

Proposed New K-12 Educational Establishment

Blessed Carlo Catholic College

Lignum Road and Kiely Road, Moama NSW 2731

Lot 76, DP751159



Part A – Report
Prepared for Diocese of Wilcannia-Forbes
Rev 2.0 – October 2022

ACKNOWLEDGEMENT OF COUNTRY

We respect and honour Aboriginal and Torres Strait Islander Elders past, present and future. We acknowledge the stories, traditions and living cultures of Aboriginal and Torres Strait Islander peoples on this land and commit to building a brighter future together.

The subject land is within the traditional land of the Yorta Yorta people.

DECLARATION

Submission of Environmental Impact Statement (EIS)	
EIS prepared by	Salvestro Planning ABN 29 122 431 752
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Position	Director Salvestro Planning
Address	16 Fitzmaurice Street PO Box 783 Wagga Wagga NSW 2650
Application number	SSD-24262975
Applicant name	The Trustees of the Roman Catholic Church for the Diocese of Wilcannia-Forbes
Applicant address	15 Johnson Street, Forbes, NSW 2871
Proposal	Proposed new K-12 educational establishment in Moama NSW
Address of land in respect of which the development application is made	Lignum Road Moama, NSW 2731 Lot 76 DP751159
Declaration	<p>The undersigned declares that this EIS:</p> <ul style="list-style-type: none"> • <i>has been prepared in accordance with Part 8 Division 5 of the Environmental Planning and Assessment Regulation 2021;</i> • <i>contains all available information relevant to the environmental assessment of the development, activity or infrastructure to which the EIS relates;</i> • <i>does not contain information that is false or misleading;</i> • <i>addresses the Planning Secretary's environmental assessment requirements (SEARs) for the project;</i> • <i>identifies and addresses the relevant statutory requirements for the project, including any relevant matters for consideration in environmental planning instruments;</i> • <i>has been prepared having regard to the Department's State Significant Development Guidelines – Preparing an Environmental Impact Statement;</i> • <i>contains a simple and easy to understand summary of the project as a whole, having regard to the economic, environmental and social impacts of the project and the principles of ecologically sustainable development;</i> • <i>contains a consolidated description of the project in a single chapter of the EIS;</i> • <i>contains an accurate summary of the findings of any community engagement; and</i> • <i>contains an accurate summary of the detailed technical assessment of the impacts of the project as a whole.</i>
Signature	
Date	25th October 2022

Proposed New K-12 Educational Establishment

BLESSED CARLO CATHOLIC COLLEGE

Corner of Lignum Road and Kiely Road, Moama

SUMMARY

Purpose of the Proposal

The following Environmental Impact Statement (EIS) has been prepared on behalf of the Trustees of the Roman Catholic Church for the Diocese of Wilcannia-Forbes (DWF) to accompany a State Significant Development (SSD) application for a new Catholic faith-based educational establishment in Moama, NSW. The EIS is submitted to the Minister for Planning pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The proposal is for a new educational establishment and is therefore classified as SSD in accordance with Schedule 1 of the *State Environmental Planning Policy (Planning Systems) 2021*.

The Secretary's Environmental Assessment Requirements (SEARs) for the project were issued by the Department of Planning and Environment (DPE) on 13 August 2021. The EIS has been prepared in accordance with Part 8 Division 5 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) and in response to the SEARs content.

Overview of the Proposal

The proposed development is for the construction and operation of a new educational establishment, known as Blessed Carlo Catholic College, to cater for K-12 students. The school is to be developed in four (4) stages to accommodate a total of 390 students. The design features four (4) main buildings proposed for the site including an administration building, shared facilities building, primary school building and secondary school building. Sports facilities including two (2) outdoor basketball/netball courts and playing field are proposed alongside an amphitheatre and a chapel.

- Building 1 – One-storey administration.
- Building 2 – Indoor gymnasium, stage, multipurpose/learning rooms, recording facilities and a canteen.
- Building 3 – Primary school student learning spaces.
- Building 4 – Secondary school learning spaces and workshop spaces.

Stage 1	120 Students	K-Y2 & Y7, Administration building, COLA & Primary School Building, carparks, bus bays, associated landscaping.
Stage 2	330 Students	K-Y6, Y7-10, Additional Shared Facilities Building.
Stage 3	390 Students	K-Y6, Y7-Y12, Additional Secondary School Building, Sports Courts, associated landscaping.
Stage 4	N/A	Sporting fields, agricultural plot, chapel, overflow parking area and balance of landscaping works to the eastern boundaries of the site.

Overall, the project will generate 26 full-time equivalent (FTE) Staff Positions and 125 FTE Construction Jobs.

Access to the site for vehicular entry will be via Lignum Road with a total of 102 on-site car parking spaces, three (3) bus bays and a 'kiss-and-drop' facility proposed. A total of 34 bicycle parks are proposed for use by students and staff. No motorcycle parking is currently proposed.

Objectives of the Proposal

The key objectives of the proposal are to:

- Provide new high quality, multipurpose and contemporary learning spaces for students and staff with a strong emphasis on faith;
- Support student needs by providing blended learning environments and a connection to outdoor play;
- Provide large gathering spaces to accommodate growth of students and staff through the stages of development;
- Provide access to exemplary sports, performance, and music facilities to encourage extra-curricular activities for students;
- Maximise connection with the Murray River through landscape and tree planting that emphasises sustainability and natural resources for play and learning space; and
- Demonstrate a commitment to the 'three pillars of design' which include Faith, Community and Country.

Project Background

The project was first conceptualised in 2018 after a noticeable demand for Catholic primary and secondary education in Moama, with the closest Catholic educational establishment located in the neighbouring twin-town of Echuca. Following detailed demographic research by the Diocese, confirmation was made to progressing with a 'green-field' school site located within an expanding residential development corridor of Moama.

Project Alternatives

Several alternatives to the proposal were considered including:

- A. Do nothing.
- B. Retrofit and expand existing facilities.
- C. Establish a new high school in the Moama area (preferred option).

Option C was identified as the preferred option as it would meet expected growth, encourage the development of sustainable transport modes within the Murray River local government area (LGA) and deliver on the promise of a new K-12 educational establishment in the Moama township.

Consultation

Pre-lodgement consultation was conducted with various stakeholders including:

- Murray River Council (MRC)
- Transport for New South Wales (TfNSW)
- Local Aboriginal Land Council (LALC)
- Government Architect New South Wales (GANSW)
- Community of Moama

Comments provided by these stakeholders have been instrumental in the preparation of the design response and EIS.

Planning Context

The EIS has been prepared in accordance with the relevant legislative requirements of the EP&A Act and EP&A Regulation. The subject site is zoned R1 General Residential under the Murray Local Environmental Plan 2011 (MLEP). Educational establishments are permitted with consent in zone R1. The proposal is consistent with the relevant local controls.

Environmental Impact Assessment

An environmental risk assessment was undertaken based on initial investigations and consultation to identify and prioritise issues for further detailed analysis. The table below lists the key issues and summarises the resultant environmental assessment undertaken in determining relative impact of the proposal.

EIS Assessment Summary

Key Issue	Assessment Method	Impact Determination	
		Construction	Operation
	<i>Time Frame</i>	0 - 18 Months Stages	18mths – Ongoing
<i>Built Form & Design</i>	Expert Report	Nil	Positive
<i>Trees & Landscaping</i>	Expert Report	Negligible	Positive
<i>Environmental Amenity</i>	Expert Report, Land use survey & planning principles	Minor	Minimal
<i>Transport & Accessibility</i>	Expert Report	Minor	Minimal
<i>ESD</i>	Planning principles & best practice guides	Minimal	Positive
<i>Heritage – Non-Indigenous</i>	Expert Report	Nil	Nil
<i>Aboriginal Cultural Heritage</i>	Expert Report	Nil	Nil
<i>Social Impact</i>	Planning principles & best practice guides	Minimal	Positive
<i>Noise & Vibration</i>	Expert Report	Moderate	Minor
<i>Biodiversity</i>	Expert Report	Minimal	Minimal
<i>Contributions</i>	Consultation with Council & Planning principles	Nil	Positive
<i>Staging</i>	Planning principles & best practice guides	Moderate	Minor
<i>Utilities</i>	Expert Report	Minimal	Minimal
<i>Stormwater Drainage</i>	Expert Report	Minimal	Negligible
<i>Flooding</i>	Consultation with Council & Planning principles	Nil	Nil
<i>Waste</i>	Expert Report	Minor	Minimal
<i>Contamination</i>	Expert Report	Negligible	Negligible
<i>Agricultural Impacts</i>	Planning principles & best practice guides	Negligible	Minimal
<i>Economic Impact</i>	Planning principles & best practice guides	Positive	Positive
<i>Cumulative Impacts</i>	Combined analysis of above assessments and planning considerations	Minor	Minor

Note: Impact determination based on relevant expert responses.

Conclusion

The proposed educational establishment has been designed to meet the educational needs for the growing community of Moama and surrounding Murray River Council LGA. Analysis of the proposal from expert reports has determined that the site is suitable for the proposal and considered to have negligible impact on the environment.

The proposed establishment of a new Catholic faith-based school has been presented as a sustainable and environmentally responsible development that will meet the objectives of local, state and national infrastructure/school strategies, alongside the needs of the expanding urban areas of Moama.

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BLESSED CARLO CATHOLIC COLLEGE

Corner of Lignum Road and Kiely Road, Moama

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TABLE OF ABBREVIATIONS

Abbreviation/Acronym	Reference
ACHAR	Aboriginal Cultural Heritage and Historic Heritage Assessment Report
ACT Geo	ACT Geotechnical Engineers Pty Ltd
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
BC Act	Biodiversity Conservation Act
BCA	Building Code of Australia

BCCC	Blessed Carlo Catholic College
BCD	Biodiversity and Conservation Division
BDAR	Biodiversity Development Assessment Report
CBD	Central Business District
CHC	Clarke Hopkins Clarke
CIV	Capital Investment Value
CPTED	Crime Prevention through Environmental Design
CTPMP	Construction Traffic and Pedestrian Management Plan
DCP	Development Control Plan
DDA	Disability Discrimination Act
DP	Deposited Plan
DPI	Department of Primary Industries
DPE	Department of Planning and Environment
DSI	Detailed Site Investigation
DWF	Diocese of Wilcannia-Forbes
EE	Essential Energy
EEC	Endangered Ecological Community
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EP&A Act	Environmental Planning and Assessment Act 1979
EP&A Regulations	Environmental Planning and Assessment Regulations 2021
EPA	Environmental Protection Authority
FTE	Full Time Equivalent
FTS	Future Transport Strategy
GANSW	Government Architect New South Wales
GTP	Green Travel Plan
ha	Hectares
IWMP	Integrated Water Management Plan
JN	JN Responsive Engineering
km	Kilometres
LALC	Local Aboriginal Land Council
LGA	Local Government Area
LSPS	Local Strategic Planning Statement
LUCRA	Land Use Conflict Risk Assessment
m	Metres
M&DRRS	Moama & District Rural Residential Strategy 2017
MLEP	Murray Local Environment Plan 2011
MLS	Minimum Lot Size
MMWDS	Moama Mid-West Drainage Strategy
MNWMP	Moama North West Masterplan
MPPP	Major Projects Planning Portal
MRC	Murray River Council
MREP	Murray Regional Environmental Plan
MRLEP	Murray River Local Environment Plan 2021 (<i>Draft</i>)
MSSLUP	Murray Shire Strategic Land Use Plan 2010-2030
NESD	North East Survey Design
NRAR	Natural Resources Access Regulator
NSW	New South Wales
NVIA	Noise and Vibration Impact Assessment
OEH	Office of Environment and Heritage
OzArk	OzArk Environment and Heritage
PCMP	Preliminary Construction Management Plan
PSI	Preliminary Site Investigation
RAP	Registered Aboriginal Party
RFS	Rural Fire Service
RMRP	Riverina Murray Regional Plan
RMS	Roads and Maritime Services
RNP	Road Noise Policy New South Wales

RTA	Roads and Transport Authority
SALT ³	Sustainable Transport Surveys Pty Ltd
SDRP	State Design Review Panel
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SIS	State Infrastructure Strategy
SIX Maps	Spatial Information Exchange Maps
SP	Salvestro Planning
SSD	State Significant Development
SSDA	State Significant Development Application
TfNSW	Transport for New South Wales
TIA	Traffic Impact Assessment
UDRNSW	Urban Design for Regional NSW
UNSW	University of New South Wales
VPA	Voluntary Planning Agreement
WIK	Works-In-Kind
WMP	Waste Management Plan

Proposed New K-12 Educational Establishment

BLESSED CARLO CATHOLIC COLLEGE

Corner of Lignum Road and Kiely Road, Moama

1 INTRODUCTION

The following Environmental Impact Statement (EIS) has been prepared to assist in assessing and determining a new educational establishment on the corner of Lignum Road and Kiely Road, Moama, within the Murray River Council local government area (LGA). The proponent is the Diocese of Wilcannia-Forbes (DWF) and the school will cater for K-12 students within a contemporary Catholic faith-based education environment.

1.1 EIS Approach and Structure

The proposed new school is designated as a State Significant Development (SSD). Under the provisions of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and Part 8 Division 5 of the *Environmental Planning and Assessment Regulations 2021* (EP&A Regulations), the following EIS has been prepared with reference to relevant SSD guidelines.

The EIS addresses the Department of Planning and Environment (DPE) Secretary's Environmental Assessment Requirements (SEARs), as issued on 13 August 2021 and referenced as SSD-24262975. The SEARs also contains directions given by relevant agencies to ensure the EIS addresses prescribed and subject-specific matters, particularly focusing on key environmental issues and reference to supporting guidelines. A full copy of the SEARs is included in Appendix A.

Following the consideration of opportunities, options and need, the EIS reviews the proposal in relation to strategic relevance, site selection and appropriateness, identification of issues, potential environmental impact analysis, community consultation and overall project justification.

The EIS is presented in two volumes:

Part A, which includes:

1. Introduction
2. Strategic context
3. Project description
4. Statutory context
5. Engagement
6. Assessment of impacts
7. Project justification
8. References

Part B, which combines all relevant attachments including authority directions, development plans, specialist reports and any other reports or papers that will assist the development application assessment and determination process.

The EIS shall be read in conjunction with accompanying plans and support documentation as listed below in Table 1.

Table 1: Plans and Support Documentation

Appendices		
Ref.	Description	Prepared By
A	SEARs Reference Table Secretary's Environment Assessment Requirements	Department of Planning, Industry and Environment
B	Statutory Compliance – Rev 2.2 – October 2022	Salvestro Planning
C	Quantity Surveyor Statement Summary – Cost Plan B – Issue R1 – Rev 1 – 24/10/2022	Turner and Townsend
D	SSDA Architectural Report – 20210026 – Rev C – 04/02/22	ClarkeHopkinsClarke Architects

E	Landscape Plan Set SQ1-MOA-000 LANDSCAPE COVER SHEET – Rev 0 – 20/12/21 SQ1-MOA-001 PLANT PALETTE (Sheets 2, 3, 4 & 5) SQ1-MOA-100 PRECINCT LANDSCAPE MASTER PLAN – Rev 1 – 13/09/22 SQ1-MOA-101 PRECINCT LANDSCAPE MASTER PLAN – FORECOURT AND BUILDING B – Rev 1 – 13/09/22 SQ1-MOA-102 PRECINCT LANDSCAPE MASTER PLAN – PRIMARY SCHOOL AND AMPHITHEATER – Rev 1 – 13/09/22 SQ1-MOA-103 PRECINCT LANDSCAPE MASTER PLAN – CHAPEL AND SPORTS FIELD – Rev 1 – 13/09/22 SQ1-MOA-104 PRECINCT LANDSCAPE MASTER PLAN – VEGETABLE GARDEN AND SPORTS FIELDS – Rev 1 – 13/09/22 SQ1-MOA-105 LANDSCAPE SECTIONS – Rev 0 – 20/12/21	Square One Landscape Architects Pty Ltd
F	Survey M7535 – EXISTING CONDITIONS PLAN – Sheet 1 & 2 – Ver.1 – May 2021	North East Survey Design
G	Geotechnical Investigation Report – KA/C12009 – 13/09/21	ACT Geotechnical Engineers Pty Ltd
H	Traffic Impact Assessment – 200523 – FINAL3 – 07/06/22 Attachment A – Development Plans Attachment B – Swept Path Assessment Plan Set 200523-SPA-100 – Sheet No. 100 – P4 – 10/12/21 200523-SPA-101 – Sheet No. 102 – P4 – 10/12/21 200523-SPA-102 – Sheet No. 103 – P4 – 10/12/21 200523-SPA-103 – Sheet No. 104 – P4 – 10/12/21 200523-SPA-104 – Sheet No. 105 – P4 – 10/12/21 200523-SPA-105 – Sheet No. 106 – P4 – 10/12/21 200523-SPA-106 – Sheet No. 106 – P4 – 10/12/21 200523-SPA-107 – Sheet No. 107 – P4 – 10/12/21 200523-SPA-108 – Sheet No. 108 – P4 – 10/12/21 200523-SPA-109 – Sheet No. 109 – P4 – 10/12/21 200523-SPA-110 – Sheet No. 110 – P4 – 10/12/21 200523-SPA-111 – Sheet No. 111 – P4 – 10/12/21 Attachment C – Arthurs Estate, Moama NSW – Traffic Impact Assessment Report – 180880 – Final Report – 29/08/19	Trafficworks Pty Ltd
I	Provisional Contamination Assessment, Corner of Lignum and Kiely Roads, Moama, New South Wales – G0633_RPT010_Moama – 07/12/18 Addendum to Ladserv Report – Provisional Contamination Assessment – G0633_RPT010 – 31/07/22	Landserv Environment Pty Ltd
J	Civil Drawings Set N0201396 C001 – COVER SHEET AND LOCALITY PLAN – REV 2 – 20/12/21 N0201396 C002 – GENERAL NOTES AND LEGENDS – REV 1 – 17/12/21 N0201396 C100 – SITEWORKS AND STORMWATER PLAN – REV 1 – 17/12/21 N0201396 C110 – TYPICAL DETAILS – SHEET 1 – REV 0 – DEC 2021 N0201396 C111 – TYPICAL DETAILS – SHEET 2 – REV 1 – 17/12/21 N0201396 C200 – EROSION AND SEDIMENT CONTROL PLAN – REV 1 – 20/12/21 N0201396 C210 – EROSION AND SEDIMENT CONTROL DETAILS – SHEET 1 – REV 1 – 20/12/21 N0201396 C211 – EROSION AND SEDIMENT CONTROL DETAILS – SHEET 2 – REV 1 – 20/12/21 N0201396 B100 – SITE INFRASTRUCTURE PLAN – REV 3 – 28/01/22	JN Responsive Engineering
K	Biodiversity Development Assessment Report (BDAR) – #3139 – V3.2 – 30/05/2022	OzArk Environment & Heritage
L	Arborist Report – Ref 21/413B – October 2022 Appendix A – Existing Tree Mapping – 21/413/TL-01 – September 2021 Appendix B – Proposed Tree Removals – 21/413B Appendix C – Curriculum Vitae – Mark.D McCrone, Landscape Architect and Consulting Arborist – 21/413B	Mark D. McCrone Landscape Architect
M	Aboriginal Cultural Heritage and Historic Heritage Assessment Report (ACHAR) – 3199 – V3.0 – 28/01/2021	OzArk Environment & Heritage
N	Operational Waste Management Plan – 21538W – Version F01 – 14/12/21	Sustainable Transport Surveys Pty Ltd (SALT ³)
O	BCA and DDA Compliance Statement – 30/03/2022	Blackett Maguire + Goldsmith
P	Noise and Vibration Impact Assessment – AB626SE-01E02 – Rev.2 – 12/07/2022	Octave Acoustics
Q	Stakeholder Engagement Strategy – Rev 2.0 – April 2022	Salvestro Planning
R	State Design Review Panel Response Summary – Rev 2.0 – April 2022	Salvestro Planning

S	ESD Report – SY222051-00 – Rev 1 – 09/09/22 – Northrop Consulting Engineers	Northrop Consulting Engineers
T	Integrated Water Cycle Management Report – N0201396.04A – REV A – 09/09/22 – JN Responsive Engineering	JN Responsive Engineering
U	Civil Response to Department of Planning and Environment Blessed Carlo College SSDA Stormwater Responses – N0201396.03B – 09/09/22	JN Responsive Engineering
V	Construction Traffic and Pedestrian Management Plan – Preliminary Plan – 200523 – Final – 07/10/22	TrafficWorks
W	Green Travel Plan – Preliminary Plan – 200523 – FINAL - 07/10/22	TrafficWorks
X	Preliminary Construction Management Plan – Rev.a – 08/09/2022	ClarkeHopkinsClarke Architects
Y	10.7(2) & (5) Planning Certificate	Murray River Council
Z	Architectural Plan Set 210026/DA000 SSDA COVER PAGE – Rev 3 – 04/02/22 210026/DA001 SITE PLAN – EXISTING & DEMOLITION – Rev 3 – 04/02/22 210026/DA002 SITE PLAN – PROPOSED – Rev 5 – 04/02/22 210026/DA003 SITE PLAN – ANALYSIS – Rev 3 – 04/02/22 210026/DA004 SITE PLAN – STAGING – Rev 3 – 04/02/22 210026/DA010 PRECINCT MASTERPLAN – GROUND LEVEL – Rev 6 – 04/02/22 210026/DA020 PRECINCT MASTERPLAN – LEVEL 01 – Rev 3 – 04/02/22 210026/DA100 BUILDING A – GROUND LEVEL PLAN – Rev 2 – 04/02/22 210026/DA101 BUILDING A – ROOF PLAN – Rev 2 – 04/02/22 210026/DA110 BUILDING B – GROUND LEVEL PLAN – Rev 2 – 04/02/22 210026/DA111 BUILDING B – ROOF PLAN – Rev 2 – 04/02/22 210026/DA120 BUILDING C – GROUND LEVEL PLAN – Rev 1 – 04/02/22 210026/DA121 BUILDING C – ROOF PLAN – Rev 1 – 04/02/22 210026/DA130 BUILDING D – GROUND LEVEL PLAN – Rev 2 – 04/02/22 210026/DA131 BUILDING D – LEVEL 01 – Rev 2 – 04/02/22 210026/DA132 BUILDING D – ROOF PLAN – Rev 2 – 04/02/22 210026/DA200 BUILDING A – ELEVATIONS – Rev 2 – 04/02/22 210026/DA210 BUILDING B – ELEVATIONS – Rev 2 – 04/02/22 210026/DA220 BUILDING C – ELEVATIONS – Rev 1 – 04/02/22 210026/DA230 BUILDING D – ELEVATIONS – Rev 2 – 04/02/22 210026/DA500 OVERALL SITE ELEVATIONS – Rev 3 – 04/02/22 210026/DA600 BUILDING A – SECTIONS – Rev 2 – 04/02/22 210026/DA610 BUILDING B – SECTIONS – Rev 2 – 04/02/22 210026/DA620 BUILDING C – SECTIONS – Rev 1 – 04/02/22 210026/DA630 BUILDING D – SECTIONS – Rev 2 – 04/02/22 210026/DA800 SHADOW DIAGRAMS – Rev 3 – 04/02/22 210026/DA801 SHADOW DIAGRAMS – Rev 3 – 04/02/22 210026/DA850 PRELIMINARY FECA & UCA – Rev 3 – 04/02/22 210026/DA860 FUNCTIONAL AREAS – Rev 2 – 04/02/22 210026/DA870 SITE PERIMETER FENCE LAYOUT – Rev 1 – 04/02/22 210026/DA900 3D PERSPECTIVE VIEW 01 – Rev 1 – 04/02/22 210026/DA901 3D PERSPECTIVE VIEW 02 – Rev 1 – 04/02/22 210026/DA902 3D PERSPECTIVE VIEW 03 – Rev 1 – 04/02/22	ClarkeHopkinsClarke

1.2 Applicant and Land Ownership

The applicant is Mr M. Goodwin on behalf of the landowners, the Trustees of the Roman Catholic Church for the Diocese of Wilcannia-Forbes.

APPLICANT DETAILS	
Name	Mr Malcolm Goodwin (Assistant Director-Corporate Services)
Company	The Trustees of the Roman Catholic Church for the Diocese of Wilcannia-Forbes
ABN	83 881 273 108
Address	15 Johnson Street, Forbes NSW, 2871
SITE DETAILS	
Legal Description	Lot 76 DP751159
LANDOWNER DETAILS	

Name	The Trustees of the Roman Catholic Church for the Diocese of Wilcannia-Forbes
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In addition, the applicant and landowner has entered into an agreement with the adjoining subdivision developer (Westrock) for use of shared infrastructure service connections. Arrangement details are included in relevant sections of this EIS and attachments.

1.3 The Subject Site

The subject site comprises Lot 76 DP751159 Lignum Road/Kiely Road, Moama, New South Wales (NSW) located within the LGA of Murray River Council. The site has a total of 142.30m of street frontage to Lignum Road and 335.20m to Kiely Road. Total site area is 4.78ha. Lignum Road is located on the western boundary of the site and is a formed and Council maintained road. It provides the main public road access point to the land. Kiely Road bounds the site on its northern boundary and is an unformed Council owned road corridor.



Figure 1: Subject Site – Cadastre & Aerial Map (Source: SIXMaps 2022)

1.3.1 Site Location

The subject site is located on the corner of Lignum Road and Kiely Road, Moama, approximately 3km north-west of the Moama CBD via Perricoota Road. The land is located within the Moama North West urban release area and is zoned R1 General Residential under the Murray Local Environmental Plan 2011 (MLEP). Surrounding land is also zoned R1, with land to the direct south-west on the opposite side of Lignum Road zoned R5 Large Lot Residential.

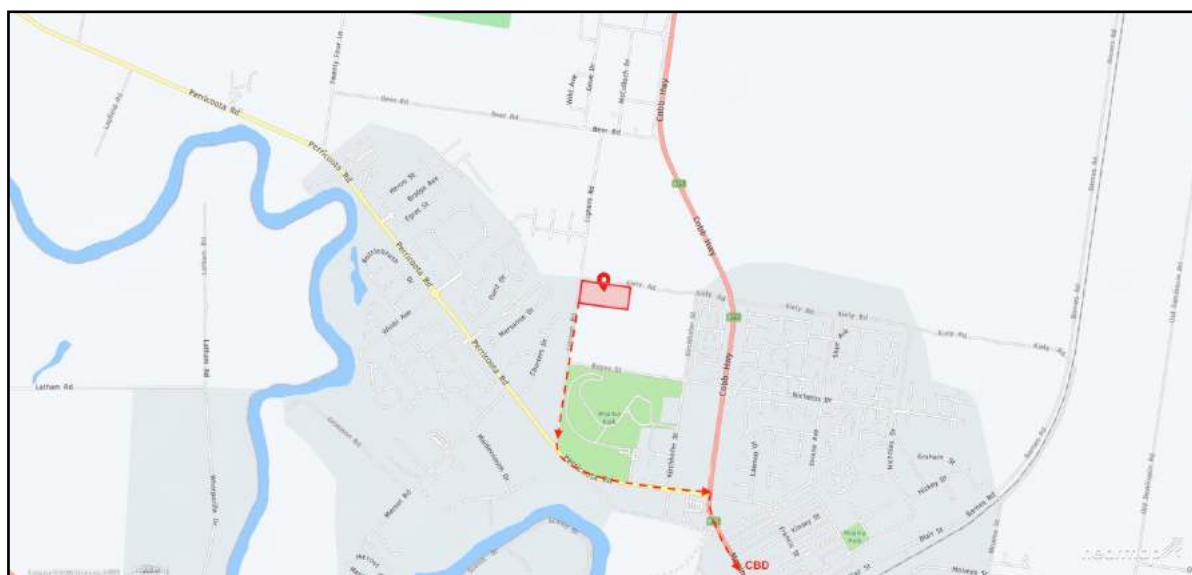


Figure 2: Locality Plan (Source: Nearmap 2022)

1.3.2 Site History

Historically, the land forms part of the traditional land of the Yorta Yorta people. The land was progressively acquired during post European settlement. There is no relevant application history available from Council for the site, and there are no applications listed on the Major Projects Planning Portal (MPPP) relevant to the site. The most recent data available for the site shows it was previously used as grazing, as per NSW Land Use 2017. The site was purchased by the current landowners in 2018. The site is currently vacant.

1.3.3 Site Survey

A detailed site survey has been prepared of the existing lot that includes all site features, slope contours and spot levels, existing tree locations, road corridor attributes and location of existing public infrastructure and service lines. A full copy of the survey plan is included in the attachments to this EIS with an extract provided below for reference.



Figure 3: Site Survey Plan Extract (Source: NESD 2021)

1.3.4 Site Zoning & Minimum Lot Size

The subject site is zoned R1 General Residential under the Murray Local Environmental Plan 2011 (MLEP). Surrounding land is also zoned R1 to the north, east, south, and immediate west. Land to the southwest is zoned R5 Large Lot Residential, as shown in the figure below.

