being of a low condition rating.

The clearing of the native vegetation results in the generation of 19 ecosystem credits. Retirement of the credits generated will be carried out in accordance with the NSW Biodiversity Offsets Scheme under the NSW BC Act.

5.8.2 Fauna

The Superb Parrot (Polytelis swainsonii), was observed within the school site during site surveys. No hollows were detected on site and the trees present are unlikely to have developed hollows as they have been planted less than 50 years ago. Thus, no breeding habitat is present for the Superb Parrot and no species credits are generated.

Targeted surveys were undertaken for 17 other threatened species credits species. The site has very limited habitat value and none of these threatened species were detected on site. In this respect, no species credits are required. Impacts to federally listed species have been assessed for the Superb Parrot, Swift Parrot and Koala. Potential impacts have been assessed in accordance with the EPBC Guidelines and are considered unlikely to be significant. No referral is considered necessary to the Federal Department of Environment and Energy.

5.9 Tree Removal

Wade Ryan Contracting has prepared an Arboricultural Impact Assessment to discuss the proposed removal of trees and their significance (**Appendix J**). A total of 36 trees were assessed within the site. The design has retained the site's mature vegetation to a large extent and will require the removal of 7 trees identified as having very low – low retention values.

The proposed location of the new buildings is considered to be the most suitable in terms of minimising overall impact on the tree population within the school grounds.

Specific recommendations are made regarding tree 16 and tree 17-36 (excluding tree 24) including pruning and design considerations including tree protection zones (TPZ). The project has incorporated the TPZ in the design.

Tree protection measures are proposed in accordance with the *Australian Standard for the Protection of Trees on Development Sites (AS 4970 2009)*. Reduction pruning and pruning of defects will be performed in accordance with *Australian Standard 4373 -2007 – Pruning of amenity trees*.

5.10 Aboriginal Heritage

An Aboriginal Cultural Heritage Assessment (ACHA) has been carried out by Biosis (**Appendix K**) in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011).*

As outlined in the report consultation was undertaken as per the process outlined in the Aboriginal cultural heritage consultation requirement's for proponents 2010 (DECCW 2010) including notification of government bodies and advertisement in the Daily Advertiser on 8 September 2018. Registered Aboriginal parties were invited to provide their knowledge on the study area and on the proposal. No responses were received during this stage of consultation. Site officers from selected Registered Aboriginal Parties were invited to participate in the archaeological survey but were unable to attend.

The study area is considered to have a high level of cultural significance. James Ingram commented that the

> "*Estella Rd Public School proposed site is located on the high ground immediately nth west of nth Wagga flats and immediately below one of Wagga Wagga most significant sites known as Yindyamarra Hill Reconciliation Place. The proposed site sits in the west of the Aboriginal Place known as Gobba Beach and Gobbagambalin lagoon and was a well-known occupation site during times of flood and Murrumbigee River high flows*."

A field investigation consisting of an archaeological survey was conducted on 5 October 2018. No previously unrecorded Aboriginal cultural heritage sites were identified during the field survey and no areas of archaeological sensitivity were identified. Shallow soil and land disturbance indicate that the study area has low archaeological potential. Biosis recommend the following mitigation measures:

- Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object, the archaeologist will provide further recommendations. These may include notifying the OEH and Aboriginal stakeholders.
- Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity you must:
  - Immediately cease all work at that location and not further move or disturb the remains.
  - Notify the NSW Police and OEH's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.
  - Not recommence work at that location unless authorised in writing by OEH.
- A copy of the ACHAR should be provided to the Aboriginal stakeholders and consider all comments received. The proponent should continue to inform these groups about the management of Aboriginal cultural heritage sites within the study area throughout the life of the project.

5.11 Contamination

A Preliminary Contamination Investigation has been undertaken by Envirowest Consulting in accordance with NSW EPA Guidelines. The assessment found:

- The site has an agricultural land-use history of cropping and grazing with no history of industrial or commercial use and accordingly does not have a high potential risk for extensive contamination;
- Soil sampling did not detect elevated levels of the contaminants of concern above adopted health investigation levels.
- No areas of contamination were identified at the sampling locations with sampling sites being considered representative of the site due to the known consistent historic use of the site.

Based on the observations made during the site walkover and following analysis of site history, Envirowest is of the opinion that there is a low risk of contamination present onsite and the site is suitable for the proposed school use.

The report includes an unexpected finds protocol describing the actions to be followed should potential contamination or hazards be encountered during excavation/construction activities.

5.12 Acid Sulfate Soil

Envirowest has confirmed that the site is not located in an ASS risk area. Accordingly, the preparation of an Acid Sulfate Soils Management plan is not required.

