NSW Department of Education

Review of Environmental Factors

New High School for Leppington and Denham Court

Document version: V04

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NSW GOVERNMENT

Acknowledgement of Country

The NSW Department of Education acknowledges the traditional custodians of the land on which a New High School for Leppington and Denham Court is proposed.

We pay our respects to their Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of Australia.

The NSW Department of Education is committed to honouring Aboriginal peoples' cultural and spiritual connections to the land, waters and seas and their rich contribution to society.

The NSW Department of Education recognises that by acknowledging our past, we are laying the groundwork for a future that embraces all Australians; a future based on mutual respect and shared responsibility.

Declaration

This Review of Environmental Factors (REF) has been prepared by Gyde Consulting on behalf of the NSW Department of Education (department) and assesses the potential environmental impacts which could arise from a new high school for Leppington and Denham Court at 128-134 Rickard Road, Leppington.

This REF has been prepared in accordance with the *Guidelines for Division 5.1 Assessments* and any relevant addendum (the Guidelines), and the relevant provisions of the *Environmental Planning and Assessment Act 1979* (EP&A Act), the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) and *State Environmental Planning Policy (Transport and Infrastructure) 2021* (TI SEPP).

This REF provides a true and fair review of the activity in relation to its likely impact on the environment and the information it contains is neither false nor misleading. It addresses to the fullest extent possible all the factors listed in Section 3 of the Guidelines, the EP&A Regulation and the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

In preparing the REF I have declared any possible conflict of interests (real, potential or perceived) and I do not consider I have any personal interests that would affect my professional judgement.

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1	24/01/25	Draft	Gyde Consulting	Georgia Sedgmen, Director
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This REF has been prepared by Gyde Consulting with input from a number of other expert consultants. To the best of our knowledge, the information contained herein is neither false nor misleading and the contents are based on information and facts that were correct at the time of writing. Gyde Consulting accepts no responsibility or liability for any errors, omissions or resultant consequences including any loss or damage arising from reliance in information in this publication.

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Abbreviations

Abbreviation	Description
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACM	Asbestos containing materials
AECG	Aboriginal Educational Consultative Group
AEI	Areas of Environmental Interest
AEP	Annual exceedance probability
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
AIA	Arboricultural Impact Assessment
ALU	Additional learning unit
ANEC	Australian Noise Exposure Concept
ASS	Acid sulfate soils
BAM	Biodiversity Assessment Method
BaP	benzo(a)pyrene
BC Act	*Biodiversity Conservation Act 2016*
BC Regulation	Biodiversity Conservation Regulation 2017
BCA	Building Code of Australia
BDAR	Biodiversity Development Assessment Report
BPL	Bushfire prone land
Burra Charter	*The Australian International Council on Monuments and Sites, Charter for Places of Cultural Significance*
CA	Certifying Authority
CBD	Central Business District
CDWMP	Construction and Demolition Waste Management Plan
CEEC	Critically Endangered Environmental Community
CEMP	Construction Environmental Management Plan
CM Act	*Coastal Management Act 2016*
CNVMP	Construction noise and vibration management plan
Council	Camden Council
CPTED	Crime Prevention through Environmental Design
CSP	Community Strategic Plan
CWC	Connecting with Country
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DCP	Development Control Plan
DDA	*Disability Discrimination Act 1992*
Department	NSW Department of Education

Abbreviation	Description
Design Guide	*Design Guide for Schools* published by the Government Architect in May 2018
DPC	Department of Premier and Cabinet
DPE	Department of Planning and Environment
DPHI	Department of Planning, Housing and Infrastructure
DSI	Detailed Site Investigation
EFSG	Education Facilities Standards and Guidelines
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2021*
EPA	Environment Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPI	Environmental Planning Instrument
EPL	Environment Protection License
ESD	Ecologically Sustainable Development
FBC	Final Business Case
FERP	Flood Emergency Response Plan
FM Act	*Fisheries Management Act 1994*
FTE	Full time equivalent
GANSW	Government Architecture NSW
GBCA	Green Building Council of Australia
Growth Centres SEPP	*State Environmental Planning Policy (Sydney Region Growth Centres) 2006* (repealed)
Gyde	Gyde Consulting
Ha	Hectares
HV	High voltage
ICNG	Interim Construction Noise Guideline
ICT	Information and Communication Technology
ILP	Indicative Layout Plan
LED	Light-emitting diode
LEP	Local Environmental Plan
LGA	Local Government Area
LPS	Leppington Public School
LRA	Land reserved for acquisition
LSPS	Local Strategic Planning Statement
LTC	Leppington Town Centre
LTEMP	Long-Term Environmental Management Plan
MNES	Matters of National Environmental Significance

Abbreviation	Description
MUSIC	Model for Urban Stormwater Improvement Conceptualisation
NABERS	National Australian Built Environment Rating System
NATA	National Association of Testing Authorities
NBN	National Broadband Network
NCC	National Construction Code
NML	Noise management levels
NOR	Notice of Requirements
NorBE	Neutral or Beneficial Effect on Water Quality Assessment Guideline (2022)
NPI	Noise Policy for Industry
NPW Act	*National Parks and Wildlife Act 1974*
NPW Regulation	National Parks and Wildlife Regulation 2009
NPWS	National Parks and Wildlife Service (part of EES)
NSW RFS	NSW Rural Fire Service
NT Act (Cth)	*Commonwealth Native Title Act 1993*
NVIAR	Noise and Vibration Impact Assessment
OEH	(Former) Office of Environment and Heritage
OLS	Obstacle Limitation Surface
OSD	On-site detention
OWMP	Operational Waste Management Plan
PAD	Potential archaeological deposits
PANL	Project amenity noise levels
PBP	Planning for Bushfire Protection 2019
PCEMP	Preliminary Construction Environmental Management Plan
PHA	Polycyclic Aromatic Hydrocarbons
PINL	Project intrusiveness noise levels
Planning Systems SEPP	*State Environmental Planning Policy (Planning Systems) 2021*
PMF	Probable maximum flood
PNTL	Project noise trigger levels
POEO Act	*Protection of the Environment Operations Act 1997*
POEO Act	*Protection of the Environment Operations Act 1997*
PP	Planning Proposal
Precincts SEPP	State *Environmental Planning Policy (Precincts – Western Parkland City) 2021*
Proponent	NSW Department of Education
PTS	Permanent teaching space
RAP	Remedial Action Plan
RAPS	Registered Aboriginal parties
REF	Review of Environmental Factors

Abbreviation	Description
Region Plan	The Metropolis of Three Cities – The Greater Sydney Region Plan
Resilience and Hazards SEPP	State Environmental Planning Policy (Resilience and Hazards) 2021
RF Act	*Rural Fires Act 1997*
RFS	Rural Fire Services
RL	Relative Level
Roads Act	*Roads Act 1993*
RPL	Rating background level
SAQP	Sampling, analysis and quality plan
SARP	State-assessed Rezoning Proposal
SCPP DoE	*Stakeholder and community participation plan,* published by the NSW Department of Education October 2024
SCPP DPHI	*Stakeholder and community participation for new health services facilities and schools* published by the Department of Planning, Housing and Infrastructure October 2024
SDRP	School Design Review Panel
SEPP	State Environmental Planning Policy
SINSW	School Infrastructure NSW
SIS	Species Impact Statement
SMF	Synthetic Mineral Fibres
SOHI	Statement of Heritage Impact
SSD	State Significant Development
STS	Support teaching space
Sustainable Buildings SEPP	*State Environmental Planning Policy (Sustainable Buildings) 2022*
SWGA	South West Growth Area
SWMS	Safe working method statements
TfNSW	Transport for NSW
TI SEPP	*State Environmental Planning Policy (Transport and Infrastructure) 2021*
TIA	Transport Impact Assessment
TPZ	Tree protection zone
TRH	Total recoverable hydrocarbons
TSC Act	*Threatened Species Conservation Act 1995*
TZP	Travel zone projections
UEF	Unexpected Finds

Executive Summary

The Activity

The activity relates to the construction and operation of a new high school in Leppington and Denham Court. The site is located within the South West Growth Area (SWGA) of NSW, which is and will be experiencing significant population growth. The existing high schools in the SWGA, such as John Edmondson High School and Casula High School, do not have sufficient capacity to accommodate the forecasted demand for secondary education. The new high school would provide access to secondary education for the Leppington and Denham Court catchment areas. The new high school is located in the Leppington Town Centre (LTC) Precinct and would be integrated with the existing Leppington Public School (LPS), adjoining the site to the north, to form an educational campus providing educational opportunities for students within the SWGA.

The proposed activity is located at 128-134 Rickard Road, Leppington (the site). The activity will involve constructing a new high school to accommodate up to 1,000 students across three new buildings that will comprise 48 permanent teaching spaces (PTS), 3 support teaching spaces (STS), 9 specialist labs/workshops/kitchens and a hall. Buildings A, B and C will be clustered along the southern site boundary and the hall (Building D) will be located in south-east corner of the site. The activity also includes the construction of a sports field in the centre of the site and three multipurpose courts along the northern site boundary.

The location of the new buildings responds to both the current development pattern and future vision of the LTC, including appropriate setback along Rickard Road to allow for future road widening and along the southern and eastern site boundaries to enable the future construction of roads by Camden Council (Council). The design of the new high school also acknowledges and integrates with the locally listed heritage buildings of the adjoining public school.

Vehicular access to the school will be provided by an internal access way, located along the southern boundary with a driveway access provided from Rickard Road. Car parking access, kiss and drop, waste and all delivery vehicles will utilise this internal access way. While the school will provide a capacity of 1,000 students, it is not anticipated that it will reach that capacity for several years. Rather, the school will commence operation in 2027 with only year 7 and year 8 cohorts introduced to a maximum of 270 students.

The site is relatively unconstrained with no flooding impacts and no designation as Bushfire Prone Land (BPL). The site is also subject to biodiversity certification and is not identified as having any biodiversity values.

Planning Pathway

The activity involves the development of a new government school by the Department of Education (the department) (a public authority) on land that does not contain an existing or approved school and is in a prescribed zone. Accordingly, pursuant to Sections 3.37A of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (TI SEPP), the proposed works are classified as development which may be carried out without consent.

Therefore, the proposal is considered an ‘activity’ for the purposes of Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and is subject to an environmental assessment. For the purposes of this activity, the department is the proponent and the determining authority and the required environmental assessment is in the form of a Review of Environmental Factors (REF).

The REF has been prepared in the accordance with the *Guidelines for Division 5.1 Assessments* (DPE, June 2022) and the *Guidelines for Division 5.1 assessments - consideration of environmental factors for hospital and school activities Addendum* (DPHI, October 2024).

Consultation

Consultation will be undertaken in accordance with statutory requirements under the TI SEPP and having regard to the *Stakeholder and community participation plan for new health services facilities and schools* (Department of Planning Housing and Infrastructure (DPHI), October 2024) (SCPP DPHI) and the Stakeholder and *Community participation plan For new schools and major school upgrade projects undertaken under Division 5.1 of the EP&A Act 1979* (Department of Education, October 2024) (SCPP DoE).

Comments received will be carefully considered and responded to.

In addition, non-statutory consultation has been undertaken with a range of community and government stakeholders throughout the design process, including Government Architect NSW (GANSW), Transport for NSW (TfNSW) and Council.

Environmental Impacts

A number of technical assessments were engaged to assess potential environmental impacts of the activity. The technical assessment recommended design solutions which guided the design of the school. Where design solutions could not be reasonably or feasibly implemented, mitigation measures were outlined which are to be implemented to ensure the activity would result in minimal environmental impacts. The technical assessments are appended to this REF and summarised in Chapter 6, and a consolidated list of mitigation measures is in **Appendix 1**. The mitigation measures in **Appendix 1** also include adoption of the department's standard mitigation measures, where required.

The assessments determined the key impacts will be related to operational traffic, construction and operational noise and contamination.

The traffic assessment determined that even without the introduction of traffic associated with the high school, intersection performance in the locality begins to fail, due to the background growth anticipated with the development of LTC.

Ongoing engagement with Camden Council has confirmed that Council has undertaken design to upgrade Rickard Road to a four lane road, subject to funding. The LTC Planning Proposal (PP) was exhibited in December 2023 and identified as a State assessed rezoning proposal in December 2024, so Council is anticipating finalisation of the PP as a priority.

The traffic assessment has considered intersection performance with and without the school as well as with the anticipated student population in 2027 and maximum capacity when the school reaches 1,000 students. As the timing of the Rickard Road duplication is unknown and the timing for delivery of the future road network, including the southern and eastern roads at the high school site are also unknown, the traffic modelling has confirmed appropriate intersection performance is achieved in 2027 when the school commences operation. In addition, the kiss and drop has been developed with adequate length to accommodate the students at opening and at maximum capacity and queueing within the internal road has been assessed as adequate and will prevent queueing on Rickard Road.

The school travel plan has been prepared and will be updated annually to reflect changes to LTC, as the area grows to minimise future impact.

The contamination assessment determined there are five areas of potential contamination concern on the site associated with existing buildings, fill of unknown origin, pesticides and herbicides, wastewater ponds and a septic tank. Additionally, asbestos containing material (ACM) was discovered in a number of areas and exceedances of ecological screening and investigation levels. The assessment concluded the site can be easily remediated to make it suitable for the proposed land use prior to the commencement of operation and a remediation action plan (RAP) has been prepared.

Justification and Conclusion

Based on the environmental assessment undertaken as part of this REF, it has been determined that the activity will not result in any significant or long-term detrimental impacts. The potential impacts identified can be reasonably mitigated and where necessary managed through the adoption of suitable site practices and adherence to accepted industry standards.

The environmental impacts of the activity are not likely to be significant. Therefore, it is not necessary for an Environmental Impact Statement (EIS) to be prepared and approval to be sought for the activity from the Minister for Planning and Public Spaces under Part 5.1 of the EP&A Act. The proposed development will not have any effect on Matters of National Environmental Significance (MNES) and approval of the Activity under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is not required.

On this basis, it is recommended that the department determine the proposed activity in accordance with Part 5 of the EP&A Act and subject to the adoption and implementation of mitigation measures identified within this report.

1. Introduction

The department proposes to construct a new high school for Leppington and Denham Court (the activity) located at 128-134 Rickard Road, Leppington (the site).

This REF has been prepared by Gyde Consulting (Gyde) on behalf of the department to determine the environmental impacts of the proposed new high school at the site. For the purposes of these works, the department is the proponent and the determining authority under Division 5.1 of the EP&A Act.

The purpose of this REF is to describe the activity, examine and take into account all matters affecting or likely to affect the environment and to detail mitigation measures to be implemented to manage impacts.

The potential environmental impacts have been assessed in the accordance with the *Guidelines for Division 5.1 Assessments* (DPE, June 2022), Guidelines for Division 5.1 assessments - consideration of environmental factors for hospital and school activities Addendum (DPHI, October 2024), EP&A Act, the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), and the EPBC Act.

The assessment contained within the REF has been prepared having regard to:

- Whether the proposed activity is likely to have a significant impact on the environment and therefore the necessity for an EIS to be prepared and approval to be sought from the Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act; and
- The potential for the activity to significantly impact MNES on Commonwealth land and the need to make a referral to the Australian Government Department of Environment and Energy for a decision by the Commonwealth Minister for the Environment on whether assessment and approval is required under the EPBC Act.

The REF addresses the requirements of Section 5.5 of the EP&A Act, which requires the department to examine, and consider to the fullest extent possible, all matters affecting, or likely to affect, the environment by reason of the proposed activity.

2. Proposed Activity

2.1 The Site

The site is known as 128-134 Rickard Road, Leppington, NSW, 2179 and is legally described as Lots A and B in Deposited Plan 411211. The site is located on the eastern side of Rickard Road and is approximately 4.1 hectares in area. The site boundaries are as follows:

- 152.4m along the western boundary (Rickard Road)
- 213.3m along the northern boundary
- 197.2m along the eastern boundary
- 237.1m along the southern boundary.

Figure 1 below shows the site boundary distances, adapted from the Survey Plan at **Appendix 2.**

Figure 1: Site boundaries (Source: Gyde Consulting, adapted from Survey Plan at Appendix 2 and NSW Planning Portal Spatial Viewer)

The majority of the site is currently used for agricultural purposes with the southern portion containing several greenhouses and a pond in the south eastern corner. The northern portion of the site is currently used for residential purposes with a single storey brick dwelling with a pitched roof.

The site is sparsely vegetated and comprises mostly remnant species trees and few exotic and introduced native trees. The trees with high ecological significance are generally located within the southern lot. However, the site, is included in an Order conferring biodiversity certification under the former *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* (Growth Centres SEPP) from the Minister for the Environment pursuant to Section 126G of the *Threatened Species Conservation Act* (TSC Act).

The site is relatively flat with the highest point being in the centre of the northern portion of the site, at a relative level (RL) of 102.27m. To the northern boundary, the site falls by 3.65m to an RL of 98.62m. To the south-eastern corner, the site falls 8.55m to its lowest point (RL 93.72m). To the western boundary, along Rickard Road, the site falls gently to an RL of 91.85m in the south-western corner. A copy of the site survey can be founded at **Appendix 2**.

The department are the landowners of the site. Pursuant to Appendix 5 Camden Growth Centre under the State *Environmental Planning Policy (Precincts – Western Parkland City) 202*1 (Precincts SEPP), the site is zoned B7 Business Park and SP2 Infrastructure (refer to Section 4 of this REF for further information).

The site has a single frontage to Rickard Road to the west. Vehicular access is currently available from Rickard Road, via formal and informal vehicular crossovers.

A site plan is provided at **Figure 2** below.

Figure 2: Aerial image of the site (Source: Nearmap, taken 23 November 2024)

Figure 3 to **Figure 8** below show the existing site and surrounds.

Figure 3: Image of 134 Rickard Road looking east (Source: Google Streetview, May 2022)

Figure 4: Image of 128 Rickard Road looking east (Source: Google Streetview, May 2022)

Figure 5: Image of subject site, looking north-east (Source: Google Streetview, May 2022)

Figure 6: Image of Rickard Road, looking south towards subject site (Source, TSA Riley, January 2025)

Figure 7: Image of subject site, looking north-east (Source, TSA Riley, January 2025)

Figure 8: Image of Rickard Road and pedestrian footpath, looking north (Source: TSA Riley, January 2025)

2.2 Site Locality

The site is located approximately 26km from Parramatta Central Business District (CBD) and 40km from Sydney CBD (as the crow flies). The site is located in the Camden Local Government Area (LGA) is approximately 700m south of Leppington Train Station. A map showing the site location in its regional setting is provided in **Figure 9** below.

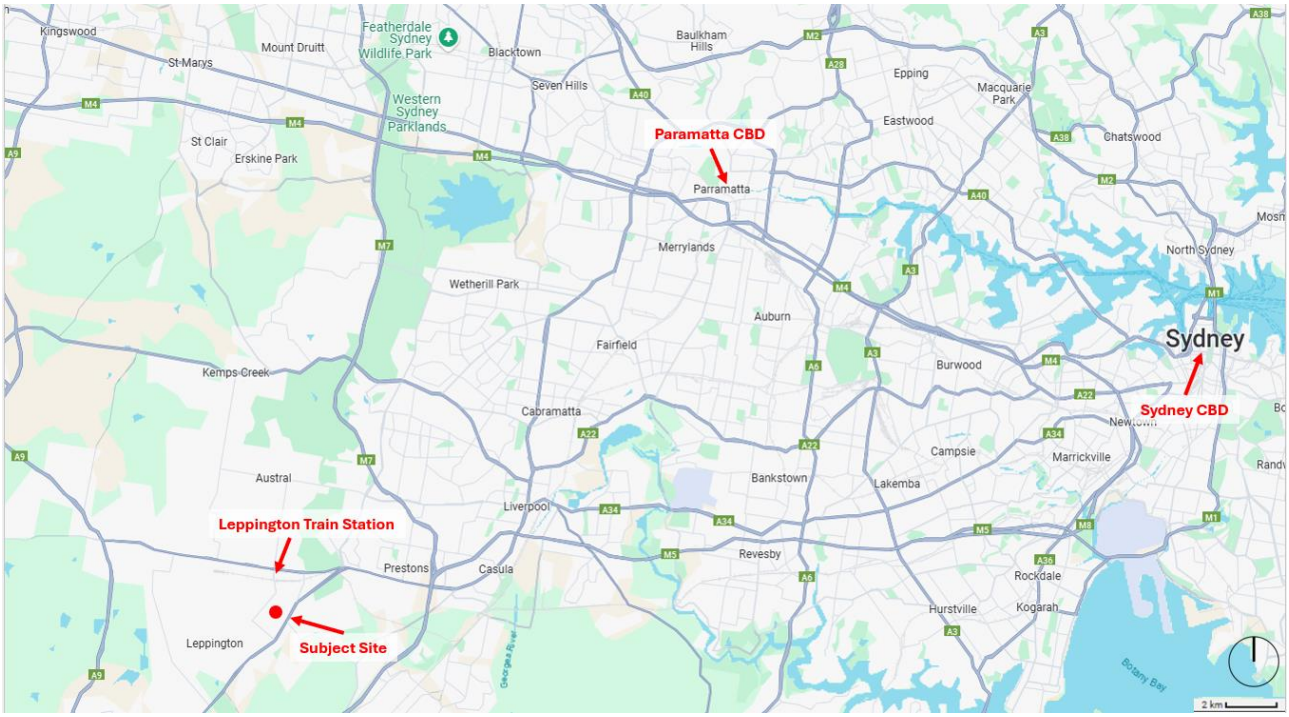


Figure 9: Locality plan showing the regional context of the site (Source: Gyde Consulting, adapted from Google Maps)

2.3 Surrounding Context

The site is located within the Leppington Major Centre, in the Austral and Leppington North Precinct, which is part of the South West Priority Land Release Area.

The existing surrounding locality comprises a mix of uses. Immediately to the north of the site is Leppington Public School. To the east and south of the site are rural residential dwellings consisting of dwelling houses, ranging one to two storeys. Land to the west of the site comprises large lot residential properties and some agricultural sheds for poultry purposes.

The future character of Leppington Major Centre as detailed in the LTC PP is proposed to be a commercial and industrial precinct with pockets of medium-high residential development east of the site. The current Indicative Layout Plan (ILP), contained within the Growth Centres Development Control Plan (DCP), identifies the site forming part of the future commercial/business park (refer to **Figure 10** below).