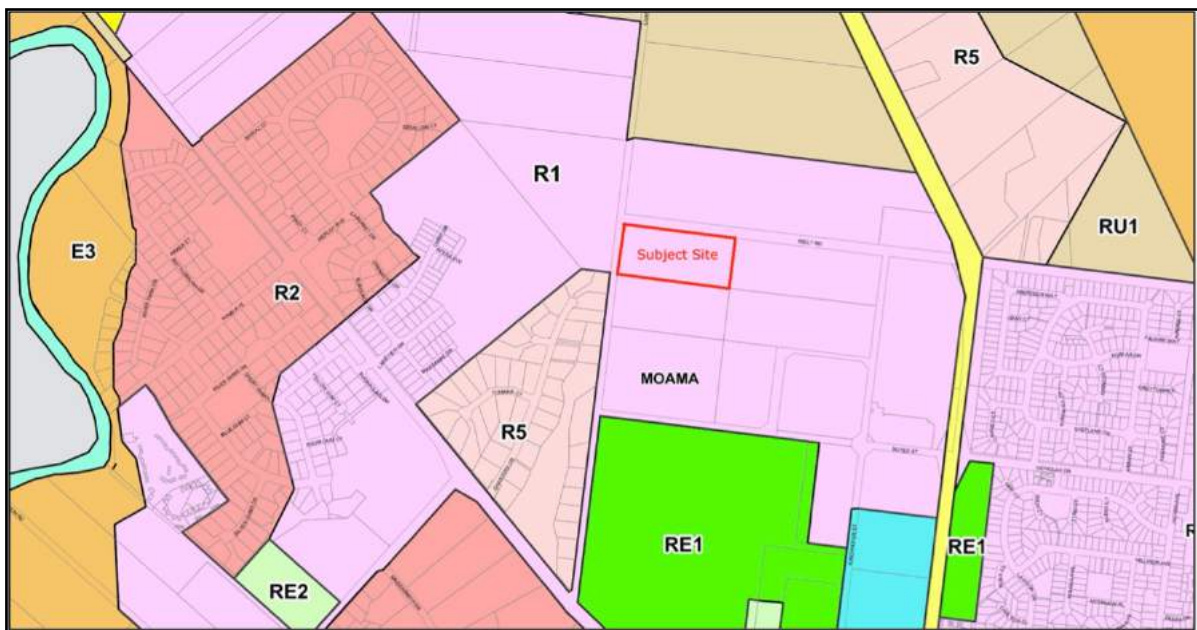


Figure 4: Land Zoning Map Sheet LZN_006B (Source: MLEP 2011)

The site and immediate surrounding land to the north, east and south are limited to a 450m² minimum lot size (MLS). Land to the immediate west is limited to 750m² MLS, whilst the R5 zoned land to the southwest is limited to 4000m² MLS, as shown in the figure below.

The zoning and minimum lot size are consistent with the adopted strategic land use plans and emerging pattern of urban development, as outlined in the following section.

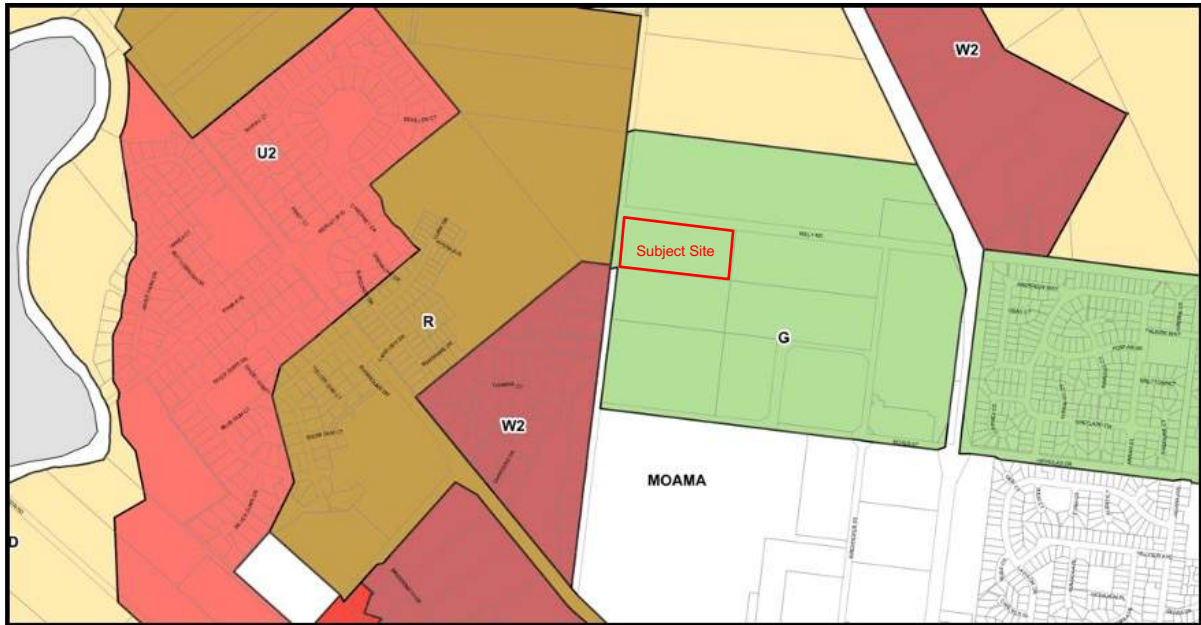


Figure 5: Lot Size Map Sheet LSZ_006B (Source: MLEP 2011)

1.3.5 Emerging & Future Surrounding Development

The subject site is located within the Moama northwest urban growth area. The Moama North West Master Plan was adopted in 2009 (see extract below). This growth precinct was subsequently identified within LEP2011 as an Urban Release Area, with additional guiding development controls contained in the DCP2012 Moama Structure Plan. Relevant map extracts are provided below.

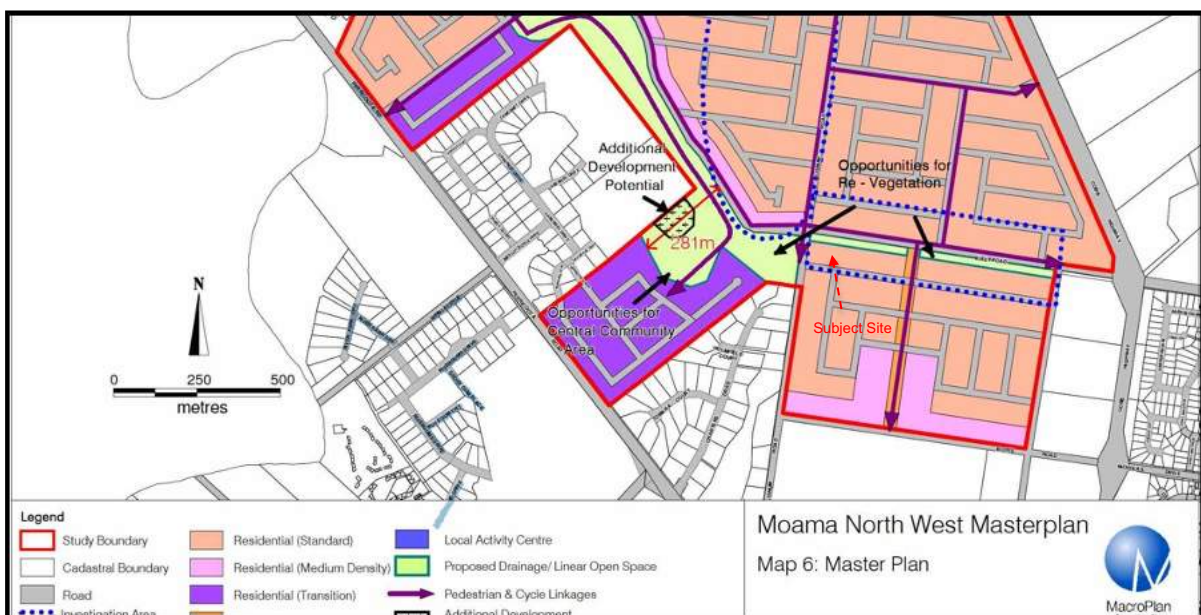


Figure 6: Moama NW Master Plan (Source: MacroPlan 2009)



Figure 7: Urban Release Area (Source: MLEP 2011)

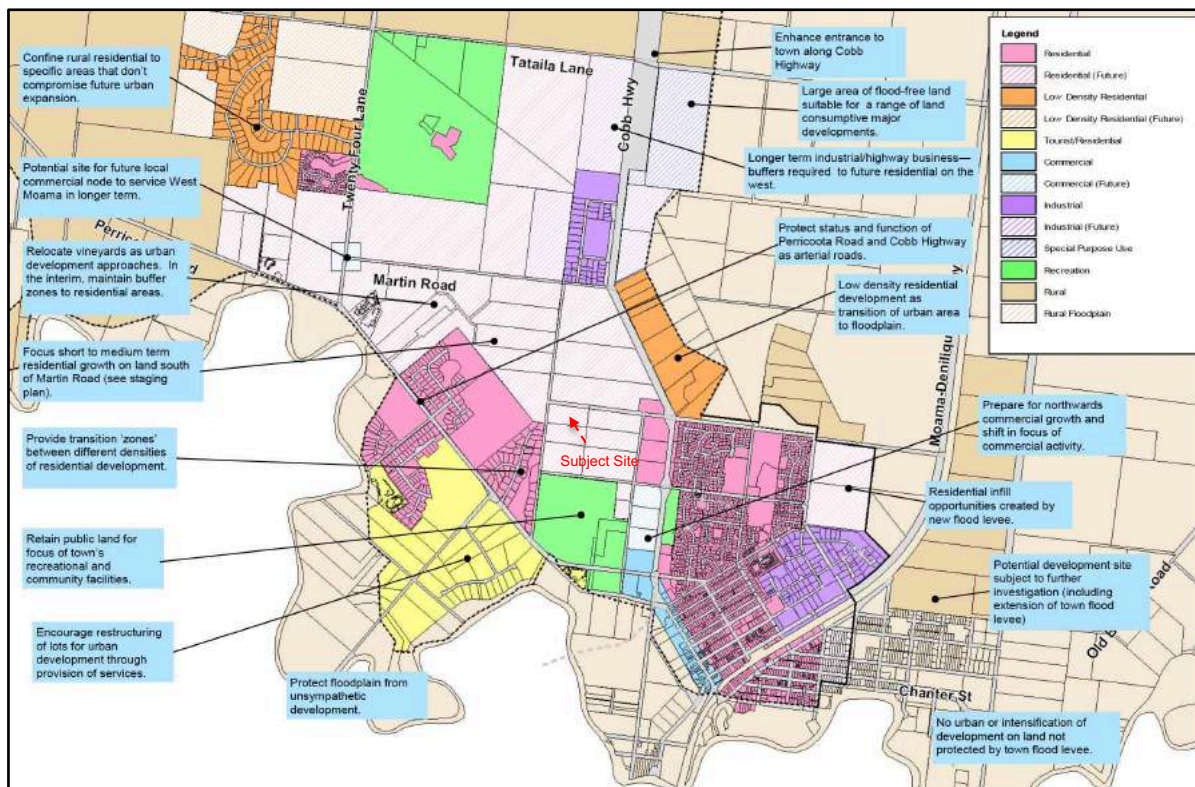


Figure 8: DCP Structure Plan (Source: MDCP 2012)

The subject site adjoins an approved subdivision development along its eastern and southern boundaries (see figure below). At this stage land to the north of Kiely Road and west of Lignum Road are targeted for future residential subdivision, however, no development approvals have been issued over this land at this stage.



Figure 9: Surrounding Approved Subdivisions (Source: MRC & CHC 2021)

The north-western growth corridor of Moama has been progressively subdivided for residential development over the past 20 – 30 years. Aerial images below illustrate the emerging residential neighbourhood pattern as occurring between 2002 and 2022. The proposed school development site is located within this growing residential neighbourhood environment.



Figure 10: 2002 Aerial - NW Moama Growth Corridor (Source: Google Earth 2022)



Figure 11: 2016 Aerial - NW Moama Growth Corridor (Source: Google Earth 2022)



Figure 12: 2019 Aerial - NW Moama Growth Corridor (Source: Google Earth 2022)



Figure 13: 2022 Aerial - NW Moama Growth Corridor (Source: Google Earth 2022)

1.4 The Project

The proposal involves the development of a new Catholic School within the Moama township. The new school will accommodate a single stream primary and secondary school teaching environment catering for approximately 390 students and 50 teaching and administration staff.

The development is to occur in four (4) planned stages, with approximately 90 students and 10 full-time equivalent (FTE) staff in the first stage, which will increase as development progresses. Overall, the project will generate 26 FTE Staff Positions and 125 FTE Construction Jobs. Further discussion of proposed staging and job creation is provided in Section 6.12.

1.4.1 Proposal Objectives and Need

The objectives of this development proposal are:

- Provide new high quality, multipurpose and contemporary learning spaces for students and staff with a strong emphasis on faith;
- Support student needs by providing blended learning environments and a connection to outdoor play;
- Provide large gathering spaces to accommodate growth of students and staff through the stages of development;
- Provide access to exemplary sports, performance, and music facilities to encourage extra-curricular activities for students;
- Maximise connection with the Murray River through landscape and tree planting that emphasises sustainability and natural resources for play and learning space; and
- Demonstrate a commitment to the 'three pillars of design' which include Faith, Community and Country.

1.4.2 Project History

The project was first conceptualised in 2018 after a noticeable demand for Catholic primary and secondary education in Moama, with the closest schools located in the neighbouring township of Echuca. A comprehensive demographic analysis and report was commissioned by

the DWF in 2019 to assist in quantifying projected enrolments and timing for the establishment of a new school to service the local area.

Preliminary consultation was held by the Diocese in 2019 with the community and other key stakeholders, depicting current demographics in the area and how the proposal could elevate student enrolment.

A project team was initiated in 2020 and, subsequently, an application for SEARs was lodged with DPE mid-2021. Extensive consultation was then conducted with the community, relevant state agencies and Council. Specialist studies and subsequent reports were commissioned late 2021 to support the submission of an SSD application.

1.4.3 Project Value

The proposed development has an estimated capital investment value (CIV) of approximately \$45 million. A detailed cost estimate has been prepared by Turner and Townsend and is provided at Appendix C.

2 STRATEGIC CONTEXT

The following section outlines the key strategic issues that are relevant to the assessment of the project, including State, regional and local strategies and policies. Feasible alternatives are outlined as well as the consequences of not carrying out the school development.

2.1 State, Regional and Local Context

This section provides an overview of the site's regional and local strategic planning context. The proposal is consistent with many of the relevant strategic directions as seen in the below table.

Table 2: Relevant Strategic Planning Policies

Strategic Planning Policy	Comment
NSW State Priorities	<p>NSW State Priorities are fourteen (14) priorities unveiled by the NSW Premier, in a commitment to making a significant difference to enhance the quality of life for the people of NSW. Relevant State priorities are:</p> <ul style="list-style-type: none"> • Bumping up education results for children • Greening our city <p>The proposal seeks to construct a new educational establishment in Moama to meet the growing student demand within the Murray River region. Through its provision of important educational services and biodiversity impact avoidance measures, the proposal supports the priority of "Bumping up education results for children" and "greening our city". The other priorities are generally not relevant given the proposal's nature and location.</p>
State Infrastructure Strategy 2018 – 2038 Building the Momentum	<p>The State Infrastructure Strategy (SIS) is a 20-year infrastructure investment plan for the NSW Government that places strategic fit and economic merit at the centre of investment decisions. The SIS sets out six (6) directions to achieve 'more with less' as follows:</p> <ul style="list-style-type: none"> • Integrating land use and infrastructure planning • Infrastructure planning, prioritisation and delivery • Asset management – assurance and utilisation • Resilience • Digital connectivity and technology • Innovative service delivery models <p>The proposal directly responds to the projected student growth and demand objectives by providing a new educational establishment for expected increase of enrolments by 25 percent. The proposal aligns directly with the strategy's response to improve asset utilisation and management by adopting efficient design principles and improving digital connectivity through modern facilities.</p>
Future Transport Strategy 2056	<p>Future Transport Strategy (FTS) 2056 is a suite of strategies and plans that set the 40-year vision, directions and principles for customer mobility in NSW, guiding transport investment over the longer term:</p> <ul style="list-style-type: none"> • Customer focused • Successful places • A strong economy • Safety and performance • Accessible services • Sustainability <p>The overall site masterplan accommodates pedestrian, public transport and cycle orientated design with Stage 1 implementing sustainable, safe and accessible infrastructure. The Precinct Structure Plan and future infrastructure has been considered in the site planning, with bike and pedestrian access to the site from Lignum Road alongside a dedicated bus stop for public transport connections.</p>
Crime Prevention Through Environmental Design (CPTED) Principles	<p>Crime Prevention Through Environmental Design (CPTED) is a crime prevention strategy that focuses on the planning, design and structure of cities and neighbourhoods. It reduces opportunities for crime by implementing design and place-based management principles. The four (4) main principles include:</p> <ul style="list-style-type: none"> • Surveillance • Access control • Territorial reinforcement • Space management <p>Casual surveillance and access control are prominent throughout the school design. The integration of a café and reception on Lignum Road near the only access point encourages street surveillance and limits access into the school grounds. These principles have been considered and addressed in further detail within the accompanying Architectural Design Statement in Appendix D.</p>

Strategic Planning Policy	Comment
Better Placed: An integrated design policy for the built environment of New South Wales	<p>The Better Placed Policy (2017) provides clarity on what the NSW Government means by good design and how built environment design can respond to broader State aspirations and vision for the future. There are seven (7) principles which include:</p> <ul style="list-style-type: none"> • Better fit • Better performance • Better for community • Better for people • Better working • Better value • Better look and feel <p>Each principle is relevant to the new educational establishment in Moama. The proposal has assessed these principles in further detail within the Architectural Design Statement in Appendix D.</p>
Urban Design Guide for Regional NSW	<p>Urban Design for Regional NSW (UDRNSW) provides guidance for everyone involved in the design, planning, and development of the built environment across regional NSW. The guide outlines seven (7) urban strategies for regional NSW including:</p> <ul style="list-style-type: none"> • Engage with the history and culture of places • Integrate with the natural environment and landscape • Revitalise main streets and town centres • Prioritise connectivity, walkability and cycling opportunities • Balance urban growth • Increase options for diverse and healthy living • Respond to climatic conditions and their impacts <p>The development proposal has addressed and incorporated key UDRNSW strategies into the design of the new school, including aligning with history and culture, integration with the natural environment and local landscape, prioritising connectivity and non-motor vehicle-based transport modes, and incorporating "green" based technologies to help address climate change challenges and ensure a sustainable future.</p>
Healthy Urban Development Checklist	<p>The Healthy Urban Development Checklist is a practical tool to help deliver quality local environments needed for well-connected and liveable communities in NSW, through engagement with planning and development processes. The proposal is consistent with the Checklist as it will provide well-designed open spaces, quality environments, opportunities for social cohesion and high-quality education facilities.</p>
Draft Greener Places Design Guide	<p>The Draft Greener Places Design Guide identifies definitions, planning recommendations and state aspirations regarding the provision of open recreation spaces, urban tree canopies, and bushland and waterways occupation and use. The guide assists in providing a framework for aspirations that external or outdoors spaces must meet. The proposal has considered the NSW urban canopy approach by analysing existing vegetation and protecting significant trees. Further comments regarding this guide is provided in the Architectural Design Statement in Appendix D.</p>
Koala Habitat Protection Guideline	<p>The aim of the Koala Habitat Protection Guideline is to recognise that koala habitat protection differs across the state and improves management flexibility. There are seven (7) principles which include:</p> <ul style="list-style-type: none"> • Understand koala habitat • Avoid impacts • Minimise impacts • Threat management • Apply compensatory measures • Adaptive management <p>The koala habitat assessment tool conducted for the site by OzArk returned a score of 1 which is less than 5 and does not constitute critical habitat for the Koala.</p>
Riverina Murray Regional Plan 2036	<p>The Riverina Murray Regional Plan (RMRP) 2036 provides the regional planning framework that guides the NSW Government in determining planning priorities and decisions. Priorities are set for each local government area. Relevant goals, priorities and actions of the plan are:</p> <ul style="list-style-type: none"> • A growing and diverse economy • A healthy environment and pristine waterways • Efficient transport and infrastructure networks • Strong, connected and healthy communities. <p>Development of the site is to support the broad strategies outlined in the regional plan. The key priority for the Moama township is to plan for a range of community services and facilities to meet the current and future requirements of the community.</p>

Strategic Planning Policy	Comment
Murray Regional Environmental Plan No.2	The aims of the Murray Regional Environmental Plan (MREP) No.2 are to conserve and enhance the riverine environment of the River Murray for the benefit of all users. The design and development of the proposed new school ensures the objectives of the MREP 2 are met, and <i>"appropriate consideration is given to development with the potential to adversely affect the riverine environment of the River Murray."</i>
Murray Local Strategic Planning Statement	The Murray Local Strategic Planning Statement (LSPS) sets out the 20-year vision for land use planning in Murray River Council. It outlines how the community will manage growth and change to maintain the high levels of environmental amenity, liveability and landscape quality that characterise the area. The statement identifies the special characteristics that contribute to Murray River Council's local identity, and it recognises the shared community values that the community want to maintain and enhance. The proposed new school is consistent with the relevant planning priorities and themes outlined in the LSPS: <ul style="list-style-type: none"> • A robust, growing and innovative economy • Liveable communities with social capital • Environment, heritage and climate change
Moama & District Rural Residential Strategy 2017	The primary aim of the Moama & District Rural Residential Strategy (MDRRS) 2017 is to identify rural residential development opportunities in the vicinity of the township of Moama. The proposed educational establishment is consistent with the residential development opportunities of the area and satisfies the increasing employment demand for educational services.
Moama Mid-West Drainage Strategy	The primary objective of the Moama Mid-West Drainage Strategy (MMWDS) is to identify and design (at a concept level) a stormwater management system which aligns with the masterplan for the area alongside Council's stormwater and infrastructure strategies. Development of the proposal encourages the implementation of new infrastructure and will incorporate all management measures as necessary and advised.
Moama North West Masterplan	The Moama North West Masterplan (MNWMP) is a strategic framework for the future growth and development of the Moama township. It aims to facilitate a sustainable, healthy and accessible residential community for the future which integrates and enhances the liveability and the semi-rural character of the Moama North West area. The proposed new school supports the masterplan by providing educational services for the growing residential community.
Murray Shire Strategic Land Use Plan 2010-2030	The overall purpose of the Murray Shire Strategic Land Use Plan (MSSLUP) is to guide the future development and use of land within the Shire for the next 20 years and beyond. The development of a new school is consistent with the MSSLUP by providing educational services for future (stage 1) residential development within the growing Moama community.

2.2 Site and Surrounds Context

2.2.1 Urban Design & Built Form

The site has a significant strategic position within a growing residential area of Moama which forms part of the Murray River Council LGA. Located north of the civic, educational and recreational precinct, the site occupies a prominent position within the Moama township. The school is proposed to have a significant street presence along Lignum and Kiely Road with access via other key road corridors to the Cobb Highway, creating a local landmark and establishing college identity within the broader neighbourhood area.

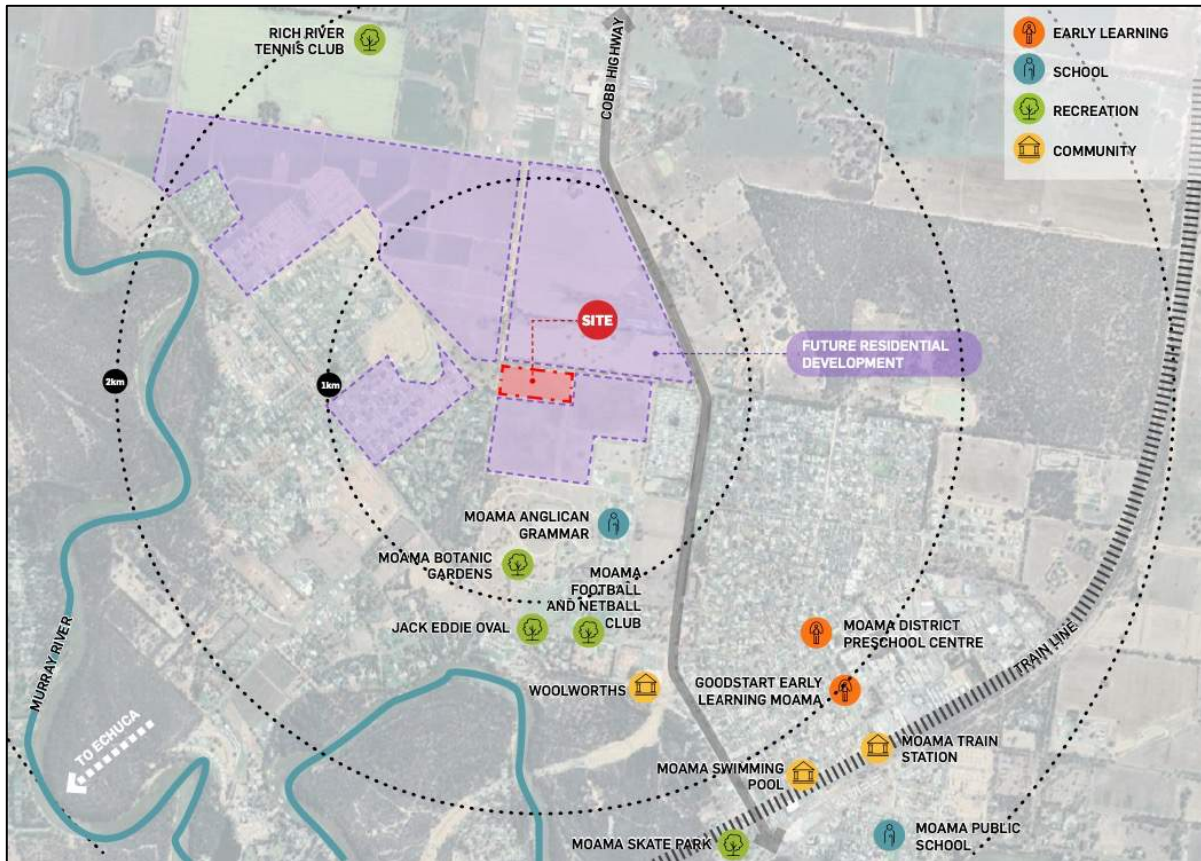


Figure 14: Site Locality and Existing Context (Source: CHC 2022)

2.2.2 Adjoining Development

The subject site is located within a future residential neighbourhood development area. Surrounding land is in the process of master-planning, staged development assessment and subsequent construction. Whilst land north of Kiely Road is zoned for future residential development, the land is currently used for agricultural purposes including cropping and grazing. This is expected to progressively be phased out of production and the urban area expands. Land to the west of Lignum Road is also used for various low-key agricultural activities, which are expected to continue in the interim period prior to residential subdivision.

2.2.3 Educational Context

There are several non-government and government education facilities south of the subject site including:

- Moama Anglican Grammar College (kindergarten to year 12)
- Moama District Preschool Centre (early years)
- Goodstart Early Learning Centre (early years)
- Moama Public School (kindergarten to year 6)

2.2.4 Transport, Traffic & Access

The site has public road frontage to both Lignum and Kiely Road. Vehicular access is proposed for Lignum Road as Kiely Road has been identified as a future open space corridor with the potential for replanting and embellishment for pedestrian and passive urban recreation use. There is currently one bus stop on Boyes Street approximately 165m east of the Kirchhofer Street intersection. A traffic, parking and transport assessment report has been provided in Appendix H.



Figure 15: Location of Bus Stop on Boyes Street (Source: Google Maps 2022)

2.2.5 Existing Site

The site is currently cleared and vacant of building structures, with remnant and native vegetation concentrated along the Kiely Road frontage and north-west corner abutting Lignum Road.

The site was formerly used for traditional agricultural uses including cropping and grazing prior to purchase by the Diocese in 2018. A redundant dam exists on the site as well as dilapidated stock yard infrastructure on the north-east Kiely Road boundary.

All weather road access is available from Lignum Road, which Kiely Road remains as an unformed Council road providing informal access for mainly property maintenance purposes.

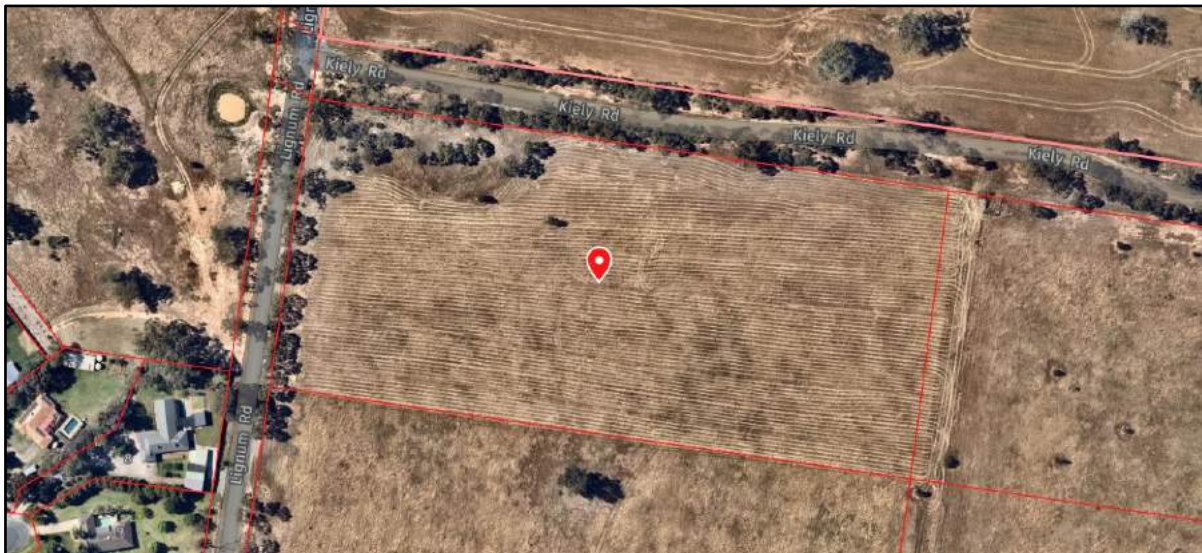


Figure 16: Subject Site Aerial Map 2021 (Source: Nearmap 2022)



Figure 17: Existing Site – View from Kiely Road Gate – Looking SW (Source: SP 2020)



Figure 18: Existing Dilapidated Rural Infrastructure (Source: SP 2020)

2.2.6 Vegetation and Ecology

A Biodiversity Development Assessment Report (BDAR) was prepared by Ozark to assess the significance of vegetation at the site and is provided as Appendix K. The BDAR indicates that the site comprises up to 0.46 ha of the Biodiversity Conservation Act (BC Act) listed Endangered Ecological Community (EEC) which will be removed and requires 32 Species Credits to be offset. No significant impact is likely to any threatened entity and any impact will be adequately mitigated.