5.13 Geotechnical

A Geotechnical Investigation has been undertaken by Envirowest (**Appendix M**) to assess the subsurface conditions and provide an engineering assessment for the proposal. The assessment found the subsurface comprises of brown to grey brown silty sand topsoil over brown/red, light brown to yellow brown sandy clay with increasing gravels and weathered rock.

Based on the results of the site investigations, the report provides advice on the geotechnical aspects of the proposed civil and structural design. These recommendations relate to excavation, retention, footings, anchors, pavements and drainage. The assessment confirms that based on the subsurface conditions the proposal can be successfully constructed on the site.

5.14 Groundwater

Limited groundwater observations were made during investigations. The observations indicate that groundwater is unlikely to be a constraint to the proposed development.

5.15 Water Cycle Management

5.15.1 Stormwater

Stormwater management for the site is described by Northrop in the Stormwater Management Report at **Appendix N.** Run off from the roofs and hard surfaces will be collected by the hydraulic system and conveyed to discharge into local stormwater drain pits. A 266m^3 OSD basin adjacent to Estella Road controls the rate of discharge from the site. The runoff generated from the site's catchment is proposed as being discharged to an existing external stormwater network located to the south of the site. Following discussions with council engineers it is proposed to provide a low flow outlet connected to the stormwater network in Gunn Drive letting overland flows continue to the established table drain running along Estella Road.

A DRAINS model of the hydraulic characteristics of stormwater runoff and flow across the site has been undertaken. The model assesses the 5 and 100-year ARI storm event. The model assesses the pre-development and post development conditions with and without on-site detention (OSD) and confirms that peak flows can be managed to ensure flow rates do not exceed those under pre-development conditions.

Northrop confirm that the stormwater system has been designed to meet the requirements of Council's OSD and stormwater quantity management requirements can be achieved.

5.15.2 Water Sensitive Urban Design

The proposed water quality management plan includes providing a GPT, a bioretention pond and a grassed bio-swale on the south and east of the school grounds, leading to the bioretention pond. measures comply with the intent of Wagga Wagga Council's water quality control requirements.

Rainwater tanks are provided to increase the school's water reuse rate. These the inclusion of a 100,000 litre rainwater storage tank that will collect rainwater for re-use on-site. The rainwater harvest irrigation system is reticulated to all garden and oval areas via hose taps and inground connection and will also be used for recycled toilet flushing, reducing water demand for the new school (see **Appendix Z**).

5.15.3 Sediment and Erosion Control

An Erosion and Sediment Control Plan has been prepared by Northrop and is included at **Appendix N**. The Plan outlines the management processes to be put in place to maintain the quality of stormwater discharge during construction. Measures include sediment fences, mesh and gravel inlet filters, settlement ponds, shaker grates and diversion swales.

Northrop confirm all erosion and sedimentation management measures will be in accordance with Wagga Wagga DCP and Landcom guidelines – Managing Urban Stormwater Runoff: Soils and Construction ("Blue Book").

5.15.4 Flooding

The site is located outside the flood planning area as identified by the *Wagga Wagga Revised Murrumbidgee River Floodplain Risk Management Study and Plan (WMA Water)* (see **Figure 42**). Accordingly, the site is not identified as being flood liable land or susceptible to flooding by the probable maximum flood (**Figure 43**). The site is therefore not subject to a flood planning level. Site drainage will manage overland flow as discussed at **Section 5.15.1**.