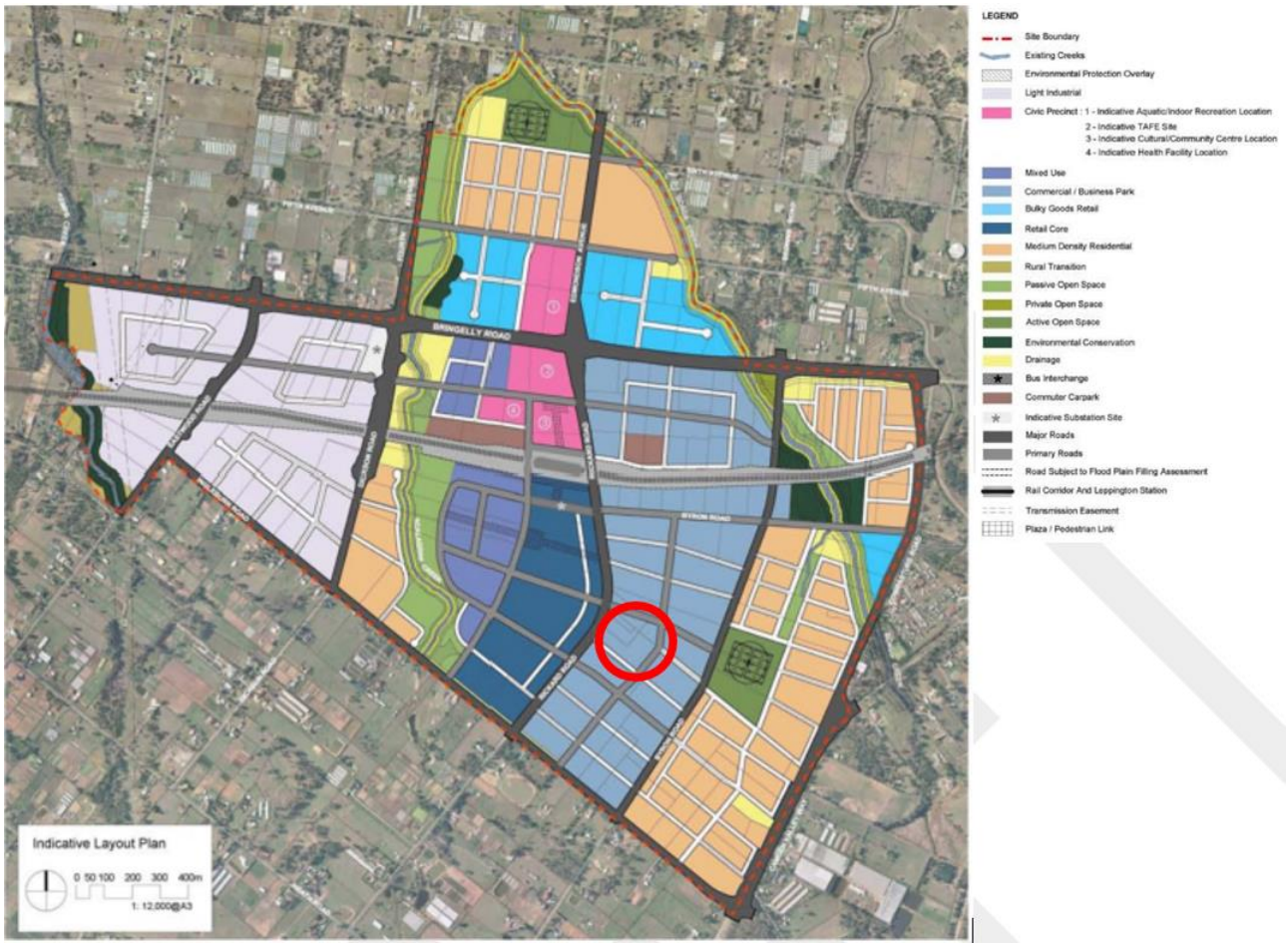


Figure 10: Leppington Town Centre Indicative Layout Plan in Schedule 2 of the Growth Centres DCP (Source: NSW DPHI)

2.3.1 Draft Leppington Town Centre Rezoning Proposal

Camden and Liverpool Councils, have prepared and publicly exhibited a PP for the LTC (PP-2023-284), which includes the site.

In December 2024, the PP was identified as a State-assessed Rezoning Proposal (SARP) in line with the DPHI State Significant Rezoning Policy and the PP is now being assessed and will be finalised by DPHI rather than Camden and Liverpool Councils.

The PP proposes alternative land uses and urban design response to the redevelopment of the LTC which will transform the existing area to a more integrated precinct that offers increased opportunities for commercial, industrial and residential development. The PP also acknowledges LPS and proposes that the site be zoned SP2 Infrastructure for the purposes of an education establishment so that both schools can form an educational precinct. The PP also proposes parklands and new roads surrounding the site. An excerpt of the draft ILP is provided below in **Figure 11.** The site is identified by red hatchings.

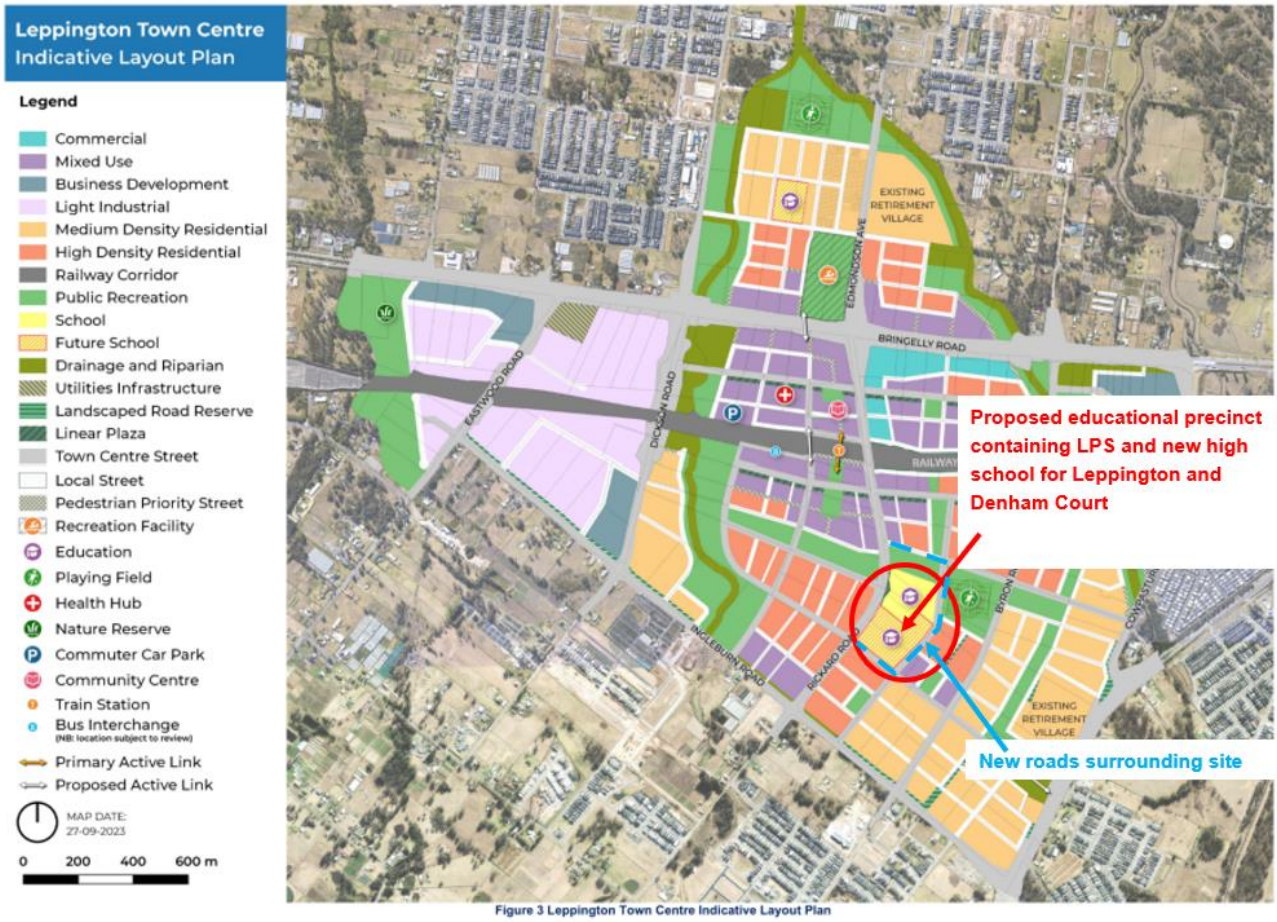


Figure 11: Draft Leppington Town Centre Indicative Layout Plan (Source: NSW DPHI)

2.3.2 Site Constraints and Opportunities

Consideration of site constraints has been undertaken through a review of the Section 10.7 (2 & 5) Planning Certificates dated 10 December 2024 (**Appendix 3**), mapping under relevant Environmental Planning Instruments (EPIs), and a review of specialist consultant reports and other desktop assessments.

A summary of the identified site constraints has been provided in **Table 1** below, with relevant map extracts at **Appendix 4**.

Table 1: Site Constraints

Consideration	Impacted	Source	Description
Hydrology Flooding	No	Flood Statement and Flood Emergency Response Plan (FERP) at **Appendix 5**	The site is not located within a Mainstream or Overland Flood Planning Area. The site is not affected by flooding for all design annual exceedance probability (AEP) events, up to and including the Probably Maximum Floor (PMF) event.
Drinking Water Catchment	No	Precincts SEPP	The site is not mapped as being within a drinking water catchment.
Topography	N/A	Survey Plans at	The elevation of the site ranges between RL 91.87-102.27m Australian height datum (AHD). The

Consideration	Impacted	Source	Description
		Appendix 2	ground surface is gently undulating with the highest point of the site being located within the north-eastern portion, with falls towards the west and south.
Easements	No	Survey Plans at **Appendix 2**	No easements were identified on the Survey Plans.
Aboriginal Cultural Heritage	No	Aboriginal Cultural Heritage Assessment Report (ACHAR) at **Appendix 6**	The site has no Aboriginal archaeological site records. There is no social or cultural significance that has been identified for the site.
Non-Aboriginal Heritage	No	Statement of Heritage Impact (SOHI) at **Appendix 7**	The site is not an identified as having a heritage item of State or local significance and is not situated within a heritage conservation area. LPS, adjoining the site to the north, is listed on the department's Section 170 Heritage and Conservation Register. The two southern allotments of LPS (Lots 38E and 39C in DP 8979) are also mapped as having local heritage significance under the Precincts SEPP.
Acid Sulfate Soils	No	Precincts SEPP Detailed Site Investigation (DSI) at **Appendix 8** Remedial Action Plan (RAP) at **Appendix 9**	The site is not mapped as being affected by Acid Sulfate Soils.
Salinity	No	DSI at **Appendix 8**	The site is not mapped as being prone to salinity.
Geotechnical Conditions	Yes	Geotechnical Investigation at **Appendix 10**	The site is mapped to be underlain by Bringelly Shale bedrock. Fill and residual silty clay was encountered to a depth of between 0.4m to 2.7m, with weathered bedrock being underneath.
Groundwater Conditions	No	Geotechnical Investigation at **Appendix 10**	Groundwater inflows were not observed at test pit or hand auger locations.
Bushfire	No	Bushfire Hazard Assessment at **Appendix 11**	The site is not mapped as bushfire prone land. The buildings are not subject to Planning for Bushfire Protection 2019 or Specification 43 of the NCC.
Site Contaminatio n	Yes	DSI at **Appendix 8** RAP at **Appendix 9**	Asbestos, ACM, zinc and total recoverable hydrocarbons (TRH) were observed across the site in various locations. A Remediation Action Plan (RAP) has been prepared for the site to address existing contamination.
Asbestos and Hazardous Materials	Yes	Hazardous Building Materials Surveys at **Appendix 12**	Hazardous materials, including non-friable ACM and Synthetic Mineral Fibres (SMF) were identified on site. The ACM and SMF are addressed in the RAP.
Aviation	Yes	Precincts SEPP	The site is within an Obstacle Limitation Surface (OLS) area set for Western Sydney Airport of 225.5m. The proposed activity does not penetrate the OLS.

Consideration	Impacted	Source	Description
Vegetation	Yes	Ecological Assessment at **Appendix 13** Arboricultural Impact Assessment (AIA) Report at **Appendix 14**	The trees onsite are predominantly all remnant trees, with a few introduced trees consisting of a combination of exotic and introduced native trees. Majority of the trees form part of the vegetation assembly known as the Cumberland Plains Woodland which is classed as Critically Endangered Environmental Community (CEEC) and protected under the *Biosecurity Act 2015* and under the Commonwealth EPBC Act. Of the 135 trees identified on site, 55 have been identified as being high significance, 69 trees have been identified as being medium significance and 11 are low significance. 22 trees are nominated for removal based on the future road widening of Rickard Road, the design of which has been finalised and is currently awaiting funding (which is outside of the scope of the proposed development).
Biodiversity	Yes	Register of biodiversity certification orders Ecological Assessment at **Appendix 13**	The site is subject to Biodiversity Certification under the former Growth Centres SEPP (the provisions have been transferred to the Precinct SEPP). The Order was made under Section 126G(1) of the *Threatened Species Conservation Act 1995* by the Minister Assisting the Minister for Climate Change, Environment and Water (Environment), Verity Firth M.P., and took effect on the 11 December 2007. This certification allows development in certified areas to proceed without further biodiversity assessment, provided the agreed conservation outcomes are undertaken. Accordingly, the Biodiversity Offsets Scheme does not apply and there are no additional requirements for offsets for clearing and developing the land.
Infrastructure – Transport	Yes	Transport Impact Assessment (TIA) at **Appendix 15**	Existing pedestrian infrastructure surrounding the site is limited to a footpath located on the eastern side of Rickard Road. There are no pedestrian crossings on Rickard Road at the site frontage or dedicated cycling infrastructure connected to the site. The adjoining public school is serviced by four public bus services and two school bus services during the morning school period, and three public bus services and four school bus services during the afternoon school period. There is an existing school zone in place for the adjoining public school.
Infrastructure - Services	Yes	Hydraulic services and utility services report at **Appendix 16** Electrical and Telecommunications Utility Infrastructure Assessment at **Appendix 17**	There are no local Sydney Water utility sewer assets that front the site. The site has access to a 250mm diameter Sydney Water utility water main located in Rickard Road. The site is serviced by the NBN network.

2.4 Proposed Activity

The proposed activity is for a new high school for Leppington and Denham Court. The new high school will accommodate up to 1,000 students across three new buildings, Buildings A, B and C, that will comprise 48 PTS, three STS, 9 specialist labs/workshops/kitchens and a hall, Building D. The three storey buildings will be clustered along the southern boundary and the hall will be located in south-east corner of the site. The activity also includes a sports field in the centre of the site and 3 multipurpose courts along the northern boundary.

The proposed scope of works is illustrated in **Figure 12** below. The pedestrian entry points are demonstrated with red arrows in **Figure 12** below with two along Rickard Road, one in the north-west corner of the site near Building C and one between Building B and C. The main pedestrian and visitor entry point is along the internal road at the southern boundary, which is also where vehicles enter the site.

Figure 12: Proposed site plan (Source: DJRD)

Table 2 provides a summary of key aspects of the activity.

Table 2: Summary of the activity

Project Element	Description
Site Area	4.1 ha
Project Name	New High School for Leppington and Denham Court

Project Summary	The proposed activity involves the construction and operation of:
	• Three new, three storey buildings, comprising
	  ○ 48 PTS
	  ○ Three STS
	  ○ Nine specialist spaces (labs/workshops/kitchens)

Project Element	Description
	○ Additional learning unit (ALU) including science and VET kitchen • One new, single storey hall • Sports field and three multipurpose courts • Associated landscaping and tree planting • New driveway access from Rickard Road to kiss and drop and car parking • One 1000 kVA kiosk transformer.
Use	Educational establishment
Student and Staff Numbers	Students: 1,000 Staff: 75
Car Parking and Bicycle Spaces	Car Parking: 75 spaces Bicycle Spaces: 34 spaces
Height	Building A – Three storeys Building B – Three storeys Building C – Three storeys Building D – One storey
Play Space	10,578.30sqm (10.57sqm per student)
Canopy Cover	Year 1: 665sqm (2.43%) Year 5: 1,307.15sqm (4.78%) Maturity: 4,023sqm (14.74%)
Off Site Works	• Road signage and linemarking on Rickard Road • Proposed median strip within Rickard Road to prevent right hand turn • Stormwater drainage connection • Driveway connection (upgrade existing rural driveway crossing) • Bus bays provided on Rickard Road (relocate existing from PS and upgrade to accommodate HS) • High voltage (HV) electrical connection • Information and communication technology (ICT) connections • Water connections • Connection to sewer main at Ingleburn Road, including pipe installation on Rickard Road

The Plans are provided as follows: Architectural plans (**Appendix 18**), Architectural and Landscape Design Report (**Appendix 19**), landscape drawings (**Appendix 20**), Civil and public domain drawings (**Appendix 21**) and Hydraulic Services Plan (**Appendix 22**).

The key features of the proposed activity are shown in **Figure 13** to **Figure 18** below.

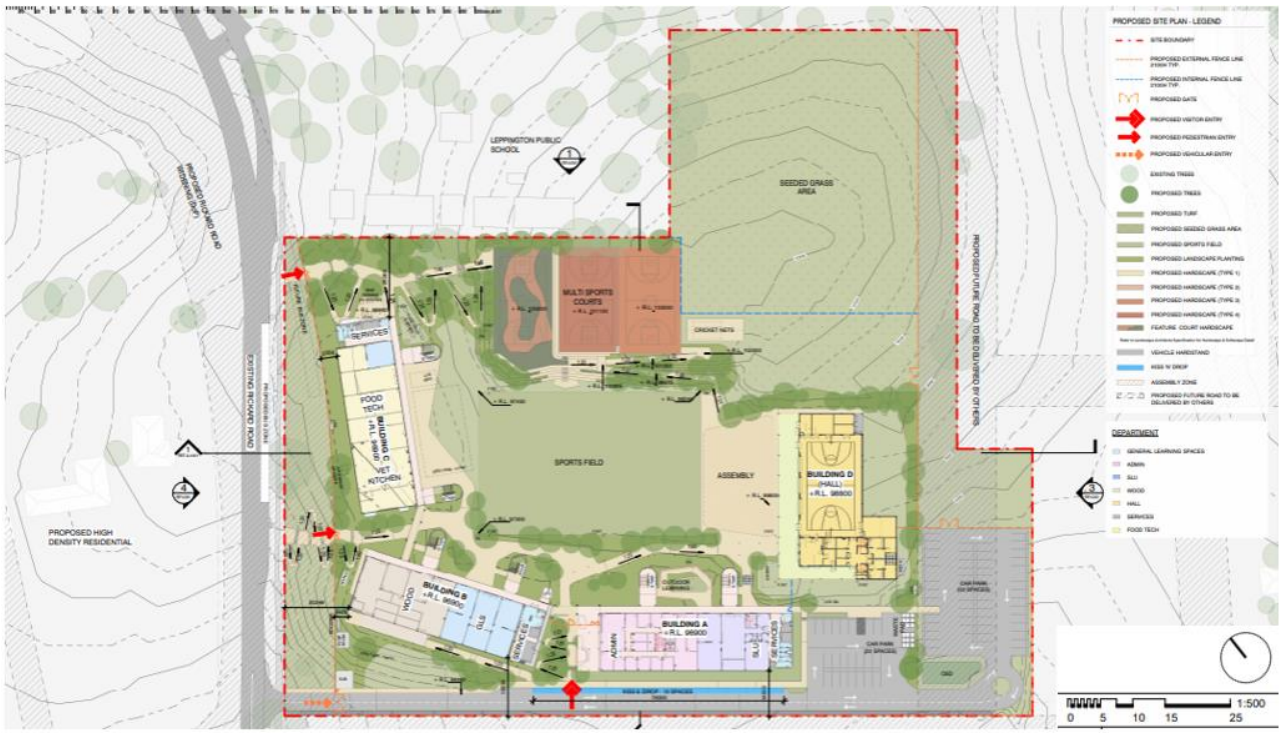


Figure 13: Proposed overall ground floor level (Source: DJRD)

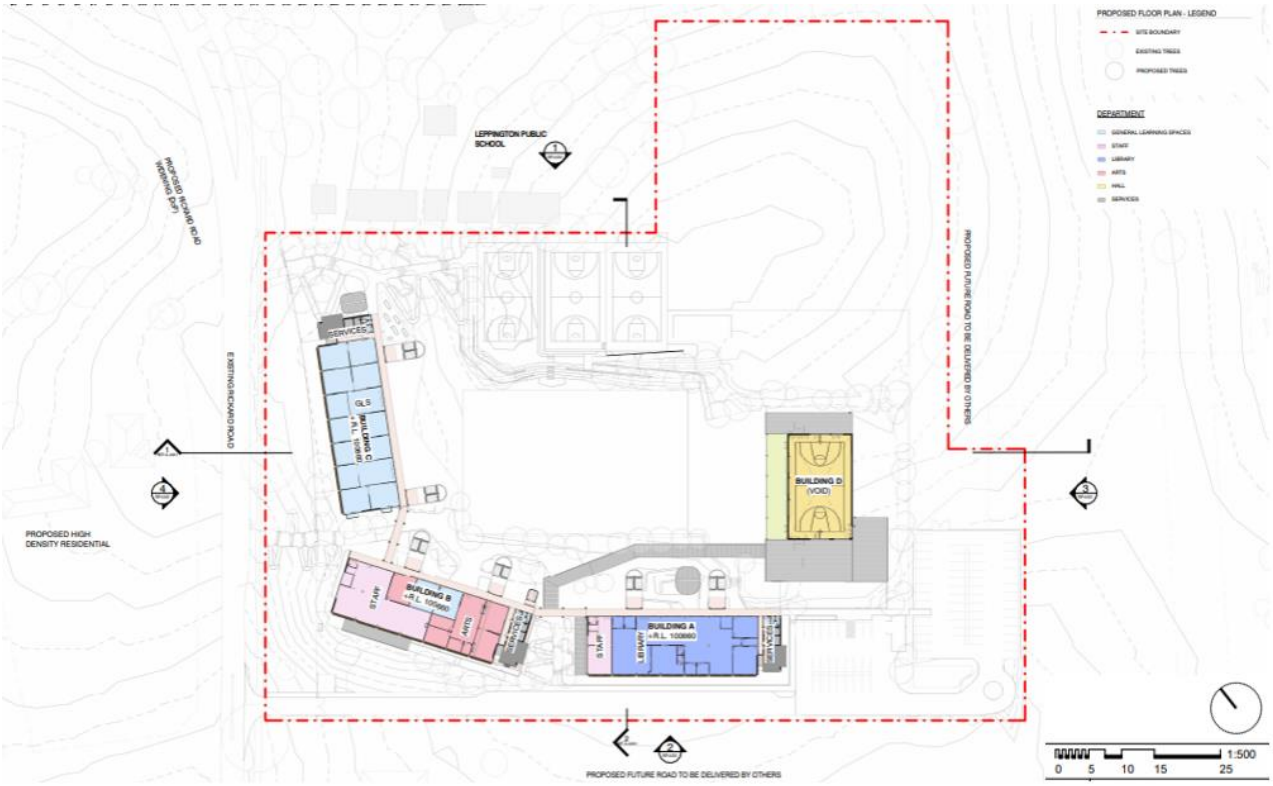


Figure 14: Proposed overall first floor level (Source: DJRD)