Figure 19: Biodiversity Map (Source: MLEP 2011)

There are established trees located predominantly around the north-western perimeter of the site. An arborist report was also conducted (Appendix L) which outlines the condition of significant trees to be avoided during construction.

2.2.7 Essential Infrastructure Utilities

The site is proposed to be serviced by essential infrastructure and utilities including public road, electricity, water, sewer, stormwater and telecommunication network access. Refer to Section 6.13 for further description and details.

2.2.8 Flooding

The site is not impacted by riverine or overland flooding as advised by Council and shown on available mapping.

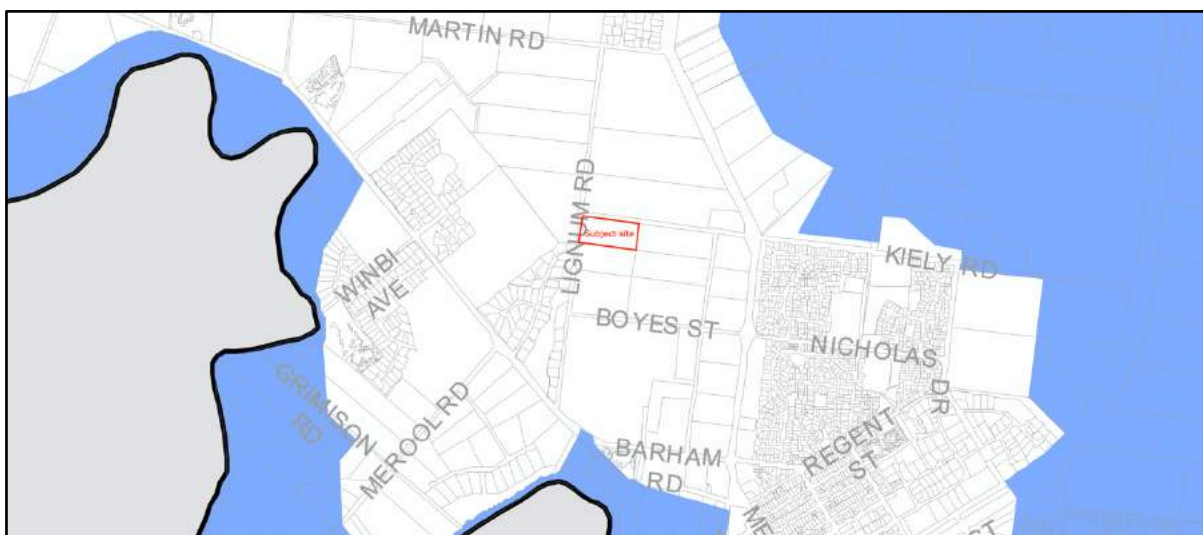


Figure 20: Flooding Map (Source: MLEP 2011)

2.2.9 Bushfire Management

The site is not mapped as subject to bushfire impacts as indicated in the figure below.

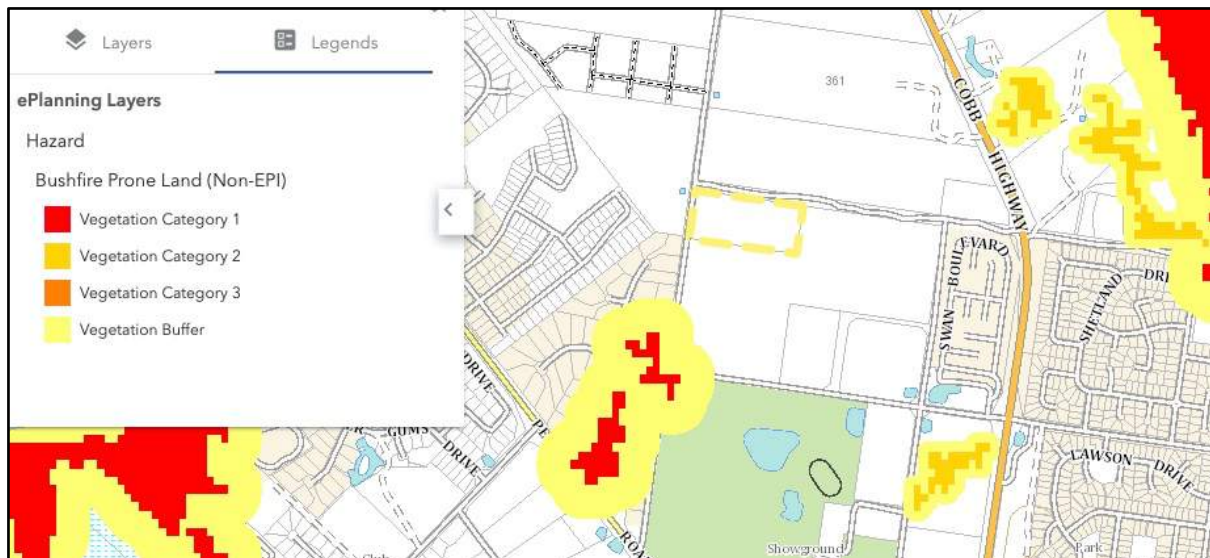


Figure 21: Bushfire Hazard Map (Source: NSW Planning Portal 2021)

2.3 Agreements

The applicant is currently undergoing discussions with MRC regarding a voluntary planning agreement (VPA) for the subject site. Several meetings with Council have taken place to explore opportunities for VPA arrangements such as opportunities for Works-In-Kind (WIK) and road base treatments.

Section 7.11 contributions are applicable at the time of assessment and the proponent has the option to seek a VPA if deemed appropriate and necessary (refer to Section 6.11 and Appendix B for discussion on developer contribution costs).

2.4 Analysis of Alternatives

During the conceptualisation and initial research for the new school, several alternatives to the proposal were considered including:

- A. Do nothing.
- B. Retrofit and expand existing education establishments.
- C. Establish a new school on a "green field" in the Moama area (preferred option).

Option A was rejected as it would not address the student demand and the forecast shortfall in student spaces. A "do nothing" approach does not recognise broader education strategies and would eventually exacerbate overcrowding within existing schools, creating unsustainable resource, equity and accessibility issues.

Option B was also discarded because it would not accommodate future population growth of the developing residential area in Moama. There is currently only one school in Moama with the ability to educate students up to year 12.

Option C was identified as the preferred option as it will meet expected growth, encourage the development of sustainable transport modes within the Murray River Council LGA, and deliver on the promise of a new K-12 Catholic educational establishment in the Moama township. This option would also facilitate the contemporary design of a new school environment, based on current NSW SEPP and SSD guidelines, and was considered the most environmentally, socially and economically sustainable decision to meet the education needs of the growing Moama community.

3 PROJECT DESCRIPTION

The following sections will outline the development proposal and works required to facilitate the construction and operation of the proposed educational establishment. Included are also details on the project objectives, staging and response to built-environment design criteria.

3.1 Project Overview

The project involves the construction and operation of a new Catholic faith-based K-12 educational establishment on the subject land. The new school will operate as a single stream combined primary and secondary educational establishment, with separate administration and special purpose (sports and performing arts) buildings, chapel area, sporting grounds, carparking areas and extensive water sensitive landscaping.

A summary of key elements of the proposal are included in the table below.

Table 3: Project Summary Table

Proposed new educational establishment (Catholic School)	
Project Element	Summary of the project
Subject Site	Lot 76, DP751159 Lignum Road/Kiely Road, Moama NSW
Site Area	4.78ha
Site Description	Current vacant block intended for proposed school (educational establishment)
Gross Floor Area (GFA)	8,646m ²
Fully Enclosed Cover Area (FECA)	5,558m ²
Unenclosed Covered Area (UCA)	2,230m ²
Maximum Height	Building A (Administration) – RL 102.70 Building B (Hall) – RL 104.30 Building C (Primary) – RL 102.50 Building D (Secondary) – RL 103.70
Vehicular Access	Via Lignum Road
Construction operating hours	Monday-Friday between 7:00am to 6:00pm and Saturday 8:00am to 1:00pm, with no work permitted on Sundays or public holidays
Staff car spaces	41 (including one disabled bay)
'Kiss and Drop' car spaces	35 (including one disabled bay)
Overflow car spaces	26
Bus spaces for pick up and drop off	3
Bicycle parking spaces	15 hoops for 30 student spaces 2 hoops for 4 staff spaces Total = 17 hoops on site for 34 bicycles
New tree plantings	200 new tree plantings proposed in addition to proposed shrubs
Trees for removal	49
Landscaped Area	Soft: 14,494m ² Hard: 11,905m ²
Number of staff	50 full, part-time & casual staff at full completion of stages (26 FTE)
Number of students	390 at full completion of stages.
Staging	Stage 1 - 90 Primary Students; 30 Secondary Students; 20 Staff Stage 2 - 180 Primary students; 120 Secondary Students; 15 Staff Stage 3 - 60 Secondary Students; 15 Staff
Core hours of operation	8:00am-4:00pm
Bell times	8.55am; 11.00am; 11.30am; 1.00pm; 1.55pm; 3.15pm
Afterschool care	Not applicable.

3.2 Description

The proposal seeks approval for the following development:

- Construction of three (3) new one-storey buildings, and one (1) new two-storey building to accommodate students and staff;
- Construction of a sacred space site for students and staff;
- Sports facilities including two outdoor basketball/netball courts and one outdoor playing field;
- Amphitheatre area for students and staff,
- Performance and music facilities including stage area;

- Landscaping including additional trees, vegetation, shrubs, herb garden and all hardstand landscaping for site;
- Carparking for staff, buses and 'kiss and drop'; and
- Other ancillary works as shown on the development plans that accompany this EIS.

3.2.1 Project Area

The subject site is located within the north-west growth corridor of the township of Moama in NSW, and approximately 6.6km from the township of Echuca, Victoria, located on the southern side of the Murray River. Moama & Echuca are twin-towns separated by the Murray River.

The site is approximately 3.0km from the Moama Central Business District (CBD) and adjoins Arthurs Estate, currently vacant land proposed for residential subdivision. The site is bordered by Kiely Road along the northern boundary and Lignum Road along the west. Lignum Road is the main public access road for the development site, with all proposed vehicular access to occur from this road. The proposal seeks to construct on predominantly vacant land, with some minor clearing of existing trees as part of the proposed landscaping works for the new school layout.

There are four (4) main buildings proposed for the site including an administration building, shared facilities building, primary school building and secondary school building. The new buildings are to be well setback from adjacent land to avoid any privacy or overshadowing issues.

Carparking is to be located along the southern side of the site, with access and egress from Lignum Road. This will include a parent 'kiss and drop' area. Bus parking bays are proposed along Lignum Road for school pick-up/drop-off.

Construction of sporting facilities including outdoor basketball courts and a playing field are proposed, with the playing field to run along the eastern boundary of the site. The playing field is to be established during the final stage of the overall school construction programme. All buildings and ancillary facilities are to be connected to reticulated urban infrastructure services as shown on civil services drawings included in Appendix J of this EIS.

Play areas are proposed throughout the site, incorporating hard and soft landscaping. Shaded walkways and tree coverings are designed to accommodate the extreme climate of the area and promote safety.

3.2.2 Physical Layout and Design

The physical layout and design of the site is separated into key activity areas including the construction of the four (4) main school buildings, carparking areas, sporting facilities chapel and landscaped areas. These are as outlined in more detail below and on the accompanying plan set included in Appendix Z.

Building A – Administration

- Construction of a new one (1) storey building located in the western side of the site, oriented to Lignum Road. The building will accommodate new staff facilities including administration/reception area, meeting rooms, staff lounge, boardroom, office/meeting spaces, Principal office, library and sick bay. The construction for Building A will occur during stage 1 of the development phase.
- Maximum building height is proposed at RL 102.70
- Building setback from Lignum Road – 8.5m



Figure 22: Building A Floor Plan Extract (Source: CHC 2022)

Building B – Shared Facilities: Sports, Performance & Music

- Construction of a new one (1) storey building located adjacent to Building A with frontage to Lignum Road. The proposed building will accommodate a gymnasium, stage, multipurpose spaces, music rooms, recording facilities and canteen. Construction will occur during stage 2.
- Maximum building height is proposed at RL 104.30.

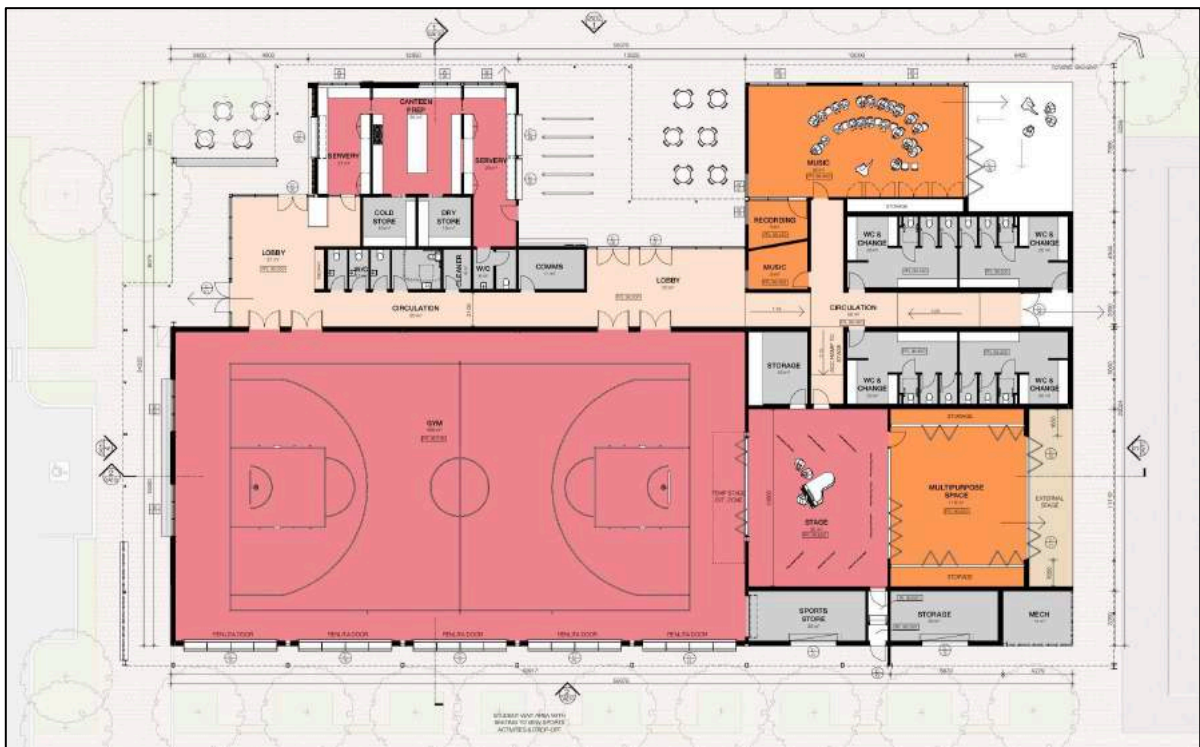


Figure 23: Building B Floor Plan Extract (Source: CHC 2022)

Building C – Primary School

- Construction of a new one (1) storey building located along the northern boundary with Kiely Road. The proposed building will accommodate the primary school student learning spaces, including open collaboration areas, workshop spaces, central gathering space, creation area and staff workroom. Construction is to occur during stage 1.
- Maximum building height is proposed at RL 102.50.



Figure 24: Building C Floor Plan Extract (Source: CHC 2022)

Building D – Workshops & Senior School

- Construction of a new two (2) storey building located adjacent to Building C, along the Kiely Road frontage. The proposed building will accommodate the secondary students and workshop spaces, including rooms for science, food technology, dynamic technology, theory, art, group workspaces and general work areas. Stage 3 works.
- Maximum building height is proposed at RL 105.15.

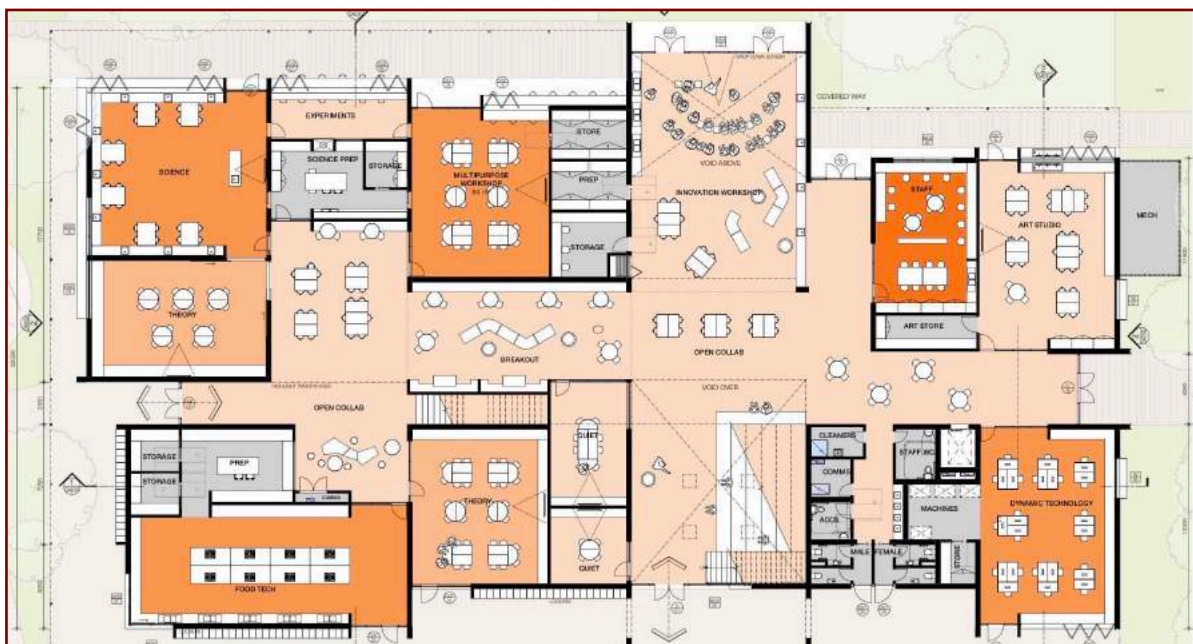


Figure 25: Building D Floor Plan Extract – Ground Floor (Source: CHC 2022)



Figure 26: Building D Floor Plan Extract – First Floor (Source: CHC 2022)

External Finishes and Materials

The external materials shown below were selected by the architectural design team to incorporate the colours and landscape of the Murray River and local Aboriginal culture. Review of materials was undertaken after the first meeting with the NSW State Design Review Panel (SDRP). Materials and colours chosen include light brown or nude brick and timber with a natural corrugated roof colour. The selection was chosen to ensure native flora is a common theme throughout the school.

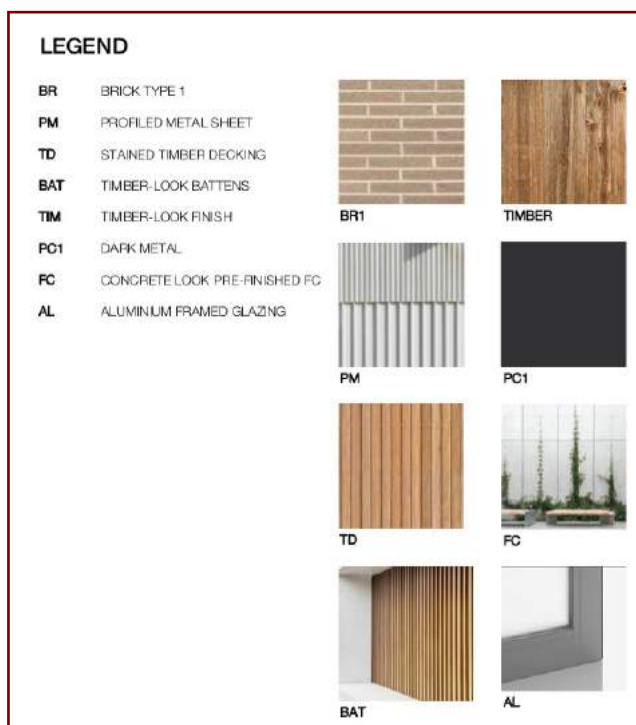


Figure 27: External Finishes and Materials for Building B (Source: CHC 2022)

Landscaping

Along with the overall building design plans as presented in Appendix Z, a landscaping theme was adopted to incorporate the Murray River and local flora, particularly to connect with Country and land of the local Yorta Yorta Aboriginal people. As identified in the accompanying landscape masterplan at Appendix E, the soft and hard landscaping is proposed to incorporate native design elements and reiterate the connection to country throughout the school. Original gums were kept as outlined in the accompanying Arborist Report included at Appendix L.

Existing tree plantings are predominantly located along the boundary with Kiely Road, with additional landscaping and trees proposed along the each of the other site boundaries. Tree plantings will continue to be introduced throughout the grounds, along with specific plantings and coverings to create an interactive space and adequate shading. Approximately 200 new trees are proposed to be planted to embellish the school landscape, with other existing trees to be retained (see attached landscape drawings at Appendix E).

3.2.3 Uses and Activities

The proposed development will operate primarily as an educational establishment for K-12 students. The proposal seeks to provide spaces for community engagement including access to the playing field and performance facilities, which will be determined after construction.

3.2.4 Timing (Stages, Phases and Sequencing)

Table 7 below outlines each phase of the development and the elements to be completed during each phase, including cumulative totals of students at each phase.

Table 4: Elements and Operation

Elements and Operation	
Element	Operation
Phase 1: 120 Students	<ul style="list-style-type: none"> • Introduction of students to classrooms, K-2 (90 students) and Yr. 7 (30 students) • 30 students per classroom (1 class per year group) • Full Primary School curriculum • Limited curriculum in Secondary (1 class per Yr. 7) <ul style="list-style-type: none"> - General Science - Art - Food Tech & Hospitality - Small Classroom Space, Homerooms, Collaboration
Phase 2: 330 Students	<ul style="list-style-type: none"> • Single stream Primary K-6 (210 students) and Years 7-10 (120 students) • 30 students per classroom in Primary • 30 students per classroom in Secondary Inclusion of Woodtech and 'Clean Technology'
Phase 3: 390 Students	<ul style="list-style-type: none"> • Single stream Primary K-6 (210 students) and single stream secondary Years 7-12 (180 students) • 30 students per classroom in Primary • 30 students per classroom in Secondary Inclusion of Textiles, 'Clean Technology', 'Dirty Technology' and Fabrication Labs

3.3 Construction Activities

3.3.1 Construction Timing & Equipment

Construction activities on the site are estimated to take approximately 15 months. The overall development will be constructed in stages as defined below.

Table 5: Construction Staging

Proposed staging of overall construction	
Stage	Element
Stage 1	<ul style="list-style-type: none"> • Construction of Building A – Administration • Construction of Building C – Primary School • Construction of Carparking for staff, bus and 'kiss and drop.' • Landscaping along Lignum Road and third of Kiely Road to accommodate buildings

Proposed staging of overall construction	
Stage	Element
Stage 2	<ul style="list-style-type: none"> Construction of Building B – Shared Facilities
Stage 3	<ul style="list-style-type: none"> Construction of Building D – Secondary School Landscaping around Building D and along another third of Kiely Road Construction of outdoor basketball courts
Stage 4	<ul style="list-style-type: none"> Finalisation of site including construction of Chapel Construction of playing field Landscaping completed along Kiely Road, eastern boundary and southern boundary

Construction hours are to be in accordance with Murray River Council guidelines and as per the Preliminary Construction Management Plan (PCMP):

- Monday-Friday 7:00am to 6:00pm
- Saturday 8:00am to 1:00pm
- No work permitted on Sundays or public holidays

3.3.2 Preliminary Construction Management Plan

A preliminary Construction Management Plan (PCMP) has been prepared by ClarkeHopkinsClarke to outline measures to address construction work on site including noise, dust, sediment erosion control and stormwater management.

The preliminary CMP is to be read in conjunction with the appendices provided including the Construction Traffic and Pedestrian Management Plan Overview (CTPMPO) by TrafficWorks.

A final Construction Management Plan (CMP) will be provided prior to the commencement of construction and once a building contractor has been commissioned to undertake all site and building works. The CMP will be prepared to the satisfaction of the determining authority.

The construction machinery and plant proposed to be utilised in the construction phase of the proposal are to be determined prior to construction and commencement of works. The number of construction jobs created by the development is estimated to be 125 (cumulative FTE) with further details outlined below.

3.4 Operational Activities

3.4.1 Site Access

Site access is to be provided via Lignum Road as shown in the figure below.

A single two-way vehicular entry point will be located on the southwestern corner of the site. This will provide access and egress to the parent kiss & drop area and staff parking area via an internal cul-de-sac loop traffic flow system, as well as providing a one-way access arrangement to the front parking/drop-off area, with an addition exit point to Lignum Road as shown.

Pedestrian/cyclist movement will be managed by designated crossing areas as indicated.

A future pedestrian/cyclist access point will be created in conjunction with the residential estate to the south. This will be subject to separate assessment at the time of construction of the residential subdivision.

Site access and overall traffic/movement system analysis and performance has been assessed within the accompanying Traffic Impact Assessment Report (TrafficWorks 2022). Further discussion is included in section 6.4 of this EIS.

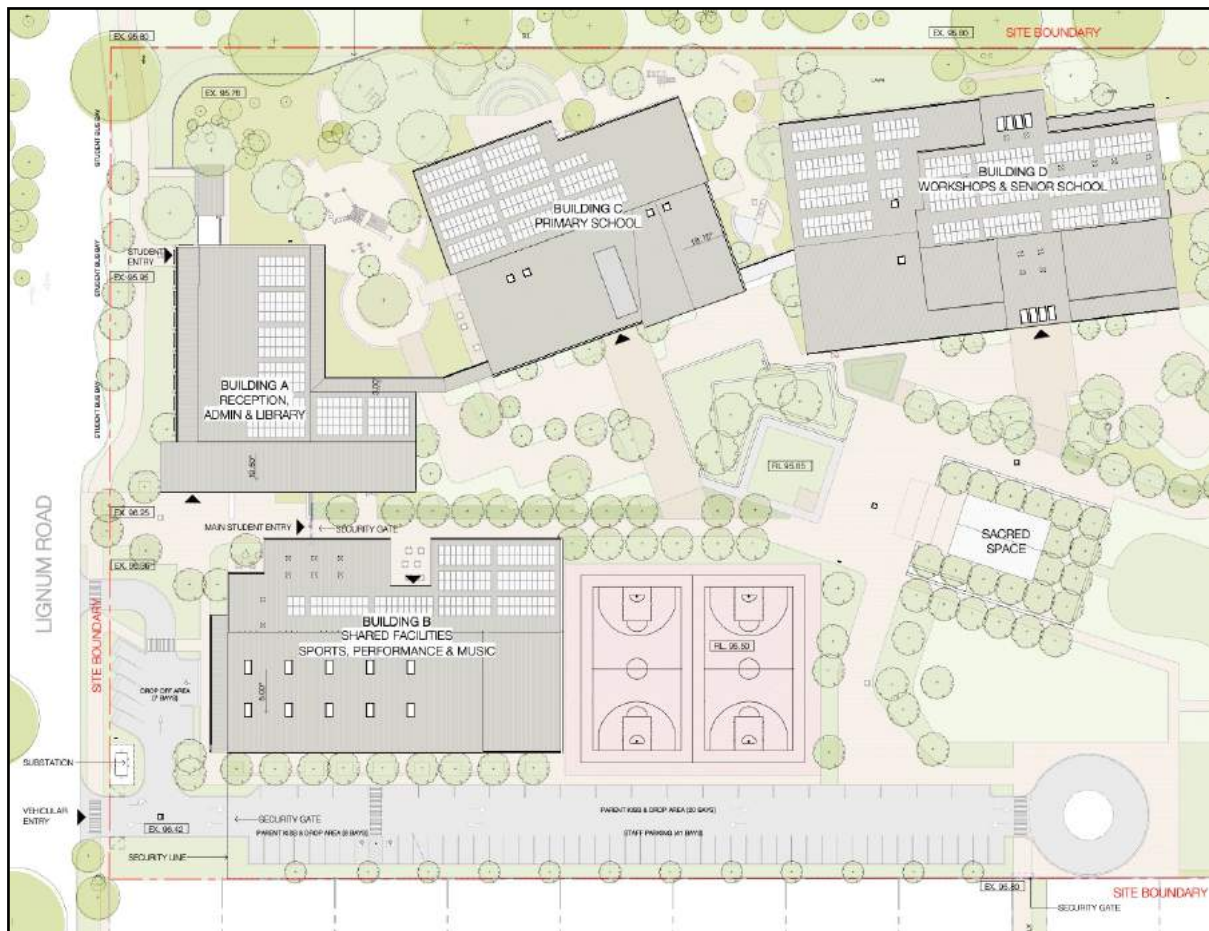


Figure 28: Site Access Extract (Source: CHC 2022)

3.4.2 Staffing and Hours of Operation

The development proposes 50 full, part-time and casual staff (26 FTE) to be introduced progressively throughout the 4 stages of construction.