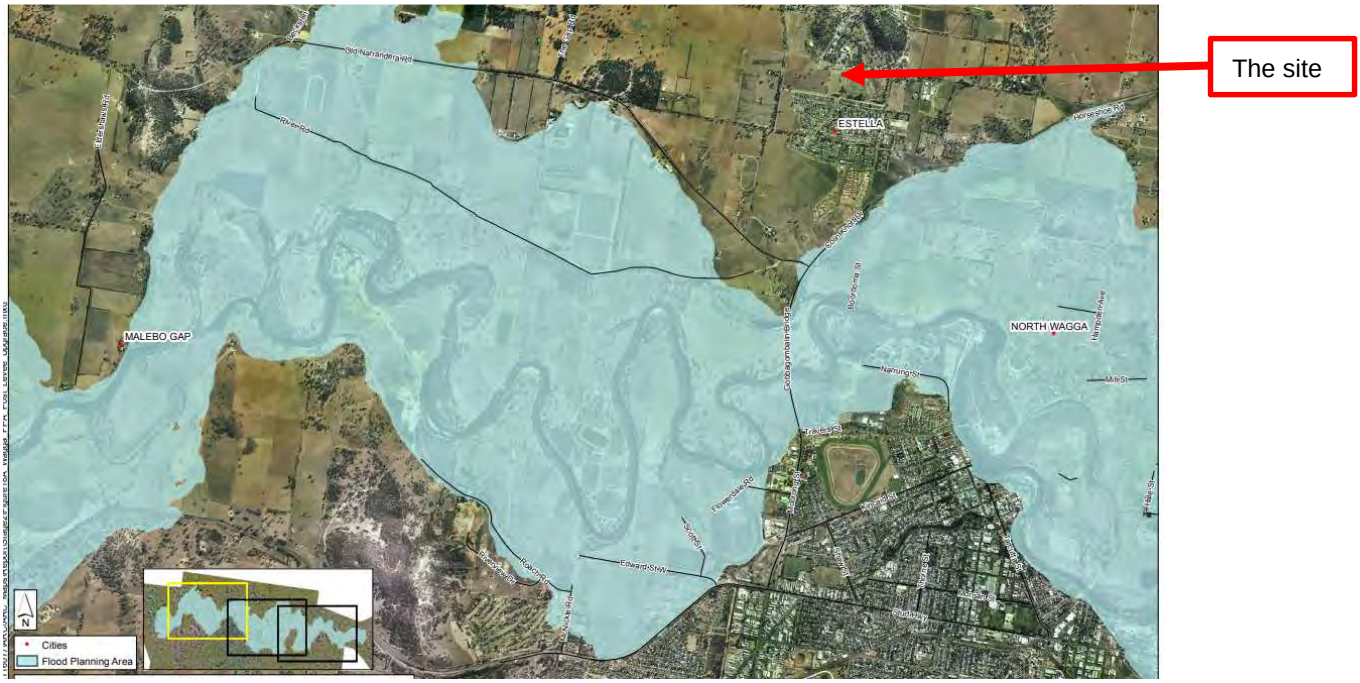

Figure 42 Wagga flood planning area

Source: WMA Water

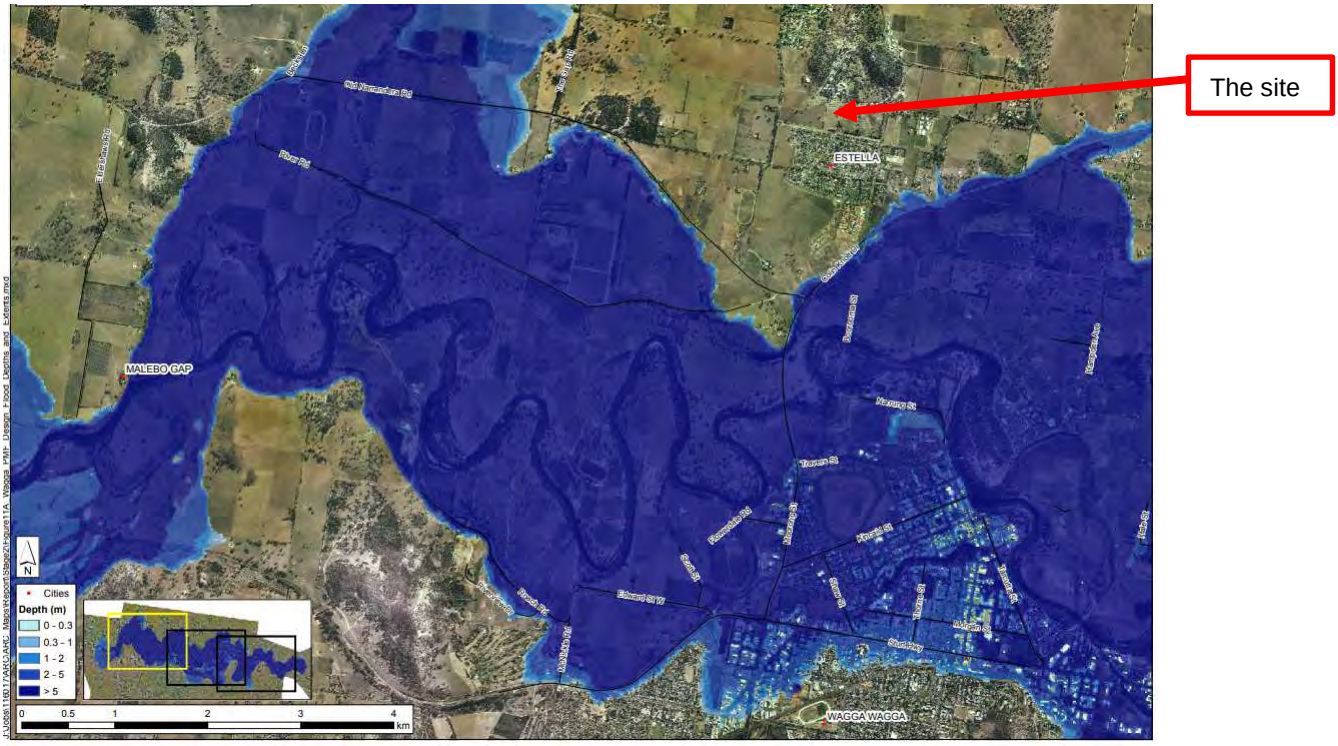

Figure 43 Design flood depths for PMF event

Source: WMA Water

5.16 Waste

5.16.1 Operational Waste

An Operational Waste Management Plan has been prepared by Mack Group (**Appendix O**) and provides an assessment of potential waste impacts associated with the operation of the school. The WMP identifies the potential types and volumes of waste that are expected to be generated in the operational phases of the proposed development and suggests systems to be implemented to appropriately manage this waste.

The following are the main waste streams that would be expected from the proposed development:

- General waste;
- Paper and cardboard recycling; and
- Comingled recycling.

The WMP identifies likely waste streams including potential volumes of each stream during operation. It has been prepared with reference to the relevant legislation and policies. The WMP identifies management measures and disposal destinations for each waste stream for general waste and recycling. It is estimated that the school will generate a total of approximately 2,986 litres of waste and 2,555 litres of recyclable cardboard and 1,095 litres of recyclable comingled waste per week (5 working days).

All general waste will be deposited into dedicated 3,000 litre bin. A 3,000 litre recycling carboard bin and a 1,100 litre recycling comingled waste bin will be located on the waste pad in the car park area. This will be sufficient to service the waste needs of the school with weekly collection.

Colour coded 240 litre bins will be strategically located across the school. These will be transported on a 'needs' basis by site cleaners, taken to the waste collection point and replaced with an empty bin.

Turning paths confirming a Waste Vehicle can access the waste collection point have been provided by Ason Group at the Traffic Report at **Appendix F**.

5.16.2 Construction Waste

The Construction Waste Management Plan prepared by Eccell Environmental (**Appendix P**) identifies likely waste streams including the possible volume of each stream during construction of the proposal. Generally, waste will be segregated on site and transported to a waste or recycling facility.