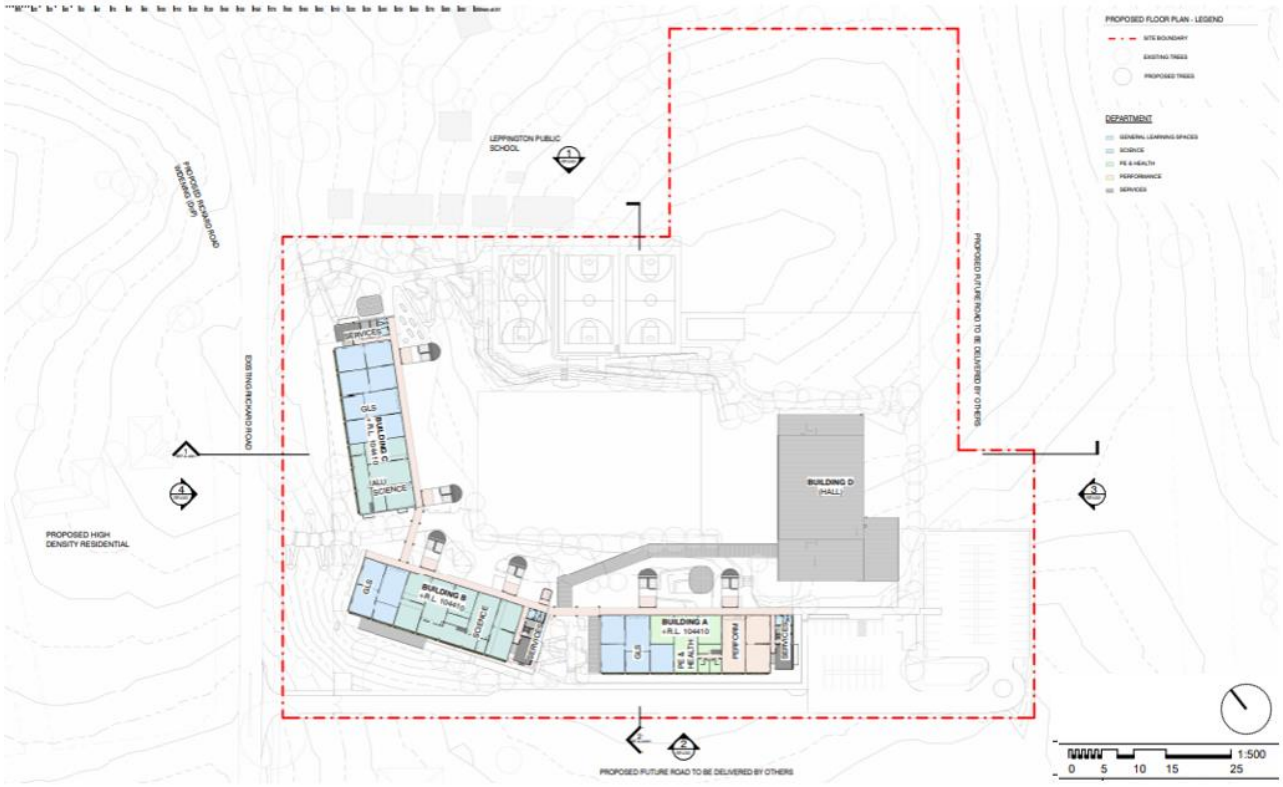


Figure 15: Proposed overall second floor level (Source: DJRD)

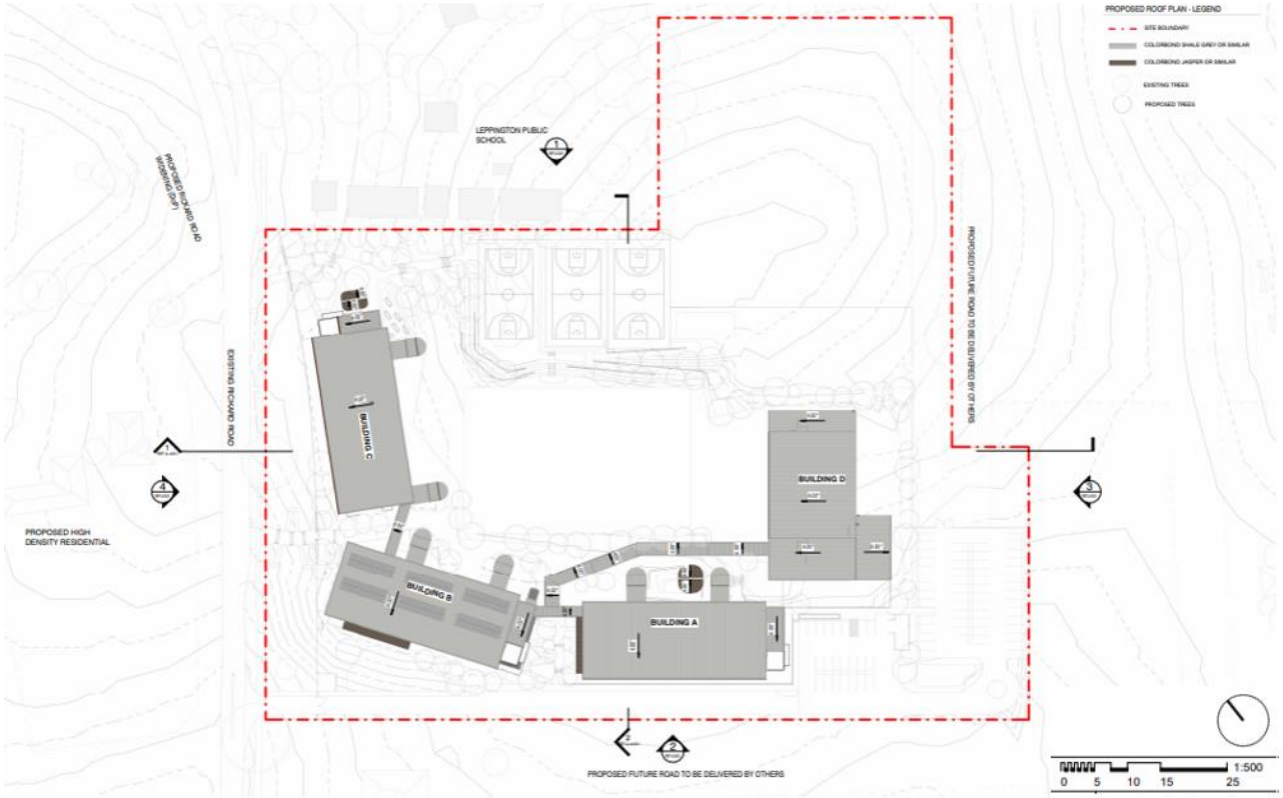


Figure 16: Proposed overall roof plan (Source: DJRD)

Figure 17: Proposed public domain – school entry (Source: DJRD)

Figure 18: Proposed assembly and play fields (Source: DJRD)

2.4.1 Design Development

The proposed built form and landscape design approach balances the site constraints, Education Facilities Standards and Guidelines (EFSG) requirements, opportunities to connect with Country, as well as feedback from key stakeholders such as the School Design Review Panel (SDRP), Aboriginal Educational Consultative Group (AECG) and First Nations representatives.

The proposed built form has been designed with consideration of the draft LTCPP, including the new roads to be delivered by Council that forms the eastern and southern boundaries of the site, and the widening of Rickard Road. Early consultation with Council found that the timing for delivery of this road infrastructure is known so buildings have been sited to avoid the indicative new road locations and include an internal access way. The proposed design allows the school to operate without having to rely on the delivery of the draft LTC PP infrastructure. When the surrounding road infrastructure is delivered by Council or other developers, the internal access way can be removed and converted into additional landscaped area, under a separate planning pathway. The new buildings are also sited to minimise visual impact on the locally listed heritage buildings at LPS.

The proposed three storey buildings have been stepped to maintain the natural topography of the site and respond to the future character of the surrounding area as intended in the draft LTCPP. This strategy also supports the functional requirements and accessibility throughout the school while minimising cut and fill.

The new buildings are articulated through careful materials and colour selection which acknowledge the site’s connection with Country. The proposed hall is a single storey building but with the additional height it reads as a two storey building in height, with a substantial void enabling flexibility of uses, including basketball courts.

The landscaping has been designed to provide transition between the built form and the streetscape and neighbouring sites, utilising native planting and trees to create a landscape buffer and reduce bulk and scale. Both soft and hard landscaping have been used throughout the site to reduce the heat island effect and improve outdoor thermal comfort. Themes of CWC have been incorporated into main welcoming plaza through use of materiality, design elements and planting endemic species.

Figure 19: Aerial of proposed built form (looking south) (Source: DJRD)

Design Guide and Design Quality Principles

The Architectural and Landscape Design Report (**Appendix 19**) evaluates how the activity responds to the Design Guide for Schools and the Design Quality Principles in the TI SEPP. A summary of this analysis is provided below.

Principle 1: Responsive to Context

The activity responds to the natural topography of the site and surrounding area in the siting of buildings and outdoor spaces. By retaining the existing topography, the amount of cut and fill required to create the new high school is reduced. It also recognises the significance of the geographic landform and natural high points of the site to Country.

Landscaped terracing reinforces the natural topography and provide opportunities for landscaping, seating and movement in the transitional areas between uses and buildings. The setbacks of the new buildings from the western (Rickard Road) and the southern (internal access way) boundaries creates opportunities for landscaping and the creation of the new internal access way, while minimising land shaping.

Principle 2: Sustainable, Efficient and Resilient

The activity has been designed to achieve 5-star Green Star Certification and is consistent with SINSW Sustainability Framework. The buildings will be easy to construct, durable, resilient and adaptable and will allow for flexibility for future needs of the school.

Indoor air quality, natural lighting, cross ventilation, thermal and acoustic comfort have all been considered through the design development process. Façade screening and shading, together with the minimisation of glare, reduction of heat load and solar gains have been included in the design of the buildings.

The activity will include the installation of photovoltaic cells on the roof of Building B. Furthermore, there are extensive areas available within the site for deep soil planting, rainwater harvesting and integrated stormwater management. We note that a large area of the site within the north eastern portion is only identified to be grassed and does not include tree planting. We note that this area has been set aside to allow for the future evolution of the LTC ILP. As indicated in the ILP there is a future town centre road located within the eastern portion of the site, which will need to be

provided at a point in time when the adjoining land to the east are ready to be developed. At such a time, the car park in the south eastern corner will need to be relocated to an area north of the hall and reconfiguration of some of the site will need to occur. While this is all subject to a separate planning approval, it is relevant in consideration of the landscape treatment proposed and confirms why tree planting cannot occur on large portions of the site.

Principle 3: Accessible and Inclusive

The new buildings and outdoor spaces have been designed to be inclusive for all teachers, students and the community. Walkways, ramps and stairs will be covered to ensure accessibility to, through and in all areas. Lift access will also be provided for the three storey buildings.

A school identity will be created through the use of colour, CWC, signage and specialised spaces that will result in a sense of place and belonging to the school and wider community.

Principle 4: Healthy and Safe

The health and wellbeing of the future students and staff will be managed through ensuring comfortable internal and external environments, including passive and mechanical temperature control, optimal daylighting internally and shade cover externally to windows and landscaped spaces.

Safety and security measures for the new buildings include higher balustrades and full height screening devices over staircases, designing external walkways on the internal facades of the buildings to avoid noise exposure from the adjoining roads, as well as external fencing, secure gates for entry and active and passive surveillance.

Principle 5: Functional and Comfortable

The new high school will be integrated with the existing LPS to its north and promote an educational precinct providing socially and environmentally responsive and pleasant spaces for the wider community.

The outdoor spaces are located internal to the site ensuring a pleasant and protected environment. The landscape design and planting selections will enhance local diversity and reflect Country.

The internal learning spaces will be able to access natural light and ventilation and will enjoy a pleasant outlook and privacy, as required by EFSG.

Principle 6: Flexible and Adaptable

The internal layout of the new buildings has been designed to adapt easily for future needs and requirements of the school. The buildings comprise classrooms and a central shared learning space that includes a multi-purpose space. Walls are fixed with sliding glass panels offering flexibility and visual connection.

Principle 7: Visual Appeal

There a number of opportunities for CWC in the design of the activity, including artworks, metal screening and façade elements, colours and patterns.

Generous landscaping and native planting will break up the built form and contribute to the overall aesthetic of the school and streetscape.

School Design Review Panel

The project has been considered by the School Design Review Panel (SDRP) at a meeting on 25 September 2024. The table below summarises the feedback from the Panel and illustrates how the design has responded to them. A more detailed response to the Panel's feedback is contained within the Architectural and Landscape Design Report in **Appendix 19**.

Table 3: SRDP Comments and Design Response

SDRP Comments	Design Response
Connecting with Country Continue engagement with Yerrabingin to further develop the CWC strategy Investigate the natural topography of the site to inform the masterplan and site layout Identify outlooks and views and integrate these into the site layout Retain significant vegetation wherever possible	Engagement with Yerrabingin has resulted in specific sustainability measures being included in the design. For example, re-using timber from felled trees on site and including locally source stone for the landscaping. Further, imagery and patterns have been integrated into the facades of the buildings and landscape will ensure acknowledgement of Country at the main entry of the school. The natural topography has been considered in the siting and location of built form and open spaces. Terracing and transition areas will function as seating and movement corridors. Where possible, significant vegetation has been retained. Proposed water management follows the natural topography, with the inclusion of permeable landscaping imitating riverbeds in the direction of water flow towards the south-eastern corner of the site. The placement of buildings within the lower parts of the site enables and encourages views out to the mountains in the west and creates a view corridor to the north from the upper level of Building C. The upper levels of Buildings B and C will enjoy views to the west, while Building A will have views to the south.
Site Strategy Reduce setbacks along the southern road to increase play areas within the site	The new internal access way along the southern boundary will provide access into the school, until such time that the roads in the ILP are constructed by adjoining developers or Council. Once the road to the south is constructed, the area proposed for the driveway will be landscaped and converted to landscaped area. The new driveway will facilitate access to the kiss and drop facility, waste collection and deliveries and access to staff car parking.
Landscape Explore opportunities to improve the layout and design of the site including creating a sense of inclusivity and openness Consider the location of the substation with regard to amenity and legibility of arrival experience	Perimeter fencing is a department requirement to ensure access and security standards for the safety of students and protection of assets. Landscaping will be provided to create an improved sense of welcoming. The substation is proposed to be located away from the main entry of the school, which is between Buildings A and B. This allows for the creation of a welcome entry and landscaped zone incorporating CWC artwork, landscaping and transitional zones. Native planting and trees have been used as a visual barrier to soften bulk and scale from the streetscape. Trees have been strategically located to shade walkways and play areas.
Architecture Consider sustainability targets, WSUD strategies and tree retention in the design	This REF package reflects the comments and feedback from the SDRP through the design development of the proposed activity.

SDRP Comments	Design Response
of the buildings and site layout	
Sustainability and Climate Change Consider EFSG design elements to create more comfortable spaces that are energy efficient	Various sustainability measures have been included in the design of the new buildings including electrification of assets, utilisation of low carbon materials, minimise use of case and the inclusion of onsite renewable energy generation.

Design Response to Country

A CWC Design Report is included in the Architectural and Landscape Design Report in **Appendix 19**. The CWC Design Report was developed in partnership with the department, the project managers, architects, landscape architects and Aboriginal community members through the Walk on Country and Collaborative Workshops and meetings.

The design methodology that has been used to inform the Country-focused collaborative design approach includes several stages being:

- *Collect* – The gathering of ideas, inspiration, facts, desires, research and limitations to empathise with the project partners and with Country.
- *Plant* – After understanding the design challenge, collaborative design workshops generate diverse and innovate design solutions.
- *Nourish* – Collaborative outcomes are shared to develop design solutions and concepts based on feedback.
- *Tend* – Tending to the creation involves ensuring the partnerships and outcomes created are sustainable and have ongoing positive outcomes for Country and communities.

The design methodology above helped inform the architectural and landscape design into 3 key opportunities being:

Revealing Deep Country – The project should strive to reveal the stories of geology, ground water and layers of Deep County, and reflect those colours and movements above ground in the architecture and landscape elements.

Views to Sky Country and Horizon – The new high school can inspire learning spaces for contemplative reflection, connected to Sky Country and allow students to observe daily and seasonal changes in light and weather.

Country is our Teacher – The school can function as a place for learning, teaching in a passive way through its presence and connection to Country, and hold spaces for active teaching and learning.

CWC principles have been included in the design development, as illustrated in **Figure 20** below.

Figure 20: CWC opportunities overlayed on the proposed site plan (Source: DRJD)

Sustainability and Climate Change

The proposed measures in the Ecologically Sustainable Development (ESD) Report (**Appendix 23**) reflects a comprehensive approach to environmental responsibility, addressing key principles and aligning with regulatory standards.

The following key strategies are identified in the ESD report as being adopted within the proposed design, ensuring a sustainable outcome:

Impact on Biodiversity

- The landscape strategy includes integration of native plant species and incorporates water sensitive urban design features.

Resilience

- The design of the new buildings responds to potential risks arising from climate change, including extreme weather temperatures, rain events, fire and bushfire, drought and wind.
- Key climate change strategies considered in the design for the activity include:
    - Passive design optimisation – increasing thermal performance of the building.
    - Design for natural ventilation and good air flow in indoor and outdoor areas to ensure comfortable learning conditions.
    - Design aligned with acoustic performance requirements, as recommended in the Noise and Vibration Impact Assessment in **Appendix 24**.
    - Active design systems – increase in plant capacity to accommodate higher ambient temperatures.
    - Landscape strategy includes trees, plantings and covered walkways for shading and connecting outdoor spaces with buildings.
    - Using soft landscaping, hardscaping and roofing materials with high solar reflectance index to reduce heat island effect and improve outdoor thermal comfort.
    - Reducing stormwater runoff through rainwater harvesting from roofs and planting native species to ensure low irrigation demands.

Passive design

Passive design initiatives have been included in the design development of the new buildings:

- Placing glazing strategically to create more relaxed environmental conditions and to benefit from access to daylight, views and natural ventilation.
- Designing shade structures over windows to ensure appropriate shading, where required, or to control heat gains and glare.
- Achieving above NCC 2022 Section J Energy Efficiency minimum requirements by at least 10%.
- Ensuring airtightness to prevent unwanted heat transfer to the exterior.
- Including occupancy sensors to activate artificial lighting system only when a space is being occupied and remained off at other times.

Reduction in peak demand for electricity

Additional energy efficient design features are being considered to reduce peak demand for electricity:

- Air quality monitoring systems to adjust ventilation rates depending on air quality, minimising the demand for outdoor air and therefore saving energy.
- Maximise natural daylight availability.
- Electric lighting to comprise high efficiency light-emitting diode (LED) technology and include occupancy sensors.
- Install 99kW photovoltaic panels on the roof of Building B.

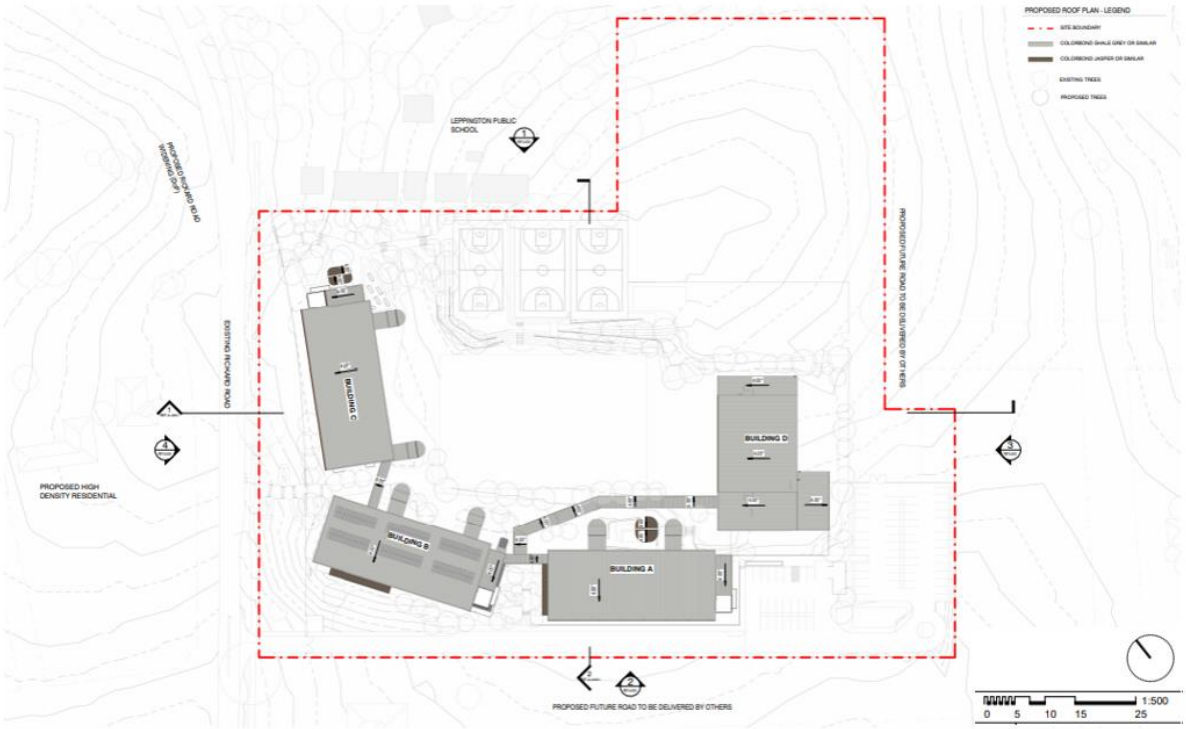


Figure 21: Proposed roof plan showing location of photovoltaic panels (Source: DJRD)

Energy efficiency

The NSW Government is committed to achieving net-zero emissions by 2050 and halving emissions by 2030. To help meet this commitment, the activity will:

- Install 99kW photovoltaic system on the roof of Building B. The design of the roofs for Buildings A and C will ensure that at least 20% of the roof space is available for installation of photovoltaic panels in the future.
- Design the main switchboard in accordance with NCC 2022 Section J requirements to allow for photovoltaic and future battery installation.