The proposal will also involve 125 (FTE) temporary construction workers, plant operators and management, as well as the employment of support service industries and other businesses during construction and operation. Added to this continued and expanded operation is the potential multiplier effect on the immediate local economy and job creation environment (generally between 2 - 3 times).

Proposed hours of operation for the school will be from 8am to 4pm. There is no out-of-school care proposed, however, will be considered depending on demand.

3.4.3 Car Parking & Vehicle Circulation

The development will implement the following transport strategy:

- Pedestrian and vehicular entry via Lignum Road
- 102 on-site car parking spaces proposed (including 2 disabled parking bays)
- 3 bus bays for pick-up and drop-off



Figure 29: Carparking and Vehicle Circulation Extract (Source: Trafficworks 2021)

There are currently no footpaths or cycle paths along Lignum Road however, there is an existing shared path along Perricoota Road. Extensions of these networks may occur in the future with the expansion of residential development.

3.4.4 Waste

A waste collection area is to be located adjacent Building A to allow access from Lignum Road outside of normal school operating hours. A full operational Waste Management Plan (WMP) is outlined in Appendix N.

3.4.5 Utility Services

The core infrastructure utility services required for the development are outlined within the Civil Drawings Set (Appendix J) and BCA Assessment Report (Appendix O). A summary of essential utilities to services the site include:

- Authority water main located along Kiely Road with water meter and fire hydrant booster valve located on corner with Lignum Road
- Main gravity sewer line on both Lignum Road and Kiely Road frontages
- Proposed electrical substation on Lignum Road frontage adjacent Building B
- NBN connection from Lignum Road
- Onsite rainwater tanks feed from building roof drainage
- Stormwater reticulation to internal detention area, with overflow to southern boundary
- Dual 210KLG LP Gas Bottles storage area adjacent Building C
- Various grease arrestors to Buildings B & D
- Various enclosed Mechanical Plant areas to each building
- Fire safety installations and equipment

4 STATUTORY CONTEXT

This section identifies the relevant statutory requirements for the proposal.

4.1 Power to Grant Approval

Section 4.36 of the EP&A Act provides that the Minister or a *State Environmental Planning Policy* (SEPP) may declare development to be SSD.

Clause 15(1) schedule 1 of the SEPP (Planning Systems) 2021 specifies a new educational establishment that has a CIV of more than \$20 million is to be assessed as SSD.

The proposed development involves the construction of a new educational establishment with a CIV of approximately \$45 million therefore it is deemed SSD and the Minister for Planning is the consent authority.

4.2 Permissibility

The subject site is zoned R1 General Residential under the *Murray Local Environmental Plan 2011* (MLEP), as shown in the figure below. Educational establishments are permitted with consent in zone R1. Development for the purpose of a school is also permissible under the *State Environmental Planning Policy (Transport and Infrastructure) 2021* within a prescribed zone. The subject site is zoned R1 which is a prescribed zone.

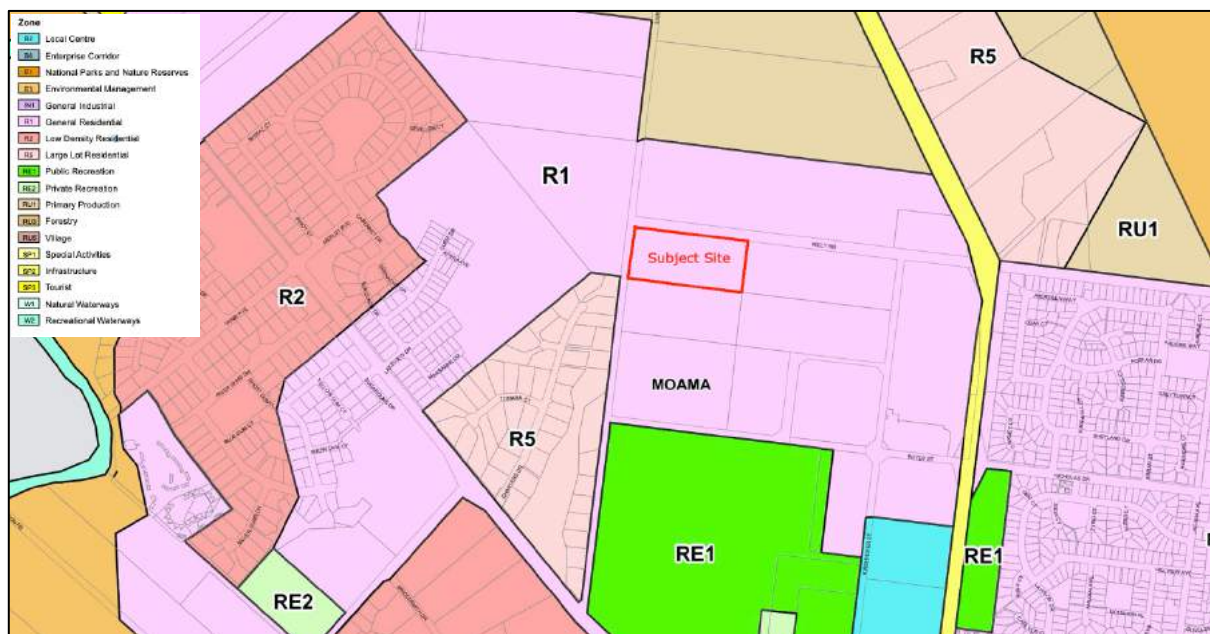


Figure 30: Land Zoning Map Sheet LZN_006B (Source: MLEP 2011)

4.3 Other Approvals

The provisions under Section 4.42 of the EP&A Act 1979 lists approvals under other legislation that must be applied consistently. There are no other approvals required for the proposed development to occur.

4.4 Mandatory Matters for Consideration

A detailed assessment of the proposal against relevant mandatory compliance matters for consideration has been provided in Appendix B and summarised in the table below.

Table 6: Mandatory Considerations Table

Mandatory Consideration	Reference
<i>Environmental Planning and Assessment Act 1979</i>	<ul style="list-style-type: none"> • 1.3 Relevant objects of the Act • 4.15 Evaluation
<i>Environmental Planning and Assessment Regulation 2021</i>	<ul style="list-style-type: none"> • Part 8 Division 5 Environmental impact statements
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	<ul style="list-style-type: none"> • Part 3 Division 1 Requirements relating to matters of national environmental significance
<i>Biodiversity Conservation Act 2016</i>	<ul style="list-style-type: none"> • 7.14 State significant development or infrastructure
<i>State Environmental Planning Policy (Biodiversity and Conservation) 2021</i>	<ul style="list-style-type: none"> • Chapter 4 Koala habitat protection 2021 • Chapter 5 River Murray lands
<i>State Environmental Planning Policy (Transport and Infrastructure) 2021</i>	<ul style="list-style-type: none"> • 3.36 Schools – development permitted with consent • 3.43 State significant development for the purposes of schools – application of development standards in environmental planning instruments • 3.58 Traffic-generating development controls • Schedule 8 Schools – design quality principles
<i>State Environmental Planning Policy (Planning Systems) 2021</i>	<ul style="list-style-type: none"> • 2.6 Declaration of State significant development: section 4.36 • Schedule 1 Clause 15 Educational Establishments
<i>State Environmental Planning Policy (Resilience and Hazards) 2021</i>	<ul style="list-style-type: none"> • 4.6 Contamination and remediation to be considered in determining development applications
<i>Draft State Environmental Planning Policy (Remediation of Land)</i>	<ul style="list-style-type: none"> • Explanation of Intended Effect January 2018
<i>Murray Local Environmental Plan 2011</i>	<ul style="list-style-type: none"> • 1.2 Aims of Plan • 2.3 Zone objectives and Land Use Table • 6.2 Public utility infrastructure • 6.4 Relationship between Part and remainder of Plan • 7.1 Essential services • 7.2 Earthworks • 7.3 Biodiversity protection • 8.0 Urban release areas
<i>Murray Development Control Plan 2012</i>	<ul style="list-style-type: none"> • 6 Strategic land use plan • 8 Urban release areas • 10 Vegetation removal • 12 Notification policy
<i>Section 94 Development Contributions Plan 2011</i>	<ul style="list-style-type: none"> • Applicable to R1 – General Residential land

5 ENGAGEMENT

In accordance with the SEARs issued for the proposed development, consultation was undertaken with relevant State agencies, Council and the community including:

- Murray River Council (MRC)
- Transport for NSW (TfNSW)
- Local Aboriginal Land Council (LALC)
- Government Architect NSW (GANSW)
- Community of Moama

A consultation review has been prepared and included at Appendix Q, which summarises the engagement strategies utilised for the development and suggested outcomes. A brief outline of consultation undertaken is referred to below.

5.1 Murray River Council

Consultation with Murray River Council was initiated in July 2020, with a preliminary meeting held 16/09/20 with key Council management and technical staff. The meeting outlined matters to be considered in the design and development of the proposal including:

Table 7: Council Consultation

Comment	Response
<i>Traffic impacts on Lignum and Kiely Road</i>	A TIA was conducted and provided in Appendix H.
<i>Biodiversity impacts of vegetation removal</i>	Significant biodiversity on the site is to be avoided. Refer to Architectural Plan Set and Appendix K for BDAR report.
<i>Murray Regional Plan relevance</i>	Considered, refer to Appendix B.
<i>Referral to TfNSW due to potential arterial road impact</i>	TfNSW provided comments as below.
<i>Public transport</i>	Proposal provides improved bus facilities along Lignum Road.

The matters outlined were addressed in the preparation of a preliminary scoping report and again during a meeting with Council to discuss pre-SEARs lodgement.

5.2 Transport for NSW

Transport for NSW (TfNSW) were consulted as part of the EIS preparation for the proposal. Comments have been considered during the design stages of the proposal and addressed in the Traffic Impact Assessment (TIA) report that accompanies this EIS.

Comments from TfNSW included:

- Consideration of future development in the area and accommodation of growth;
- Pedestrian and cyclist access to development from surrounding areas;
- No vehicular access directly to Cobb Highway via intersection with Kiely Road, and;
- Consideration of carparking provisions to ensure queuing capacity, circulation space and designated parking for staff.

5.3 Local Aboriginal Land Council

Consultation with LALC and Registered Aboriginal Party stakeholders (RAPS) was conducted by Ozark as part of the ACHAR assessment. A site visit conducted on 16 September 2021 by a LALC representative for Moama identified no aboriginal objects or cultural values pertaining to the subject site. No other feedback was provided. Further details of this consultation are provided in the ACHAR Assessment (Appendix M).

5.4 Government Architect NSW

Consultation with Government Architect NSW (GANSW) was held on 1 September 2021 and 27 October 2021. The main comments to be considered in the school building and landscape design were associated with:

- Connecting with Country
- Movement
- Site strategy and landscape
- Architecture
- Sustainability and climate change

Responses regarding these topics have been addressed in the Design Review Summary (Appendix R).

5.5 Community

Consultation was scheduled within the Murray River community in early 2021 but postponed due to COVID-19 restrictions. The Diocese held a stall at the Moama Markets in December 2021 and provided an online survey platform to encourage community feedback and comment. A summary of topics and proposed outcomes identified from the consultation process included:

Table 8: Community Consultation

Comment	Response
<i>Kindergarten education availabilities</i>	K-12 education is proposed for the development.
<i>Canteen</i>	A canteen is proposed for Building B which will be available to students, staff, and parents.
<i>Connection to Country</i>	Connection to Country has been addressed in the overall design on the development, noted in landscaping and the connection to the Murray River.
<i>Stand-alone sporting facilities</i>	Facilities are proposed to incorporate community engagement during future stages.
<i>Good parking space for pick-up and drop-off</i>	Carparking spaces have been provided in the form of 'kiss and drop' parking for parents.
<i>Connection to public transport</i>	Bus services are to be provided for students.
<i>Open spaces for learning</i>	Open spaces for learning are a key feature of the development design and has been implemented into the proposal.
<i>Connection to Faith important for students</i>	Proposed learning will implement a strong connection to faith. Refer to Architectural Design Statement.
<i>Boarding school possibilities</i>	No current plans are proposed for boarding school facilities however this is subject to change dependent on need.
<i>After-school childcare options</i>	No current plans are proposed for after-school care facilities however this is subject to change dependent on need.
<i>Large number of trees and plantings</i>	200 new trees are proposed with existing tree cover. See Appendix E for report.

5.6 Exhibition

Engagement will continue to take place with key stakeholders during the statutory public exhibition stage of the development application, and during future development stages of the proposal.

On-going consultation will be sought from the following stakeholders:

- Murray River Council
- Local Aboriginal Land Council
- Local community
- Future parents, students and staff within the area
- Adjoining affected developments

Further information regarding consultation and engagement activities carried out during the proposal development stages have been referred to in the Stakeholder Engagement Strategy (Appendix Q).

6 ASSESSMENT OF IMPACTS

Potential impacts of this project have been identified through the application of best practice assessment and design, the engagement process with relevant authorities and the local community. As a result, comprehensive design and analysis has been conducted by relevant experts in accordance with available guidelines. This section provides a summary of the results of the assessment of the project's potential impacts, the process undertaken and outcomes to inform this EIS.

6.1 Built Form and Design Quality

The accompanying SSDA Architectural Report provides details and commentary on the design approach in creating the proposed new school's built form. The design response is underpinned by key visions and values of Faith, Community and Country, as well as the interpretation and adherence to best practice guidelines including *"Better Placed"*, *"Greener Places Design Guide"*, *"SEPP (Educational Establishments & Childcare Facilities) Guidelines"*, *"Design Guide for Schools"* and *"CPTED"*.

6.1.1 Built Form

The proposed new school site is located within an expanding residential neighbourhood area of Moama. The vacant and level site has provided an opportunity to explore placemaking and urban design opportunities in collaboration with Council and the adjoining residential neighbourhood developers.

A detailed site and locality context analysis is provided in the accompanying Architectural Report. The land has a direct interface with the adjoining residential subdivision to the southeast, which has been approved for development. This provides future opportunity for a southern pedestrian laneway from the adjoining neighbourhood.

Lignum Road will provide the primary road frontage for vehicular access, whilst Kiely Road will form an open space corridor along the site's northern boundary, providing opportunities for enhanced natural landscaping, pedestrian and cycling connectivity.

Using the three underpinning design principles of Faith, Community and Country, the resulting site response includes spatial elements of a central heart (a chapel), gathering plaza, community forecourt and preservation/enhancement of natural vegetation.

Staff and administration areas form the gateway to the site, with reception and visitor/community spaces located along the main entrance axis. Community sports, music and performance facilities are also located along the entrance axis to the school campus.

The primary school is accommodated within a singular building to enable collaborative practices and sense of community between year groups. The secondary school, with workshops and general learning areas, is proposed with a two-storey building to the east of the primary school area.

Sports and recreation areas are located towards the eastern end of the school campus, allowing for future flexibility, expansion and areas of passive landscaping along the common boundary with adjoining residential development.

An extract from the resulting proposed masterplan is provided below.

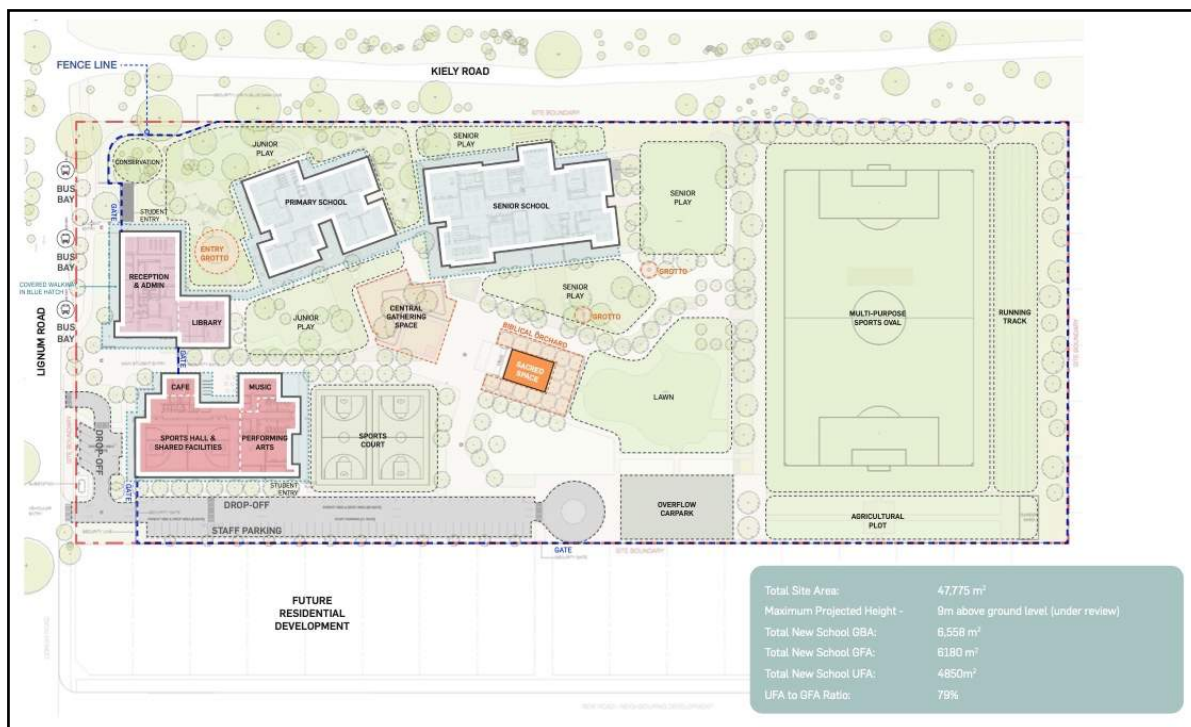


Figure 31: Proposed Masterplan Extract (Source: CHC 2022)

Proposed buildings will be generally in context with surrounding development, with a combination of single storey buildings towards the western end of the site and two-storey buildings located more centrally. Extensive site landscaping will ensure the school will complement the surrounding developing residential landscape and not be overly dominant.

Building setbacks from Lignum Road will be variable, with the reception/administration building located closest at 8.5m. Similarly, Kiely Road building setbacks are variable due to the angular site positioning of both the primary and secondary school building, with the closest point being 7.0m. The Sports/Performance building has a setback of 21.5m from the southern site boundary, which also accommodates staff parking and parent kiss & drop area.

The built form and spatial design of the proposed new school is consistent with the Design Guide for Schools (2018). A design verification statement is included within the accompanying Architectural Report, including statements on how the Education SEPP Design Quality Principles have been applied to the proposed development.



Figure 32: 3D Visual of Entrance Extract (Source: CHC 2022)



Figure 33: 3D Visual of Central Courtyard Extract (Source: CHC 2022)

6.1.2 Accessibility

A Disability Discrimination Act (DDA) compliance statement has been prepared by Blackett Maguire + Goldsmith within the BCA report that confirms accessibility provisions have been fully satisfied in the design of the new school.

Key assessment items noted & satisfied or achievable include:

- Disability access standards and BCA compliance codes
- BCA general building access requirements
- Accessible parking standards
- Signage
- Hearing augmentation
- Tactile indicators
- Ramps
- Passenger lifts
- Accessible sanitary facilities

6.1.3 Crime Prevention Through Environmental Design

Safety and security features will be incorporated into the new school design in accordance with the principles of Crime Prevention through Environmental Design (CPTED). These are described on drawings and annotations included in the accompanying Architectural Report.

Consideration of the proposed new school design against the four main design principles of CPTED is outlined in the table below:

Table 9: CPTED Principles and Design Response Summary

Principles and Designs for Crime Prevention Through Environmental Design	
CPTED Principle	Design Response
<i>Natural surveillance and lighting</i>	All publicly accessible spaces around the new buildings have some visual connection to habitable areas. Appropriate external security lighting has been incorporated into the building and site layout.
<i>Access control</i>	Main entries are well defined and visible from Lignum Road. All entry points will have access control, with the ability to be locked down in case of an emergency. Appropriate security controls are to be included in the final building and site construction fitout.
<i>Territorial reinforcement</i>	Gates are provided in strategic locations around the front of the site to block unauthorised entry, as well as being integrated with the building architecture and surrounding landscape. Adequate signage and wayfinding will be incorporated into the facility to guide and direct people to relevant areas and buildings. This will include braille signage for people with vision loss.
<i>Space management</i>	Height of landscaping is integrated into the facades, with plant selection set to prevent climbing onto roofs and entry to buildings. Accompanying

	plans indicate consideration of space management and security control including community forecourt area overlooking car park, bus drop-off and pedestrian access areas; security line and gate locations; and school building areas, school grounds and access corridors.
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6.1.4 Building Code of Australia

Blackett Maguire + Goldsmith have prepared a BCA compliance statement that accompanies this EIS. The statement verifies that the proposed architectural documentation has appropriately addressed compliance measures and provisions of the BCA. The proposed new school falls within a Class 9b BCA classification.

The BCA compliance statement has addressed matters in relation to:

- Structural integrity
- Fire safety including design and installation standards
- Escape and exit points including emergency lighting and signage
- Fire services and equipment
- Smoke hazard management
- Health and amenity matters including wet areas and sanitary facilities
- Ceiling heights and ventilation
- Natural lighting
- Special use building areas including performance and public areas
- Energy efficiency

6.1.5 State Design Review Panel

During the preparation of this EIS, consultation was undertaken with the NSW Government Architect NSW, through the resources of the NSW State Design Review Panel (SDRP).

Two consultation meetings were held with the SDRP. The SDRP was provided with a project overview including details on project background and description, school design objectives, site characteristics and local environmental considerations.

A summary of the meetings and review outcomes from the SDRP sessions are included at Appendix R.

Overall, the SDRP response and advice were summarised as follows:

- The overall design is being developed upon strong foundational concepts
- Areas of attention in finalising the design include:
 - Integrating Connecting with Country principles into the spatial design;
 - Developing key landscape spaces that are currently under-designed; and
 - Implementing an ambitious sustainability strategy
- Design elements that were supported:
 - The overall site strategy
 - Direction and refinement of landscape strategy and landscape spaces
 - The revised parking and arrival strategy
 - The pedagogical diagram of the buildings
 - The integration of external learning spaces with classrooms
 - Strategies to anticipate integration with future green active transport
 - Corridor on the northern edge of the site

Further refinement of the final designs that form the basis of EIS demonstrate the incorporation of suggestions and advice put forward by the SDRP.

6.2 Trees & Landscaping

The proposal is accompanied by an Arboricultural Impact Assessment (McCrone 2022), Landscaping Masterplan (SquareOne 2022) and Architectural Plan Set (CHC 2022). These documents address matters considered relevant in addressing tree and landscaping criteria for the design of the new school, including *Australian Standard AS4970-2009 Protection of trees on development sites* and the *Draft Greener Places Design Guide (GANSW)*.

The majority of the existing vacant site has had a long history of agricultural use, predominantly cropping and grazing activities. Any remaining trees are located along the northern Kiely Road frontage, with a cluster of remnant native trees located in the north-western corner of the site.

Overall, the tree removal to be undertaken is considered minimal and will be in accordance with the below Arboricultural assessment. The proposed landscaping treatment will more than compensate for any tree removal and will be undertaken in accordance with the Greener Spaces guide, incorporating a theme of *'connection to landscape and nature'*. See also comments and directions responding to the NSW Urban Canopy approach contained in the accompanying Architectural Report.

6.2.1 Arboricultural Assessment

The Arborist Report has undertaken an assessment of trees on and surrounding the school development site, including trees located in the adjacent road reserves of Lignum and Kiely Roads. A total of 16 mature trees were recorded, documenting species, trunk diameter, canopy, height and appraisal of overall condition and significance. In addition, 9 copes of juvenile trees were also recorded and assessed.

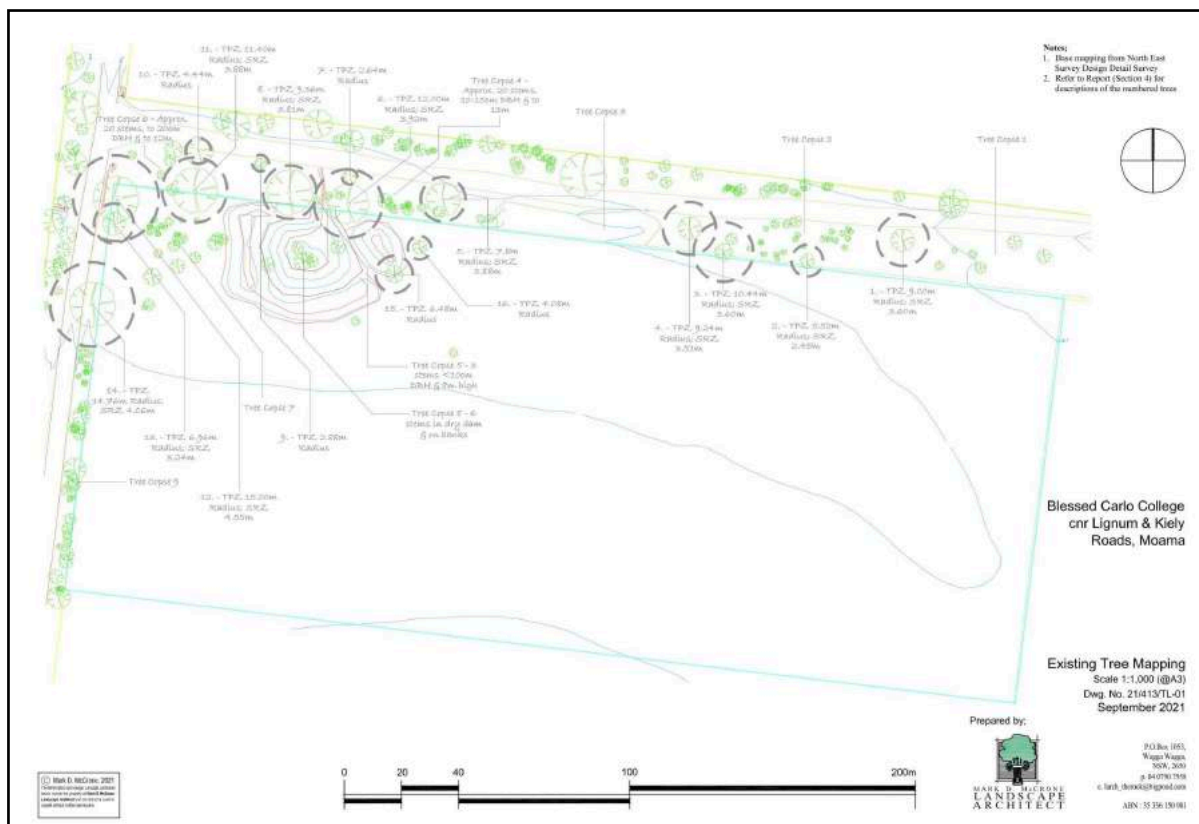


Figure 34: Existing Tree Mapping Extract (Source: McCrone 2022)

Recommendations from the report are summarised below:

- Six trees are rated as in good condition and warrant retention;
- Six trees are rated as in fair condition and may be retained subject to appropriate remedial works as documented;
- Four trees are rated as in poor condition, have limited value and should be removed;
- Forty-nine trees are proposed for removal to facilitate the proposed site works, these have been considered on the basis of their condition and against relevant standards outlined in the report;
- All trees retained should be given full and adequate protection during construction works, including the established of Tree Protection Zones (TPZ) and other remedial works in accordance with applicable standards;

- Copses of juvenile specimens are to be given the opportunity of retention and contribution to the future landscape environment, including thinning to favour more vigorous and structurally sound specimens;
- Particular attention and regular maintenance of retained large mature trees, post-development, is to consider ongoing risks of structural failure and the avoidance of activities that congregate people and/or vehicles in close proximity.

6.2.2 Landscape Strategy

The Landscaping Masterplan proposed for the new school site accompanies this EIS. The design for the outdoor spaces of the school incorporates a performance-based approach, as recommended by the Greener Spaces Guide (2020). This included both detailed site analysis and local stakeholder engagement.

A primary outcome of this design process is the '*connection to landscape and nature*' that has been captured in the design response. The proposed design incorporates accessibility, diversity and long-term goals of enhancing local spatial experience and supporting local biodiversity. In response to the NSW Urban Canopy strategy, the proposal has analysed all existing trees and will respond with actions for protection, maintenance and retention of existing trees, as recommended.



Figure 35: Landscape Masterplan Extract (Source: CHC 2022)

Further discussion on the proposed new school's landscape design response, in accordance with the *Draft Greener Places Design Guide*, is included in the accompanying Architectural Report. Of particular note is the proposal's site quality performance criteria response to ensure the site is fit-for-purpose. The landscape design has embodied the principles of:

- **Integration:** where onsite water management design will mimic a natural water catchment and better integrate the built form with green infrastructure;
- **Connectivity:** where buildings blend with the natural landscape and where these spaces connect creates different experiences for all school users;
- **Multifunctionality:** by providing a diverse landscape design incorporating central on-site detention, natural creek bed like swales, natural irrigation, rainwater tanks and tier seating for an integrated learning experience; and

- **Participation:** feedback from stakeholder engagement sessions and the SDRP has assisted in the development of a more considered design response.

6.3 Environmental Amenity

Local environmental amenity is potentially impacted by new development, particularly where a formerly vacant rural site is to be developed for an urban land use such as a new school. The subject site is within a future residential development area where an educational land use is considered compatible with the residential nature of the evolving local area. Consideration of the locality and the school's potential impact on solar access, visual privacy and amenity, overshadowing and background noise levels form an integral part of the proposed site layout and built form design response.

6.3.1 Existing Natural & Built Conditions

The subject site is vacant of any existing buildings, being a former agricultural holding where cropping and grazing activities have occurred for many years. Existing tree cover is limited to the northern Kiely Road boundary and a cluster of remnant native trees and understorey located in the north-western corner of the site near the intersection of Lignum and Kiely Roads. A biodiversity report accompanies this EIS and contains greater detail on the natural elements that are present and significant to the site and surrounding area. This topic is discussed in greater detail in section below.