A detailed Construction Waste Management Plan will be developed by the future site contractor as part of the main Construction Environmental Management Plan for the school (refer to **Section 5.20**). The contractor will be required to achieve compliance with EPA Guidelines.

5.17 Accessibility

An Access Report has been prepared by Du Chateau Chun and is provided at **Appendix Q**. The development has been assessed against the requirements of the Building Code of Australia 2016 (BCA), Disability (Access to Premises) Standards 2010 and The Disability Discrimination Act 1992 (DDA), with regard to access for persons with a disability. The Report concludes that the proposed development can achieve compliance with the relevant statutory requirements.

5.18 Bushfire

A Bushfire Assessment has been undertaken by Peterson Bushfire (**Appendix R**). The north-eastern boundary of the site is affected by the 100m Vegetation Buffer of the Wagga Wagga Bushfire Prone Land Map as shown at **Figure 44.** No development is proposed in this location. The school buildings are not affected by the Bushfire Prone Land Map.

An assessment of predominant vegetation and effective slope has been undertaken. Vegetation close to the development consists of low hazard remnants and planting as identified at **Figure 45**. Using the vegetation and slope information, asset protection zones (APZ) suitable for the development of a school have been calculated, and these are also shown at **Figure 45**. The APZ to the east of the school will fall partly within the neighbouring lot owned by CSU. CSU has agreed to manage the APZ in the same manner it manages the surrounding reserve.

The assessment confirms that subject to recommended mitigation measures, the proposal can comply with *Planning for Bushfire Protection 2006*, as follows:

- An APZ of 38m to 47m is required around the school buildings;

- APZ fuel management specifications outlined in the Bushfire Report are required to be implemented and maintained;
- Proposed landscaping should comply with the principles listed within Appendix 5 of PBP; and
- The buildings are designed and constructed to comply with BAL- 12.5 of *AS 3959-2009 Construction of buildings in bushfire-prone areas*. The NSW variation to AS 3959 is to be applied in addition to the BAL specifications. The variation is listed within *Planning for Bushfire Protection Addendum Appendix 3 May 2010.*