Metering and monitoring of energy consumption

The activity will:

- Include a building management system, as per NCC requirements.
- Monitor energy use to understand energy usage and distribution.

Minimise potable water consumption

The new buildings will:

- Be fitted with water efficient fixtures and fittings, for example taps, showerheads, toilets, that are certificated under the WELS rating scheme.
- Include rainwater harvesting for landscape irrigation.
- Ensure efficient water management through an automatic water meter monitoring system.

Minimisation of waste

As part of this REF package, demolition, construction and operational waste management plans are available in **Appendix 25** and **26** respectively. These plans will ensure waste generation and disposal practices from initial site works to occupation consider ESD principles.

Embodied emissions

The activity is required to ensure a reduction in embodied emissions is achieved. In response to the *State Environmental Planning Policy (Sustainable Buildings) 2022* (Sustainable Buildings SEPP), a National Australian Built Environment Rating System (NABERS) Embodied Emissions Material form is required to be prepared by a quantity surveyor. This will be prepared and submitted following determination of the application. This requirement is included in **Appendix 1** as a mitigation measure.

Green star certification

The activity seeks to achieve a 5-star rating under the Green Star Building v1.0 evaluation tool. To achieve this target rating, the project must achieve a total of 35 points, with at least 5 buffer points.

Initial calculations by the sustainability consultant indicate that the project currently meets the target rating.

Landscaping

A landscape strategy is contained within the Architectural and Landscape Design Report in **Appendix 19**, while the landscape plans are in **Appendix 20**. An excerpt of the landscape masterplan is provided below.

Figure 22: Landscape Masterplan (Source: Site Image Landscape Architects)

The landscape masterplan seeks to create key outdoor spaces for the activity, including a welcoming plaza at the main entrance to the south comprising integrated seating, shade trees and themes identified in the CWC Design Report (**Appendix 19**). The CWC workshops also identified opportunities to re-use timber from trees to be felled from the site within the landscape design.

The natural topography of the site has been retained, as best as possible, with a sports court being at the highest point of the site and the proposed buildings at the lowest points of the site. Landscaped terracing between the various outdoor spaces provides transition areas for informal and formal gathering and learning.

The landscape design creates a variety of outdoor learning spaces providing opportunities for students, teachers and staff to have contact with nature and Country, learn and gather while continuing their learning.

The planting strategy incorporates species from the Cumberland Shale Plains Woodland and the Cumberland Red Gym Riverflat Forest to reinforce the natural environment. Shrubs and ground cover planting identified in the Connecting with Country report have been integrated into the design, including the Native Indigo and Dwarf Lilly Pilly shrubs to support a Country-centric approach. All tree species selected are native species, ensuring the proposed activity is suitably integrated into its site and surrounding environment.

Canopy cover will be enhanced through the retention of existing trees where feasible and the strategic planting of shade trees. The design looks at achieving about 14.74% canopy cover at maturity to provide shade and reduce the heat island effect. Large feature trees, particularly

around the interconnected walkways and garden will provide natural shade, offering a welcoming and calming environment.

A total of 113 trees (84% of existing on site trees) will be removed due to their location within the development footprint and/or having major conflict with the proposed construction, particularly within their tree protection zones (TPZ). These individuals will be replaced with new plantings in accordance with the landscape plan.

New plantings will be provided along the northern boundary to provide screening and soften the interface to the adjacent heritage listed buildings at LPS. The new trees will be planted along the interconnected walkways within the site and around the eastern boundary. Trees will also be planted at the main entrance and along Rickard Road.

The proposed landscape design offers a vibrant and multifunctional environment that promotes active play, exploration and community connection while embracing the cultural and ecological significance of the site and its context. The multi sports courts are shaded by canopies along the northern boundary providing students with sun protection while supporting physical development. The central sports field and surrounding play space is naturally turfed, providing opportunities for collaborative games and sports, supporting social interaction and healthy competition. This large, unencumbered space also allows for physical health and education classes to be taught and informal and formal sports events to be held. A copy of the proposed landscape masterplan is provided at **Figure 22** above.

Access and Parking

The activity involves the following access and parking elements:

Kiss and drop

The activity proposes to create an indented kiss and drop zone adjoining the internal access way along the southern part of the site. The zone will be approximately 79m, accommodating 13 car spaces.

Site driveway and vehicle access

An internal access way is proposed at the southern boundary to provide access to the kiss and drop zone, staff parking, servicing and loading zone (as shown in **Figure 23** below). Vehicles are proposed travel along the southbound lane of Rickard Road and then turn left to enter the internal access way. The vehicle would then travel along the internal road to:

- For a kiss and drop vehicle, use indented kiss and drop bay, then travel further east to the end of the internal road to use the onsite turning, continue west along internal road and exit onto Rickard Road by turning left
- For a service and loading vehicle, use western end of kiss and drop bay to delivery bulky goods, outside peak periods then turn using onsite turning and exit the site onto Rickard Road. We note that waste vehicles will service the site outside school hours and access via the driveway on Rickard Road, reverse into the waste area in the car park, load waste and exist in a forward direction from the car park into the access way and then onto Rickard Road.
- For a staff car parking, all access will be via a swipe card system as a sliding gate will prevent access to the internal access outside kiss and drop periods (with 30min window each side). Parking is then allocated for all 75 staff within the designated car park access at the eastern end of the site.

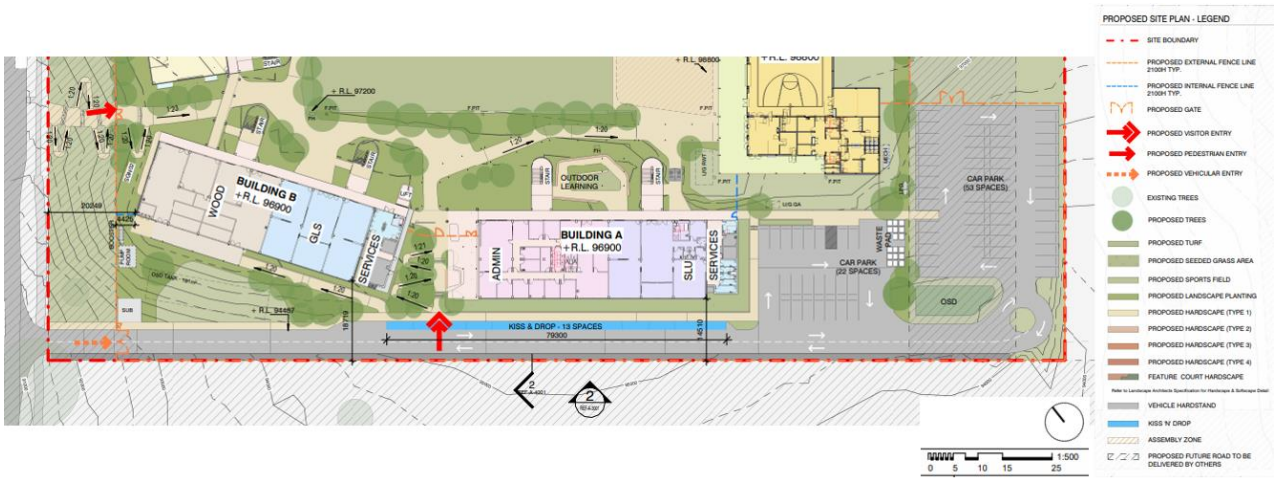


Figure 23: Exert showing internal access way (Source: DJRD)

A sliding gate will be erected along the Rickard Road boundary preventing unauthorised vehicles entering the site. The gate will be operated automatically, will open 30 minutes before the kiss and drop period and close 30 minutes after. Outside of the kiss and drop period, the sliding gate is proposed to be operated by swipe card by staff and authorised service vehicles.

A concrete median strip will be constructed within Rickard Road to ensure cars and trucks can only enter the school using the left-in and left-out configuration.

Pedestrian and cyclist access

Pedestrian and cyclist access to the new high school is as follows:

- The main pedestrian and cyclist entrance from Rickard Road, between Building B and C.
- A secondary pedestrian entrance at the northern end of the site, near to LPS, accessed from Rickard Road
- A secondary pedestrian entrance from the new internal access way, along the southern boundary. This access from the south will be the visitor entrance for those accessing the site in a private vehicle.

The existing footpath along Rickard Road will be the main pedestrian and cyclist thoroughfare to connect students to the new high school.

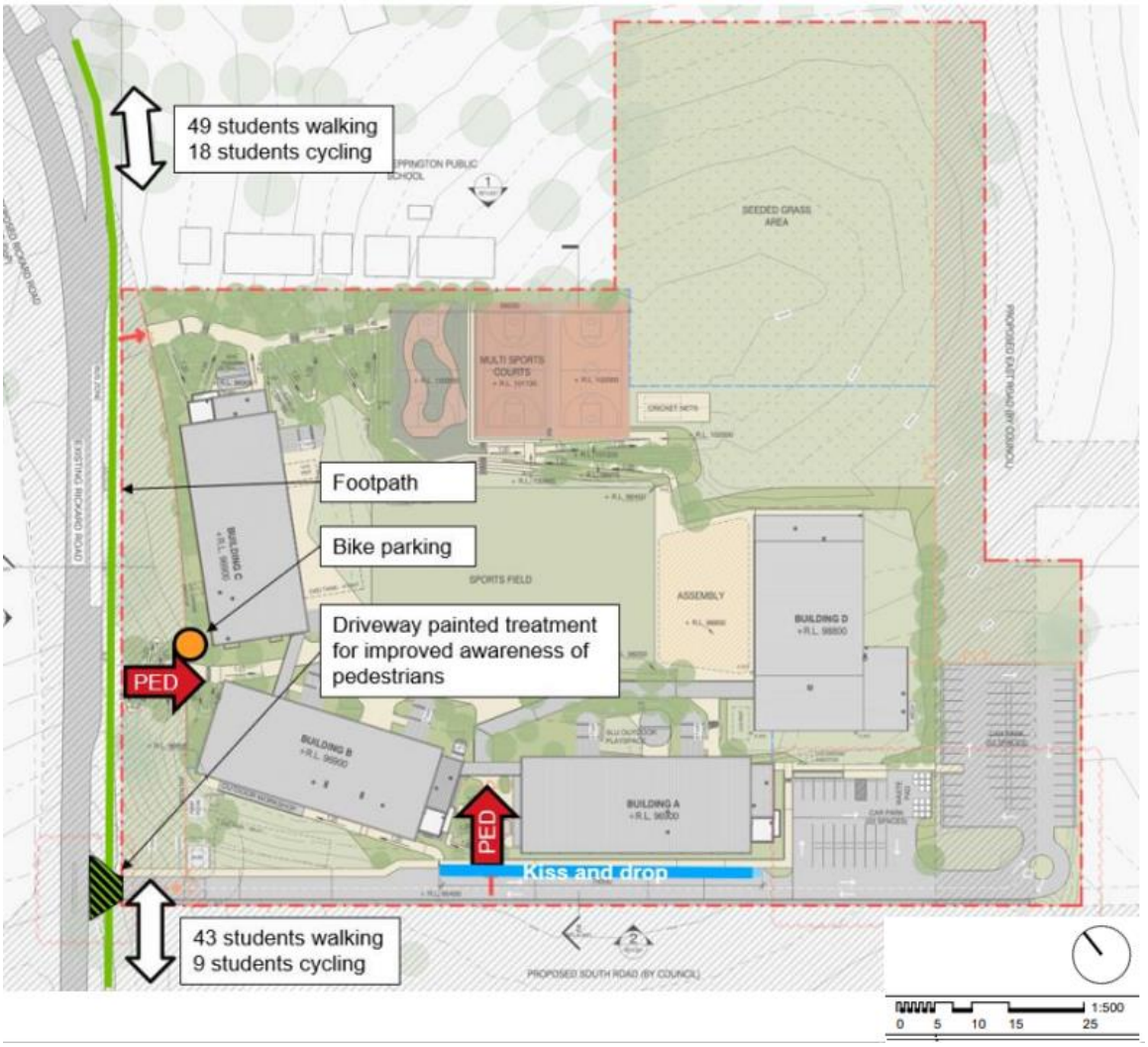


Figure 24: Proposed pedestrian and cyclist entrances (Source: Stantec)

Bicycle parking and end-of-trip facilities

The activity will provide 34 bicycle parking spaces to cater for the ultimate capacity of 1,000 students and 75 staff. The spaces will be located adjacent to the main entrance on Rickard Road.

One end of trip shower facility will be provided for staff within the Support Learning Unit in Building A.

Bus access

To cater for demand, a new bus bay on Rickard Road will be provided to accommodate three buses in total, to allow for ten buses total over a 20-minute period. The dimensions of the bus bay have been designed in accordance with the TfNSW Bus Infrastructure Guide, with a total length of 57m provided. The new bus bay will be located parallel to Building C.

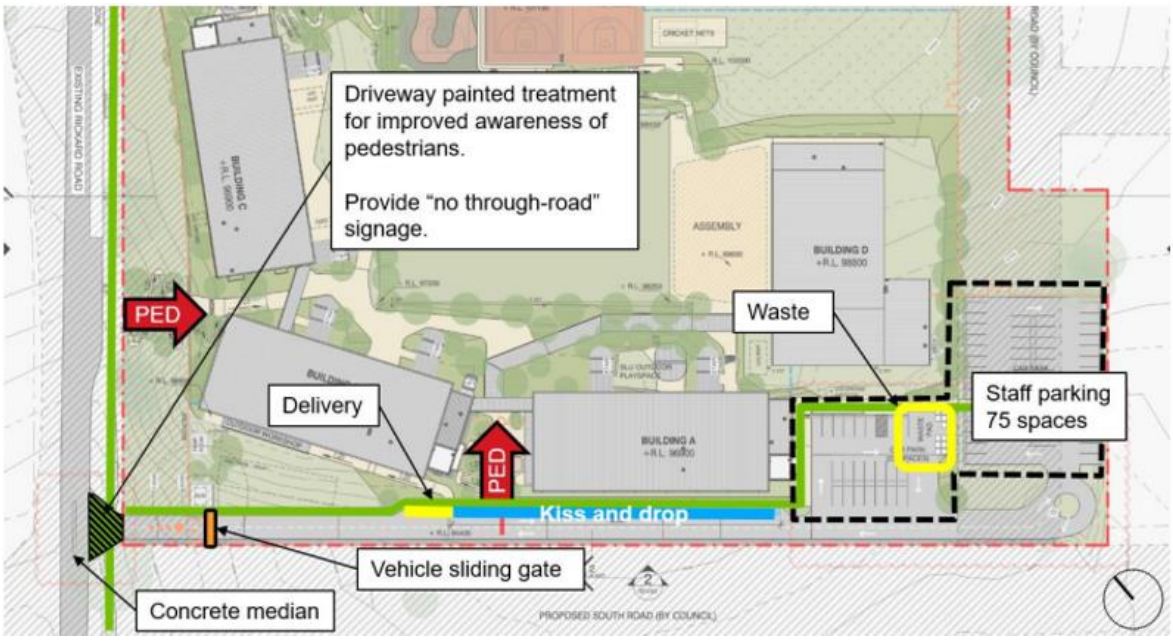


Figure 25: Proposed internal access and parking (Source: Stantec)

Delivery and waste vehicle access

Delivery and waste vehicles will be managed and accommodated via the new internal access way.

A dedicated waste collection area is within the car parking area that can accommodate a 10.5m waste vehicle, with rear-loading capability.

Sufficient turning is provided in the swept paths to demonstrate that delivery and waste vehicles can exit the site in a forward direction. The on site turning area can accommodate cars and small delivery vehicles, while large delivery and waste vehicles will undertake a turn by utilising the car park in the location of the waste area so they may exist the car park in a forward direction onto the internal access way. Swept paths are provided within the TIA depicting all vehicles movements.

Car parking

75 car parking spaces, including two accessible spaces, will be provided for staff. The staff car parking area is proposed to be accessed via the new internal access way and is located adjacent to the new hall (Building D).

Kerb-side signage

No stopping signage is proposed for the western and eastern sides of Rickard Road. The signage would not affect the bus bay.

A no through-road sign is proposed at the entrance to the internal access way to warn drivers that the road is to be used by kiss and drop and school associated vehicles only.

2.4.2 Construction

The following section has been informed by the Preliminary Construction Management Plan at **Appendix 27.** A total peak workforce of approximately 40 construction workers will be onsite at one time, and the works are targeted to be completed by Term 1 2027.

Construction activities include site establishment works, ground works and demolition.

The equipment likely to be employed includes:

- Mobile crane,
- Power hand tools,
- Semi rigid vehicle,
- Excavator,
- Hand held jack hammer,
- Dump truck,
- Concrete saw, and
- Power hand tools.

Site establishment works include the provision of site amenities within the boundaries of the site and include:

- An onsite office,
- Workers toilets,
- First aid kit(s),
- Lunch room,
- Secured storage, and
- Toilets.

Construction hours will be as follows:

- 7:00am to 6:00pm, Monday to Friday
- 8:00am to 1:00pm, Saturday
- No work without prior approval on Sundays and Public Holidays

2.4.3 Demolition

The activity involves the demolition of all existing structures on the site including the dwelling, agricultural greenhouses, stockpiles, post and wire fences and removal of trees. The existing pond will also be dewatered as part of the activity subject to a Dewatering Management Plan as per the mitigation measures.

The proposed demolition plan is shown in **Figure 26** below.

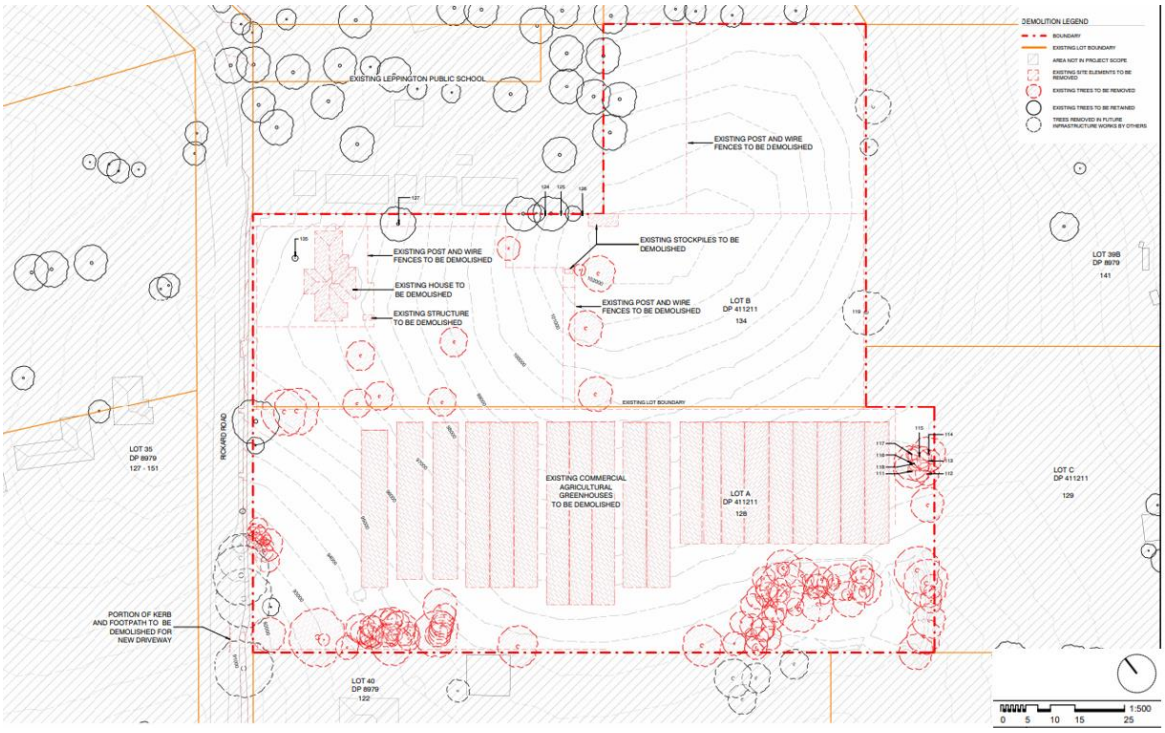


Figure 26: Demolition Plan (Source: DJRD)

2.4.4 Earthworks

The activity involves bulk earthworks, comprising fill and excavation and other site preparation works. To reduce the amount of excavation at the site, the civil engineers (**Appendix 28**) raised the level of the sports field, courts and hall (Building D) and adding fill beneath Buildings A, B and C. This reduces the amount of overall bulk earthworks to 7,200m^3 of cut.