Figure 36: Aerial Image of Existing Site (Source: SIX Maps 2022)

The site is located within a future residential neighbourhood, with adjoining subdivision development to the east and south currently approved and under staged development conditions. The approved layout of the proposed adjoining residential subdivision is indicated on the submitted architectural drawings for the proposed school, including connectivity arrangements and considerations of boundary landscaping and other mitigation measures to minimise any potential impacts between the future land use activities.



Figure 37: Masterplan Extract of Adjoining Subdivision (Source: MRC 2021)

Kiely Road forms the northern boundary of the site. Council has indicated that this existing road corridor will be a future pedestrian, cycleway and natural vegetated corridor link serving the needs of the surrounding future residential neighbourhood. Land north of Kiely Road is currently under agricultural production; however, this land is also zoned R1 General Residential and part of the north-west urban release area of Moama.

Lignum Road forms the western boundary of the site and will be the main vehicular access link to this site and surrounding residential development area. Land to the west is also currently used for agricultural purposes, however, also zoned R1 and within the north-west urban release area.

Overall, the design response for the proposed new school will have respect to existing natural and built environmental conditions and has incorporated best practice principles to ensure local amenity impact is minimised and compatible with the adjoining future residential neighbourhood. The Architectural Report includes discussion on various environmental amenity responses which have been summarised and incorporated in the comments below.

6.3.2 Visual Impact & Privacy

The new school will be located within a predominantly low-density residential neighbourhood environment, surrounded by existing natural vegetation, new residential housing and road infrastructure typical of a developing and emerging urban environment.

Existing Environment

The surrounding local area, bounded by Kiely and Lignum Roads, is targeted for immediate residential subdivision, as evident with recently approved development plans. Land to the north of Kiely Road and west of Lignum Road will be further developed for urban housing in the short to medium term, as outlined in current Moama North West Master Plan (MNWMP).

Local view corridors are dominated by existing native vegetation along the Lignum and Kiely Road corridors. The site and surrounding land are relatively flat with no significant distant view elements or vistas potentially impacted by development over the subject land. Land immediately opposite the site, to the west of Lignum Road, is proposed to form part of an open space drainage corridor to service the overall northwest neighbourhood.

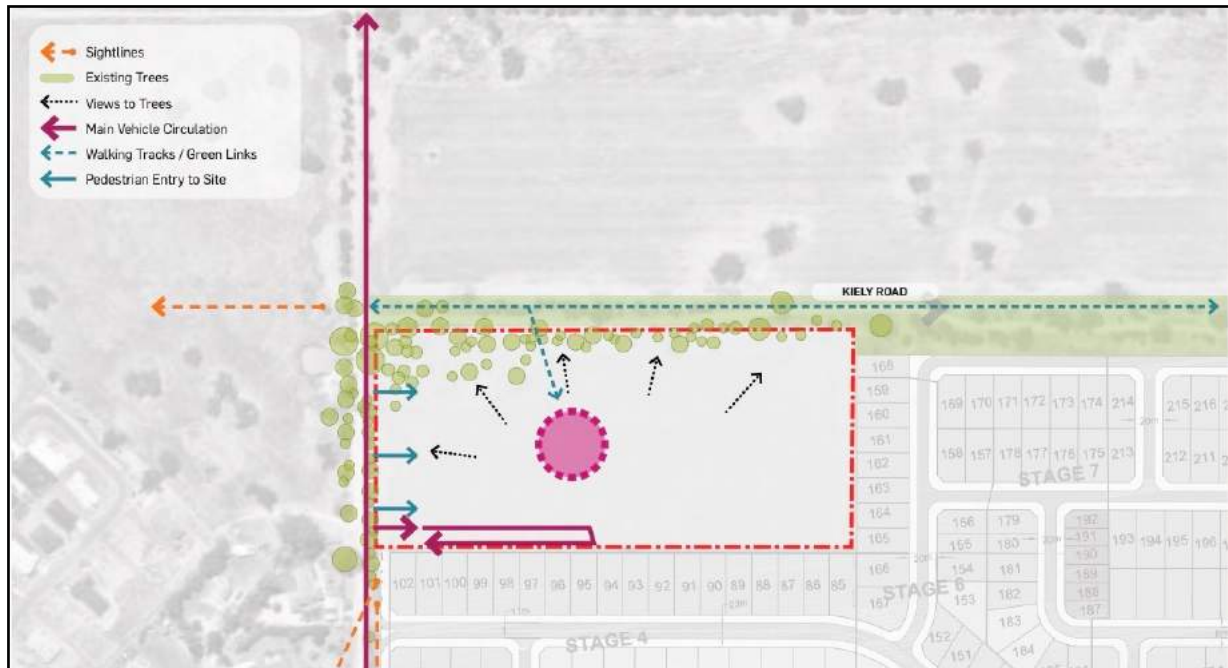


Figure 38: Sightlines & View Corridors - design plan extract (Source: CHC 2022)



Figure 39: Lignum Road Corridor - View N of Kiely Road Intersection (Source: SP 2020)



Figure 40: Lignum Road Corridor - View S of Kiely Road Intersection (Source: SP 2020)



Figure 41: Kiely Road Corridor - View E of Lignum Road Intersection (Source: SP 2020)



Figure 42: View from Kiely Rd - looking South towards adjoining subdivision (Source: SP 2020)



Figure 43: View from Kiely Rd boundary - looking W towards Lignum Rd (Source: SP 2020)



Figure 44: Adjoining Property to the N of Kiely Rd Corridor (Source: SP 2020)



Figure 45: Residential Development W of Lignum Rd Corridor (Source: SP 2020)

Key views to be taken into consideration are as identified in the MNWMP, where both Kiely and Lignum Roads are indicated as environments where preservation of the natural landscape is a predominant theme. Both of these corridors are identified as important elements of the future Moama North West neighbourhood movement network (vehicles, bicycles and pedestrians) and their natural landscaping features are to be retained and/or enhanced.

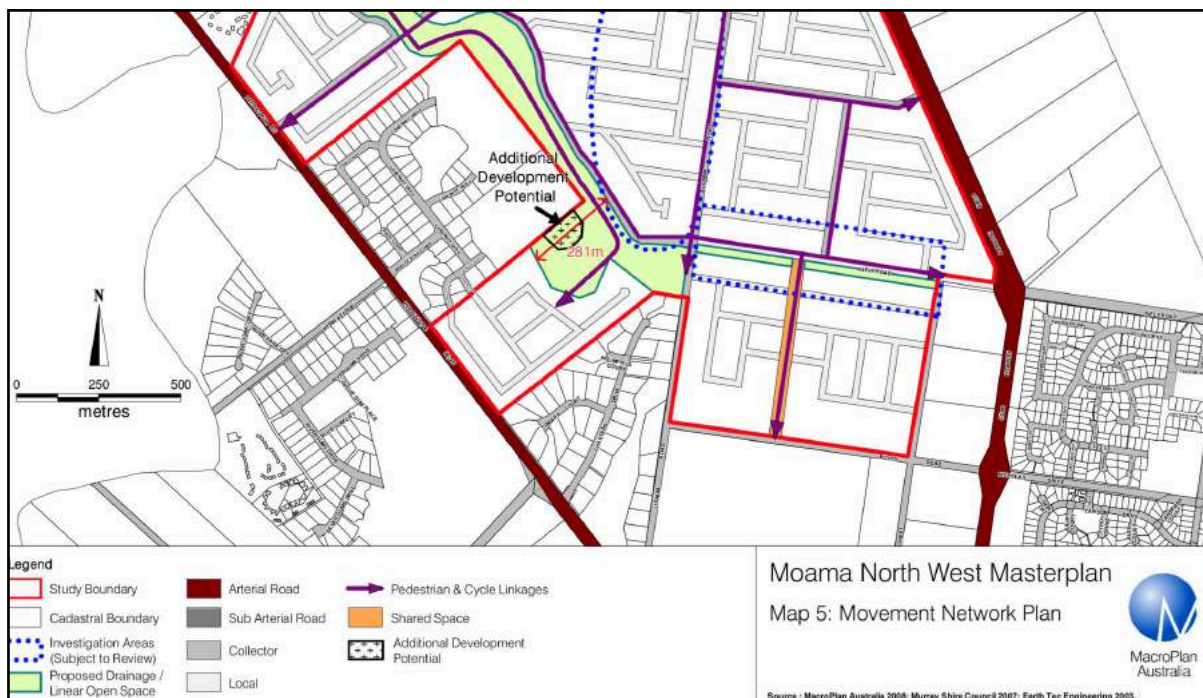


Figure 46: Extract from MNWMP - Movement Network Plan (Source: CHC 2022)

Visual Impact Response

For this site, the most significant visual impact will be in relation to protecting the natural environmental features of the Kiely and Lignum Road corridors and embellishing boundary alignments with adjoining future residential development.

The proposed development plans for the new school have paid particular attention to ensuring a robust landscaping strategy that will ensure view impacts are minimised and consistent with an emerging urban environment, as envisaged by the local community.

Building structures will be restricted to single storey along the western and southern boundaries, with the secondary school two-storey buildings located towards the northern Kiely Road site boundary (see elevations included in Architectural Plan Set and extracts below). The height of buildings is consistent with existing tree canopy height to ensure any views from public corridors are dominated by natural vegetation and not building structures. Building construction elements have also been proposed that reflect the natural colour and cultural theme of the local area.



Figure 47: 3D Precinct Visual Extract - proposed Lignum Rd frontage (Source: CHC 2022)

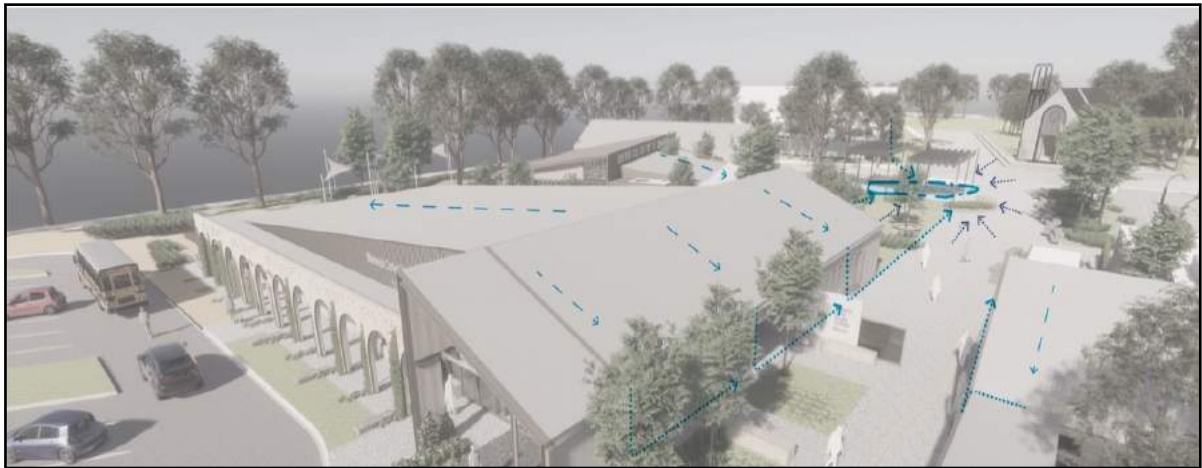


Figure 48: 3D Rooflines to Kiely Rd frontage - View looking NE (Source: CHC 2022)



Figure 49: 3D Front Elevation to Lignum Rd (Source: CHC 2022)

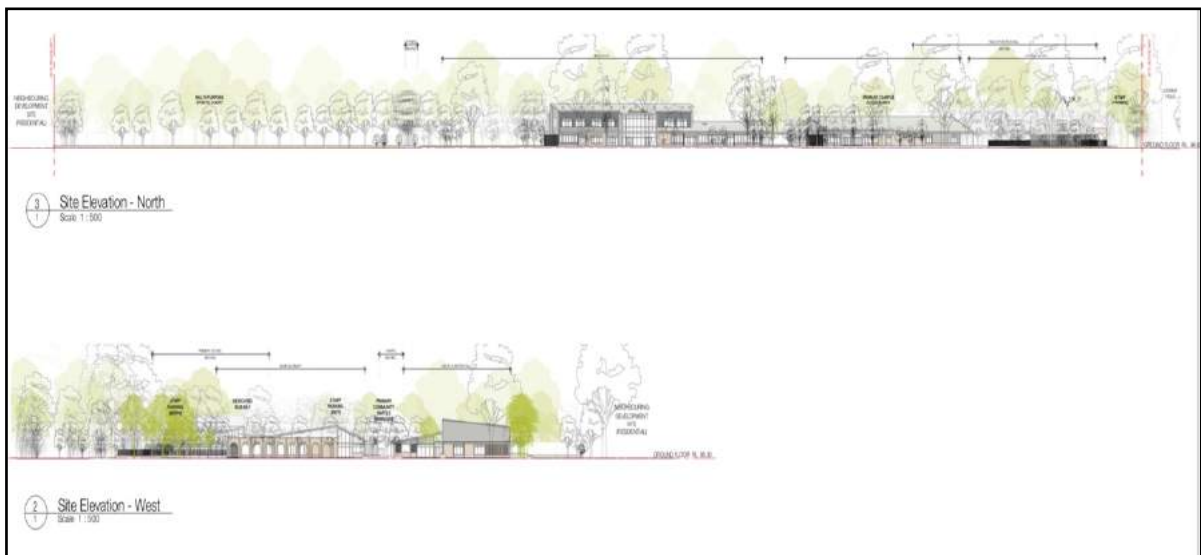


Figure 50: Proposed Elevations to Kiely & Lignum Rds (Source: CHC 2022)

Proposed landscaping will focus on retaining as many existing native plantings as physically possible whilst providing further landscape plantings and embellishment over the proposed site to minimise the dominance of buildings to the public domain.

Landscaped carparking areas and sporting fields have been strategically located along the southern and eastern site boundaries to both minimise visual and privacy impacts on adjoining future residences and facilitate landscaped boundary plantings. This will also assist in the screening and separation of school activities from the adjoining residential environment.



Figure 51: Proposed Landscaping Plan extract (Source: SquareOne 2022)

Privacy Impact Response

Visual privacy is further achieved by the use of solid fencing along the common residential neighbourhood boundaries (see fencing details including in Architectural Plan Set). The school classrooms, meeting rooms and other main activities spaces are arranged around common centrally located open communal courtyards and landscaped spaces. Site setbacks from adjoining future residential development has been maximised to ensure minimal impacts, both visually and in respect of privacy.



Figure 52: 3D Landscaped Central Gathering & Learning Areas (Source: CHC 2022)

The design response and overall school proposal is considered to achieve the visual impact and privacy principles included in the *Better Placed Policy (04 Better for People)* and Education SEPP Design Quality Principles included in the *Design Guide for Schools (5 Amenity)*, as outlined in the accompanying Architectural Design Report.

6.3.3 External Lighting

The proposed school design will incorporate a lighting strategy to minimise dependence and impact from artificial lighting sources. The emphasis will be on maximising natural light to indoor areas and supported by best practice interior design, as outlined in the SEPP design guide. An ESD report accompanies this EIS that outlines the strategies to be implemented for facilitating indoor environment comfort and minimising dependence on artificial light sources.

External lighting will be limited to low level security lighting as required to meet CPTED principles. There are no plans to include external lighting to outdoor recreation and sporting areas at this stage, primarily due to the school operational hours being restricted to daylight hours only.

6.3.4 Overshadowing & Solar Access

Overshadowing and solar access diagrams are included in the architectural drawings for the proposed school, with additional commentary on the principles guiding the design response including in the Architectural Report.

The proposed layout of school buildings has been carefully considered to ensure overshadowing is minimised or avoided altogether, and solar access is maximised to ensure the achievement of ESD and sustainability objectives. Apart from some potential minor overshadowing of a few adjoining residential sites at 9:00am on 22 June (winter solstice), the building site layout has ensured that overshadowing will not be an environmental issue for adjoining properties.

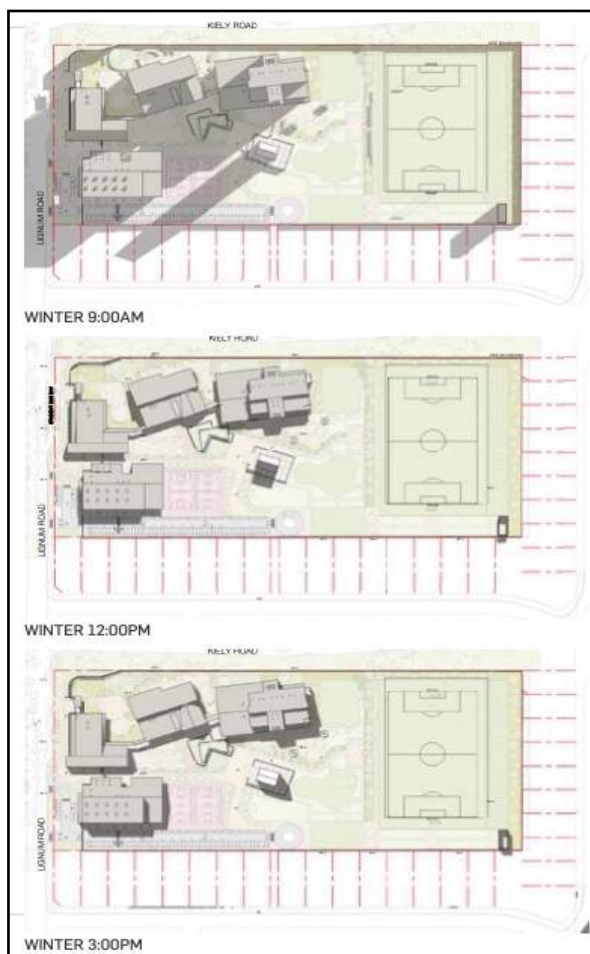


Figure 53: Winter Solar Access and Shadow Diagrams Extract (Source: CHC 2022)

The proposed design response achieves the amenity principles outlined in the SEPP design guide.

6.3.5 Construction Management

The proposed new school design response has included strategies to ensure construction materials and management meet the Better Performance design and construction methodology contained within the Better Placed guide and SEPP design guide.

A Preliminary Construction Management Plan (PCMP) has been prepared by ClarkeHopkinsClarke, as well as a Preliminary Construction Traffic Management Plan prepared by Traffic Works. Each construction stage of the proposal, as shown on the architectural plans, will be securely fenced to ensure the safety of persons accessing the site and ultimately staff and students of the new school during construction times.

Temporary vehicle parking and access arrangements will be established at the start of the project on the subject land. The carpark and access drives from Lignum Road will be established in Stage 1 and will be progressively shared between staff and construction vehicles, with segregated areas identified by the Principal Contractor, including advice to school management on timing, activities and implementation of safety arrangements. A traffic guidance system will also be implemented to manage construction traffic and ensure pedestrian and cyclist safety.

Local construction methods and materials have been considered in the design to improve the quality of the school, reduce construction costs, lower CO₂ emissions and reduce water use and materials wastage. The PCMP also outlines measures to ensure minimal impact on adjoining land uses during the active construction phase of the project.

A final Construction Management Plan (CMP), including traffic management, will be provided by the principal contractor once engaged after SSDA determination. This will include management of construction traffic and workers for the duration of each construction phase.

The timing of the school construction will occur prior to the establishment of adjoining residences, based on consultation with Council and the adjoining land developer. This will also ensure minimal disruption and impact on the local area.

6.3.6 Impacts & Mitigation

A summary of the potential environmental amenity impacts generated by this proposal, and proposed mitigation measures, are provided in the table below.

Table 10: Environmental Amenity Impacts and Mitigation

Environmental Amenity Impacts and Mitigation		
Amenity Criteria	Potential Impact	Mitigation Measure
Land use intensification	Minor	Development within future urban area, strategic location of new buildings and activity areas, separation and extensive landscaping.
Visual	Minimal	Building height consistent with future local neighbourhood, separation of buildings, fencing & landscaping.
Privacy	Minimal	As above.
External lighting	Minimal	Security lighting only. Limited operational hours.
Overshadowing	Negligible	Building location and height located to minimise potential overshadowing.
Solar Access	Positive	ESD and best practice building design principles adopted to maximise solar access.
Construction	Minor	Approved construction management plan including material selection and site management, limited construction times.

6.4 Transport & Accessibility

The subject site is bounded by Lignum and Kiely Roads. Kiely Road is an unformed road reserve managed by Council that is unlikely to be used for vehicular access purposes, due to Council's vision of this road corridor being kept as a pedestrian/cycleway and natural vegetated open space within the north-west urban release area.

Lignum Road is a local access road under the control of Council, which provides primary road access to the subject site and future school development activity. It is currently undergoing continual upgrade, particularly as urban development works expand within the surrounding area, and has connection to Perricoota Road to the south and Martin Road to the north.

Contact and consultation was made with TfNSW to verify key traffic considerations for this site, noting that whilst TfNSW do not have a direct management interest in the local road network, they require broader traffic matters to be addressed in the planning and design of the new school site. It was noted that key areas of concern included:

- Minimising impacts on the local road network to maintain safety, efficiency and maintenance;
- Cumulative impacts of traffic generated by the proposal;
- Impact on intersections with the arterial road network, particularly with the Cobb Highway at the Boyes Street intersection, as well as the Perricoota/Lignum intersection.

A Traffic Impact Assessment Report (TIA) (Trafficworks 2022) has been prepared in accordance with relevant guidelines and SEARs scope of assessment. The outcomes of the TIA are summarised in sections below. The TIA has assessed the traffic impact of the proposal based on the architectural design response, including the proposed Campus Traffic and Parking Strategy as discussed in the Architectural Report.

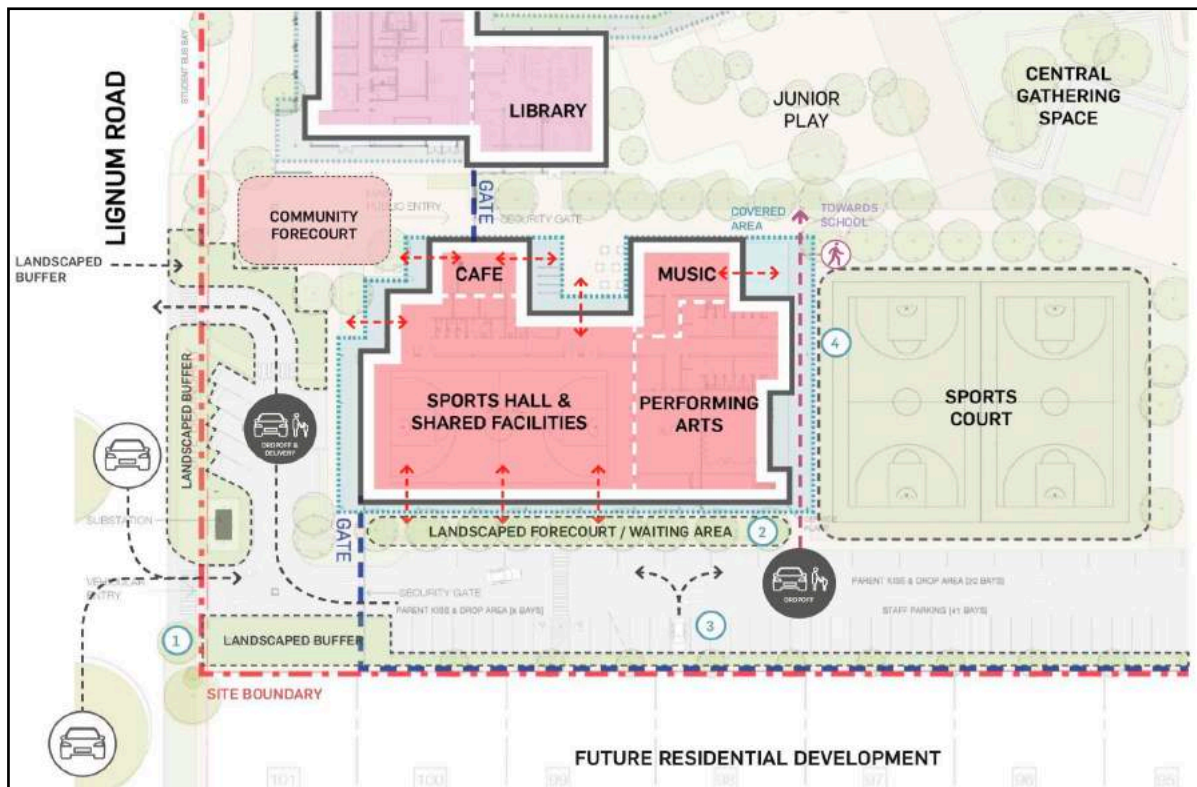


Figure 54: Parking Arrangements Extract (Source: CHC 2022)

6.4.1 Existing Transport & Access

As described above, the site is currently vacant with primary access from Lignum Road. This is a two-way sealed local road with a road pavement width of 6.4m. The default urban speed limit on this section of road is 50kph and the existing traffic volume estimated at 12vph (peak volume two-way). Crash history indicates that there are no traffic safety issues that require urgent remedial action in the vicinity of the subject site.

There are currently no footpaths, cycleways or bus services along this section of Lignum Road.

There is one bus stop on Boyes Avenue, approximately 165m east of the Kirchhofer Street intersection which is approximately 1.3km from the subject site. This stop is part of Route 5

which does not coincide with school pick-up and drop off times, however the TIA indicates that the current town bus service for Route 3 which circles Echuca-Moama may be rerouted to cater for school pick-up drop off times, as shown below.



Figure 55: Possible Re-route Bus Map Extract (Source: TrafficWorks 2022)

6.4.2 Existing Traffic Distribution & Intersection Operation

Kiely Road is an unformed road corridor that provides casual access to existing properties (primarily for rural purposes) along its length.

Existing traffic negotiates Lignum Road in a north-south direction, with connections to Perricoota Road to the south and Martins Road to the north. Traffic is expected to also utilise the Boyes Street/Cobb Highway intersection. All these intersections are currently operating within their design capacity.

For access driveway connections to Lignum Road, the TIA has recommended minimum clear sightlines for pedestrian and vehicular traffic in accordance with relevant standards (AS2890.1).

6.4.3 Pedestrian & Cyclist Access

While there are currently no footpaths or cycleways along Lignum Road or Kiely Road, the TIA has included a shared cyclist and pedestrian connection map which will provide a link to cyclist/pedestrian facilities for the proposed school, the residential subdivision adjoining the proposed school site and the Moama Anglican Grammar school.

The TIA advises that a total of 17 hoops to provide space for 34 bicycles meets the Association of Pedestrian and Bicycle Professionals *Bicycle Parking Guidelines* 2010. Two (2) hoops totalling 4 spaces will be provided for staff outside Building A and fifteen (15) hoops totalling 30 spaces will be provided for students south of Building B.

A preliminary Pedestrian Management Plan has been prepared which confirms the location of existing shared paths and refuge on the southern side of Perricoota Road, near its intersection

with Lignum Road. Additional paths, both pedestrian and shared, are proposed through and surrounding the site to facilitate pedestrian & cyclist movement, in accordance with the development plans. A comprehensive management plan will be prepared and implemented in conjunction with the final construction management plan prior to commencement of Phase 1 construction.

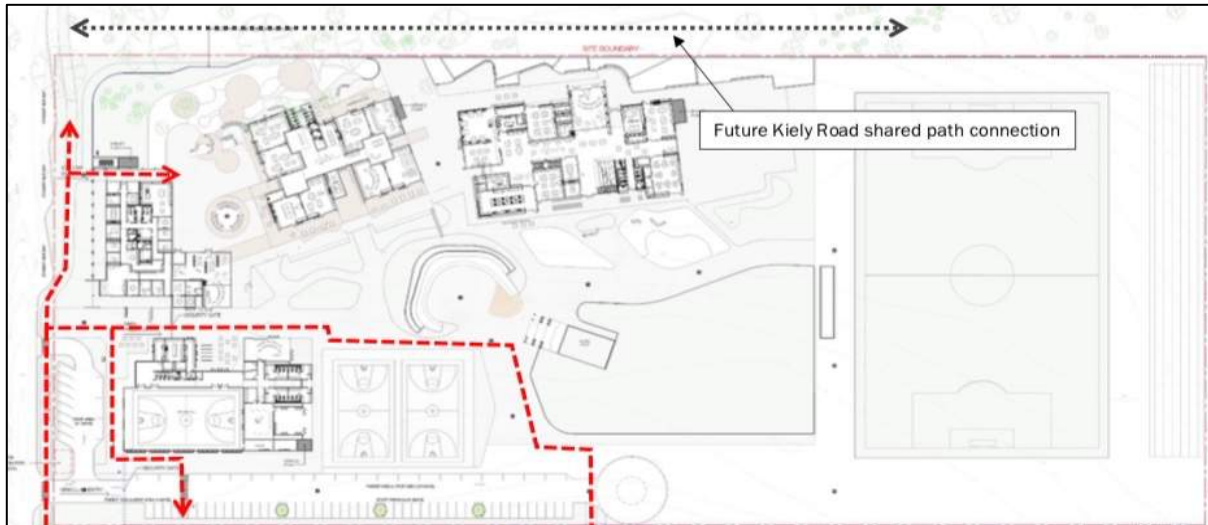


Figure 56: Pedestrian & Cyclist Connection Map (Source: TrafficWorks 2022)

6.4.4 Traffic Assessment

Anticipated peak traffic distribution generated by the proposed new school is illustrated in the figure below (extract from TIA), with predicted intersection splits.