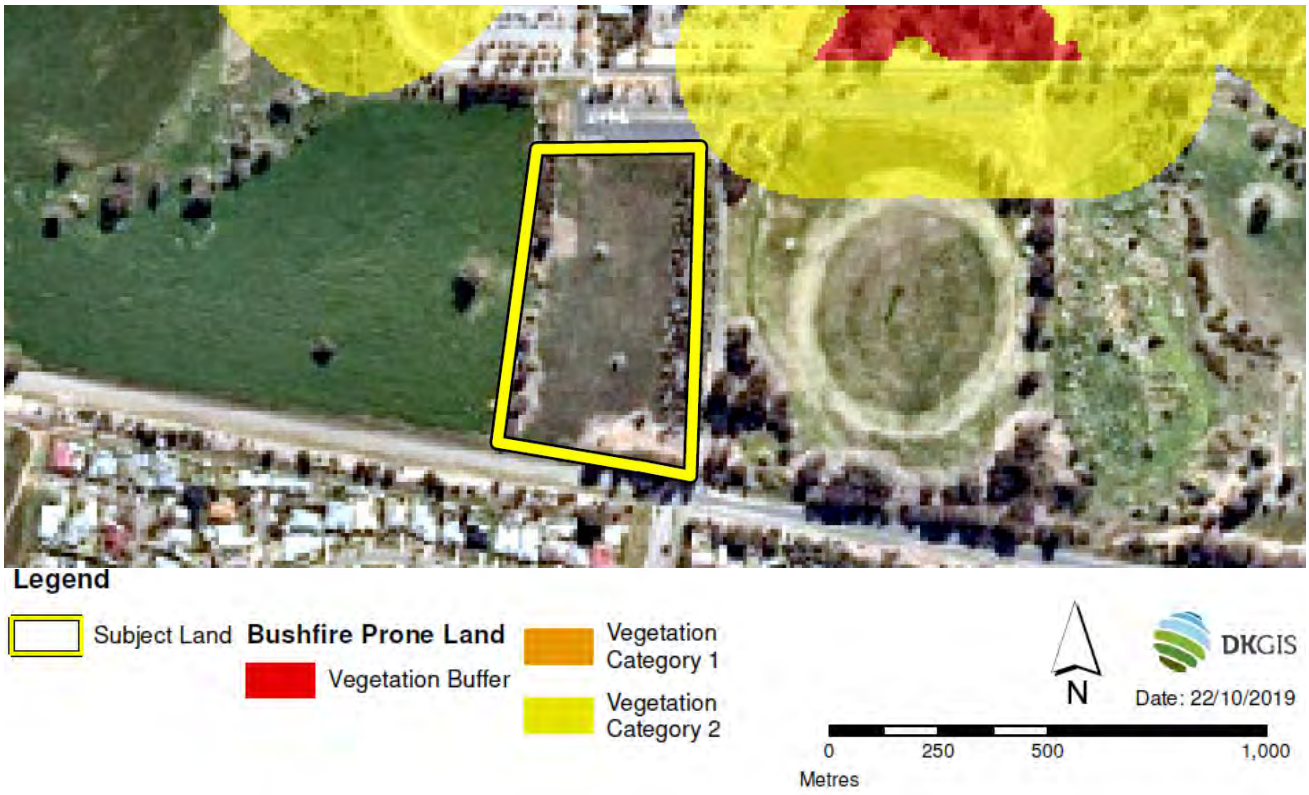

Figure 44 Wagga Wagga Bushfire Prone Land Map

Source: Peterson Bushfire

Figure 45 Bushfire Hazard Analysis

Source: Peterson Bushfire

5.19 Ecologically Sustainable Development (ESD)

The environmental performance of the development has been assessed by using clause 7(4) of Schedule 2 of the EP&A Regulations and the EIS is accompanied by an ESD Statement prepared by Steensen Varming (**Appendix S**). The initiatives and targets relate to the following aspects of the proposed development:

- ESD initiatives outlined by Steensen Varming align with the national best practice sustainable building principles to improve environmental performance and reduce ecological impact;
- The ESD Framework has been developed based to reduce energy and resources across a multitude of building sustainability issues. The categories include, management, indoor environment quality, energy, water, transport, materials, emissions, ecology and innovation; and
- The design measures as discussed in detail by Steensen Varming in the ESD Statement (see **Section 0**) demonstrate the way in which ESD is entrenched into the design proposal. Through the incorporation of these ESD measures, the proposal will be designed in accordance with recognised best practice principles, which are capable of being applied throughout the design and ongoing operation phases of the development.

Furthermore, the proposed development is consistent with the four accepted principles of ESD. The Regulation lists four principles of ecologically sustainable development to be considered in assessing a project. They are:

- The precautionary principle;
- Intergenerational equity;
- Conservation of biological diversity and ecological integrity; and
- Improved valuation and pricing of environmental resources.

An analysis of these principles follows.

Precautionary Principle

The precautionary principle is utilised when uncertainty exists about potential environmental impacts. It provides that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. The precautionary principle requires careful evaluation of potential environmental impacts in order to avoid, wherever practicable, serious or irreversible damage to the environment.