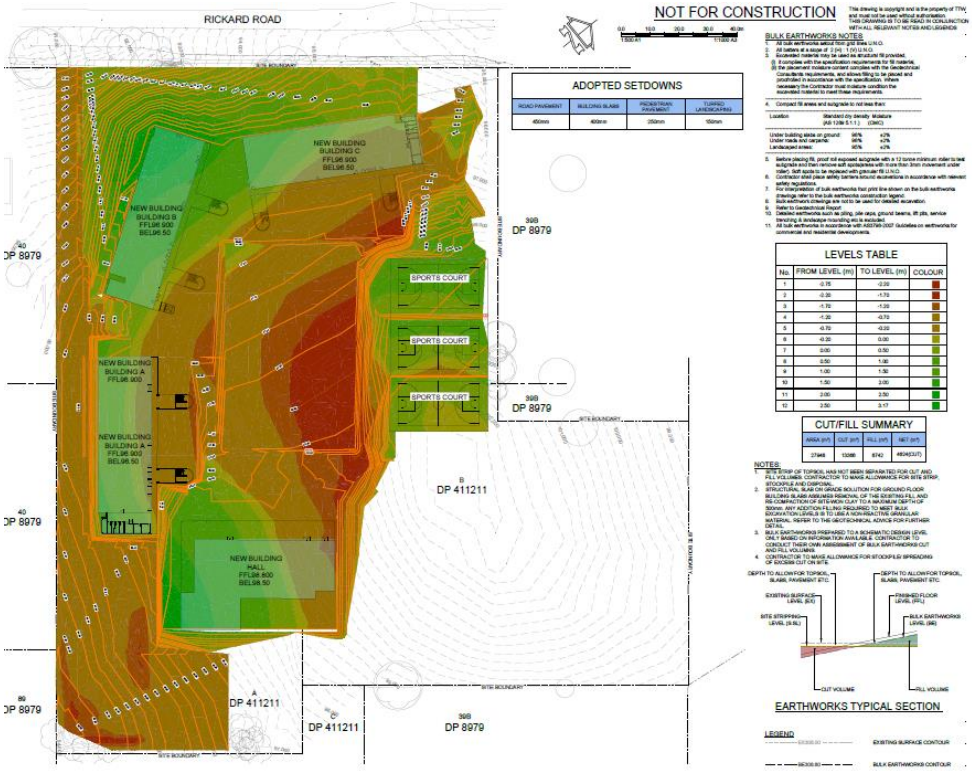


Figure 27: Earthworks - cut and fill volumes plan (Source: TTW)

2.4.5 Remediation

The DSI (**Appendix 8**) identified contamination requiring remediation. The sampling identified exceedances of adopted assessment criteria for asbestos for human health criteria and exceedances of zinc, benzo(a)pyrene (BaP) and TRH F3 fraction. Groundwater monitoring identified exceedances of 95% of copper, nickel and zinc, suspected to reflect the regional groundwater quality.

As such, a RAP has been prepared (**Appendix 9**). The preferred remediation option for the impacted soils at the site is outlined in the RAP and includes onsite encapsulation with offsite disposal as an alternative option for excess soils.

2.4.6 Tree and Vegetation Removal

As outlined in Section 0, the site has Biodiversity Certification under the former Growth Centres SEPP (the provisions have been transferred to the Precinct SEPP) (see **Figure 28**). There are no additional requirements for offsets for clearing and developing the land.

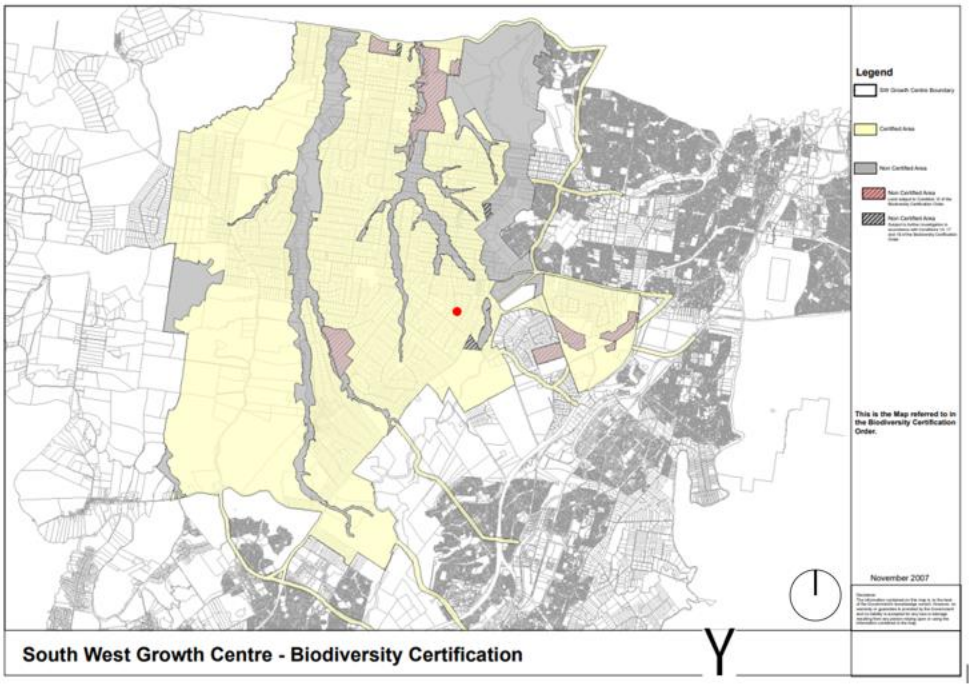


Figure 28: SWGA Biodiversity Certification Map with site identified with red dot (Source: Biodiversity Certification Order)

The activity will involve the removal of 113 trees and the retention of 22 trees, as illustrated in **Figure 26**. Of the trees proposed for removal (Trees 2,3,8-23,26-11,120-122,128-133 and 135), several conflict with the design and/or development footprint and the rest are subject to a major encroachment.

An AIA Report (**Appendix 14**) has been prepared for the activity, which provides protection measures for trees proposed to be retained (**Figure 29**).

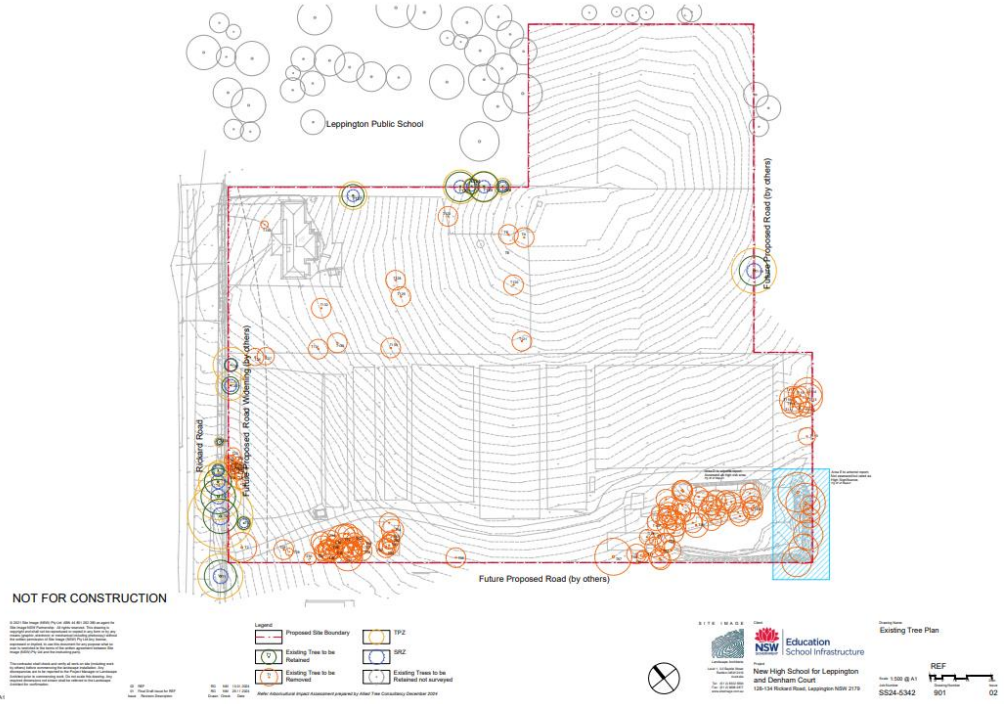


Figure 29: Existing Tree Plan (Source: Site Image Landscape Architects)

The proposed landscape design achieves 14.74% canopy cover at maturity to provide shade and reduce the impacts of the heat island effect. **Figure 30** shows the canopy cover for the site from year 1 to year 5 and at maturity.

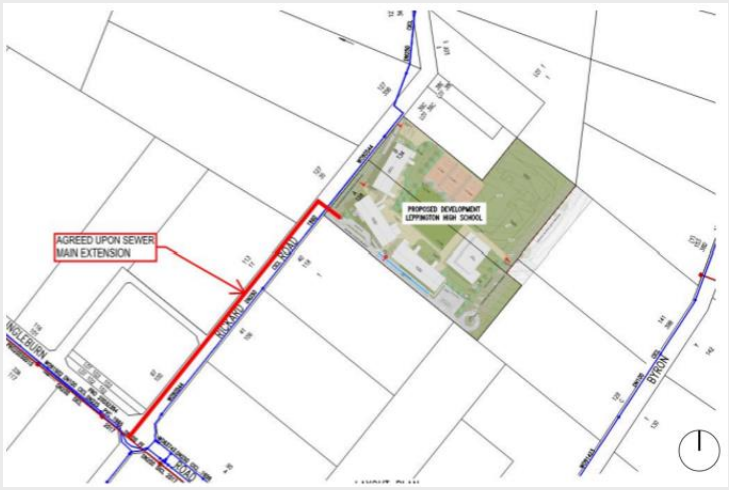
Figure 30: Canopy Cover for subject site, (L to R) at Year 1, Year 5 and Maturity (Source: Site Image Landscape Architects)

Details of the proposed landscaping and offset planting can be found in Section 0 of this REF.

2.4.7 Utilities and Services

The proposed building services requirements for the activity are summarised in the table overleaf.

Table 4: Utilities and Services arrangements

Building Services	Proposed Arrangement
Electrical (**Appendix 17**)	One 1000 kVA kiosk transformer is proposed to satisfy the anticipated maximum demand for the activity. A Supply Offer has been provided by Endeavour Energy.
Telecommunications (**Appendix 17**)	New incoming telecommunications services will be connected to a new main communications room and will then be distributed to the rest of the site.
Water (**Appendix 16**)	A new connection is proposed to the 250mm diameter utility water main in Rickard Road to supply the site with drinking water services and also firefighting water services. Section 73 Notice of Requirements (NoR) has currently not been provided by Sydney Water for this proposed activity.
Sewer (**Appendix 16**)	There are no local Sydney Water utility sewer assets that front the site. As such, the sewer main will need to be extended to connect with existing assets in Ingleburn Road (refer to image below which shows the proposed sewer option in red).  **Figure 31: Proposed sewer main extension (Source: WSCE)** A Section 73 NoR has currently not been provided for this proposed activity. A Feasibility Application has been lodged (Case No. 219026) which proposed to construct a sewer extension from the existing DN225 sewer main in Ingleburn Road.

2.4.8 Waste Management

Construction and Demolition Waste Management

The Construction and Demolition Waste Management Plan (CDWMP) (**Appendix 25**) details the waste management strategies and auditing requirements during the construction and demolition of the proposed activity.

Monitoring and Reporting

All construction and demolition waste volumes will be recorded and maintained, and daily inspections of waste storage areas will be undertaken by site personnel and recorded for reporting purposes. Waste audits will be carried out to ensure that waste segregation procedures and recycle/reuse initiatives are effective and efficient. All environmental incidents will be dealt with

promptly to minimise potential impacts and an incident register will be maintained on site at all times.

All staff employed during the demolition and construction stages of the activity will undertake site-specific induction training regarding the waste management procedures.

Reuse and Recycling

Where practical, reuse and recycling will be used to reduce the volume of waste generated during demolition and construction. The site will facilitate a deconstruction method whereby various materials are carefully dismantled and sorted. Any unwanted reusable materials can be taken to a second-hand building centre, reducing waste disposal costs.

Where feasible, materials such as asphalt, bricks, concrete will be re-used on site for fill, leveling or crushed for pavement/road base and plastics will be reused as secondary materials for playgrounds, seating et cetera. Soil will be reused on site for fill and within landscaped areas.

Management of Hazardous Waste Materials

Hazardous waste, particularly asbestos waste and ACM, will be removed by licensed contractors and transported to appropriate facilities where applicable. In the event that any contaminated or hazardous materials are unexpectedly uncovered, work will stop immediately in that location and the relevant hazardous waste contractor will be contacted prior to any works recommencing.

Management of Demolition Waste

Waste generated by construction and demolition, if reuse is not possible, will be carefully sorted on site and stored for regular off-site collection by authorised contractors.

Figure 32: Bin storage area during demolition (Source: Elephants Foot Consulting)

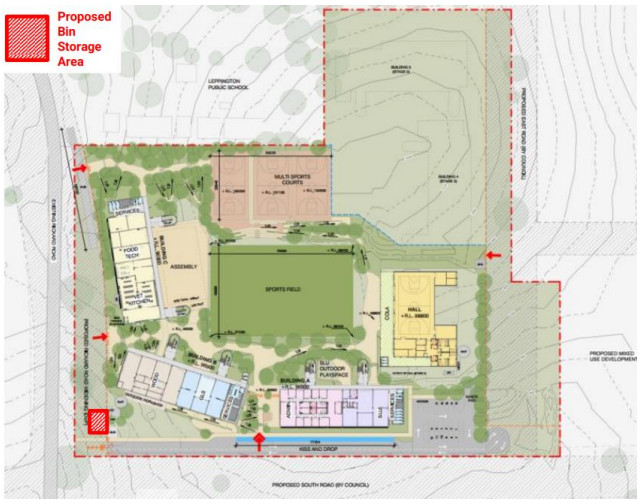


Figure 33: Bin storage area during construction (Source: Elephants Foot Consulting)

Operational Waste Management

The Operational Waste Management Plan (OWMP) (**Appendix 26**) details the waste management strategies during the operation of the site including general waste, recyclables, garden waste, sanitary waste, and electronic waste.

Based on the estimated waste and recycling volumes generated by the activity, the recommended number and type of bins are:

- General waste 10 x 1100L bins
- Recycling 7 x 1100L bins

General waste and recyclables will be managed through a system of labelled bins placed strategically across the school premises, including learning spaces, offices, restrooms, common areas, and outdoor zones. Waste will be collected daily by cleaning contractors and transported to the waste storage area adjoining the staff carpark. Refer to **Figure 34** below.

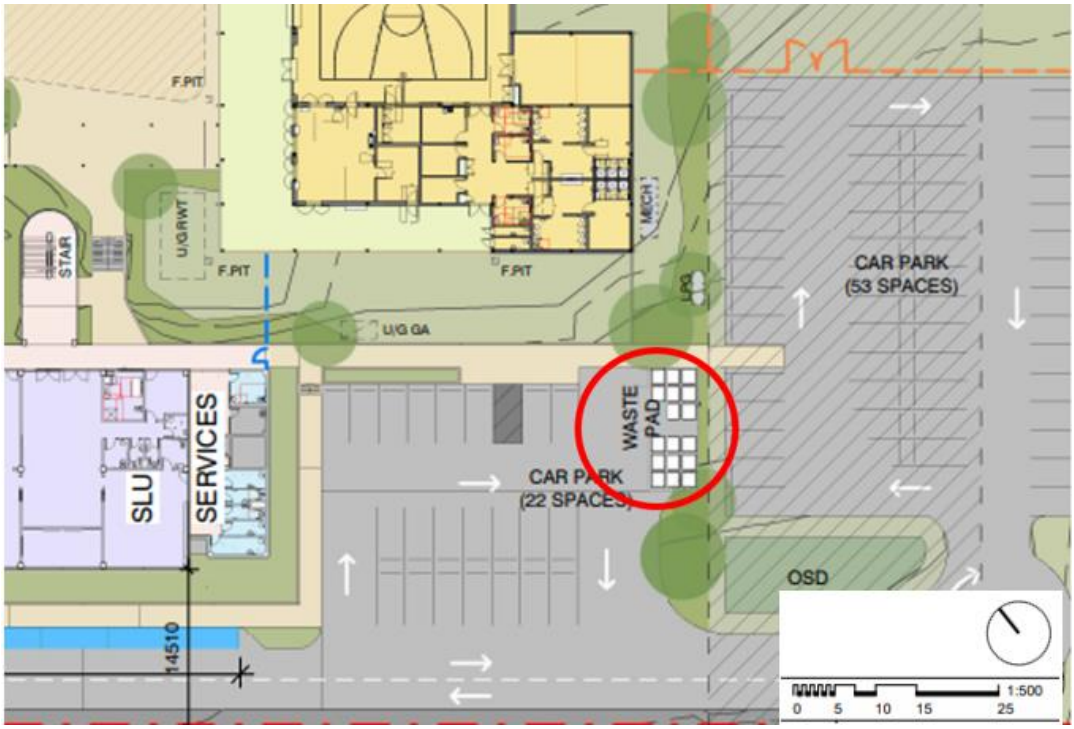


Figure 34: Location of waste bin storage and collection area circled in red (Source: DJRD)

A private waste contractor will be engaged to service the general waste and recycling bins per an agreed collection schedule of a minimum two times per week for both general waste and recycling.

2.4.9 BCA and DDA

BCA

The new high school will be compliant with the requirements of the NCC / Building Code of Australia (BCA), subject to the mitigation measures provided at **Appendix 1**.

DDA

Under the *Disability Discrimination Act 1992* (DDA), the relevant requirements relating to access for people with disabilities has been addressed in the design of the activity. The activity has been designed to ensure the appropriate accessibility requirements, subject to the mitigation measures provided at **Appendix 1**.

Both reports identify that the activity is capable of complying with the relevant requirements and standards, subject to detailed design and where appropriate, design solutions. Compliance with the mitigation measures in the reports has been included in the mitigation measures at **Appendix 1**, to be addressed in detailed design, prior to construction.

2.4.10 Staging

No staging of the activity is proposed.

2.4.11 Operation

The new high school is expected to service:

- 75 full time equivalent (FTE) staff
- 1,000 student enrolments

Student enrolments will be staggered across six year groups (Year 7-12) with a maximum of 270 students in Years 7 and 8 when the school opens in 2027. From the second year of operation through to when the school reaches capacity, there is an anticipated increase year on year as the original Year 7 cohort proceed on and a new Year 7 group commence each year.

However, given that surrounding residential development has not occurred within the proximity of the school, it is not anticipated that each cohort will reach capacity for several years, given students who have already commenced at Casula or John Edmondson High School are unlikely to relocate until housing is developed in closer proximity to the proposed new high school.

2.5 Ancillary Works

The proposed activity involves works to the public domain, including:

- Road signage and linemarking on Rickard Road
- Proposed median strip within Rickard Road to prevent right hand turn
- Stormwater drainage connection
- Driveway connection (upgrade existing rural driveway crossing)
- Bus bays provided on Rickard Road (relocate existing from PS and upgrade to accommodate HS)
- High voltage (HV) electrical connection
- Information and communication technology (ICT) connections
- Water connections
- Connection to sewer main at Ingleburn Road, including pipe installation on Rickard Road

This scope of works falls under the jurisdiction of Chapter 2 of the TI SEPP and is discussed in more detail in **Chapter 4.1** of this REF report.

2.6 Related Activities

There are no other projects occurring concurrently at the site under other planning pathways.

2.7 Future Site Expansion

The proposed development for a new high school for Leppington and Denham Court falls predominantly within the southern portion of the site, as detailed in Section 2.4 above. The north and eastern portion is intended to be used for the future expansion of the high school after LTC evolves into a high-density locality.

Figure 35 below shows the future indicative layout for the site, as a concept design. This plan is concept only and does not form part of this REF.

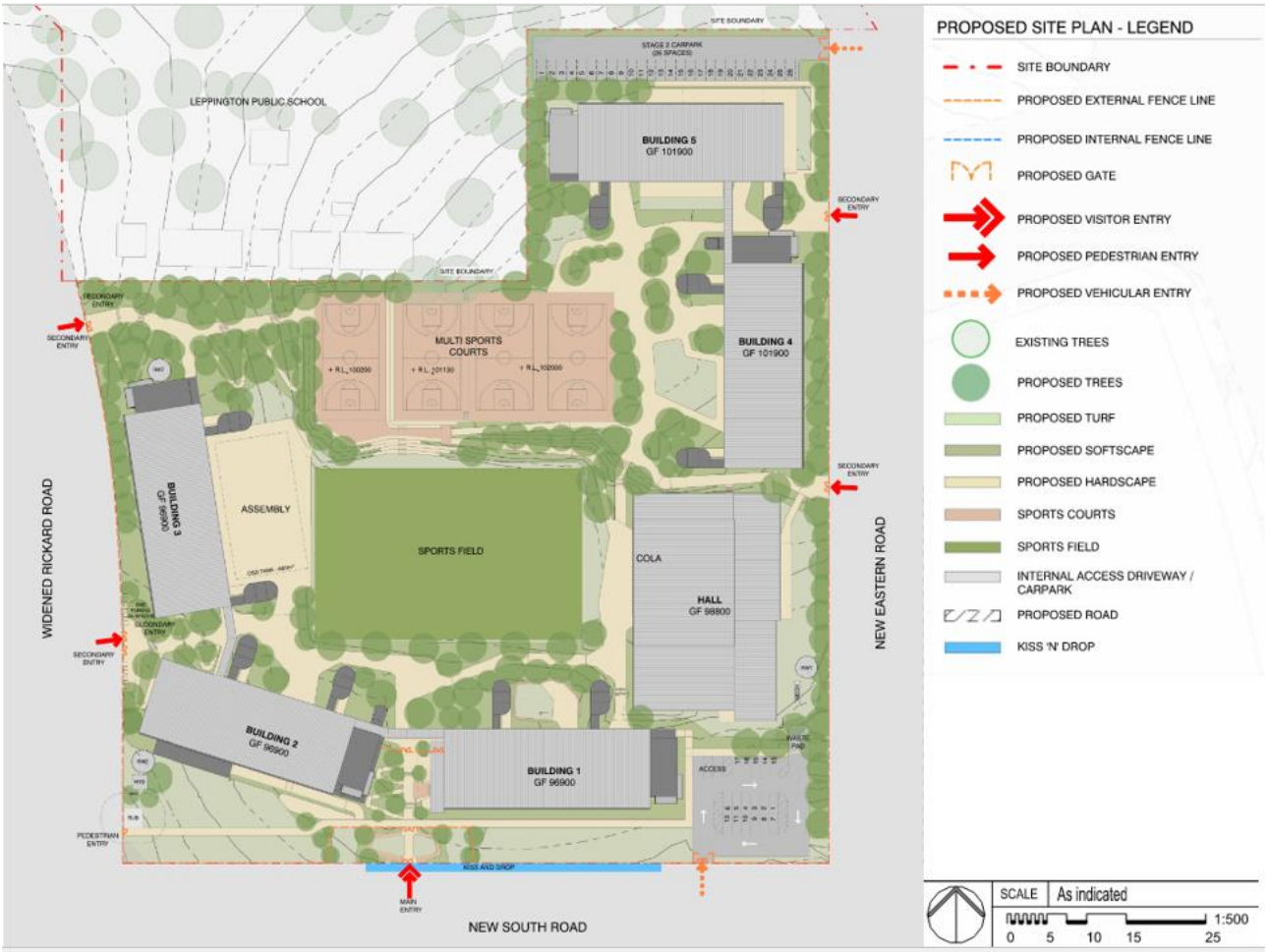


Figure 35: Concept design for the future site expansion (Source: DRJD)

The north-eastern corner of the site will be turfed as part of this REF. Additionally, the area will be fenced off to maintain safety and security as the surrounding locality and properties have not been developed and there are no current opportunities for passive surveillance in relation to this portion of the site.