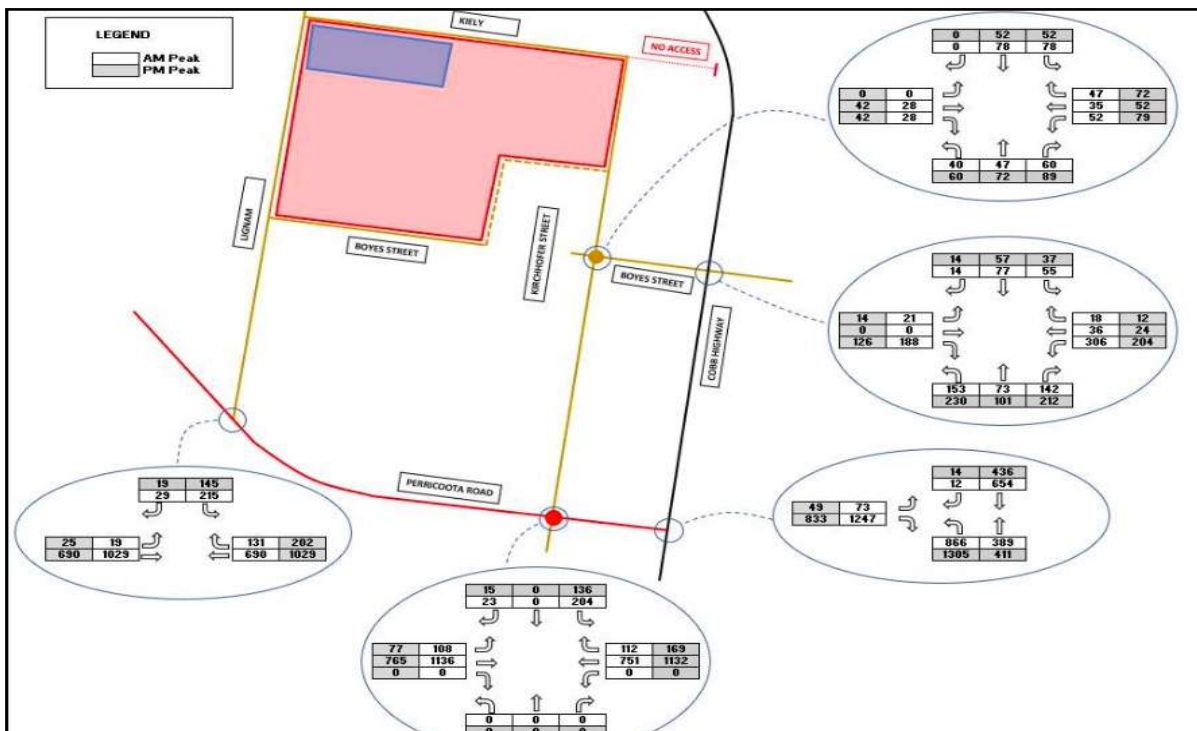


Figure 57: Traffic Distribution at Full Development - Extract from TIA (Source: Trafficworks 2022)

The TIA has noted that during the development assessment of the adjoining residential neighbourhood, consideration was given to the subject site as a primary school site accommodating 300 students. A comparison between the approved primary school and the subject proposed K-12 school concluded that the subject K-12 school will have less traffic impact on the surrounding road network (321vph peak vs 369vph peak).

The TIA has concluded that the anticipated traffic impact from a new school on the subject site has already been assessed and approved as part of planning and development considerations concerning the surrounding residential neighbourhood estate ("Arthurs Estate"). In addition, the primary access arrangements of the new school to Lignum Road are anticipated to have negligible impact on the overall operation of this public road and no mitigation measures are considered warranted.

Intersections identified as requiring upgrade works as a result of both residential subdivision and school development in the local area include:

- Installation of a roundabout at the Perricoota Road / Lignum Road intersection
- Installation of a roundabout at the Cobb Highway / Boyes Street intersection.

The TIA has determined that the proposed K-12 school, subject of this EIS, will contribute 8% to the post-development traffic volumes at the Perricoota/Lignum Road intersection and 9% to the Cobb Highway/Boyes Street (Lignum Road) intersection. Contribution value is to be confirmed with Council.

Other traffic management matters noted in the design response and TIA:

- No vehicular access is proposed to Kiely Road to or from the subject site;
- There are no proposals to access the intersection of Kiely Road with the Cobb Highway.

6.4.5 Parking Assessment

The TIA has assessed parking requirements for the new school proposal in accordance with RMS (RMS, now TfNSW) guidelines for Schools and Austroads Guidelines. This includes an assessment of long-term staff/visitor car parking and parent pick-up/drop-off ("*kiss & drop*") car parking. The proposed parking strategy layout is shown in the figure above.

The proposal indicates the provision of 41 on-site carparking spaces for staff, which is above the guideline requirement of 39 spaces. No motorcycle parking is currently proposed due to the nature of the site and locality in regional NSW. Details may be included during future stages of construction if need is warranted.

For parent pick-up/drop-off, best practice indicates that 61 (including the 26 overflow parking spaces in the southeast) car parking spaces would accommodate anticipated demand, as shown in the proposed site plans.

The layout and dimensions of parking spaces are in accordance with AS2890. The "*kiss & drop*" parking areas ensure passengers can safely exit a vehicle onto an adjacent footpath.

Provision of two (2) disabled parking spaces are in accordance with the BCA and AS2890.6.

In respect of bus parking, swept path analysis indicates that the proposed three bus parking bays may be accessed without impeding through traffic on Lignum Road.

Provision of cyclist parking is in accordance with The Association of Pedestrian and Bicycle Professionals *Bicycle Parking Guidelines* 2010. The parking will permit two (2) bicycle hoops with a capacity of four (4) spaces for staff outside the administration area and 15 hoops with a capacity of 30 spaces for students south of the gymnasium.

6.4.6 Loading Areas

The TIA indicates that the proposed loading bay area, located within the school bus bay area opposite the proposed waste/service plant room, will be adequate for the site, particularly as it will only be utilised outside of peak pick-up/drop-off times.



Figure 58: Loading Areas Extract (Source: Trafficworks 2022)

6.4.7 Green Travel Plan

A preliminary Green Travel Plan has been prepared which identifies green travel objectives and targets for the proposed school development. The purpose of the GTP is to encourage staff and students to choose sustainable transport options over the use of private vehicles to reduce car trips to the subject site. These sustainable transport options include public transport, walking, cycling and car sharing. The GTP accompanies this EIS.

6.4.8 Impacts & Mitigation

A summary of the potential traffic and parking impacts generated by this proposal, and proposed mitigation measures, where relevant & necessary, are provided in the table below.

Table 11: Traffic, Transport and Car Parking Impacts and Mitigation

Traffic, Transport and Car Parking Impacts and Mitigation		
Amenity Criteria	Potential Impact	Mitigation Measure
Driveway access & layout	Minimal	Design in accordance with AS2890.1.
Local traffic volumes	Negligible	None required or recommended.
Local traffic network	Negligible	None required or recommended.
Key intersections	Minimal	Contribution to intersection upgrades.
Cumulative traffic impacts	Minimal	Contribution to intersection upgrades only.
Parking demand	Minimal	Provision of carparking in accordance with relevant guidelines & standards.
Parent "kiss & drop"	Minimal	Provision of carparking in accordance with relevant guidelines & standards.
Bus access & parking	Minimal	Access and parking in accordance with relevant guidelines & standards.
Loading bay access	Negligible	Access in accordance with proposed off-peak times.

6.5 Ecologically Sustainable Development

Clause 193 of the EP&A Regulations 2021 requires an EIS to consider ESD Principles in justifying the proposed development. In developing the design response for the proposed new school ESD principles were considered, as outlined in the Architectural Report.

6.5.1 ESD Principles

ESD Principles include:

- *the precautionary principle* - 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.
- *inter-generational equity* - that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.
- *conservation of biological diversity and ecological integrity* - that the conservation of biological diversity and ecological integrity should be a fundamental consideration.
- *improved valuation, pricing and incentive mechanisms* - that environmental factors should be included in the valuation of assets and services, such as polluter pays, full life-cycle costs and pursuing sustainable environmental goals are an integral part of the proposed new school development.

6.5.2 ESD Assessment

The proposed school layout and design has incorporated particular items that satisfy the ESD principles listed above. As discussed in the Architectural Report, the proposed buildings, site layout, infrastructure and landscaping plans have incorporated the following ESD aspects:

- *Architectural Responses to Environment*
- *Water Conservation*
- *Energy Conservation*
- *Indoor Environment Quality*
- *Emission Reduction*
- *Considered Materiality Applications*
- *Land Use & Ecology*
- *Innovation*

In addition, the consideration of environmental design has included opportunities for areas of learning to be associated with the school operation including:

- *Water Capture at the Heart of the Masterplan*
- *Learning from the College - Building Data on Display*
- *Wayfinding through Building Articulation and Volume*
- *Prioritised Connectivity to Outdoor Learning Areas & Natural Amenity*

An ESD report (Northrop 2022) is also included as an attachment to this EIS that outlines how the project has addressed sustainability objectives through incorporation of the following key measures:

- *Material selection and glazing to reduce solar heat gain*
- *On site solar photovoltaic system*
- *Rainwater harvesting*
- *Opportunities for cross-ventilation*
- *High levels of daylighting*
- *Operable windows for mixed-mode space conditioning*
- *Low VOC materials*
- *Ability to achieve a minimum 4 Star Green Star Design & As-Built rating*

Overall, the consideration of environmental design in developing the proposed new school plans and supporting specialist report is consistent with both the GANSW's *Design Guide for Schools* and *Environmental Design in Schools* manual.

6.5.3 Climate Change

The NARCLiM (NSW / ACT Regional Climate Modelling) project includes an ensemble of regional climate projections for south-east Australia, developed in collaboration with the NSW government Office of Environment and Heritage.

The proposed new school design response has included strategies to minimise greenhouse gas emissions including:

- building design considerations, passive thermal comfort, lighting and ventilation opportunities;
- encouraging pedestrian, public transport and cycle orientated transport where possible;
- energy efficiency;
- water management;
- water efficiency;
- urban ecology;
- stormwater management;
- innovation in environmentally sustainable design;
- building material; and
- construction & building management.

The accompanying ESD report (Northrop 2022) provides further discussion and analysis on the project's climate adaption risks based on the CSIRO climate change projections for NSW. Overall, the current proposed school design incorporates significant measures to address key projections for climate change in the near term. The project will incorporate further initiatives to address all high and extreme risks posed to the site during detailed design.

6.5.4 Integrated Water Management Plan

An Integrated Water Management Plan (IWMP) has been prepared by JN which details strategies that have been implemented in the design of the proposal to incorporate water sensitive urban design (WSUD) principles.

WSUD principles have been used to develop the overall response to onsite water use and management. The water management design, as shown in the IWMP and architectural report, incorporates on-site detention, rainwater tanks and the integration of natural swales in the landscape design of the campus to ensure sustainable management of water across the site.

The resulting civil design plans outline the environmental management design aspects incorporated in the overall site layout. The Architectural Report also describes the response to water capture, water conservation and integrated water management in the building and landscaping plans for the new school.

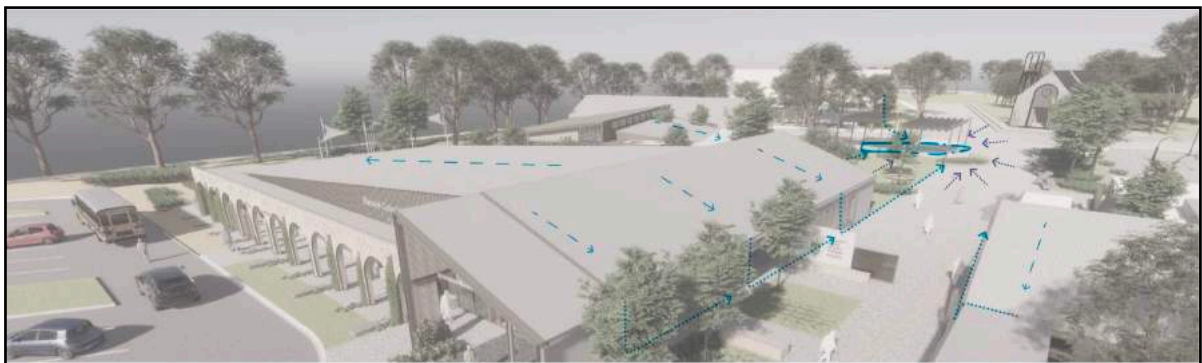


Figure 59: ESD Water Solutions Extract (Source: CHC 2022)

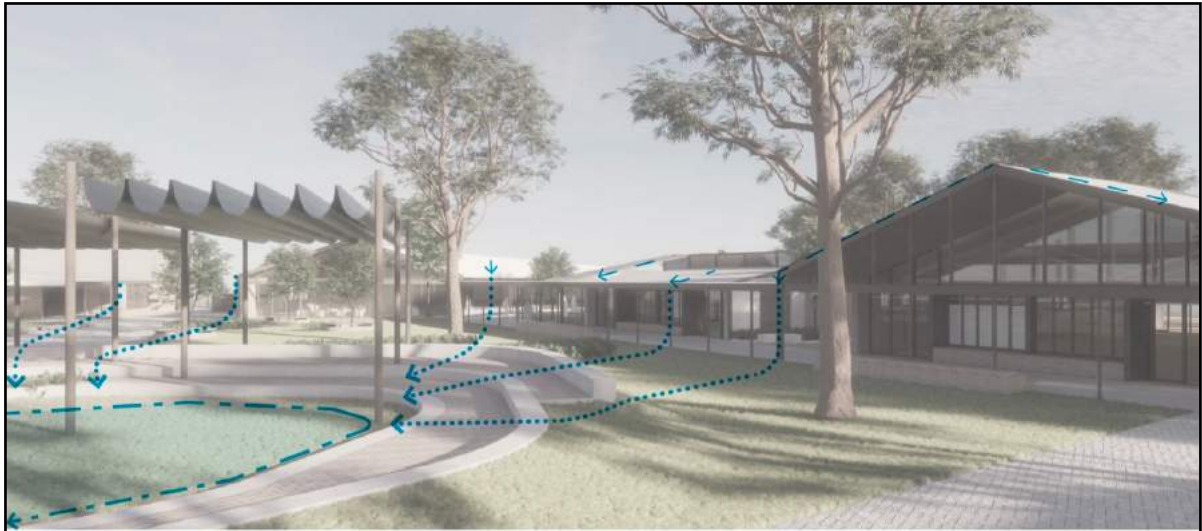


Figure 60: ESD Water Solutions Extract (Source: CHC 2022)

6.6 Heritage - Non-Indigenous

A non-indigenous historic heritage assessment report has been prepared for this proposal (Ozark 2022 – ACH & HHA Report) which researches the potential impact on heritage items with the local area of the proposed new school project.

The results of the assessment confirm that there are no historic sites recorded within the study area of the subject site and there will be no impact to any historic sites during proposed works. Whilst the proposal will alter the current semi-rural character of the site and surrounds, any potential impact will not affect the heritage fabric, potential archaeological remains or any significant heritage values that may be present.

The report has recommended that an unanticipated finds protocol for historic heritage be established during the construction phase of the project to assist in any potential conservation outcomes in the unlikely event of heritage items are encountered.

6.7 Aboriginal Cultural Heritage

An Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared for this proposal (Ozark 2022 – ACH & HHA Report) and forms an attachment to this EIS. The ACHAR has been undertaken in accordance with relevant OEH guidelines to ensure that any potential Aboriginal cultural heritage values, objects and sites are identified and recorded, their significance assessed, likely impacts also assessed and management recommendations provided.

6.7.1 Cultural Heritage Assessment

A review of the local landscape and other environmental factors of the local area determined a low likelihood for the presence of Aboriginal occupation.

Consultation to assist in informing the ACHAR was undertaken with the Moama LALC and Bangerang Aboriginal Corporation. A copy of the draft ACHAR was provided to both parties with no specific comments or concerns raised. It was confirmed that the Moama area is in Yorta Yorta country. Comprehensive details on consultation undertaken with the local Aboriginal Community is included in the accompanying report.

The ACHAR concluded that there are no likely impacts to Aboriginal objects as a consequence of the proposed new school development, and no additional assessment is required.

It was recommended, however, that a management plan be developed that includes appropriate procedures to be followed if unanticipated Aboriginal objects or human skeletal remains are encountered during works.

6.8 Social Impact

The social impact assessment is based on Social Impact Assessment Guideline for State Significant Projects (SIA Guidelines) by the NSW DPE in November 2021. It is a guide for best practice during social engagement for development proposals and a framework for determining social impacts on development.

Assessment includes a social baseline evaluation of the existing area and socio-economic demographics; scoping of relevant issues identified from stakeholder engagement; identification and assessment of impacts according to the SIA Guidelines and mitigation measures.

6.8.1 Methodology

The following sources were utilised to collect relevant information to support the social impact assessment.

- ABS Census Data 2016
 - Utilised for demographic analysis, including socio-economic characteristics of current population and future growth
- Murray River Council Strategic Community Plan 2018-2028
 - Resource for population profile and local growth in the Murray River Council LGA
- Stakeholder and community engagement
 - This included reviewing findings from stakeholder and community consultation sessions
- Scoping of issues
 - Find and analysis potential impacts both positive and negative for proposed development

Information Sources

- ABS Census of Population and Housing 2016 (Australian Bureau of Statistics, 2016)
- Murray River Council Community Strategic Plan (2018-2028)
- Social Impact Assessment Guideline for State Significant Projects (NSW DPE, 2021)
- Technical Supplement – Social Impact Assessment Guideline for State Significant Projects (NSW DPE, 2021)

6.8.2 Social Factors for Assessment

The SIA Guidelines classify social impacts in the following categories:

- Way of Life: including how people live, get around, work, play, and interact each day
- Community: including composition, cohesion, character, community functions, resilience, and sense of place
- Accessibility: including how people access and use infrastructure, services, and facilities, whether provided by a public, private, or not-for-profit organisation
- Culture: both Aboriginal and non-Aboriginal, including shared beliefs, customs, practices, obligations, values and stories, and connections to Country, land, waterways, places and buildings
- Health and Wellbeing: including physical and mental health especially for people vulnerable to social exclusion or substantial change, psychological stress resulting from financial or other pressures, access to open space and effects on public health
- Surroundings: including ecosystem services such as shade, pollution control, erosion control, public safety and security, access to and use of the natural and built environment, and aesthetic value and amenity
- Livelihoods: including people's capacity to sustain themselves through employment or business
- Decision-making systems: including the extent to which people can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms.

These categories were used to determine the level of impact the proposed development could incur on the community and measures to avoid negative impact.

6.8.3 Scoping

The proposed Blessed Carlo Catholic College was conceptualised in November 2019 following the identification of a growing need for a localised educational establishment. The project defined the social locality to include future residential housing, nearby education facilities and proximity to the central business district defined in the mapping extract below. This locality was defined in reference to the population density and existing educational facilities.

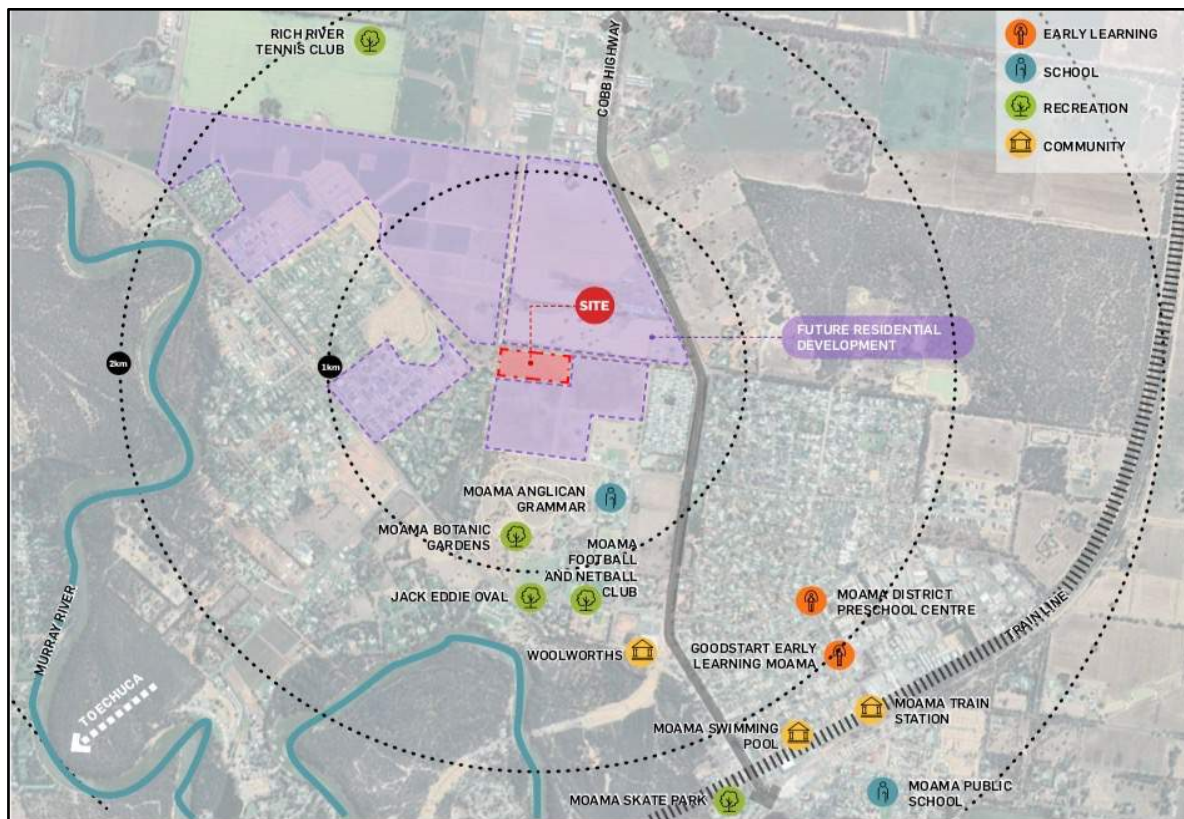


Figure 61: Mapping Extract of Locality - Blessed Carlo Catholic College (Source: CHC 2022)

The proposed development site is located on the corner of Lignum Road and Kiely Road, Moama in the Murray River Council Local Government Area. Surrounding the site is vacant land to be used for future residential purposes. It is approximately 2km from the local township of Moama and 2km from the Murray River.

The SSD application seeks consent for the construction of a new educational establishment to accommodate approximately 390 students with core facilities to meet future student growth.

6.8.4 Stakeholder Engagement for SIA

Social impact scoping was carried out internally by the proponent during concept planning. Community engagement commenced with an information stand on 12/12/21 after some delays due to social restrictions (Covid related). A summary of the initial scoping considerations is presented in the table below. These have been considered during the design development of the proposal and on-going discussion will be available to the local community.

Table 12: Stakeholder Scoping Considerations

Considerations	Comment
Traffic impact including public transportation.	Public transportation supported and supplied to students using bus link. Carparking provided with ample spaces for staff and parents.
Biodiversity impacts on native vegetation.	Biodiversity has been considered during the process and
Community use.	Shared use facilities are proposed for the site to incorporate community connection.
Faith based education.	Utilised during design development to be implemented into school's foundational value.

Engagement activities were considered appropriate and sufficient to canvas views given the interest in the development and those affected. Please refer to Section 5 of this EIS and Appendix Q for a full summary of consultation undertaken.

6.8.5 Social Baseline

The following profile of Moama was gathered using population and employment data from the results of the 2016 ABS Census of Population and Housing. This was used to determine key socio-economic characteristics of the Moama and the Murray River Council LGA.

Population Profile

Estimated residential population for the Murray River Council region in 2016 was 11,596 people. Moama had a growth of approximately 396, from 5560 residential population in 2011 to 5956 in 2016. The township of Moama has an older demographic compared to other regional areas, with a median population age of 46. The estimated population of Moama grew at a rate of 7.1% from 2011 to 2016. This was broken down into age population sectors which recorded the following:

- Primary School age 5-11 years: growth of 9.2%
- Secondary School age 12-17 years: growth of 4.8%
- Significant growth in graduate workforce (25-34): 21.4%
- Senior growth (70-81) of 36.6%

Murray River Council's Community Strategic Plan 2018-2028 proposes that by 2026 the Murray River LGA population will increase to approximately 12,100 people with population growth likely to focus on Moama township. These changes provide reason and justification to support a development for educational purposes to facilitate future growth in the area.

6.8.6 Issues Identified

The template provided in the *Social Impact Assessment Guidelines Technical Supplement* (November 2021) has been adapted to provide assessment for the proposal as shown below.

Table 13: Definition of Magnitude

Magnitude level	Meaning
<i>Transformational</i>	Substantial change experienced in community wellbeing, livelihood, infrastructure, services, health, and/or heritage values; permanent displacement or addition of at least 20% of a community.
<i>Major</i>	Substantial deterioration/improvement to something that people value highly, either lasting for an indefinite time, or affecting many people in a widespread area.
<i>Moderate</i>	Noticeable deterioration/improvement to something that people value highly, either lasting for an extensive time, or affecting a group of people.
<i>Minor</i>	Mild deterioration/improvement, for a reasonably short time, for a small number of people who are generally adaptable and not vulnerable.
<i>Minimal</i>	Little noticeable change experienced by people in the locality.

Table 14: Definition of Likelihood

Likelihood level	Meaning
<i>Almost certain</i>	Definite or almost definitely expected (e.g has happened on similar projects)
<i>Likely</i>	High probability
<i>Possible</i>	Medium probability
<i>Unlikely</i>	Low probability
<i>Very unlikely</i>	Improbable or remote probability

Table 15: Social Impact Significance Matrix

	Magnitude Level				
	1	2	3	4	5
Likelihood level	Minimal	Minor	Moderate	Major	Transformational
A Almost certain	Low	Medium	High	Very high	Very high
B Likely	Low	Medium	High	High	Very high
C Possible	Low	Medium	Medium	High	High
D Unlikely	Low	Low	Medium	Medium	High
E Very unlikely	Low	Low	Low	Medium	Medium

Using the tables above as a guide, consideration of potential impacts was identified from the SIA Impact categories and summarised below.

Table 16: Impact Table

Social Impacts and significance Summary		
Impact Category		Affected Groups
<ul style="list-style-type: none">Way of LifeLivelihoods		<ul style="list-style-type: none">Community membersStudents and staffParentsConstruction workers
Positive Impacts		
<ul style="list-style-type: none">New learning, sporting, and performance facilities for students and staff.Opportunity for shared community space on site which will improve quality of life for community members.Improvements to daily routine for families seeking faith-based education.Reduce enrolment constraints from surrounding schools being at overcapacity, provide alternative to families.Increased employment opportunities for positions as teaching staff and construction workers for proposed development. Potential for employment agencies to advertise traineeship opportunities.Improved trade for surrounding businesses from school community utilising petrol stations, grocery stores and cafes for needs.		
Magnitude Level	Likelihood of Impact	Significance
Major	Likely	High
Negative Impacts		
<ul style="list-style-type: none">Potential inconvenience and disruption to learning, playing and teaching during construction stages 2-4 of development.Potential traffic congestion disruptive to adjoining residential neighbours after future subdivision established. Could increase commute to work or school for some families.Pressure on parking for construction workers during stages 2-4 of the proposed development.Temporary employment for construction workers and tradespeople.		
Magnitude Level	Likelihood of Impact	Significance
Moderate	Likely	High
Management Measures		
<ul style="list-style-type: none">Implement mitigation measures set out in a future Construction Management Plan to reduce impacts associated with noise and dust pollution during construction stages.Implement measures set out in specialist reports including the Noise and Vibration Assessment and Traffic Impact Assessment.Provide access to support resources for community members adapting to changes to way of life in the area including opportunity for continued consultation regarding development.		
Impact Category		Affected Groups
<ul style="list-style-type: none">Accessibility		<ul style="list-style-type: none">Students and staffConstruction workers
Positive Impacts		
<ul style="list-style-type: none">Accessibility on site for impaired staff and studentsAvailability of shared community facilities including the sporting field, performance stage and hall.Access to new facilities for students and staff to provide for the impending growth of the LGA.		
Magnitude	Likelihood of Impact	Significance
Minor	Likely	Medium
Negative Impacts		
<ul style="list-style-type: none">Potential temporary disruption to accessibility of school facilities due to construction work for stages 2-4 of development.Potential temporary accessibility impacts for school community and residents with increased traffic and changes to parking and access for pedestrians.Temporary employment for construction workers and tradespeople.		
Magnitude	Likelihood of Impact	Significance
Minor	Likely	Medium
Management Measures		
<ul style="list-style-type: none">Implement mitigation measures set out in the specialist reports particularly the Noise and Vibration Impact Assessment and Traffic Impact Assessment.Proponent to communicate with local Council and community to ensure stakeholders are made aware of timing and construction hours. Provide opportunities for feedback from stakeholders.Explore options to minimise disruption and potential accessibility impacts including undertaking work outside key periods.		
Impact Category		Affected Groups
<ul style="list-style-type: none">CommunityDecision-making systems		<ul style="list-style-type: none">Local communityAboriginal community
Positive Impacts		

<ul style="list-style-type: none"> Community connection through shared facilities that provide new space for learning and teaching. Social benefits of interaction between students, staff, and families to promote and create a school community Community use of shared facilities including sporting field, performance storage and hall for various events. 		
Magnitude	Likelihood of Impact	Significance
Minor	Possible	Medium
Negative Impacts		
<ul style="list-style-type: none"> Functioning of school community may change due to construction work on site with potential disruption to learning and teaching. Traffic congestion during construction hours may impede on local community. Potential impacts relating to sense of place, the area within Yorta Yorta country and that the development should respect this. 		
Magnitude	Likelihood of Impact	Significance
Minor	Possible	Medium
Management Measures		
<ul style="list-style-type: none"> During construction, ensure that the design is inclusive and welcoming to all. Facilitation of further engagement with the local Aboriginal community should be attempted by the proponent during development stages. Explore opportunities to facilitate the best possible play and engagement outcomes for students during open play sessions to provide a sense of belonging to the school community. Collaborate with stakeholders to ensure positive benefits are maintained. 		
Impact Category		Affected Groups
<ul style="list-style-type: none"> Culture 		<ul style="list-style-type: none"> Local Aboriginal community Local community
Positive Impacts		
<ul style="list-style-type: none"> Design of proposed development incorporates the Murray River and its connection to the Yorta Yorta people. Native flora plantings are proposed for the site including yam daisy and kangaroo grass. Design encourages outside play with native vegetation and a strong connection to the land. Natural colour palette selected in architectural design to incorporate Murray River. 		
Magnitude	Likelihood of Impact	Significance
Minor	Possible	Medium
Negative Impacts		
<ul style="list-style-type: none"> Potential negative impacts to local Aboriginal community with disconnection to place due to change of use to natural land. 		
Magnitude	Likelihood of Impact	Significance
Minimal	Possible	Low
Management Measures		
<ul style="list-style-type: none"> Engage in further consultation with the local Aboriginal communities to inform of final development design and allow for future opportunities to provide feedback to the proposal. Incorporate findings from the ACHAR to be implemented towards the development. 		
Impact Category		Affected Groups
<ul style="list-style-type: none"> Surroundings 		<ul style="list-style-type: none"> Students and staff Local community Local Aboriginal community
Positive Impacts		
<ul style="list-style-type: none"> Development will introduce new facilities to vacant land for growth of area Benefits to staff and students on site with proposed brand-new facilities Improved safety in the area associated with the new amenities and increased personnel on site. 		
Magnitude	Likelihood of Impact	Significance
Major	Almost certain	Very High
Negative Impacts		
<ul style="list-style-type: none"> Temporary visual amenity impacted by construction works in stages 2-4. Temporary noise and pollution impact during construction stages. 		
Magnitude	Likelihood of Impact	Significance
Minor	Likely	Medium
Management Measures		
<ul style="list-style-type: none"> Utilise management strategies from specialist reports particularly the Noise and Vibration Acoustic Assessment and Traffic Impact Assessment. Develop a Construction Management Plan for operation. Follow CPTED guidelines as discussed in Architectural Design Statement for safety concerns of staff, students, parents and construction workers. 		