This EIS has not identified any serious threat of irreversible damage to the environment and therefore the precautionary principle is not relevant to the proposal.

Intergenerational Equity

Intergenerational equity is concerned with ensuring that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations. The proposal has been designed to benefit both the existing and future generations by:

- Implementing safeguards and management measures to protect environmental values;
- Facilitating education opportunities in close proximity to homes and public transport; and
- Improving the social infrastructure that will improve educational infrastructure outcomes.

The proposal has integrated short and long-term social, financial and environmental considerations so that any foreseeable impacts are not left to be addressed by future generations. Issues with potential long-term implications such as waste disposal would be avoided and/or minimised through construction planning and the application of safeguards and management measures described in this EIS and the appended technical reports.

Conservation of biological diversity and ecological integrity

The principle of biological diversity upholds that the conservation of biological diversity and ecological integrity should be a fundamental consideration.

The BDAR outlines the measures taken to avoid, minimise and mitigate impacts to the vegetation and species

habitat present within the development site and methodologies to minimise impacts during construction of the development.

Largely, the built form arrangement has avoided impacts to native vegetation with 1.29ha of vegetation to be retained. The vegetation to be cleared has been cleared in the past and very little remnant vegetation remains. It is identified as being of a low condition rating. 2ha vegetation within the development site will be removed.

The BAMC calculated that a total of 19 ecosystem credits are required to offset the unavoidable impacts on the development site. This will be offset in accordance with the BC Act.

Improved valuation, pricing and incentive mechanisms

The principles of improved valuation and pricing of environmental resources requires consideration of all environmental resources which may be affected by a proposal, including air, water, land and living things. Mitigation measures for avoiding, reusing, recycling and managing waste during construction and operation would be implemented to ensure resources are used responsibly in the first instance.

Additional measures will be implemented to ensure no environmental resources in the locality are adversely impacted during the construction or operational phases.

5.20 Construction Management

A Preliminary Construction Management Plan (CMP) has been prepared by Hansen Yucken and is provided at **Appendix T**. The CMP outlines the key principles and considerations for the management of the construction program and will be for the basis of the detailed site Construction Environmental Management Plan to be prepared by the contractor. Key aspects of the CMP include:

Community Consultation

- Notify Wagga Wagga Council and neighbouring properties of intention to commence works; and
- Management of complaints to ensure that any complaints are addressed appropriately.

Traffic Management

- Construction trucks travelling to and from the site will be using only roads that permit trucks and through traffic;
- The timing of truck arrivals and departures will generally be outside commuter peak periods;
- All kerb crossings and driveways for trucks crossing the footpath will be supplied with warning signage to ensure that pedestrians cross those areas with care; and
- Construction workers vehicles will park at a designated worker parking area on site.

Dust Management

- The site perimeter fence will be installed with mesh screening to manage any airborne dust;
- Wherever practical implement a wet process for concrete sawing, coring and grinding;
- Where not practical to use a wet process for concrete sawing or grinding direct dust extraction, a vacuum is to be used;
- Materials on site are to be stockpiled and stored appropriately. Limit the use of soil stockpiles, when stockpiles are required they are to be watered down;
- Locating stockpiles away from public and residential properties as much is reasonably practicable;
- Cease relevant construction activities should they be found to be generating excessive dust until effective control measures are implemented; and
- All vehicles transporting loose materials will be required to have the entire load covered and / or secured to prevent any large items, excess dust or debris being deposited onto the roadway during travel to and from the site.

Noise and Vibration

- Use Noise Management Levels to identify demolition, excavation and construction noise sources or scenarios that require engineering controls or administrative management;
- Promote clear understanding of ways to identify and minimize noise from construction works;
- Focus on applying all feasible and reasonable work practices to minimize construction noise impacts;
- Provide flexibility in the selection of site-specific and reasonable work practices to minimize noise impacts;
- Construction work to be undertaken within approved standard hours where reasonably practicable with noise that is audible to other premises. Approval is required for Works undertaken outside standard hours; and
- The use of noise reduction techniques including, but not limited to, barriers, enclosures and silencers shall be employed to ensure compliance with construction noise criteria. All work is to be conducted in accordance with the approved Construction Noise Management Plan.

Health and Safety

- Careful and controlled management of worker and public safety will be undertaken in accordance with the NSW Work Health and Safety Act; and
- Typical approaches include prestart talks, toolbox talks, and implementation of emergency management plans, safe work will be developed.

5.21 Site Suitability

The site is zoned SP2 – Educational Establishment and the proposal is permissible with consent in this zone. The proposal is also consistent with the objectives of all relevant planning controls and achieves a high level of planning policy compliance.