In the future, the concept plan envisages a further 2 buildings (Building 4 and Building 5) on site to cater for the expected growth in population of the area in alignment with the high density locality proposed. The concept plan also proposes an additional car park (along the northern boundary), to be provided following the construction of the new eastern road as per the ILP. As shown in **Figure 36** and **Figure 37** below, the south-eastern portion of the site which is identified as a road in the ILP will be dedicated to Council when adjoining development occurs. The north eastern portion of the site allows adequate space for the relocation of the temporary car park following construction of the eastern road.

Figure 36: Proposed site plan (Source: DRJD)

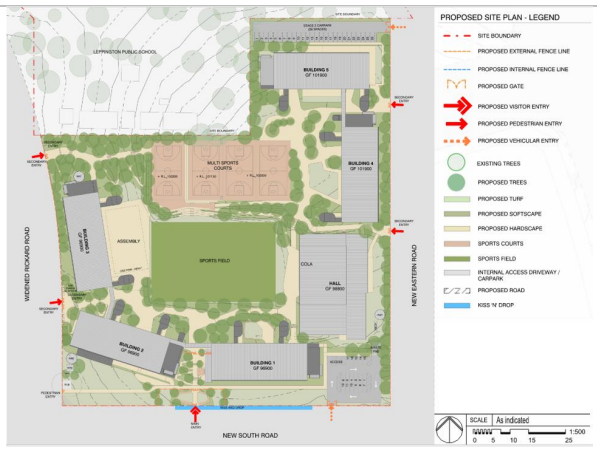


Figure 37: Future concept site plan, not subject to this REF (Source: DRJD)

The future expansion of the site will also include the removal of the temporary internal road on the southern boundary. This will occur following the construction of the southern town centre road (outside of the site boundary). The current internal road will be landscaped to improve urban greening and the amenity of the site, as per mitigation measure LAMM1 provided in **Appendix 1.** This will also result in the relocation of the kiss & drop area, extension of the main entryway and the creation of a new entry at the northern boundary of the site.

The concept plan also includes the creation of an additional multi sports court (totalling 4), internal paths and new tree plantings.

3. Activity Need and Alternatives

3.1 Activity Need

The site is located in the SWGA which is currently experiencing significant residential growth in its central and western areas. John Edmondson High School and Casula High School currently service the SWGA but the significant residential growth has placed significant and unsustainable pressure on both existing high schools to accommodate increased demand with utilisation rates above 100%.

To respond to the significant residential growth and future demand in the Leppington Major Centre Precinct, a need for a new secondary high school has been identified. The site for the future high school was identified to the south of LPS due to the current rezoning proposal for LTC and previous due diligence work that has been undertaken.

3.2 Alternatives

The proposed activity has been developed following a consideration of options and alternatives to address the need identified above. A summary of the options considered is provided in **Table 5**.

Table 5: Assessment of Options and Alternatives

Option	Discussion	Preferred Option
Option 1: The Proposed Activity	The NSW Government and the department have committed to constructing a new high school in the LTC Precinct to cater for the ever-increasing demand for secondary education places. The new high school will cater for up to 1,000 students. There is space on site to enable future extension, if required.	Option 1 is **preferred** as it will deliver a new large high school which can offer better educational outcomes in a more efficient and cost-effective manner.
Option 2: Alternative Sites	The department has undertaken an extensive due diligence phase and has considered a number of possible alternative sites for a new high school in the area. The process of site selection resulted in the subject site being deemed the most suitable for the school development.	**Option 2** is **not preferred** due to environmental constraints of alternative sites increasing required mitigation measures. Further, the future planning for the LTC in the current PP identifies the creation of an educational precinct, integrating the existing LPS with a future high school site.
Option 3: Alternative Designs	Alternative designs and options for the preferred site have been considered during the design development phase. With the consideration of several specialities and expertise of the project team, including traffic, topography, flooding, heritage, and ecological, the proposed design has been determined as most suitable to accommodate the facilities required and the site's constraints. The design for the new high school also takes into consideration the	Option 3 is **not preferred** as an alternative siting and design of the buildings would result in additional costs and mitigation measures being required to cater for the future educational accommodation.

Option	Discussion	Preferred Option
	redevelopment and expansion of the adjoining LPS.	
Option 4: Do Nothing	If the project was not to proceed, then there will be a significant shortfall of secondary school infrastructure within the locality required to support the enrolment needs of the growing population in the area. There is no ability for intake area adjustments due to existing misaligned geographical locations of existing schools, and projected growth in the SWGA. Further, the predicted population growth would far exceed the ability of existing high schools to accommodate projected demand.	Option 4 is **not preferred** as it will not respond to the growth in the LTC Precinct and result in overcrowding of other schools.

4. Statutory and Strategic Framework

4.1 Permissibility and Planning Approval Pathway

Section 4.1 of the EP&A Act states that if an EPI provides that development may be carried out without the need for development consent, a person may carry the development out, in accordance with the EPI, on land to which the provision applies. However, the environmental assessment of the development is required under Part 5 of the Act.

TI SEPP aims to facilitate the effective delivery of infrastructure and educational establishments across the state and provides that various developments for the purposes of a government school are permitted without consent. The proposed activity is development permitted without consent as outlined at **Table 6**.

Table 6: Description of Proposed Activities under the TI SEPP

Division and Section within TI SEPP	Description of Works
3.37A New government schools—development permitted without consent	
(1) Development for the purposes of a government school may be carried out by or on behalf of a public authority without consent on land— **(a) in a prescribed zone, and** **(b) on which there is no existing or approved school.**	(a) The site is zoned B7 Business Park and SP2 Infrastructure under the Precincts SEPP. Educational establishments are development "permitted with consent" in both zones. Both zones are listed as a prescribed zone under the TI SEPP which enables the proposed activity to be carried out as development permitted without consent under 3.37A of the TI SEPP. (b) There is no existing or approved school on the subject site. The proposed activity is for the purpose of a new government school and involves the construction of buildings that are up to three storeys in height which is less than the four storeys in the environmental planning instrument applying to the site. The Design Quality Principles set out in Schedule 8 of the TI SEPP and the Design Principles set out in the Design Guide for Schools have been considered as set out in Section 0.
(2) A building resulting from development carried out on land under this section must not have a height of more than the greater of— **(a) the maximum height permitted for a building under an environmental planning instrument applying to the land, and** **(b) 4 storeys.**	(a) The Precincts SEPP prescribes a maximum height of building of 12m for the northern lot and 24m for the southern lot. (b) The proposed activity does not exceed four storeys.
(3) Development must not be carried out under this section unless— **(1) the public authority is satisfied that appropriate consultation has been undertaken having regard to—** **(i) the SCPP—new health**	(a) Early stakeholder consultation has been undertaken in compliance with the SCPP (as described in Chapter 5.1 of this REF).

Division and Section within TI SEPP	Description of Works
services facilities and schools, and **(ii) the *stakeholder and community participation plan*, and** **(2) the public authority has considered—** **(i) the design quality of the development, evaluated in accordance with the design quality principles set out in Schedule 8, and** **(ii) the design principles set out in the design guide.**	(b) Consideration of the design quality of the proposed activity is detailed in the Architectural and Landscape Design Report, prepared by DJRD Architects in **Appendix 19**, accompanying this REF.
In this section— *Government school* includes a relevant preschool.	Not relevant. A preschool does not form part of the proposed activity.

As part of the broader scope of works associated with the activity, a number of works will be undertaken in the public domain. These works are ancillary to the scope of the REF and include works within the road reserve, such as line marking and signage, as well as utility connections. Some of the works which are identified in the road reserve within this REF would otherwise be able to be undertaken as exempt development, but are still captured and assessed in this REF. The relevant section of the TI SEPP and the proposed works are detailed following.

Table 7: Description of Ancillary Activities under the TI SEPP (Division 17 Roads and traffic, Part 2.3 Development controls, TI SEPP)

Section within TI SEPP	Description of Works
Section 2.113 Exempt development	• Road signage (Section 2.113(1)(a)(iii)) • Linemarking (Section 2.113(1)(a)(xi)) • Median strip within Rickard Road (Section 2.113(1)(a)(ii)) • Stormwater drainage connection (Section 2.113(1)(a)(xiii)) • Driveway connection (minor pavement and shoulder works including pavement marking) (Section 2.113(1)(a)(vi) and (xii)) • Bus bay extension (Section 2.113(2))

Activities permissible without consent require environmental impact assessment in accordance with Division 5.1 of the EP&A Act and are assessed and determined by a public authority, referred to as the determining authority. The department is the proponent and determining authority for the proposed works.

Additionally, Section 5.7 of the EP&A Act states that an activity that is likely to significantly affect the environment must be subject of an Environmental Impact Statement (EIS) rather than an REF. The effects of the activity on the environment are considered in Section 6 and have been assessed as a less than significant impact and can therefore proceed under an REF assessment.

Section 171(1) of the EP&A Regulation notes that when considering the likely impact of an activity on the environment, the determining authority must take into account the environmental factors specified in the guidelines that apply to the activity.

The *Guidelines for Division 5.1 Assessments* (DPE June 2022) and the *Guidelines for Division 5.1 assessments Consideration of environmental factors for health services facilities and schools Addendum* (DPHI, October 2024) provide a list of environmental factors that must be taken into account for an environmental assessment of the activity under Division 5.1 of the EP&A Act. These factors are considered in detail at Section 6.

In summary, the proposal is considered an 'activity' and 'development permitted without consent' for the purposes of Part 5 of the EP&A Act and is therefore subject to an environmental assessment through a REF.

4.2 Pre-conditions to Pathway

Under the TI SEPP, there are several requirements which must be complied with in order for development to be undertaken as development without consent. Compliance with the relevant sections and requirements of the TI SEPP are outlined below:

Table 8: Compliance with pre-conditions to the 'development without consent pathway'

Section of TI SEPP	Comment Section	Complies
3.8 Consultation with councils – development with impacts on council-related infrastructure or services	This section applies where there is likely to be a substantial impact on stormwater management, traffic capacity of the road system, the sewerage system, water supply system, more than inconsequential excavation in a road reserve or installation of a temporary structure on a public place. The activity does not trigger any of these threshold requirements for consultation under Section 3.8. However, notification to Camden Council will be made as part of the broader exhibition of this REF and accompanying documents.	Yes
3.9 Consultation with councils— development with impacts on local heritage	LPS, to the immediate north of the site, contains a locally heritage listed item. All building works have been sited away from the common boundary with LPS to ensure no resulting impacts on the integrity of the heritage listed buildings and its curtilage.	Yes
3.10 Notification of councils and State Emergency Service— development on flood liable land	Not applicable. The site is not flood liable land.	N/A
3.11 Consideration of Planning for Bush Fire Protection	Not applicable. The site is not bushfire prone land.	N/A
3.12 Consultation with public authorities other than councils	The activity will not involve: • Development adjacent to land reserved under the *National Parks and Wildlife Act 1974* (NPW Act). • Development on land immediately adjacent on a rail corridor that would have an effect on rail safety. • Development that would increase the amount of artificial light in the night sky. • Development on land within a mine	Yes

Section of TI SEPP	Comment Section	Complies
	subsidence district. • Development for the purpose of an existing school.	
3.38A Notification of carrying out of development under section 3.37A	As the activity involves development to which Section 3.37A(1)(a) applies, written notice of the intention to carry out the development to Council and TfNSW for 28 days is required. The requirement for notification of these stakeholders under Section 3.38A will be satisfied as part of the broader exhibition of this REF and accompanying documents.	Capable of complying subject to exhibition of this REF prior to determination and provision of written notification to Council and TfNSW.

4.3 Environmental Protection and Biodiversity Conservation Act 1999

Most of the remanent trees on site form part of the vegetation assembly known as the Cumberland Plain Woodland. This community is listed as a CEEC and are protected under the *Biosecurity Act 2015* and the Commonwealth EPBC Act.

The AIA (**Appendix 14**) confirms that the trees assessed on site and the immediate surrounds are not endangered species. Furthermore, the site and the broader SWGA received Biodiversity Certification under the former Growth Centres SEPP (the provisions have been transferred to the Precinct SEPP). This certification allows development in certified areas to proceed without further biodiversity assessment, provided the agreed conservation outcomes are undertaken.

As such, the provisions of the EPBC Act do not affect the activity as it is not development that takes place on or affects Commonwealth land or waters. Further, it is not development carried out by a Commonwealth agency or development on Commonwealth land, nor does the proposed development affect any matters of national significance. An assessment against the EPBC Act checklist is provided at **Table 9**.

Table 9: EPBC Act Checklist

Consideration	Yes/No
Will the activity have, or likely to have, a significant impact on a declared World Heritage Property?	No
Will the activity have, or likely to have, a significant impact on a National Heritage place?	No
Will the activity have, or likely to have, a significant impact on a declared Ramsar wetland?	No
Will the activity have, or likely to have, a significant impact on Commonwealth listed threatened species or endangered community?	No
Will the activity have, or likely to have, a significant impact on listed migratory species?	No
Will the activity involve any nuclear actions?	No
Will the activity have, or likely to have, a significant impact on Commonwealth marine areas?	No
Will the activity have any significant impact on Commonwealth land?	No

Consideration	Yes/No
Would the activity affect a water resource, with respect to a coal seam gas development or large coal mining development?	No

4.4 Other Approvals and Legislation

Table 10 identifies any additional approvals that may be required for the proposed activity.

Table 10: Consideration of other approvals and legislation

Legislation	Relevant?	Approval Required?	Applicability
State Legislation			
National Parks and Wildlife Act 1974	No	No	The Aboriginal Cultural Heritage Assessment Report (ACHAR) and accompanying Aboriginal Archaeological Technical Report (**Appendix 6**) have assessed the soils as having potential for objects of Aboriginal archaeological and cultural significance. It was concluded that, following test excavation no Aboriginal objects or features of cultural or archaeological significance were found at the site. The findings from the test excavation indicate the site to be of nil archaeological significance. The ACHAR concluded that the proposed activity at the site will not have a significant effect on the environment in relation to Aboriginal Heritage. The site is not near a NSW National Park and the proposed activity will not affect a NSW National Park.
Rural Fires Act 1997	No	No	The Bushfire Hazard Assessment (**Appendix 11**) confirms that the activity is not on designated Bushfire Prone Land (BFPL). Further, the new school buildings are not likely to be subject to bushfire attack (buildings are separated by 50m for grassland and 100m for woodland and forest). As such, the school buildings are not subject to Planning for Bushfire Protection 2019 or Specification 43 of the NCC.
Water Management Act 2000	No	No	The activity is not located within 40 meters of a watercourse or coastline.
Biodiversity Conservation Act 2016	Yes	No	The Ecological Assessment in **Appendix 13** conducted a search of the Department of Climate Change, Energy, the Environment and Water (DCCEEW) BioNet Atlas mapping and identified four endangered or threatened species within proximity to the site: • Swift Parrot (*Lathamus discolor*) which is listed as Endangered under the BC Act and EPBC Act • Grey-headed Flying Fox (*Pteropus poliocephalus*) which is listed Vulnerable under both the EPBC Act and BC Act

Legislation	Relevant?	Approval Required?	Applicability
			• Large Bent-winged Bat (*Miniopterus orianae oceanensis*) which is listed as Vulnerable under the BC Act • Cumberland Plain Land Snail (*Meridolum corneovirens*) which is listed as Endangered under the BC Act Given low number of previous sightings of these species in proximity to the subject site, the Ecologist has stated that these species' likelihood of occurrence is considered moderate to low. Under the Section 8.4 BC Act, the effect of biodiversity certification is that development carried out under Part 5 of the EP&A Act on certified land is exempt from requiring an impact assessment on biodiversity. As the activity falls under Part 5 of the EP&A Act and occurs on biodiversity certified land, it is deemed, for the purposes of Part 5 not to have a significant impact on any threatened pieces, ecological communities, or their habitats on that land. Accordingly, no further assessments regarding biodiversity impacts are required as certification process has already addressed these impacts.
Heritage Act 1977	Yes	No	The subject site is not affected by a State or local heritage listing. LPS to the north of the subject site is listed on the department's Section 170 Heritage and Conservation Register. The two southern allotments of LPS (Lots 38E and 39C in DP 8979) are also mapped as having local heritage significance under the Precincts SEPP. The activity will not interfere with or affect the heritage listing or its curtilage.
Fisheries Management Act 1994	No	No	The subject site is not in proximity to any waterways and will not obstruct any water tidal patterns or flows. There is an existing pond on the site which is required to be dewatered as part of the activity. A Dewatering Management Plan is required to be prepared as a mitigation measure to ensure no harm to fauna will occur from the dewatering process, as indicated in the Ecological Assessment in **Appendix 13**.
Protection of the Environment Operations Act 1997 (POEO Act)	Yes	No	The proposed activity will not result in significant air, noise, water or waste pollution and therefore an approval under the POEO Act is not required.
Roads Act 1993	Yes	Yes	The activity involves creating a new access driveway along the southern boundary of the site. A Section 138 application to Council is required to connect the new accessway to Rickard Road. A separate application will need to be prepared and lodged with Council as Rickard Road is a Council road.

Legislation	Relevant?	Approval Required?	Applicability
Local Government Act 1993	Yes	Yes	Separate consent will be required from Camden Council, under Section 68 of the *Local Government Act 1993* for water supply, sewerage and stormwater drainage work (Part B of Section 68).
Environmental Planning and Assessment Regulation 2021 (Section 171A)	Yes	No	The site is located within a regulated catchment being the Hawkesbury-Nepean Catchment. The site falls within the Upper South Creek Catchment. The proposed activity will include provision of water quality treatment measures as part of water-sensitive urban design. Section 171(A) of the EP&A Regulation has been addressed at Section 6.13 of the REF.
State Legislation – State Environmental Planning Policies			
State Environmental Planning Policy (Planning Systems) 2021	Yes	No	It is noted under Section 2.6 of the Planning Systems SEPP, that a development does not automatically require consent under Part 4 of the Act solely because it is declared State Significant Development (SSD) under this section. Where an EPI permits the development without consent, it may instead be assessed as an activity under Part 5 of the EP&A Act. Although the estimated development cost exceeds $20 million, under the provisions of Section 3.37A of the TI SEPP, the activity can be carried out as development without consent.
State Environmental Planning Policy (Biodiversity and Conservation) 2021	Yes	No	Chapter 2 Vegetation in non-rural areas applies to the activity. However, no additional approvals or permits are required as the site is part of the biodiversity certification for the SWGA. Chapter 6 Water catchments also applies to the site. However, as Section 3.37A of the TI SEPP enables the activity to occur as 'development permitted without consent', no further approvals are required.
State Environmental Planning Policy (Sustainable Buildings) 2022	Yes	N/A	Section 3.1(1)(a) of the *State Environmental Planning Policy (Sustainable Buildings) 2022* (Sustainable Buildings SEPP) applies to the erection of a new building, if the development has an estimated development cost of $5 million or more. Section 3.2 of the SEPP specifies sustainability outcomes for non-residential development that the consent authority must consider in deciding whether to grant development consent. Whilst the activity does not require development consent under Part 4 of the EP&A Act and can instead be assessed as an activity under Part 5, an ESD Report has been prepared (**Appendix 23**) to demonstrate how sustainability has been integrated into the design and operations of the activity. In doing so, the REF has considered the provisions outlined in Section 3.2 of this SEPP.
State Environmental Planning Policy	Yes	No	The DSI concludes that remediation of the site will be required. A RAP has been prepared (**Appendix**

Legislation	Relevant?	Approval Required?	Applicability
(Resilience and Hazards) 2021			**9**) which sets out the scope and approach to remediation works for the site.
State Environmental Planning Policy (Transport and Infrastructure) 2021	Yes	No	In accordance with Section 3.58 Traffic-generating development of the TI SEPP, the proposed activity is considered traffic generating pursuant to (1)(b)(ii) and therefore will be referred to TfNSW.
State Environmental Planning Policy (Precincts – Western Parkland City) 2021			
Chapter 4 Western Sydney Aerotropolis			
Cl 4.22 Airspace operations	Yes	No	The site is within an OLS area for the Western Sydney Airport. The applicable OLS is penetrated by structures higher than 225.5m. The proposed activity does not penetrate the OLS.
Appendix 5 Camden Growth Centres Precinct Plan			
Land Use Table - Zoning	Yes	No	The site is zoned B7 Business Park and SP2 Infrastructure. “Educational establishments” are permitted with consent in the B7 zone under the Precincts SEPP. Notwithstanding, approval is being sought pursuant to Section 3.37A of the TI SEPP which states that development for the purpose of a school may be carried out without development consent on land in a prescribed zone and on which there is no existing or approved school. A portion of the western part of the site is zoned SP2 and relates to the future road widening of Rickard Road. The acquisition authority is Camden Council.
Cl. 4.3 Height of buildings	Yes	No	The maximum height of building control that applies to the site under the Precinct SEPP is 24m in the southern part and 12m in the northern part of the site. Notwithstanding, Section 3.37A(2) of the TI SEPP prescribes a maximum height of buildings of 4 storeys for the site. The TI SEPP prevails over the Precincts SEPP. The proposed activity includes four new buildings each being a maximum of three storeys in height and a new hall which is one storey in height. All buildings thereby comply with the maximum height of buildings for the site.
Cl. 4.4 Floor space ratio	No	No	No floor space ratio applies to the site.
Cl 5.1 Relevant acquisition authority	Yes	No	A portion of the site is land reserved for acquisition (LRA) to facilitate the widening of Rickard Road. Only landscape treatments are proposed in this portion of the site until acquisition occurs.
Cl. 5.10 Heritage conservation	Yes	No	The site is not listed as a heritage item or falls within a heritage conservation area. However, LPS to the north is listed as is listed on the department’s Section 170 Heritage and Conservation Register. The two southern allotments of LPS (Lots 38E and 39C in DP 8979) are also mapped as having local heritage significance under the Precincts SEPP. The SOHI confirms that the proposed activity will

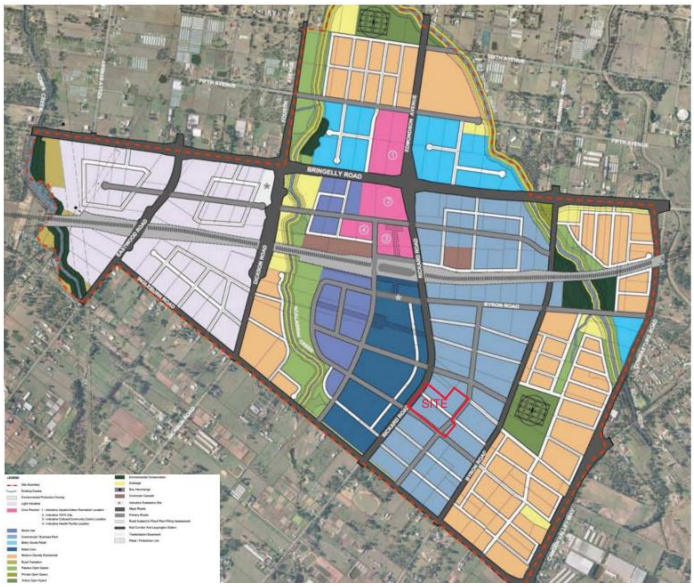
Legislation	Relevant?	Approval Required?	Applicability
			have a neutral heritage impact.
Cl 6.1 Public utility infrastructure	Yes	Yes	The consent authority must not grant development consent to development on land to which this Precinct Plan applies unless it is satisfied that any public utility infrastructure that is essential for the proposed development is available or that adequate arrangements have been made to make that infrastructure available when required. A Water Services Coordinator has been liaising with Sydney Water to carry out the Section 73 application requirements for the site. The NoR has not been lodged as we are awaiting the outcome of the Feasibility Application that has been lodged (Case Number 219026).