6.8.7 SIA Conclusion

The above SIA has been prepared in respect of the proposed new school development over the subject land and in accordance with relevant guidelines. The range of social impact

considerations are consistent with the known demographic and social profile of the local area, taking into consideration the potential level of impact of the proposal on the local community.

The SIA has highlighted a range of potential positive and negative social impact on the immediate and wider local area. Overall, the positive impacts are considered to significantly outweigh the identified negative impacts, with appropriate management measures recommended to mitigate any short or long term negative impacts that may potential result from the establishment of the new school.

6.9 Noise & Vibration

A noise and vibration impact assessment (NVIA – Octave Acoustics 2022) has been prepared for the new school proposal that considers both construction and operational activities and resultant potential acoustic/vibrational issues as a consequence of the project. The assessment has been conducted in accordance with relevant guidelines and technical publications including the *NSW Noise Policy*, *Construction Noise Guideline* and *Technical Guideline for Assessing Vibration*.

As the proposed school will not be a scheduled premises-based activity, it will not be subject to the POEO Act Noise Policy, however, the noise criteria is considered a relevant and useful guide to acceptable noise impacts from the project new school activity.

The site is surrounded by existing dwellings on adjacent R5 Large Lot Residential zoned land to the West on Lignum Road, and future residential development to the north, east and immediate south of the subject site.

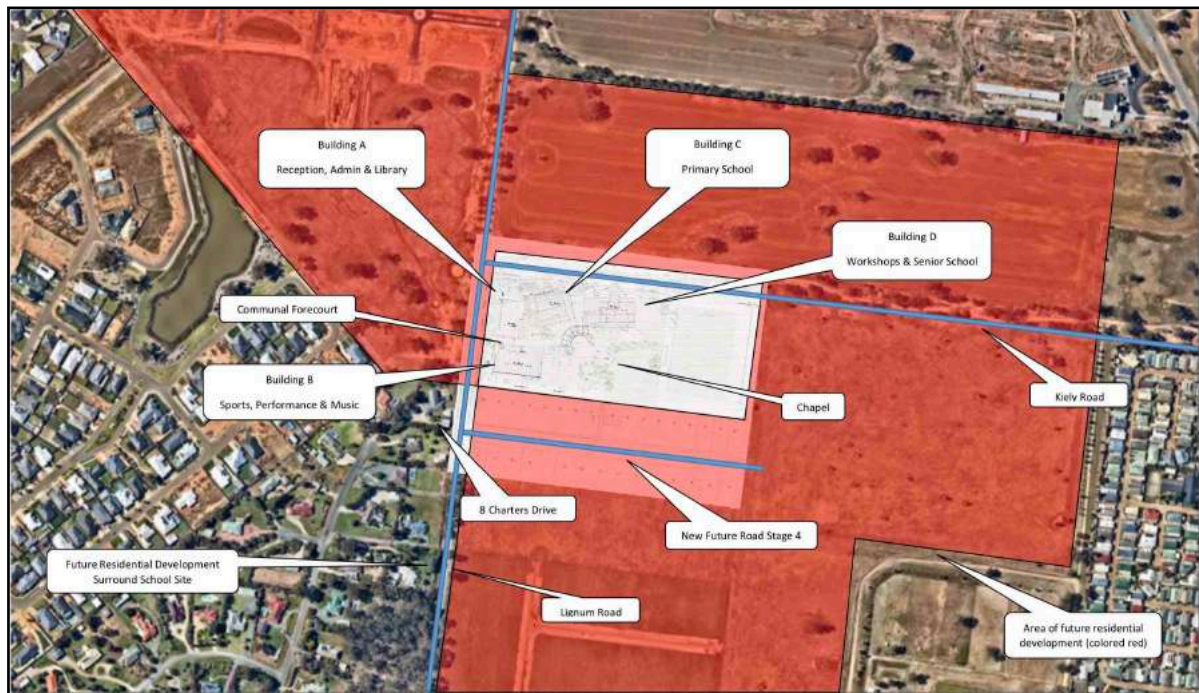


Figure 62: Noise Study Area Map Extract (Source: Octave Acoustics 2022)

Equally important is the impact of external noise generating activity on the operation environment of the new school and comfort of staff and students. The NVIA has provided assessment of external noise intrusion including road noise and aircraft noise.

6.9.1 Construction Noise

A comprehensive assessment of demolition and construction impacts is included in the NVIA, noting that, as the site is a 'green field' development, plant and activity sources will be limited to bulk earthworks and general construction.

Noise impacts from both bulk earthworks and general construction will potentially impact adjoining future dwelling sites. Therefore, the NVIA recommends various management practices are adopted for the works including, but not limited to:

- machinery noise attenuation treatments;
- limiting the type and time of day for various work practices;
- consideration of the location of certain plant and equipment in relation to residences;
- maximising the use of shielding and barriers;
- effective site management practices; and
- active community consultation prior to commencing site activities.

The above management practices will effectively control noise generation and lower noise impact by between 5 to 50dBA, significantly reducing potential impact on closest sensitive receivers.

6.9.2 Vibration

Potential vibration impact from construction activities were assessed to only exceed human comfort and building damage criteria where impact drilling or heavy rock breaking were to occur very close to dwellings. Under those scenarios, onsite vibration monitoring would be required. However, considering the Geotechnical Investigation Report (ACT 2021) that accompanies this EIS, the subsurface excavation is not expected to encounter any rock strata during construction, and the use of impact drilling or heavy rock breaking equipment is not anticipated.

As a result, for most construction activities, the NVIA concludes that human comfort levels and existing building structures will not be adversely affected by the proposed school works.

6.9.3 Operational Noise

In assessing potential operational noise impact to nearest sensitive receptors from the new school activities (at maximum capacity of 390 students), computer based modelling was undertaken based on expected typical school activities, time of operation, equipment use including school bell and PA system, traffic and general student noise. Various assumptions were made in relation to adjoining future dwelling sites and occupants, including each dwelling having a height of two stories.

Various tables within the NVIA report outline the complexities of noise modelling assessment for a school site.

The results of the assessment indicate that:

- *playground noise will comply with the relevant 'less than' four-hour trigger level at all noise sensitive receivers with the exception of the second storey of future dwellings on the north side of 'New Road Stage 4', where there is a 1dB(A) exceedance. A 1dB(A) exceedance is considered to be insignificant on the basis that it would not be subjectively distinguishable from the assessment level of 55dB(A).*
- *exceedances of up to 6dB(A) of the 'greater than' four-hour trigger level at the surrounding future dwellings. However, future dwellings immediately adjacent the school will experience increasingly reduced noise impacts with distance from the school. The 6dB(A) exceedance is not considered significant on the basis that the grounds will not typically be used for intensive play activity more than four hours a day.*
- *a 6dB(A) exceedance would also not be considered significant on the basis that sounds of children playing in the outdoor areas is expected and typical of noise emissions from school grounds.*
- *resultant noise (from school bell and PA system) will comply with both Intrusive and Amenity criteria with a tonality penalty applied and on the basis that:*
 - *The PA / bell is used for a maximum of 30 seconds every half hour.*
 - *That up to seven speakers are installed set to a maximum of 80dB(A) at 3m.*
- *noise from mechanical systems typical of an air-conditioned school comfortably comply with both the adopted NPI Intrusive and Amenity noise trigger levels.*
- *Compliance (school hall activities) with both Intrusive and Amenity criteria when the Renlita and external stage doors are closed.*

- when the doors are open (school hall activities) the Intrusive criterion is exceeded by 8dB(A) at the existing house at 8 Charters Drive and by 18dB(A) at the upper level of potentially most affected future dwelling to the south of the School Hall. An 18dB(A) exceedance is relatively significant. Therefore, if noise complaints are received in relation to music noise emissions from the School Hall, it may be appropriate for the school to adopting a policy requiring that the Renlita and external stage doors are closed when band practices, concerts and the like are held within the main gymnasium space.
- During the Evening period (school hall activities) between 6pm and 10pm the noise criteria becomes 10dB(A) more onerous. When the Renlita and external stage doors are closed during the Evening period, results indicate an 8dB(A) exceedance of the Intrusive criterion at the future dwellings immediately to the south of the gym. Such exceedance may not be considered significant based on occasional use of gymnasium space for concerts during the evening. It is recommended that the Renlita and external stage doors are kept closed during concerts (and similar) held during the Evening period.
- Compliance (sports noise breakout from the School Hall) at all receivers with the exception of a 3 – 8dB(A) exceedance at the future dwellings to the south of the gym when the Renlita doors are open. This exceedance may not be considered significant within the context of noise emissions reasonably expected from a school during the Day period. However, as the criteria become 10dB(A) more onerous during the Evening period, it may be appropriate for the school to consider a policy that the Renlita doors be closed when sports practice or games are held within the gym space during the Evening period, after 6pm.
- Compliance (peak hour traffic) with the applicable RNP criterion for local roads.

6.9.4 External Noise Sources

The acoustic performance of the proposed new school has been assessed in relation to noise intrusion from external sources including road and air traffic. The assessment concluded that:

- resultant traffic noise intrusion will comply with the established criteria, noting that any spaces and rooms having indoor noise criteria of 35dB(A) or less are located such that their facades would be exposed to less than 45dB(A).
- Blessed Carlo Catholic College falls comfortably outside the ANEF 20 contour (Echuca Aerodrome). Under AS2021 the site would be classified as 'acceptable' for construction and no further consideration of potential aircraft noise impacts is required.

6.9.5 Impacts & Mitigation

A summary of the potential noise and vibration impacts generated by this proposal, and proposed mitigation measures, where relevant & necessary, are provided in the table below.

Table 17: Acoustic Impacts and Mitigation

Acoustic Impacts and Mitigation		
Acoustic Criteria	Potential Impact	Mitigation Measure
Construction Noise	Moderate	Noise management practices, where necessary, to effectively control noise generation and lower noise impact.
Vibration	Minor	Onsite vibration monitoring and site management practices, where necessary.
Operational Noise	Minor	Gym & external doors to be kept closed when: <ul style="list-style-type: none"> • Band practices, concerts and the like are held within the main gymnasium space; • Sports practice or games are held within the gym space during the Evening period, after 6pm.
External Noise	Negligible	None required or recommended, however, to note: <ul style="list-style-type: none"> • any spaces and rooms having indoor noise criteria of 35dB(A) or less are located such that their facades would be exposed to less than 45dB(A).

6.10 Biodiversity

A Biodiversity Development Assessment Report (BDAR) (Ozark 2022) has been prepared in respect of the proposed new school. The BDAR accompanies this EIS and assesses the biodiversity impacts of the proposed development in accordance with the requirements of the

Biodiversity Conservation Act 2016, Biodiversity Conservation Regulation 2017 and Biodiversity Assessment Method 2020.

The BDAR was prepared and carried out in three stages including desktop research, field survey and final report preparation. A biodiversity credit summary forms part of the final report that identifies the number of ecosystem credits and species credits required to offset the development.

6.10.1 Biodiversity Assessment

24 ecosystem credit species were generated by the Biodiversity Assessment Method Calculator (BAM-C). The habitat suitability of the subject land for these species was assessed, resulting in 22 credit species assumed present. This generated 10 Ecosystem Credits. 21 credit species were also generated by the BAM-C.

Overall, 17 species were surveyed, with the result that none of the targeted species were detected and therefore considered absent from the subject land.

Two species, the Masked Owl and Sloane's Froglet, were assumed present as it was not the appropriate time of year to survey for them. A total of 32 Species Credits will be required to offset the impact on these species.

The BDAR has taken into consideration the presence and expected retention of native vegetation along Kiely and Lignum Roads, landscape and biophysical features of the site and surrounding area, other native vegetation and plant communities, threatened species and habitat features, and cumulative impacts as a consequence of carrying out the new school proposal on the subject site.

6.10.2 National Environmental Significance Matters

In relation to National environmental significance matters, the BDAR stated:

The significance of the proposed impact to EPBC Act-listed threatened, migratory, wetland and marine species, populations and communities predicted to occur within a 10 km search area was assessed. No significant impact to any threatened entity likely to result in the extinction of a local population was identified. The residual ecological impacts of the proposal would be adequately mitigated and offset using the management actions recommended and the offset requirements detailed within this BDAR. Therefore, a referral of the proposal to the Federal Department of Agriculture, Water and the Environment for these matters is not required.

6.10.3 Impacts & Mitigation

The results of the BDAR assume 32 species credits for the Masked Owl and Sloane's Froglet will be required to be offset as a consequence of works and occupation of the site for the proposed new school. No other targeted species were detected in the site-specific survey area.

Ecosystem and Species credit obligations are intended to be satisfied by buying and retiring the necessary Ecosystem Credits from the open market or, if appropriate credits are not available, by paying directly into the Biodiversity Conservation Fund.

Existing high-quality native vegetation is intended to be retained along Kiely and Lignum Roads by implementing exclusion zones.

6.11 Contributions

Consultation with Murray River Council confirmed that developer contributions are applicable to the new school proposal under provisions of their contribution's plans, including Section 64 and Section 7.11 charges.

6.11.1 Contribution Plans

Section 64 servicing charges are applicable to the proposal for sewer, water and raw water connections. The charges are based on ET estimates. For a school proposal the contribution

rate for sewer is calculated at 5% of the ET. For water and raw water the calculated rate is 3% of ET.

Council's Section 94 (now 7.11) Development Contributions Plan (2011) will require contributions based on an ET rate for road upgrades, open space, community facilities, waste and stormwater infrastructure. Schools are discounted based on a factor of 10 enrolments per ET.

The table below provides preliminary calculations on expected developer charges under the respective contribution plans.

			STUDENTS	STAFF	TOTAL
PEOPLE			390	50	440
SECTION 64 SERVICING CHARGES (MURRAY)	ET (PP)	CONT. RATE	STUDENTS	STAFF	TOTAL
SEWER	\$ 1,435.50	5%	\$ 27,992.25	\$ 3,588.75	\$ 31,581
WATER	\$ 3,080.55	3%	\$ 36,042.44	\$ 4,620.83	\$ 40,663
RAW WATER	\$ 337.50	3%	\$ 3,948.75	\$ 506.25	\$ 4,455
					\$ 76,699
SECTION 7.11 DEVELOPMENT CONTRIBUTIONS (MURRAY)	ET (PP)	CONT. RATE	STUDENTS	STAFF	TOTAL
ROAD UPGRADE	\$ 1,831.40	0.215	\$ 153,562.89	\$ -	\$ 153,563
OPEN SPACE	\$ 459.00	0.215	\$ 38,487.150	\$ -	\$ 38,487
COMMUNITY FACILITIES	\$ 161.15	0.215	\$ 13,512.43	\$ -	\$ 13,512
WASTE	\$ 306.00	0.215	\$ 25,658.100	\$ -	\$ 25,658
STORMWATER	\$ 450.00	0.215	\$ 37,732.500	\$ -	\$ 37,733
					\$ 268,953
TOTAL					\$ 345,652
*0 staff in Sect 7.11 Dev. Cont ENROLMENTS ONLY					

Figure 63: VPA Contributions Table (Source: SP 2021)

Developer contributions will be charged on each proposed development stage of the proposal. This will be included as a condition of DA approval.

6.11.2 VPAs

Discussions have been held with Council regarding a voluntary planning agreement (VPA) for the subject site. Several meetings with Council have taken place to explore opportunities for VPA arrangements such as opportunities for Works-In-Kind (WIK) and road base treatments. Discussions are ongoing.

6.11.3 Special Infrastructure

There are no other special infrastructure requirements or proposals associated with this proposal.

6.12 Staging

The proposed new school will be established over 4 stages of site works, as shown on the accompanying architectural plans and described in the Architectural Report.

6.12.1 Proposed Staging

The first three (3) construction work stages will involve the establishment of school buildings to progressively accommodate students and staff, whilst the final stage will involve the construction of sporting fields, agricultural plot, chapel, overflow parking area and balance of landscaping works to the eastern boundaries of the site. These construction stages are outlined on accompanying plan 210026_DA004_SITE PLAN – STAGING, with extract reproduced below.



Figure 64: Construction Staging Plan extract (Source: CHC 2022)

Each stage of construction will involve both building work and school activities (both initial and ongoing). The development of school design and philosophy is outlined in detail in the accompanying Architectural Report with an extract of expected enrolment phasing reproduced below.

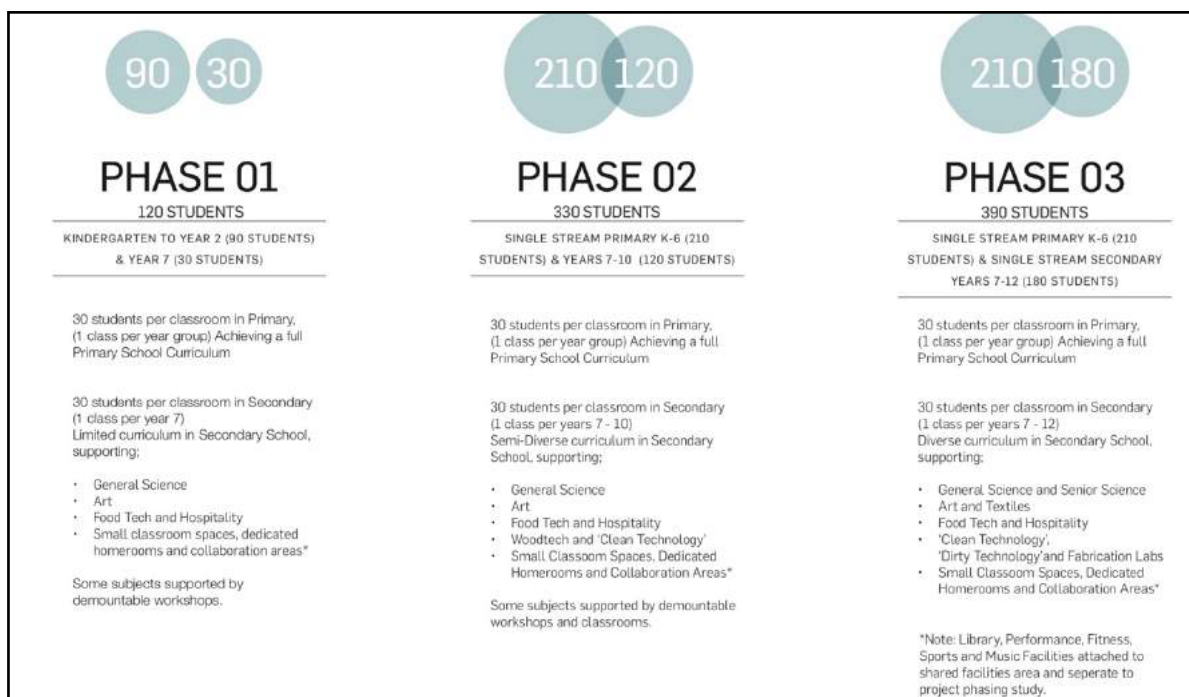


Figure 65: Enrolment & School Activity Phasing extract (Source: CHC 2022)

A summary of proposed construction work staging, and enrolment/school activity phasing is outlined in the table below, including estimated job creation and overall timing. Job creation includes full, part-time & casual positions that are directly related to the school on-campus/site activities. Any external contracted services (cleaning, maintenance, technical, consultancies, etc.) are in addition to the estimates provided. The flow-on multiplier effects of this project are discussed further in the economic impact section of this EIS.

Timing is subject to the development approval process, construction and confirmation of school enrolments, based on initial estimates and projections.

Table 18: Proposed Staging of Development

Stage	Development Activity (Construction & Educational)	Job Creation	FTE	Timing
Stage 1	120 Students, K-Y2 & Y7, Admin, COLA & Primary School Building, carparks, bus bays, associated landscaping.	Construction – 35 Education – 20	35 10	2023-24
Stage 2	330 Students, K-Y6, Y7-10, Additional Shared Facilities Building	Construction – 30 Education – 15	30 8	2025-29
Stage 3	390 Students, K-Y6, Y7-Y12, Additional Secondary School Building, Sports Courts, associated landscaping.	Construction – 30 Education – 10	30 5	2030-33
Stage 4	Sporting fields, agricultural plot, chapel, overflow parking area and balance of landscaping works to the eastern boundaries of the site	Construction – 30 Education – 5	30 3	2034-36
TOTALS	(Cumulative)	Construction – 125 Education – 50	125 26	10-15y

6.12.2 Impacts & Management

A summary of the impacts from the staged construction of the new school, and proposed mitigation measures, where relevant & necessary, are provided in the table below.

Table 19: Staging Impacts and Mitigation

Staging Impacts and Mitigation		
Stage Activity	Potential Impact	Mitigation Measure
Stage 1 construction	Minor	Construction management incorporating noise and site management recommendations outlined in specialist reports and relevant sections of this EIS.
Stage 2 construction	Moderate	As above. Additional disruption to established Stage 1 school operation, to be managed by construction management protocols as recommended.
Stage 3 construction	Moderate	As above, with additional reference to Stage 1 & 2 school operation.
Stage 4 construction	Minor	As above, with additional reference to Stage 1 – 3 school operation. Stage 4 involves less building work than previous, however greater field preparation works. Dust management to be highlighted in the construction management plan for this stage.

Infrastructure Delivery

The provision and augmentation of key infrastructure services will be coordinated with construction works. A detailed infrastructure Delivery and Staging Plan will be provided post SSDA approval once construction tenders have been finalised and building contractor appointed.

Initial discussions with key infrastructure service providers (Council, Essential Energy, NBN etc) have confirmed that services are available to the site and pre-planning work has confirmed funding arrangements and expected fees in accordance with current developer service plans. Further details on infrastructure services/utilities are included in the accompanying specialist report (JN 2022) and summarised in the following section of this EIS.

6.13 Utilities

The subject site is located within an urban release area and adjoining an approved residential subdivision where all essential utility services are to be progressively augmented throughout the neighbourhood, including connections to service the new school development.

6.13.1 Existing Infrastructure

All essential infrastructure service providers have network assets in the vicinity of the subject site. Consultation with each provider has determined existing service levels, capacities of the respective networks and necessary upgrades to augment the service delivery to the new school site. Utility service provision is summarised as follows:

Table 20: Utilities and Current Servicing

Details of current utility servicing			
Utility Service	Provider		Network Status
Sewer	Murray Council	River	Sewer assets are located in the vicinity of the site via the expanding adjoining residential subdivision.
Stormwater	Murray Council	River	There is no piped stormwater reticulation system in the immediate area. The existing site naturally drains to the existing public road reserves and along existing roadside swales and culverts. Adjoining residential development will progressively augment stormwater drainage across the expanding urban area. See additional details in following section.
Water	Murray Council	River	Existing service main located along Kiely Road.
Electricity	Essential Energy		EE have infrastructure networks servicing existing dwellings in the local area. There is no direct connection to the existing site.
Gas	APA		Network is located in the vicinity of the site, however not direct connection to the site.
Telco	NBN		NBN have network assets in the vicinity of the site, however no direct connection to the site.
Public Road	Murray Council	River	Sealed public road along Lignum Road frontage. Council is progressively upgrading this road network with the expansion of the urban area. See attached TIA for further details.

6.13.2 Infrastructure Upgrades

The proposed new school will generate the following utility network upgrades:

Table 21: Utility Servicing Upgrades

Upgrades to utility services			
Utility Service	Provider		Augmentation/Network Upgrade Status
Sewer	Murray Council	River	Expansion of sewer network via the adjoining residential subdivision, with gravity sewer connection to be available on the southern site boundary adjoining Stage 4 of the proposed residential subdivision.
Stormwater	Murray Council	River	The proposal will implement a water sensitive stormwater plan across the site, with rainwater captured and directed via natural swales to a central detention tank. Any overflow is to be connected to the future stormwater network being constructed with the adjoining residential subdivision. See additional details in following section.
Water	Murray Council	River	Connection to the existing service main from Kiely Road, including fire hydrant booster valve.
Electricity	Essential Energy		Proposed new onsite substation to connect to EE network on Lignum Road.
Gas	APA		Until a reticulated gas network is available to the site, the new school will rely on bottled LPG, as shown on the proposed services plan.
Telco	NBN		NBN service to be provide from Lignum Road.
Public Road	Murray Council	River	Lignum Road is progressively being upgraded with the expansion of the urban area. See attached TIA for further details of works proposed for bus bays and driveway access.

Site infrastructure is proposed to be established in accordance with the below plan:

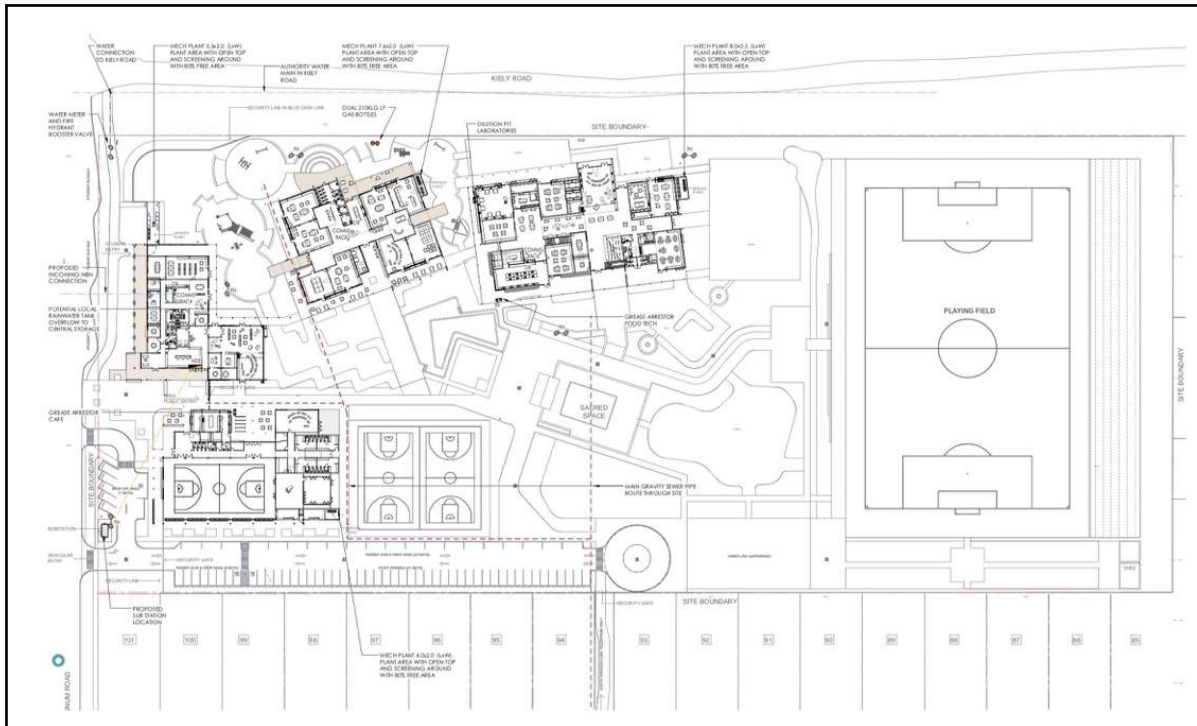


Figure 66: Site Infrastructure services plan extract (Source: CHC 2022)

6.14 Stormwater Drainage

Water sensitive urban design principles are underpinning stormwater management across the proposed new school site. A draft stormwater management plan is included with the civil design set and has been referenced in the Architectural report that accompanies this EIS.