There are no significant environmental constraints limiting development on the site and the proposal will not generate unreasonable impacts on the surrounding locality. Therefore, the site is considered highly suitable.

5.22 Public Interest

The proposal will take substantial pressure off existing schools within the surrounding locality and ensure more children have access to high quality school facilities, learning spaces and equipment. The proposal will also create temporary job opportunities in manufacturing, construction and construction management during the project's construction phase of works, and significant job opportunities in teaching and administration at the project's completion.

6.0 Environmental Risk Assessment

The Environmental Risk Assessment (ERA) establishes a residual risk by reviewing the significance of environmental impacts and the ability to manage those impacts. The ERA for the New Public School in Estella (Wagga Wagga) has been adapted from Australian Standard AS4369.1999 Risk Management and Environmental Risk Tools. In accordance with the SEARs, the ERA addresses the following significant risk issues:

- the adequacy of baseline data;
- the potential cumulative impacts arising from other developments in the vicinity of the Site; and
- measures to avoid, minimise, offset the predicted impacts where necessary involving the preparation of detailed contingency plans for managing any significant risk to the environment.

Figure 46 indicates the significance of environmental impacts and assigns a value between 1 and 10 based on:

- the receiving environment;
- the level of understanding of the type and extent of impacts; and
- the likely community response to the environmental consequence of the project;

The manageability of environmental impact is assigned a value between 1 and 5 based on:

- the complexity of mitigation measures;
- the known level of performance of the safeguards proposed; and
- the opportunity for adaptive management.

The sum of the values assigned provides an indicative ranking of potential residual impacts after the mitigation measures are implemented.

Significance of impact	Manageability of impact				
	5 Complex	4 Substantial	3 Elementary	2 Standard	1 Simple
1 – Low	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)	2 (Low)
2 – Minor	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)
3 – Moderate	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)
4 – High	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)
5 – Extreme	10 (High)	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)

Figure 46 Risk Assessment Matrix

Risk Assessment						
Item	Phase	Potential Environmental Impact	Proposed Mitigation Measures and / or Comment	Significance of Impact	Manageability of Impact	Residual Impact
Key: C - Construction O - Operation						
Noise and Vibration	C + O	• Increase in noise and vibration levels during construction activities • Increase in noise levels during the operation of the school facility	• Implementation of Construction Noise and Vibration Measures which considers the construction methodology and details specific mitigation measures in accordance with the DECCW Interim Construction Noise Guideline. • Appropriate mitigation measures to be implemented to ensure vibration levels will not compromise human comfort or result in building damage. • Appropriate sound minimisation measures to be incorporated within the plant and mechanical areas. • Lighting and PA system will be designed to limit impacts to adjoining property.	C = 3 O = 1	C = 2 O = 2	C = 5 (low/medium) O = 3 (low)
Traffic and Parking	C + O	• Increase in construction traffic on local roads • Increase in traffic and parking on local roads during operation	• A Preliminary Construction Traffic Management Plan has been prepared detailing measures to minimise any adverse impacts arising from construction traffic. • Additional parking demand generated by the proposed development will be accommodated within on-site parking areas. The existing road network has capacity to support an increase in traffic associated with the proposed development.	C = 3 O = 2	C = 2 O = 1	C = 5 (low/medium) O = 3 (low)
Amenity of Adjoining Properties	C + O	• Potential privacy impacts on adjoining properties. • Potential overshadowing of adjoining properties.	• The school does not overshadow or overlook adjoining properties.	C = 1 O = 1	C = 1 O =1	C = 2 (low) O =2 (low)
Air and Water Quality	C	• Potential for reduced air and water quality during construction	• A detailed Construction Environmental Management Plan will be developed once a contractor has been appointed to implement measures to ensure that air and water quality are maintained.	C = 2	C = 2	C = 4 (low/medium)
Visual Impact	C + O	• Visual impact of the development when viewed from the public domain.	• Measures have been incorporated to reduce the visual impact of the development when viewed from the public domain. Due to a large setback and vegetative screening there is limited visual impact.	C = 1 O = 2	C = 1 O= 1	C = 2 (low) O = 3 (low/medium)

7.0 Mitigation Measures

The collective measures required to mitigate the impacts associated with the proposed works are detailed in **Table 11** below. These measures have been derived from the previous assessment in **Section 5.0** and those detailed in appended consultants' reports.