4.5 Camden Growth Centre Precinct Development Control Plan – Schedule 1 Austral and Leppington North Precincts

The DCP that currently applies to the Austral and Leppington North Precinct, as part of the SWGA, is the Camden Growth Centre Precincts DCP (latest update December 2024) and the accompanying, Schedule 1 Austral and Leppington North Precincts. However, we also note that a draft DCP was publicly notified at the end of 2023, beginning of 2024 as part of the LTC PP. In December 2024, the PP was announced as a state-assessed planning proposal and is now with DPHI for assessment and finalisation.

This REF considers the DCP currently in force, however the design development has also considered the draft DCP as it will alter the current ILP. The following table lists the relevant development controls that are applicable to the proposed activity.

Table 11: Relevant Development Controls of the Camden Growth Centres Precinct DCP

DCP Provision	Comment
Chapter 2 Precinct Planning Outcomes	**Indicative Layout Plan**  **Figure 38: Indicative Layout Plan, site outlined in red (Source: DPHI)**

DCP Provision	Comment
	The Indicative Layout Plan envisages the site forming part of a commercial/business precinct. Whilst the proposed activity is not consistent with the current vision of the ILP, the use of the site as an educational establishment is permissible as the B7 Business Park is a prescribed zone under the TI SEPP. Further, the draft ILP associated with the PP identifies the site as a future school under the SP2 Infrastructure (Education Establishment) zoning. The Precinct Planning Outcomes consider a sites heritage, vegetation, flooding, ecology, contamination and noise impacts to determine if the site is suitable for development. The site adjoins a heritage item to the north, LPS, but will have a neutral impact on heritage as the design and layout of the site has taken into consideration the item and its significance. The landscaping incorporates native vegetation and trees to contribute positively to the character and amenity. Principles of Crime Prevention through Environmental Design (CPTED) have been incorporated into the design to decrease opportunities for crime. Overall, the activity has considered the Precinct Planning Outcomes and has ensured the key principles have been incorporated into the activity, at all stages.
4 Development in Residential Areas	**Parking** The car parking requirements under the DCP for a school is: One space per staff member Plus One space per 100 students Plus One space per five students in Yr 12 (based on estimated capacity for year 12 students to be specified in the Development Application) A pick up / drop off facility of sufficient size to accommodate the forecast demand identified through a traffic and parking report. The resultant layout of the facility to be to the satisfaction of Council. The proposed car parking is 75 car parking spaces provided in the south-east of the site. Of these spaces, two will be accessible spaces. The TIA (**Appendix 15**) confirms that the 75 car parking spaces are sufficient to cater for staff requirements. However, the activity is not compliant with the parking requirement for students as it is the departments policy not to provide on site parking for students as they are encouraged to use sustainable methods of transport to and from school. As such a School Transport Plan has been included to reduce reliance on private vehicles, support sustainable travel moves and improve safety during construction. This is at Appendix C in the TIA (**Appendix 15**).
Chapter 5 Centres Development Controls	The development principles and controls of this chapter of the DCP have been carefully considered in the Architectural and Landscape Design Report (**Appendix 19**), detailing the site context, design concept including urban and built form, open space, traffic and access, security and CPTED.
Chapter 6 Site specific controls	The DCP Site specific controls include landscape design, built form and streetscape, ESD and waste management. The activity has considered these controls through the inclusion of the CWC Framework and Design quality principles in schools, designing a built form that is at an appropriate scale for the site and surrounds and landscaping that includes native planting to help create a buffer and contribute to the overall streetscape. The design of the built form has considered ESD principles and incorporated these to ensue a sustainable outcome for the site. Overall, the activity has considered the site specific controls and has ensured the objectives of each have been

DCP Provision	Comment
	addressed in the activity, at all stages.
Schedule 2 Leppington Major Centre	
Chapter 2 Development planning and design	The site forms part of the Leppington Major Centre which was rezoned on 15 March 2013 and identifies the site and surrounds as a commercial/industrial precinct. The new high school will integrate with the existing LPS and will be supported by the provision of shared bike and pedestrian paths, connecting the site to public recreation facilities and create opportunities for residents to enjoy access to facilities in a high quality urban environment.

4.6 Strategic Plans

Table 12 considers strategic plans that are relevant to the proposed activity.

Table 12: Consideration of applicable Strategic Plans

Strategic Plan	Assessment
A Metropolis of Three Cities – The Greater Sydney Region Plan	The *Metropolis of Three Cities – The Greater Sydney Region Plan* (Region Plan) sets a 20-year strategic plan to manage the growth in the context of economic, social and environmental matters to achieve the 40-year vision for Greater Sydney. The Region Plan envisions Greater Sydney as three cities where most residents live within 30 minutes of their jobs, education and health facilities, services and great places. These three cities are: • the Western Parkland City • the Central River City • the Eastern Harbour City The Region Plan has 10 directions for the metropolis of three cities, a liveability, productivity and sustainability framework. Of relevance to this proposed is: *Objective 1: Infrastructure supports the three cities* • The proposed activity for a new high school will provide essential infrastructure to support the growing population of the Western Parkland City. *Objective 2: Infrastructure aligns with forecast growth – growth infrastructure compact* The new high school site has been chosen to respond to the anticipated growth in the Leppington Major Centre and more broadly, support the housing and employment needs of the growing population in the SWGA. *Objective 6: Services and infrastructure meet communities' changing needs* The proposed activity will deliver essential infrastructure that utilises land efficiently, through careful landscaping and bult form layout while creating a range of flexible learning spaces to respond to changing needs.
Western City District Plan	The Western City District Plan is a 20 year plan to manage the growth in the context of economic, social and environmental matters to achieve the 40 year vision of Greater Sydney set out in

Strategic Plan	Assessment
	the *Metropolis of Three Cities – The Greater Sydney Region Plan*. The District Plan has 10 directions, of which planning priorities are set out for each direction to ensure delivery of the plan. Of relevance to this activity is: *Planning Priority W1: Planning for a city supported by infrastructure* • This planning priority is to fairly balance population growth with infrastructure investment. Planning decisions must equitably balance local opportunities, inclusion and connection to services. • The location of the proposed new high school within the Western City has considered all activity needs and alternatives and determines the most equitable and appropriate decision to balance local opportunities, inclusion and connection to services. *Planning Priority W3: Providing services and social infrastructure to meet people's changing needs* • This planning priority is to ensure that places, services and social infrastructure meet people's changing needs. • The significant residential growth in the surrounding area has resulted in an unsustained pressure on existing high schools in the area. To address the current and future demand in the LTC Precinct it is necessary to provide a new high school to meet the changing needs of the community.
Camden Local Strategic Planning Statement 2020	Local Strategic Planning Statements (LSPS) are instrumental tools in New South Wales for guiding local strategic planning efforts. They inform local statutory plans and development controls while translating regional and district plans into actionable measures. These statements act as unifying documents, summarising planning priorities from various levels of strategic work. In practice, Local Strategic Planning Statements shape the evolution of LEP and DCP over time, reflecting and adapting to the specific needs and priorities of the local community. The Camden LSPS is a 20-year vision for land use, transport and sustainability that outlines the strategy to implement the vision of the District Plan at a local level. The Camden LSPS identifies themes for the area based on the regional plan, including: • Infrastructure and Collaboration • Liveability • Productivity • Sustainability • Transport The proposed activity satisfies the themes for the following reasons: supports liveability of the local area by providing the community with an educational facility in an area that is well-located, close to public transport infrastructure. contributes towards livability by providing a social infrastructure for future community needs. fosters productivity by providing more dedicated space for education purposes in areas of anticipated population growth creating a diverse major centre for residentials, workers and visitors includes sustainable design including, efficient energy, water and waste use and protects biodiversity values through tree and habitat retention.

Strategic Plan	Assessment
	Transport The proposed activity aligns with Local Priority 12 of the LSPS by supporting an integrated transport network, by considering and including the future duplication of Rickard Road in the development of the site layout and function. The TIA (**Appendix 15**) confirms that given the increasing population, the update will be important in the future of the precinct. Engagement with Council and TfNSW recognises the priority of delivering road upgrades in the area, A School Transport Plan (Appendix C in the TIA (**Appendix 15**)) outlines strategies to encourage active and public transport options for both staff and students.
Connecting Camden – Community Strategic Plan 2036	The Community Strategic Plan sets the community's vision and aspirations for a minimum of ten years. Developed through robust community engagement, it functions as a forward-looking roadmap, with the council holding a custodial role in its refinement. Guided by social justice principles, it aligns with the State Plan and other pertinent strategies. Addressing fundamental questions, the plan outlines priorities, aspirations, and implementation strategies over the next three decades. Regular updates every four years ensure adaptability to changing circumstances and evolving community aspirations, adhering to government requirements. The Camden Community Strategic Plan (CSP) sets the over-arching 10-year plan for the LGA, identifying the main priorities and strategies for achieving the community's desired future. The CSP identifies 5 key directions: • Welcoming • Liveable • Prosperous • Balanced • Leading The proposed activity aligns with the CSP and identified opportunities for Camden to cluster facilities together such as education to create opportunities for residents and establish Camden's role in the Western Parkland City. Alongside the adjoining public school, the site will form part of the Leppington education precinct and help support the growing population through essential infrastructure.
Camden Council Delivery Program 2022/26 and 2024/25 Operations Plan (Budget)	The off-site works included in the proposed activity, as detailed within the TIA (**Appendix 15**) include: • Road signage and linemarking on Rickard Road • Proposed median strip within Rickard Road to prevent right hand turn • Stormwater drainage connection • Driveway connection (upgrade existing rural driveway crossing) • Bus bays provided on Rickard Road (relocate existing from PS and upgrade to accommodate HS) • High voltage (HV) electrical connection • Information and communication technology (ICT) connections • Water connections Connection to sewer main at Ingleburn Road, including pipe installation on Rickard Road. Any transport or road works in the

Strategic Plan	Assessment
	broader locality are under consideration as part of the LTC PP which is anticipated to significantly increase density in the locality.

5. Consultation

5.1 Early Stakeholder Engagement

Table 13 provides a summary of early stakeholder (non-statutory) consultation undertaken to inform project development and preparation of the REF. A more detailed description of consultation and any resulting recommendations are contained in the Agency Consultation Report in **Appendix 29**.

Table 13: Summary of Early Stakeholder Engagement

Stakeholder	Date of Engagement	Issue Raised	Project Resolution
Aboriginal stakeholders	23 September 2024 4 October 2024	Representatives from the First Nations community, together with members of the project team, visited the site to explore the needs of Country and build strong relationships with one another. Feedback from this engagement is included in the Architecture and Landscape Design Report in **Appendix 19**.	Collaborative design workshops led by Yerrabingin identified recycling of material of Country as a site specific sustainability measure: the re-use of the timbers from felled trees on site and the inclusion of locally sourced stone in the landscaping, particularly in the terracing between the sports courts and the field, and the winding access path up from the secondary entry on Rickard Road to the sports courts. The importance of the geology of the landscape is also carried through into the colour sections and layering of colour in the facades. Native species planting throughout the site will also contribute significantly to healing Country which had previously been cleared for agricultural purposes.
Camden Council	25 October 2024	Flooding • Council noted potential site impact issues if flooding in the precinct occurred.	Flooding The Flood Statement and Flood Emergency Response Plan (FERP) (in **Appendix 5**) have been prepared to assess the flooding impacts of the site.
	19 & 25 October 2024	Car Parking/ Traffic • Concern with number of carparking spaces proposed • Surrounding future road development • Need for larger kiss and drop with left in left out only	Car Parking / Traffic • The number of car parking spaces have been increased to address the number of teachers and staff • The assessment of the activity has been undertaken using current DCP controls and do not rely on the construction of new roads, as identified in the ILP and draft ILP • The length of the kiss and drop zone has been

Stakeholder	Date of Engagement	Issue Raised	Project Resolution
			increased to accommodate more cars from the high school only (not integrated with LPS to the north) • Left in left out only provided The Architectural Drawings (**Appendix 18**) and Landscape Drawings (**Appendix 20**) refer to offsite works
	25 October 2024	Urban Planning • Potential gazettal of LTC PP in 2025 • Links between HS and PS	Urban Planning • Confirmation that the HS can accommodate future ILP roads when required • Confirmation that no physical integration between the existing LPS to the north and the activity proposed at this stage.
	25 October 2024	Stormwater / Sewer Connection • Council indicated a preference to develop a new sewer connection which runs south within the Rickard Road reserve to Ingleburn Road.	Stormwater/ Sewer Connection This design measure is included in the REF package
Government Architect NSW (GANSW)	25 September 2024	Presentation to the State Design Review Panel (SDRP). • GANSW issued recommendations relating to Connecting with Country, Site Strategy and Landscape, Architecture and Sustainability and Climate Change. • A summary of the response to these recommendations is in Section 0 of this REF report. A detailed response to these recommendations is in the Architecture and Landscape Design Report in **Appendix 19**.	• SRDP informed the design of the school with regard to water sensitive urban design approach, tree canopy targets, shade, eaves etc. • Detail is provided within the Architectural Design Report.
Transport for NSW (TfNSW)	11 September 2024	• Need for swept path assessment for buses, splays at intersections. • Drop off and pick up arrangements on western side of Rickard Road.	• Swept path analysis is included in the TIA (**Appendix 15**) • Public domains works include the installation of ‘no stopping’ signs
NSW Rural Fire Service (RFS)	29 October 2024	• RFS confirmed the site is not located in a bushfire prone area. As such, the activity is low risk and will be treated accordingly. There would be no requirement to comply with Planning for Bushfire	• No project resolution required.

Stakeholder	Date of Engagement	Issue Raised	Project Resolution
		Protection 2019.	
NSW State Emergency Service (SES)	31 October 2024	• The need for a FERP despite the site not being flood prone as surrounding roads are subject to inundation.	• A FERP (in **Appendix 5**) has been prepared to accompany this REF.
Sydney Water	27 November 2024	• Discussions with regard to the anticipated demands of the activity and presentation of sewer options.	• A feasibility application has been lodged with Sydney Water.

5.2 Statutory Consultation

Consultation has been undertaken in accordance with statutory requirements under the TI SEPP and having regard to the SCPP DPHI and the SCPP DoE. This includes:

- sending notices to affected neighbours, owners and occupiers inviting comments within 28 days
- sending notices to the local council and relevant state and commonwealth government agencies and service providers inviting comments within 28 days
- placing an advertisement in the local newspaper
- making the REF publicly available on the Planning Portal throughout the consultation period.

5.2.1 Summary of Submissions

During the public exhibition of the REF, a total of 8 submissions were received, including submissions made by relevant government authorities, agencies and members from neighbouring organisations. A summary of the submissions is provided below:

- 5 submissions from government agencies, comprising one from Camden Council and four from various other government agency bodies providing a general comment, recommendations or support.
- 3 submissions from the public including 1 submission on behalf of residents of the surrounding area

A numerical breakdown of the submissions received is provided in Table 14:Statutory Consultation Submissions Received**Table 14**, and a summary of their position is provided in **Table 15**.

Table 14:Statutory Consultation Submissions Received

Stakeholder Group	Submission Name	Total
Government agencies	Rural Fire Service, Sydney Water, Bradfield Development Authority, Endeavour Energy	**4**
Local Council	Camden Council	**1**
General Public and Organisations	Pantanial, Leppington Progress Association,	3

Stakeholder Group	Submission Name	Total
	Aerotropolis Consultants Pty Ltd (AC P/L)	
Total Submissions		**8**

Table 15: Statutory Consultation Position of Submissions

Author	Support	Support with Comments	Comment / Neutral	Total
Government agencies	2	0	2	**4**
Local Council	0	1	0	**1**
General Public and Organisations	0	0	3	**3**
Total	**2**	**1**	**5**	**8**

The considerations raised during statutory consultation have been carefully considered, summarised and responded to below. **Table 16** relates specifically to matters raised by Camden Council and **Table 17** is other stakeholders' key matters for consideration.

Table 16: Statutory Consultation and project response, Camden Council

Consideration Raised	Response	Mitigation Measure
Camden Council – received 20th March 2025		
Traffic a) The traffic modelling used in the TIA incorporates traffic generated from 300 students. An assessment of the site at full capacity (1000 students) needs to be undertaken and confirm the site can satisfactorily accommodate on the local road system.	a) Through discussions with Council and additional investigation by the traffic consultant, the TIA has been amended to consider the traffic generated in the opening year (2027) with approximately 300 students as well as considering what the maximum capacity of the student population may reach before road upgrades must occur in the locality. The amended TIA identifies 3 modelling scenarios: opening year with 270 students, up to 500 students and over 500 students. Council is aware that the high school is not the primary contributing factor to congestion, as background growth has already created, and will continue to create, congestion in this locality. As a consequence, Council have undertaken a design for the duplication of Rickard Road and are actively advocating for SIC funding to deliver the upgrade. We note that LTC is going to evolve into a high density residential locality and the LTC PP is currently being considered as a SARP and we would anticipate this will accelerate the funding required to upgrade Rickard Road. As LTC is nominated as a SARP, we would anticipate the PP being finalised in 2025. As adjoining sites begin to develop in accordance with the new zoning proposed in the LTC PP the southern and eastern roads are likely to be delivered as part of the DAs associated with these developments and be dedicated to Council. As discussed within this REF, the site provides a temporary car park in the location of the eastern town centre road and provides for removal of the internal accessway at the southern boundary of the site to facilitate an ultimate outcome which incorporates the ILP roads. A MM has been provided which will cap the student numbers until such time as Rickard Road is upgraded, or local roads are constructed. We anticipate this would occur within the first few years of the school opening.	a) TRMM2
b) The bus stop on the western kerb of Rickard Road is isolated and there is no proposed crossing.	b) The existing public bus stop that is located on the western side of Rickard Road will continue to operate as a public stop and will not be relied upon by the high school. Section 7.2 of the TIA identifies the scenario with up to 500 students enrolled, 161 will use the school bus services and 5 will use the existing public bus service. As detailed	b) TRMM1, TRMM9

Consideration Raised	Response	Mitigation Measure
	within the TIA, all students and all vehicles associated with the high school will utilise the eastern side of Rickard Road. A median is being provided to ensure no right hand turn movements and the TIA identifies access from Byron Road to allow all vehicles to access the site from the north. The proposal includes a school bus stop and bay on the eastern side of Rickard Road, 57m long to accommodate buses. Rickard Road currently provides a rural road with one lane in each direction and no curb and gutter, with a speed limit of 60 kph on a bend in the road. Students and parents will be encouraged not to pick-up or drop-off or use the bus stop on the western side of Rickard Road. This will be detailed in the School Travel Plan and communicated with all students and families.	
c) The future of Rickard Road is intended to have signalised intersections with pedestrian crossing facilities. However, an interim measure is required for the safe crossing of students.	c) As noted above, all students will be discouraged from utilising the western side of Rickard Road due to the rural nature, no stopping, lack of pedestrian footpath and lack of crossing. It is intended that travel behaviours for a new high school are established from opening, given this will become a four lane road that would be unsafe to cross.	c) TRMM1, TRMM9
d) Any proposed crossing facilities need to have lighting to ensure adequate visibility to approaching vehicles.	d) The school site is to operate during daylight hours and no crossing facility is proposed. Rickard Road is subject to future road widening and the western side of the road is to be discouraged from being used by students, staff, parents and visitors. Signage and line markings will be finalised during the detailed design phase, in LTC meetings to encourage parents/ guardians not to pick-up or drop-off students on the western side of Rickard Road.	d) TRMM1, TRMM9, TRMM10, TRMM11,
e) A crossing facility should be provided at the driveway access point – before the new road is built – to ensure pedestrian priority.	e) The TIA provides “painted line markings and warning signage at the driveway and Rickard Road interface are proposed to provide additional warning to drivers of potential pedestrians or cyclists.”	e) TRMM11, TRMM12
f) The TIA needs to address the future intersection at the southeastern corner of the site.	f) It is anticipated that there will be a future planning pathway to amend the internal accessway following the construction of the southern town centre road. At the point that Rickard Road is upgraded and the southern road is constructed, the internal accessway will be removed	f) LAMM1