6.14.1 Existing Conditions

Currently, the site naturally drains to the existing public road reserves and along existing roadside swales and culverts. Adjoining residential development will progressively augment stormwater drainage across the expanding urban area, with direct connections proposed along the southern boundary of the site.

6.14.2 Stormwater Management

The proposal will implement a water sensitive stormwater plan across the site, with rainwater captured and directed via natural swales to a central detention tank. Any overflow is to be connected to the future stormwater network being constructed with the adjoining residential subdivision. An extract detailing the proposed integrated stormwater strategy is provided below:



Figure 67: Stormwater Management Plan (Source: CHC 2022)



Figure 68: Stormwater Management Concept Images (Source: CHC 2022)

6.14.3 Impacts & Mitigation

The proposed stormwater management plan has been designed to ensure environmental sustainability, onsite capacity management, water and ecologically sensitive onsite management and treatment, and connections to the future urban stormwater network within the design capacity of the public drainage system. No detrimental impacts are anticipated.

Any mitigation works have been designed into the integrated system as shown on the accompanying civil plans. All proposed civil stormwater drainage works are design and will be carried out in accordance with local authority specifications, with reference to current Australian Standards and best practice guidelines.

6.15 Flooding

The site is not located within a designated flood prone area, flood planning area or potential overland flooding area, as identified on Council and LEP mapping. The proposed new school development is unlikely to lead to any change in off-site flood risk. The stormwater management plan has been designed with respect to current site conditions and within the capacity of future stormwater reticulation networks, as detailed with Council's engineering guidelines.

6.16 Soil and Water

Detailed soil and water management plans are included in the civil design set and described within the Architectural Report that accompany this EIS. Soil and water matters have been considered with respect to relevant and current guidelines, including Council and other authority infrastructure policies.

6.16.1 Water Supply

A Council reticulated water supply is available to the site within the Kiely and Lignum Road reserves. Council has confirmed that the water supply has been progressively augmented in the expanding urban release area to ensure adequacy and security for future urban developments, including demands associated with the new school. There will be no need for the school to purchase water entitlements for its future operation.

6.16.2 Water Balance

The proposed water management design for the site incorporates sustainable elements of on-site detention, rainwater tanks, natural swales and innovative landscape design to mimic a natural water catchment. The proposed integration between the built form of the school and the green infrastructure will ensure a sustainable site water balance.

6.16.3 Surface & Ground Water

As discussed in the previous section, surface water management has been designed to incorporate water sensitive urban design principles, as shown on the proposal's integrated stormwater plan.

No groundwater was encountered during geotechnical sampling of the site subsurface soil conditions. The proposal is not anticipated to impact groundwater conditions in the local area.

6.16.4 Geotechnical Details

A geotechnical investigation report (ACT Geo 2021) was prepared for the site and is included in the EIS attachments.

20 boreholes were drilled across the site to inform the report. Subsoil profile was confirmed as comprising topsoil to 0.4m (silty sand) and alluvium to maximum investigation depth of 4.0m (silty sand, clayey sand). No groundwater was encountered and soils were confirmed as having a low risk of being classified acid sulphate. Permanent groundwater table is expected to be well below proposed excavation levels.

Site classification for building design purposes was considered Class "M" (moderately reactive) for the majority of the site, with soils closer to the existing mature trees considered Class "P" (problem). Detailed construction design for the new school buildings is to take into consideration the resultant soil classifications.

There were no detrimental geotechnical issues raised in the report. Recommendations were made in relation to various site activities including excavation, drainage and fill conditions.

6.16.5 Erosion & Sediment Control

A detailed erosion and sediment control plan is included in the civil design set and described in the both the PCMP and Architectural Report. The plan has included best practice techniques to ensure that soil transmission is minimised and any potential dust/fine particle generation is

managed through the implementation of appropriate construction management plans at various stages of the project.

6.16.6 Soil Health & Management

The Geotech report confirmed that the proposed school development site is not subject to salinity or acid sulphate impacts. No issue specific management plans are required as a result.

6.17 Waste

A waste management plan (SALT³ 2021) has been prepared for the new school proposal based on industry best practice and relevant EPA guidelines. The resultant report provides background on expected waste streams, management protocols, applicable servicing arrangements and hazardous materials analysis.

6.17.1 Waste Stream – Construction & Operation

As the site is currently vacant, there will be no generation of demolition waste. Construction waste has assumed the generation of a typical waste stream comprising timber, concrete, bricks, gyprock, sand/soil, metal and other general waste materials. A construction waste storage area has been identified in the plan to manage onsite storage and transfer to landfill, including protocols to be implemented to avoid contamination on and off site.

6.17.2 Waste Management

Ongoing waste management is proposed to address expected generation of various waste materials and products, typical of commercial and educational environments. On-site sorting of waste by staff and cleaners is proposed utilising appropriate storage streams including general waste, commingled recycling, FOGO and hard waste.

Garbage collection is proposed to be undertaken by private contractor, with collection occurring outside of normal school hours.

School management will be responsible for waste management protocols, education, bin maintenance, signage and other opportunities for waste minimisation strategies. The report recommends the adoption of a sustainability action plan to encourage restructuring of institutional waste management methods.

6.17.3 Hazardous Materials Survey

A preliminary risk assessment was undertaken of potential risks, severity and suggested control methods to manage and avoid incidences occurring with hazardous materials. Suggested controls are listed in the report for reference.

6.18 Contamination

A site contamination assessment (Landserv Environmental 2018) was prepared for the subject site, which includes both Preliminary Site Investigation (PSI) and Detailed Site Investigation (DSI) reporting and analysis. The assessment has been undertaken in accordance with relevant State and Australian Standard guidelines, particularly those endorsed by the EPA. The report accompanies this EIS.

An addendum to this report was provided by Landserv in 2022 which concludes that the original investigation was comprehensive and that the site is suitable for the proposed use as a school, subject to the recommendations of the original report made and outlined below.

6.18.1 Site Investigations

Site history confirmed the land has been used for broader agricultural activities since European settlement.

Sampling was conducted from 18 test pits to a maximum depth of 2.1m. Laboratory analysis of the soil samples showed no exceedances of adopted human health and ecological assessment criteria, based on the intended development of the site as an educational facility.

Assessment also concluded that there is a low risk of the site being impacted by incidental site activities such as the historic use of pesticides.

6.18.2 Impacts & Remediation

The resultant PSI and DSI reports confirm that there will be a low risk of impact on the proposed new school use as a result of earlier land use activities. No remediation of the site is required or recommended. A former dam is noted to exist on the site and appropriate fill and compaction is recommended during construction.

The report recommends that:

- *An Environmental Management Plan that includes an "unexpected finds protocol" be prepared and implemented for the protection of site workers during construction and for school staff and students thereafter; and*
- *Any soil removed from the site (stockpiled soil) should be sampled and tested to confirm classification prior to offsite disposal in accordance with EPA guidelines.*

6.19 Agricultural Impacts

Whilst the subject land is located within a designated urban release area, and Council has adopted a residential masterplan and zoned the land for urban purposes, agricultural production still occurs on land adjacent the proposed school site, particularly to the north and north-west. Agricultural production is a legitimate and significant land use in the local area and is a major contributor to the local economy. Interface issues with emerging urban land uses, such as the proposed school, require serious consideration to ensure that land use conflict is managed effectively to avoid negative impacts on both existing agricultural production and the new school environment.

A Land Use Conflict Risk Assessment (LUCRA) has been prepared for the new school that will address potential issues in respect of rural amenity, environmental protection and direct impacts from neighbouring land uses. The LUCRA has been prepared with reference to DPI guidelines and fact sheets, and is incorporated into the body of the EIS, as outlined below.

6.19.1 Land Use Conflict Assessment

The proposed new school development, nature of the precinct, local topographic and natural environment conditions, site history and consultation outcomes have already been outlined in preceding sections of this EIS. The following discussion will identify areas of potential conflict risk, if any, and discuss means of mitigation and ongoing monitoring.

Risk Identification & Ranking

As all the land surrounding the subject new school site is targeted for future residential development, existing agricultural uses are being gradually phased out of production as urban development expands. The adopted masterplans for this area have been well publicised including comprehensive consultation with the local community and landholders. There is a general acceptance that urban expansion will create some conflicts with existing agriculture, however, a collaborative and inclusive approach will ensure conflicts are minimised or avoided altogether.

For the proposed school, the main activities that would potentially generate conflict are:

- Interim agricultural activities (cropping and grazing) to the north of Kiely Road;
- future residential development to the immediate east and south in the short term; and
- future residential development to the north of Kiely Road (replacing existing agricultural activities).

Existing large-lot residential dwellings located to the south-west of the site on the opposite side of Lignum Road are sufficiently separated from the proposed school to not be an issue of land use conflict in the future.

Consideration of noise and other environmental amenity impacts above, as they relate to future residential development, have confirmed that any potential impact can be effectively managed through on-site school construction and operational management.

For the purposes of addressing DPI and SEARs assessment instructions for this ESI, the LUCRA report is to be focused on the existing interim agricultural activities that are carried out on land to the north of Kiely Road.

In applying the LUCRA DPI guidelines, each potential conflict element with surrounding agricultural uses, and vice versa, is ranked and assessed utilising tables as provided below.

Table 22: Risk Ranking Matrix

Probability	A	B	C	D	E
Consequence					
1	25	24	22	19	15
2	23	21	18	14	10
3	20	17	13	9	6
4	16	12	8	5	3
5	11	7	4	2	1

Table 23: Probability Table

Level	Descriptor	Description
A	Almost certain	Common or repeating occurrence
B	Likely	Known to occur, or 'it' has happened
C	Possible	Could occur, or 'I've heard of it happening'
D	Unlikely	Could occur in some circumstances, but not likely to occur
E	Rare	Practically impossible

Table 24: Measure of Consequence

Level: 1	Descriptor: Severe
Description	<ul style="list-style-type: none"> Severe and/or permanent damage to the environment Irreversible Severe impact on the community Neighbours are in prolonged dispute and legal action involved
Example/Implication	<ul style="list-style-type: none"> Harm or death to animals, fish, birds or plants Long term damage to soil or water Odours so offensive some people are evacuated or leave voluntarily Many public complaints and serious damage to Council's reputation Contravenes Protection of the Environment & Operations Act and the conditions of Council's licences and permits. Almost certain prosecution under the POEO Act
Level: 2	Descriptor: Major
Description	<ul style="list-style-type: none"> Serious and/or long-term impact to the environment Long-term management implications Serious impact on the community Neighbours are in serious dispute
Example/Implication	<ul style="list-style-type: none"> Water, soil or air impacted, possibly in the long term Harm to animals, fish or birds or plants Public complaints. Neighbour disputes occur. Impacts pass quickly Contravenes the conditions of Council's licences, permits and the POEO Act Likely prosecution
Level: 3	Descriptor: Moderate
Description	<ul style="list-style-type: none"> Moderate and/or medium-term impact to the environment and community Some ongoing management implications Neighbour disputes occur
Example/Implication	<ul style="list-style-type: none"> Water, soil or air known to be affected, probably in the short term

	<ul style="list-style-type: none"> No serious harm to animals, fish, birds or plants Public largely unaware and few complaints to Council May contravene the conditions of Council's Licences and the POEO Act Unlikely to result in prosecution
Level: 4	Descriptor: Minor
Description	<ul style="list-style-type: none"> Minor and/or short-term impact to the environment and community Can be effectively managed as part of normal operations Infrequent disputes between neighbours
Example/Implication	<ul style="list-style-type: none"> Theoretically could affect the environment or people but no impacts noticed No complaints to Council Does not affect the legal compliance status of Council
Level: 5	Descriptor: Negligible
Description	<ul style="list-style-type: none"> Very minor impact to the environment and community Can be effectively managed as part of normal operations Neighbour disputes unlikely
Example/Implication	<ul style="list-style-type: none"> No measurable or identifiable impact on the environment No measurable impact on the community or impact is generally acceptable

Areas of potential conflict are detailed further in the table below, together with initial assessment of probability, consequence and ranking. Rankings greater than 10 require further consideration in relation to management and mitigation measures. They can then be reassessed.

Table 25: Initial Risk Evaluation

Activity	Potential Conflict	Probability Level	Consequence Level	Risk Ranking
Cropping	Machinery noise	B	5	7
	Dust generation	B	3	17
	Smoke generation	C	4	8
	Sprays	C	5	4
Grazing	Noise from stock	C	4	8
	Smell	C	4	8
	Flies	C	5	4
	Dust	C	4	8
School Activities	Construction noise	B	5	7
	Operational noise	C	4	8
	Traffic	C	4	8
	Stormwater runoff	D	5	2
	Litter	C	5	4

Risk Reduction & Recommendations

Separation of land uses, buffer areas, landscaping and on-site management protocols are all effective means to reduce land use conflict. In most areas of potential conflict listed above, one or more of those techniques will reduce the risk of conflict to manageable and acceptable levels.



Figure 69: Land Use Conflict Reduction Strategies (SP 2022)

Dust generation from cropping activities is dependent on general climate/season conditions, daily weather (wind direction and intensity, rainfall, etc) and general time of activity. It is also based on cropping and pasture management cycles that are limited to short periods of the year. In addition, as urban development occurs over the current agricultural land, cropping activities will become non-existent. Maintaining an effective separation distance between the proposed school and adjacent cropping land, including effective landscaping across the school site, will significantly reduce potential impact and conflict. A management strategy is outlined in the table below:

Table 26: Management Strategy

Identified Potential Conflict	Management Strategy (Method of Control)	Revised Risk Ranking	Performance Target
Dust from cropping activities	Maintain separation distance between cropping land and school site including buffer control through managed landscaping.	4	No complaints from or to school or farmer.

6.19.2 Biosecurity

Biosecurity considerations are considered relevant for this proposal due to the site's location at the interface between urban and rural land use activities. Whilst the site and surrounding land is zoned for urban expansion and residential development, existing agricultural activities continue to be an important economic sector of the local economy and part of the Moama socio-economic fabric.

Pests, diseases and weeds may potentially spread from the development of urban activities through the movement of people, machinery and vehicles. In considering the ongoing, however interim, agricultural activities on adjoining land, particularly to the north of Kiely Road, management measures are recommended to ensure biosecurity risks are minimised to both the ongoing agriculture and the school community. These measures are to include:

- Maintaining separation and buffer areas to the adjacent agricultural land;
- Use of designated parking areas;
- Strict implementation of waste management strategies during construction and operation of the school; and
- Biosecurity protocols be included in the school operational management plan.

6.19.3 Infrastructure Proposals on Rural Land

The DPI PrimeFact Infrastructure Proposals on Rural Land provides guidance on locating key infrastructure projects in locations that minimises impact on agricultural lands and maintains sustainable primary production and development opportunities. Consideration of this advisory note is relevant whilst agricultural production is occurring on land in the vicinity of the new school site, notwithstanding that the area is also zoned for urban release and residential development.

The preceding sections relating to conflict risk assessment and biosecurity considerations have assisted in identifying and recommending land use management strategies relevant to this proposal.

The proposal will not lead to agricultural resource loss or unnecessary land fragmentation, and any potential impacts on ongoing agricultural production will be minimised through proactive implementation of construction and operational management plans for the new school.

6.20 Economic Impact

The construction and operation of a new school has significant positive economic impacts for a regional area such as Moama. The subject proposal provides a stabilising economic catalyst for the growth of an identified urban release area of Moama and creates a sense of place and focus for the expanding residential neighbourhood that is being progressively developed westwards to Lignum Road.

Construction is estimated at over \$30m, with additional flow-on benefits to other local trades and businesses in the local area. This is expected to have direct positive impacts on the local economy during all stages of construction to reaching full single stream capacity (390 students).

Once opened, the new school will employ approximately 20 staff as well as additional contractors and other ancillary casual and part time workers. These numbers are set to increase during future stages of construction, as discussed in Section 6.12 of the EIS. The multiplier impacts on the local economy from expenditure on educational establishments are traditionally expected to be 2 to 3 times the direct financial input made by the institution.

The new school will then positively contribute to the attraction of families to Moama and, consequently, added population growth and economic activity.

6.21 Cumulative Impacts

Cumulative impact assessment guidelines target consideration of incremental, sustained and combined effects of development projects as they are expected to impact the subject local area both currently and in the future. Cumulative impact assessment relies on a strong level of collaboration between the proponent, local authorities, other relevant proponents and the wider community.

During the course of the preparation of this EIS, significant and valued consultation was held with Council, other authorities, the community and the adjoining land developer. In respect of key elements that would contribute to reportable cumulative impacts, the development of the school, together with the surrounding new "greenfield" residential neighbourhood, are considered the most influential land use activities in identifying and considering cumulative impact for this project.

6.21.1 Identification & Assessment

Specialist reports that accompany this EIS have assisted in identifying key indicators of cumulative impact. For the proposed new school and surrounding residential development, cumulative impacts are considered to include matters as listed in the table below, with summary of impact degree and any mitigation measures to be implemented to off-set any negative impacts or otherwise.

Table 27: Cumulative Impacts Summary

Cumulative Impact		
Potential Issue	Combined Impact	Mitigation & Management Strategies
<i>Traffic generation from school & residential development</i>	Minor	Growth in accordance with local strategies. Acceptable and manageable cumulative impact, construction & contributions in accordance with local policy.
<i>Noise (Construction & Operation)</i>	Minor to Moderate	Expected change in local amenity from rural to urban uses. Implementation of construction and operational plans as appropriate. Acceptable and manageable impact.
<i>Stormwater</i>	Negligible	Onsite detention, water sensitive design & management, integration with wider stormwater network as residential subdivision completed. In accordance with local drainage strategy and contributions plan.
<i>Water Usage & Disposal</i>	Minor	Growth in accordance with local strategies. Connection to expanding reticulation network for water supply and sewer. Acceptable and manageable impact.
<i>Waste Generation</i>	Minor	Implementation of waste management strategies. Acceptable and manageable impact.
<i>Visual Amenity</i>	Minor to Moderate	Expected change in local amenity from rural to urban uses. Implementation of best practice building design, siting and landscaping across school & residential development. Acceptable and manageable impact.
<i>Economic Growth</i>	Positive	Significant positive contribution to local economy by both school and residential subdivision development.

7 PROJECT JUSTIFICATION

The nature and scale of the proposed new school designates the proposal as SSD. In accordance with Clause 4.12(8) of the EP&A Act 1979 and Part 8 Divisions 2 & 5 of the EP&A Regulations 2021, an environmental assessment has been undertaken in respect of the proposed development and an EIS prepared in the form as prescribed.

The following section of the EIS provides justification and evaluation of the project overall, having regard to the economic, environmental and social impacts of the project and the principles of ESD. It also summarises the environmental assessment by confirming that matters referred to under Division 5 of the Regulations and SEARs have been addressed.

7.1 Assessment of Environmental Impact

The proposal, as outlined and investigated in this EIS, has been assessed in relation to:

- Project objectives, need and benefits;
- An analysis of any feasible alternatives including the consequences of not carrying out the development;
- Supporting and achieving National, State, Regional and Local education policies and strategies;
- Consistency with the EP&A Act, Regulations, State and Local planning policies and guidelines;
- Local environmental assessment, addressing potential impacts and achieving sustainable environmental outcomes;
- Suitability of the site and operational sustainability;
- Compliance with ESD principles; and
- The public and community's interest.

7.1.1 Project Objectives, Need and Benefit

The objective of the proposal is to provide for the future education needs of the Moama community in a high quality, contemporary learning space with a strong emphasis on faith. Need for the new school was confirmed following research and consultation during 2018/19 which confirmed strong demand within a growing local community, aligned with the adopted spatial strategic planning directions of the Moama northwest masterplan. Benefits of the proposal include addressing the education needs of a growing population, building community within a new urban growth corridor, aligning built form with ESD principles and contributing to the stable economic growth of the local area.

7.1.2 Alternatives

During the conceptualisation and initial research for the new school, several alternatives were considered including utilising existing Catholic school infrastructure, investigating opportunities for expansion, and the selection of a "green field" site within a future residential growth area. The "do nothing" alternative was considered, however dismissed following analysis of demographic data which concluded continuing growth and subsequent need for a new school in this locality. A "do nothing" approach does not recognise broader education strategies and would eventually exacerbate overcrowding within existing schools, creating unsustainable resource, equity and accessibility issues.

The selection of the subject site and subsequent contemporary design of a new school environment, based on current NSW SEPP guidelines, was considered the most environmentally, socially and economically sustainable decision to meet the education needs of the growing Moama community.

7.1.3 Meeting Strategic Objectives

Various current National, State, Regional and Local urban development and education strategies have been referenced in the consideration of this proposal and preparation of the EIS. Foremost are the NSW State Priorities, State Infrastructure Strategy, Riverina Murray Regional Plan, Murray River Council LSPS and Moama North West Master Plan. The proposal

demonstrates consistency and support of the strategic goals and context of the various strategies in regard to providing for education establishments, environmental sustainability and supporting growth within regional areas.

7.1.4 Consistency with Legislation and Policy

Assessment within the EIS provides details that address relevant provisions of the EP&A Act, Regulations, State and Local planning policies. Documented analysis indicates that the proposed landfill activity to be undertaken on the subject site is consistent with the aims, objectives and specific permissibility criteria of these provisions, with particular reference to NSW SEPP policies and guidelines for education establishments (SSD Guidelines).

7.1.5 Potential Impact and Environmental Performance

The EIS has provided evidence that the potential impact of the proposal construction and operational activities of the new school will be minimal and acceptable with context of the surrounding future residential development. Specialist reports and data analysis that accompany this EIS substantiate the conclusions made in relation to key environmental performance criteria. Consultation with the community and various agencies has ensured that key issues have been addressed and best practice principles adopted in the design and future operation of the school.

7.1.6 Suitability of Site and Operation Sustainability

The EIS includes a high level of consideration and analysis in relation to the site selection, site impact assessment, construction and ongoing school operational details. In particular, detailed expert reports in the areas of architecture, landscaping, civil engineering, biodiversity, cultural heritage, site health, acoustics and traffic impact assessment conclude that the site is suitable for a new school and the proposal, as presented, is environmentally sustainable with no significant impacts expected on the local area.

7.1.7 Compliance with ESD Principles

ESD development principles have been considered throughout the design development and assessment of the new school proposal. ESD principles are based on the provisions contained within the Act, Regulations and LEP. The proposal demonstrates compliance with these principles as outlined in earlier sections of this EIS.

7.1.8 Public Interest

Throughout the initial consultation, design response preparation and EIS assessment, the public interest has been acknowledged, supported and upheld in proposing the subject new school development. The public interest will be further acknowledged in the subsequent SSD assessment and determination of the development application.

In defining the public interest reference is made to the Planning Principle (Land and Environment Court) that suggests breaking down the consideration of public interest into three steps.

1. Defining the public whose interest is being invoked.

The proposal involves the establishment of a new school that involves construction and operational activity that may impact on the local neighbourhood area, natural resources, local infrastructure and the local economy. The public involves both the immediate and wider local community of Moama and the Murray River Council LGA.

2. Defining the benefit towards which a proposal claims to make a contribution (or from which it is claimed to detract).

The development of the land for a new school is both a private interest of the Diocese and community interest of the people who live in the local area. The provision of a new school and education facilities is in the public interest, in particular to achieve National, State and Regional infrastructure strategies and sustainability policies, as well as meeting local community well-being objectives.

The public benefits that are ultimately realised also include the creation of stronger neighbourhood communities and connection to country, better educational facilities, addressing a wide variety of education needs, contributing to spirituality and faith, sustaining the local economy through construction and ongoing employment opportunities, and embellishing the natural environment and ecological health.

It is in the public's interest and benefit that the subject proposal is considered, established and operated within the intent and guidelines set by public endorsed strategies, policies and guidelines. The EIS has demonstrated that the proposal will achieve the objectives and standards set by the public to ensure compatible and sustainable development of the site and in the locality. In particular, the proposal has demonstrated it will:

- Contribute to achieving the strategic intent of National, State, Regional and Local landuse and infrastructure/school delivery policies;
- Meet the aims and objectives of the SEPP, LEP and R1 zone;
- Be consistent with SSD policies and guidelines: and
- Comply with the principles of ecologically sustainable development.

3. Making explicit the weight given to the public interest relative to other considerations.

The EIS includes reference and assessment of all publicly endorsed land use, environmental, economic development and educational establishment strategies relevant to the proposal, as well as ensuring that consultation with public authorities, adjoining landholders and the general community has been undertaken and feedback considered. The EIS also refers to, and measures the proposal against, all relevant guidelines (in particular those relating to SSDs) to ensure that the design of the new school and any potential impact on the environment has been adequately addressed. The public interest has been given considerable weight.

7.2 Assessment Summary

The EIS has provided evidence that the potential impact of the new school proposal, including its construction and future operational activities, will be minimal and acceptable in respect of impacts on the natural environment and significantly positive in respect of community growth, social inclusiveness and economic growth for the local area.

Accompanying specialist reports and data analysis substantiate the conclusions made in relation to key environmental performance criteria. Consultation with the community and various agencies raised specific matters that were also the focus of specialist discussion and recommendations, as outlined in preceding sections of this document. In addressing key issues, best practice principles have been employed to ensure any potential impact has been identified, analysed and addressed.

The table below lists the key issues raised and analysed by this EIS and summarises the resultant environmental impact assessment undertaken and conclusions reached in relation to determining environmental impact.

Table 28: EIS Assessment Summary

Key Issue	Assessment Method	Impact Determination	
		Construction	Operation
Time Frame		0 - 18 Months Stages	18mths – Ongoing
Built Form & Design	Expert Report	Nil	Positive
Trees & Landscaping	Expert Report	Negligible	Positive
Environmental Amenity	Expert Report, Land use survey & planning principles	Minor	Minimal
Transport & Accessibility	Expert Report	Minor	Minimal
ESD	Planning principles & best practice guides	Minimal	Positive
Heritage – Non-Indigenous	Expert Report	Nil	Nil
Aboriginal Cultural Heritage	Expert Report	Nil	Nil
Social Impact	Planning principles & best practice guides	Minimal	Positive
Noise & Vibration	Expert Report	Moderate	Minor

<i>Biodiversity</i>	Expert Report	Minimal	Minimal
<i>Contributions</i>	Consultation with Council & Planning principles	Nil	Positive
<i>Staging</i>	Planning principles & best practice guides	Moderate	Minor
<i>Utilities</i>	Expert Report	Minimal	Minimal
<i>Stormwater Drainage</i>	Expert Report	Minimal	Negligible
<i>Flooding</i>	Consultation with Council & Planning principles	Nil	Nil
<i>Waste</i>	Expert Report	Minor	Minimal
<i>Contamination</i>	Expert Report	Negligible	Negligible
<i>Agricultural Impacts</i>	Planning principles & best practice guides	Negligible	Minimal
<i>Economic Impact</i>	Planning principles & best practice guides	Positive	Positive
<i>Cumulative Impacts</i>	Combined analysis of above assessments and planning considerations	Minor	Minor

Note: Impact Determination based on relevant expert responses.

7.2.1 Monitoring & Ongoing Communication

The proposal represents a generally low risk undertaking based on site characteristics, nature and built form of the new school and associated infrastructure, as well as detailed analysis from specialist studies. Minimal monitoring procedures will be required during construction and future operational phases of the school, however, to ensure compliance both an ongoing construction management plan and various operational management plans will be implemented as recommended.

The proponent will also maintain a register of communication and complaints from the general public, as well as regular communication with Council, relevant authorities, neighbours and the general community throughout both construction and future operation.

7.2.2 Consideration of Uncertainties

Key uncertainties noted and considered as part of this impact assessment are limited to:

- Natural environmental catastrophic events;
- Significant economic and population growth downturns; and
- Discovery of archaeological artefacts.

In each situation, management plans are proposed to ensure any impact from these events would be minimised and managed accordingly.

7.3 Conclusion

The EIS has been prepared in accordance with EP&A Act & Regulations and SSD guidelines, and has addressed all investigation and reporting requirements listed in the SEARs issued by DPE.

Potential environmental impacts, both positive and negative, have been investigated in relation to construction and operational phases of the proposal. This includes all specialist reports that accompany this document and the results of ongoing communication with Council, other authorities and the general community.

The proposed establishment of a new Catholic faith-based school has been presented as a sustainable and environmentally responsible development that will meet the objectives of local, state and national infrastructure/school strategies, as well as the needs of the expanding urban areas of Moama. The proposal will ensure the continued growth of employment opportunities in the local area as well as significant contributions to economic growth overall.

Critical analysis of the proposal and potential areas of impact by the EIS has determined that the site is suitable for school activities and will, overall, have a minimal impact on the local

environment. Expert reports have been prepared and presented to address key issues of concern as outlined in the SEARs.

The EIS demonstrates that the design response developed for the new school has been prepared with transparent consultation to all parties that may have a vested interest in the school including the local community, surrounding landowners, local and State authorities such as DPE and the SDRP.

The EIS will assist the responsible authority in assessing the merits of the development proposal and making a determination accordingly.

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SP20012: Document History

Revision No.	Date	Authorised By		
		Name/Position	Initial	Notes
Rev 1.0 - Draft	23/03/2022	Kyan Hyde Projects Coordinator	KH	For internal review
Rev 1.1 - Draft	14/04/2022	Garry Salvestro Director	GS	For client review
Rev 1.2 - Draft	19/04/2022	Kyan Hyde Projects Coordinator	KH	For review by DPIE SSD Team prior to lodgement
Rev 1.3 - Final Draft	18/07/2022	Garry Salvestro Director	GS	Secondary review by DPE SSD Team prior to lodgement
Rev 1.4 - Amended Final Draft	19/10/2022	Garry Salvestro Director	GS	Third review by DPE SSD Team prior to lodgement
Rev 2.0 - Final	25/10/2022	Garry Salvestro Director	GS	Issued for SSDA lodgement

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