Table 11 Mitigation Measures

Mitigation Measures
Aboriginal Heritage • Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object the archaeologist will provide further recommendations. These may include notifying the OEH and Aboriginal stakeholders. • Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity you must: – Immediately cease all work at that location and not further move or disturb the remains. – Notify the NSW Police and OEH's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location. – Not recommence work at that location unless authorised in writing by OEH. • A copy of the ACHAR should be provided to the Aboriginal stakeholders and consider all comments received. The proponent should continue to inform these groups about the management of Aboriginal cultural heritage sites within the study area throughout the life of the project. • Aboriginal Heritage will be managed in accordance with the Aboriginal Cultural Heritage Report submitted as part of this EIS and any further updates as approved by the Department.
Biodiversity • The proposal will be in accordance with the findings of the Biodiversity Development Assessment Report prepared by NGH Environmental dated November 2019
Tree Protection • Tree protection will be provided in accordance with *Australian Standards (2009) AS4970: Protection of Trees on Construction Sites*. • The proposal will be in accordance with the recommendations of the Arboricultural Impact Assessment prepared by Wade Ryan Consulting dated October 2019.
Bushfire • The proposal will be in accordance with the findings of the Bushfire Report prepared by Petersen Bushfire dated 22 October 2019. • An APZ of 38 m to 47 m is required around the school buildings • APZ fuel management specifications outlined in the Bushfire Report are required to be implemented and maintained • Proposed landscaping should comply with the principles listed within Appendix 5 of PBP. • The buildings are designed and constructed to comply with BAL- 12.5 of AS 3959-2009 Construction of buildings in bushfire-prone areas. The NSW variation to AS 3959 is to be applied in addition to the BAL specifications. The variation is listed within Planning for Bushfire Protection Addendum Appendix 3 May 2010.
Transport and Accessibility • Construction and operational traffic will be in accordance with the recommendations of the Traffic and Transport Impact Assessment Report prepared by Ason Group dated October 2019. • SINSW is to prepare a Traffic and Pedestrian Management Plan, which would be reviewed on an annual basis to establish inefficiencies and areas for improvement in regard to the operation of the pick up / set down zone.
Waste • Waste will be in accordance with the recommendations of the Construction Waste Management Plan prepared by Eccell Environmental dated 21 November 2018 and Operational Waste Management Plan prepared by Mack Group dated 30 October 2018.
Stormwater • The proposal will be in accordance with the recommendations of the Stormwater Management Report prepared by Northrop dated 18 October 2019.

Mitigation Measures
Noise and Vibration • The proposal will be in accordance with the recommendations of the Noise and Vibration Report prepared by Marshall Day Acoustics dated 18 December 2018.
Contamination • The proposal will be in accordance with the recommendations of the Preliminary Site Investigation prepared by Envirowest Consulting dated 6 August 2018.
Construction Impacts • A Construction Environmental Management Plan (CEMP) will be prepared by the appointed contractor prior to the commencement of works. The CEMP will establish site management principles generally in accordance with the Preliminary Construction Management Plan prepared by Hansen Yucken dated October 2019.
Environmentally Sustainable Development • The detailed design of the development is to incorporate the ESD principles and measures set out in the ESD Statement prepared by Steensen Varming dated 11 October 2019.

8.0 Justification and Conclusion

The Environmental Impact Statement (EIS) has been prepared to consider the environmental, social and economic impacts of the proposed development of a New Public School in Wagga Wagga. The EIS has addressed the issues outlined in the SEARs (**Appendix C**) and accords with Schedule 2 of the EP&A Regulation with regards to consideration of relevant environmental planning instruments, built form, social and environmental impacts including traffic, noise, construction impacts and stormwater.

Having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development, the carrying out of the project is justified for the following reasons:

- The assessment of this proposal has demonstrated that the development will not generate any environmental impacts that cannot be appropriately managed and is consistent with the relevant planning controls for the site.
- The development will provide a significant new piece of social and educational infrastructure, providing a new school with permanent teaching spaces to accommodate 480 students upon opening, with the ability to support greater student numbers into the future. The provision of a new teaching and education facility will support and strengthen the availability of education facilities in the region.
- The area and shape of the site allows for the provision of new teaching and education facilities that meet the special design requirements for the proposed uses, whilst not resulting in any significant adverse impacts on surrounding uses.
- The development will deliver shared and joint use facilities to be used by the local community, Council and CSU providing greater value for money to the public.
- The proposal is consistent with the principles of ecological sustainable development as defined by Schedule 2(7)(4) of the EP&A Regulation 2000.
- The proposed development is anticipated to create 32 full time positions at the school which will have additional social benefits for the region in terms of providing additional employment in a growing locality.
- The proposed redevelopment is anticipated to have positive social outcomes in ensuring that local residents have access to high quality educational facilities.
- The development will not have a significant impact on any threatened flora or fauna species.
- The proposal will not result in any adverse traffic impacts on the surrounding road network, and parking demand associated with the proposed development can be accommodated within the site.

Given the above it is considered that the SSD application has merit and can be supported by the Department and the Minister for Planning and Public Spaces.