Consideration Raised	Response	Mitigation Measure
	and the Kiss & drop will be relocated to the southern road. When this amendment is made in the future, the intersection will be incorporated into any design. These works will be subject to a future planning pathway.	
g) The TIA needs to discuss changes to the school zone along Rickard Road.	g) Section 7.6 of the TIA notes that there is an existing school zone around the public school site. This will be extended to the high school site, limiting the speed to 40km/h between 8–9.30am and 2.30–4pm.	g) N/A
h) Details on the travel mode share scenarios and assumptions need to be included in the TIA. Mode share scenarios also need to consider different scenarios for arrival and departure methods.	h) Mode share targets and assumptions have been included in Section 5 of the TIA. Section 1.5 of the TIA discusses the 3 enrolment scenarios, being 1) up to 270 students, 2) up to 500 students and 3) greater than 500 students.	h) N/A
i) Road modelling needs to include additional scenarios with regard to bus services. Future road modelling also needs to consider the new road layout and student numbers of both the high school and public school.	i) The STP, Section C.8.1 of the amended TIA details the school bus planning to ensure that if adequate bus capacity cannot be provided by TfNSW, school buses need to be provided by the department.	i) TRMM6, TRMM7
j) There is no modelling of the Years 7 and 8 only without a redistribution of background traffic.	j) Modelling has been undertaken for Year 7 and 8 in 2027 without redistribution of the background traffic. The intersection of Rickard Road/ Ingleburn Road performs at an unsatisfactory level (LoS F). Because of this, the model run has not been included in the report but is included as part of the technical memo for the transport modelling review.	j) N/A
k) The existing public school is considered an unsafe environment regarding traffic. The impacts of both sites need to be considered.	k) The existing public school is subject to a separate REF and Council's comments will need to be considered in relation to that proposal. However, as the PS and HS do need to be considered from a cumulative impact perspective, meetings were held with Council on 31/03/25 and 07/04/25 to discuss the status of the Rickard Road expansion. As part of the consideration of cumulative impacts, a MM has been provided which requires the staggering of bell times so that the peak periods for drop off and pick up in relation to the PS and HS are offset from one another. A further MM requires supervision to be	k) TRMM14, TRMM15

Consideration Raised	Response	Mitigation Measure
	provided to students between those bell times which will allow for families with children at both school. We understand from our discussions with Council that there are ongoing operational considerations in relation to LPS which is why it is important to establish appropriate travel behaviours for the HS from opening.	
l) The proposed school layout does not allow for the required road widening for future upgrades. It needs to be amended to fit with planned infrastructure and must align with the final Rickard Road design.	l) A meeting was held with all relevant officers from Camden Council to discuss the proposed Rickard Road widening and the alignment that is depicted in Council's 100% Design. The current design prepared by Council allows for east-west roads through the school site and the necessary splays on the corners of those roads. However, the draft ILP being considered with the LTC PP no longer provides east-west roads through the school site and instead recognises LPS and the HS as an education precinct. As a consequence, Council acknowledges the design will need to be amended to remove the roads within the education precinct and as consequence, the boundary of road widening will need to be slightly altered. The civil engineer for the project and Council's officers have undertaken further discussions to confirm the likely future road widening boundary and ensure it is outside the footprint of any proposed school buildings or infrastructure. An overlay assessment of the 100% concept design was conducted and confirmed that there was an encroachment of 1300mm at the southern end of Rickard Road, due to turn in lanes and bus bays. This encroachment is due to the inclusion of two west-east roads in the Rickard Road 100% concept plans and ILP that did not show the site as designated for a school. It should be noted that these design choices (turn in lanes and bus bays) may not be present once Council has finalised the design based on the LTC PP. Council also confirmed that the west-east roads will not be included in the Schematic Design for Rickard Road. However, accommodation of this will be considered during detail design.	l) N/A
m) The Town Centre Road (TCR) does not run parallel with the eastern property boundary as shown on submitted plans.	m) A revised plan of the ILP showing the adjusted TCR to accommodate the REF design was endorsed by David Atkin/Council on 07/04/25. A meeting was undertaken with the project team and Council, including Jamie Erkin (Manager) and David Atkin (Engineer) to review the	m) N/A

Consideration Raised	Response	Mitigation Measure
	change proposed to the ILP in the south-eastern portion of the site to ensure minimal impact to any other adjoining properties and also ensure no dogleg would be implemented with the future intersection directly south-east of the site. DJRD prepared a plan depicting the maximum amount of variation to the ILP road of 10m that would be required to facilitate the proposed school layout. If the ILP is strictly enforced it makes it very difficult to accommodate the necessary school buildings, car parks, kiss & drop, play fields, sports court, waste services, bicycle parking and landscaping. The site is already constrained by the Rickard Road widening to the west and the future town centre road to the east. This minor adjustment to the ILP facilitates an appropriate design outcome for the site. We note the impact of the amended to the ILP is limited only to the school site and the lot directly adjoining to the south (Lot 40 DP 8979). All other elements of the ILP are maintained in the proposed alignment.	
n) Building D (the hall) is positioned within the future TCR road reserve. Access to the school should come from the future TCR, and intersecting roads must have proper splay corners.	n) As per the comment above we note there has been a minor adjustment to the eastern town centre road.	n) N/A
o) Pedestrian connectivity needs further review. Council has identified the need for the construction of a footpath to and from the Leppington Train Station	o) The TIA identifies the catchment for the HS prior to and following the opening of Austral HS. Both catchments exclude any students from catching a train to school. All public transport usage will be confined to buses. However, we note that there is an existing footpath on the eastern side of Rickard Road that travels from Leppington train station to the site.	o) N/A
p) Safe crossing on Rickard Road needs to be addressed, including a wombat crossing for pedestrians. Footpath connections within the development to nearby roads also need further review.	p) Camden Council has indicated support for a wombat crossing to be provided for pedestrians opposite the adjoining LPS. The design of the crossing is yet to be finalised; however, Council has received a grant for funding the wombat crossing on Rickard Road, north of the high school site.	p) N/A
q) Improved on-site, on-street, or both types of facilities are needed to handle the traffic expected from the new	q) Car parking and kiss & drop facilities have been proposed on-site, located along the southern boundary. Design of these facilities has	q) TRMM1, TRMM5, TRMM9-15,

Consideration Raised	Response	Mitigation Measure
development and expanding primary school.	considered the maximum number of cars queuing to use the facilities and the ability of the staff to access the on-site parking area at the south-eastern corner of the site. Pick up and drop off and parking is discouraged on the western side of Rickard Road as it is a rural road. Further, no parking is anticipated to be accommodated on or adjacent to Rickard Road when it is duplicated to a four lane road. Future street parking may be available in local roads but will not be relied upon with teachers parking all provided on site.	TRMM17,
r) Details of the following for the car park should be provided: • Land widths, lengths and swept paths to confirm compliance with AS2890 and Austroads • Disabled parking to be notated • The interface between the internal roadway and Rickard Road	r) Swept paths have been provided to Council following exhibition during ongoing engagement compliance with AS2890 is provided in the MMs at Appendix 1.	r) DDMM1
s) Dish drain at entrance should be designed in accordance with Council's Rural driveway specification	s) These details will be provided in detailed design and in accordance with Council's Rural driveway specification.	s) DDMM1
Council's Traffic Team recommends: 1. The proposed 12m median island should be extended to discourage illegal vehicle movements from the school access road. 2. Signs, line-marking, and traffic devices will require Local Traffic Committees (LTC) approval. 3. A detailed car parking plan compliant with Australian Standards as required.	1. The median island will be extended to 20m to prevent any right hand turns into the internal road. This will be finalise during detailed design. 2. During the detailed design phase, LTC will be consulted with to finalise signs, line-marking and traffic devices. 3. The detailed car parking design will be completed during the detailed design phase.	1. TRMM10 2. TRMM9, TRMM11 3. DDMM1
Engineering, Stormwater and Utilities a) The sewer should be installed within the road reserve to ensure unnecessary or expensive infrastructure relocation	a) The detailed sewer design is currently being prepared in consultation with Council and Sydney Water. The Section 73 feasibility application has conditioned the approval with this requirement.	a) UIMM7, UIMM12

Consideration Raised	Response	Mitigation Measure
b) DRAINS and MUSIC modelling should be provided.	The sewer alignment will not be in the road reserve; however, a mitigation measure has been provided for an on-site septic tank in the instance that the external sewer is not operational at the time of school opening. b) DRAINS and MUSIC modelling have been provided to Council. It should be noted that this will be provided, again, during the consultation of the detailed design phase.	b) DDMM1
c) The Drainage Plan should include existing and proposed contours.	c) Noted. This will be included during the detailed design phase.	c) DDMM1
d) The following should be provided: • Catchment Plan • Details of on-site detention facilities • Open style OSD/water quality basin (safety, fencing, pit, flood lines, etc.) • Flows at the outlet at the southern corner of the property. • Site levels for 525mm outlet on Rickard Road. • Flow details within swales.	d) A catchment plan has been provided to Council for review. This will also be included during the detailed design phase.	d) DDMM1
e) Drainage to the car park is inadequate due to 80m flow path to nearest inlet.	e) The internal access road naturally drains to the south-east corner of the site. A combined OSD and bioretention basin is included in the project, to capture and treat runoff before discharging at the boundary, ensuring that flows match existing flows currently experienced onto the neighbourhood properties. Notwithstanding, design will be made adequate in the detailed design phase.	e) DDMM1
Urban Design and Heritage a) Perimeter fencing should be reviewed in line with the State Design Review Panel's feedback, as it creates a poor interface with Rickard Road	a) The perimeter fencing matches the adjoining public school and is the approved form of fencing for a school by the department. Fencing has been provided around the seeded area to maintain safety and security whilst the suburb emerges, until surrounding development can provide passive surveillance. b) Bicycle mode share has been calculated to be sufficient for the baseline	a) N/A

Consideration Raised	Response	Mitigation Measure
b) Bicycle parking is currently insufficient; if staged delivery is proposed, full details and total numbers must be confirmed.	mode share for cycling in the opening year, being 14 students. The spaces will be provided adjacent to the main entrance gate to allow the area to be expanded to cater for potential future expansion as the town centre is development. The Draft LTC DCP states that *"for secondary schools, bicycle parking should be provided at a rate of 1 space per 5 students and 1 space per 20 staff."* This provision can be catered for as demand arises with the development of the LTC.	b) TRMM3
c) The car park layout should be revised to include more tree planting, including in staff areas.	c) The car park layout is restricted to ensure it satisfies traffic turning circle requirements for operational vehicles (e.g. waste vehicles and deliveries). The car park has also been designed to meet the demands of the school operation for January 2027. Additional planting was explored during design development but determined not possible due to the bushfire and Asset Protection Zone requirements under the Bushfire Hazard Assessment (**Appendix 11**). Providing additional trees that exceed the requirements under the Planning for Bush Fire Protection Guidelines 2019 would increase bushfire threats that may affect bushfire behaviour at the site. Furthermore, providing additional trees within the car park would also reduce the number of spaces provided and negatively impact the site traffic congestion once operation commences.	c) N/A
d) The future 'south road' will be delivered separately from the school's access road—SINSW must clarify how this area will function as a green buffer	d) Following the construction of the Town Centre Road to the south of the site, the internal access road is to be removed and replaced with landscaping. This ensures that the area is appropriately landscaped providing a green buffer. This will be subject to a future planning approval as detailed in the mitigation measure.	d) LAMM1
Earthworks, Land Contamination and Salinity		
a) Cross-section of the cut and fill across the entire site including interface at the boundaries	a) Cut and fill cross-sections will be included in the detailed design phase.	a) DDMM1
b) The sediment basin calculations should be provided, including a design calculation table in accordance with the 'Blue Book'.	b) Sediment basin calculations will be included in the detailed design phase	b) DDMM1
c) A salinity assessment must be provided in accordance	c) Salinity was assessed as part of the DSI (**Appendix 8**) and found that	c) N/A

Consideration Raised	Response	Mitigation Measure
with NSW Environment Protection Authority's Site Investigation for Urban Salinity Booklet. A salinity management plan should be prepared.	the electrical conductivity of all tested soils were less than 2 dS/m indicating they are non-saline. Further assessment of salinity is not required.	
d) Council does not support using contamination cells or on-site encapsulation due to the area's sensitivity.	d) The Site Auditor has reviewed the contamination cells and is supportive of the placement of contamination within an appropriately designed onsite contamination cell/encapsulation area (under the car park) as an appropriate remediation approach, confirmed at **Appendix 30**. Ensuring the RAP is appropriately implemented, the enclosed contaminated soils would not pose a risk to future site-users.	d) LCMM5, LCMM6
e) If encapsulation is proposed, further justification must be provided with reference to Sections 4.3.2 and 4.3.3 of the NSW EPA Guidelines for Site Auditors	e) As per **Appendix 30**, the Site Auditors letter and mitigation measures have been prepared in accordance with the NSW EPA Guidelines for Site Auditors.	e) LCMM6
f) A Long-Term Environmental Management Plan (LTEMP) would be required, along with notations on Section 10.7 Certificates and a Section 88B restriction to protect future infrastructure	f) A LTEMP will be required to be preparedand be reviewed by the Auditor to ensure it demonstrates appropriate enforceability and notification in accordance with the guidelines.	f) LCMM7
Acoustics		
a) Further acoustic assessment is needed for mechanical services and construction noise, with detailed noise control measures to be provided at the design stage.	a) Preliminary construction noise has been carried out as part of the REF, outlined in Section 6.2 below. This included an assessment of mechanical noise from the proposed outdoor mechanical plant, limiting maximum noise emissions from each plant area as per the Noise Policy for Industry (NPI) requirements. A detailed noise assessment will be undertaken during detail design, once equipment selections have been made. Construction noise shall be addressed by the Contractor, when engaged through the Construction Noise and Vibration Management Plan.	a) CMM2, DDMM1
b) Carpark construction noise has been underestimated. A more realistic assessment and appropriate mitigation measures should be provided.	b) Carpark construction noise will be assessed as part of the CEMP.	b) CMM2
Public Health		
a) The fit-out and use of Building C (VET kitchen, food tech rooms, bistro, multipurpose space) and the canteen in Building D must be of commercial-grade construction and meet all relevant Acts, Regulations, Codes, and Standards.	a) Noted. A mitigation measure has been included to ensure all relevant requirements and standards are addressed.	a) GMM2

Consideration Raised	Response	Mitigation Measure
b) Design considerations should include: • Sink design • Solid construction in all food prep areas • Details of fixtures, fittings, and equipment • Floor waste locations • Floor and wall finishes in food sale areas • Pipe and conduit layout • Mechanical ventilation • Canteen shutters and doors • Staff toilets • External garbage storage • Public address system	b) Noted. These aspects will be considered during the detailed design.	b) DDMM1
c) A Food Premises Notification Form must be submitted to Council before opening.	c) Noted. A mitigation measure has been integrated to ensure compliance with this matter.	c) PHMM1
d) A final inspection by Council's Environmental Health Officer is required before operation.	d) As above.	d) PHMM2
e) The design must comply with Sydney Water trade waste requirements.	e) Noted.	e) UIMM6
Landscaping and play spaces a) Seeded area should not be fenced off. It should be used for additional car parking and kiss & drop to alleviate impacts on Rickard Road and ensure there are no adverse impacts on the operational of LPS.	a) The seeded grass area is dedicated for the future expansion of the school with sufficient provision of parking and kiss & drop facilitates provided as part of this project. The concept plan for the school expansion was shared with Council and is provided within this REF. The concept plan highlights the future indicative design for the site, including its expansion to the northern portion of the site, which is currently proposed to be fenced off for safety reasons. It should be noted that this plan is concept only and does not form part of this REF. The future expansion is anticipated to occur when development of the surrounding land for high density residential purposes proceeds. The fencing of the seeded area is in accordance with the approved form of fencing for a school by the department and matches the adjoining public school. Additionally, as an emerging suburb, the	a) N/A

Consideration Raised	Response	Mitigation Measure
	fencing is critical for safety and security until development of adjoining sites occurs where passive surveillance can be provided.	
b) Consider design modifications or relocating buildings to retain trees with high environmental or community value. The proposed 14.74% canopy cover at maturity excludes car parks and falls short of the 30% target in the Greater Sydney Region Plan. If tree removal continues, extensive planting of replacement plants should be considered. Additional landscaping is needed to soften the bulk and scale of Buildings A and B, especially as planting in front of Building B has been removed from the current design.	b) The site is designated as an Inner Protection Area as detailed in the Bushfire Hazard Assessment (**Appendix 11**). The *Planning for Bushfire Protection Guidelines 2019* permit a maximum canopy cover of 15% in this area. Canopy cover has been maximised across the site, where possible ensuring unencumbered outdoor play space is retained and bushfire guidelines are adhered to. As such, the maximum possible canopy cover has been allowed for in the current design and no changes are required to the landscape design, trees numbers or tree canopy calculations. Trees will be planted at the commencement of construction. Trees procurement, in line with the landscaping plans and the Bushfire Hazard Assessment (**Appendix 11)** is currently underway to align with the commencement of construction to allow trees to reach maturity once the school is operational. Furthermore, following the completed construction of the southern TCR, additional landscaping and trees will be planted as part of the site's future expansion (mitigation measure LAMM1). This will mitigate negative impacts of the proposed tree removal with replacement trees.	b) CMM18, TMM3
c) A tree management plan (TMP) is supported, with AQF5 Arborist supervision recommended to ensure retained trees remain viable.	c) Noted. The TMP is in accordance with the Ecological Assessment at **Appendix 13.**	c) TMM3
d) Tree planting should be added along hardstand driveways and carparks, using structural soils to support growth.	d) Tree planting has been maximised across the site wherever possible noting that hardstand spaces would negatively impact tree root zones and ESFG notes no trees permitted within 3m of roofs. Furthermore, the site is restricted to ensure functionality as a school and to achieve the minimum unencumbered areas per student for open space. Due to vehicular requirements during operation, no further areas on site can facilitate additional trees.	d) N/A
e) A line-marked sports field and play area should be provided	e) The provision of an open grassed play field with no formal line markings is in accordance with the masterplan for the site, prepared for the final business case (FBC).	e) N/A
Biodiversity and Loss of Trees		

Consideration Raised	Response	Mitigation Measure
a) Approximately 100 trees are proposed for removal and many are mature trees. Council recommends design modifications or relocation of building/s to accommodate the retention of trees with a high retention value. b) Although Council's 4:1 replacement ratio may be difficult to achieve, significantly more trees should be planted to reduce urban heat.	a) & b) The Bushfire Hazard Assessment (**Appendix 11**) notes that whilst the site is not bushfire prone land, it is to be managed as an Inner Protection Area. An Inner Protection area is defined in the Planning for Bush Fire Protection Guidelines 2019 as "*the area closest to the building and creates a fuel-managed area which can minimise the impact of direct flame contact and radiant heat on the development and act as a defendable space".* The Guidelines maintain that development in this area should not have tree canopy cover that exceeds 15% at maturity. The maximum canopy cover has been allowed for in the design. The future expansion of the site will include additional trees. This project provides 14.77% tree canopy cover across the site to ensure functionality of the school site, maintaining unencumbered outdoor play areas and in alignment with the EFSG guidelines for no trees within 3m of building roofs. The maximum canopy cover provided to the school and tree procurement is in accordance with the Bushfire Hazard Assessment (**Appendix 11**) and Landscape Plans (**Appendix 20**). This has been organised to align with the commencement of construction phase to allow the trees to reach maturity at the time of the school opening.	a) & b) BFMM1
c) A tree habitat assessment plan must be prepared by a suitably qualified professional for the 100 trees proposed for removal.	c) A tree habitat value assessment has been undertaken as part of the Ecological Assessment at **Appendix 13.** The consultant has stated that the first preliminary site assessment was undertaken on 04/12/23 and all trees were checked for potential habitats. Findings included a few small mud nests that were disused and potential habits within sheds and water tanks. The second site inspection (10/04/24) targeted all trees affected by the site plans and concluded that no new habitat or potential habitat was found. A mitigation measure has been prepared to preserve key habitat features for Grey-headed Flying-fox such as flowering native trees and planted citrus trees.	c) EMM3

Table 17: Statutory Consultation and project response (excluding Camden Council)

Concerned Raised	Response	Mitigation Measure
RFS		
a) Confirms approval of the RFS is not mandated for schools located outside bushfire prone land. b) The Department may consider using the mitigation measures in Table 10 of the Bush Fire Assessment Report to enhance bushfire protection for the proposed school.	a) Noted b) The mitigation measures in the Bushfire Hazard Assessment (**Appendix 11**) have been consolidated and included	a) N/A b) BFMM1, BFMM2
Endeavor Energy – received 24th February 2025		
Identified a number of standard conditions for the development and future design considerations	Mitigation measures have been updated to include standard measures received by Endeavor Energy.	PACMM1, UIMM8-11
Sydney Water – received 5th March 2025		
a) Provided an overview of water and wastewater servicing requirements b) Mitigation measures should include a Section 73 Compliance Certificate c) Building Plan Approval	a) Sewer extension design is currently being progressed as part of the Detailed Design phase b) Mitigation measures have been updated c) Building Plan Approval will be completed at the Construction Certificate stage	a) DDMM1 b) UIMM7 c) UIMM6
Aerotropolis Consultants Pty Ltd (AC P/L) – received 19th March 2025		
General Advised that AC P/L has a current mixed use development at 141 & 153 Byron Road, east of the subject site.	This development has been noted and considered in Section 6.2 below, cumulative impact.	N/A
Integration of site with the ILP/Eastern Road a) Car park and OSD in the south-west corner of the site conflict with the ILP and proposed TCR. This will have negative impacts on: • students, staff and visitors accessing the site from the east/Byron Road, extending trips by up to 2km • neighbouring properties that may be blocked by the car park and OSD • access for residents in the area on the future public street	a) The car park noted in the site plan is temporary car park which is required to facilitate the operation of the school, prior to the construction of the new eastern road. The construction of the new town centre road will occur outside of the site boundary and will not conflict with the OSD. A portion of the south-eastern car park will be relocated to the seeded grass area, along the northern boundary when the future expansion is undertaken as outlined in Section 2.7. Traffic concerns have been outlined in detail in **Table 16** above.	a) As above.

Concerned Raised	Response	Mitigation Measure
• removal of the car park in the future will reduce the number of spaces available • removal of the OSD will have negative impacts on stormwater quality and quantity Proposed resolution is to relocate the car par to the seeded grass area, connected by a road through the TCR. Additionally, moving the OSD further west to avoid blocking the TCR.		
b) Potential violations with the ILP may cause impacts with surrounding landowners, developers and the public	b) The department have received in principle support from Council to slightly alter the ILP as it relates to the southern lot.	b) N/A
c) The proposal should be integrated with the Byron Roads Sports Precinct	c) Integration of the sports precinct and the high school is a matter for Camden Council and not related to this REF submission	c) N/A
Landowner (118 Rickard Road) – received 17th March 2025		
Submission was made regarding the PP and south road alignment and how it would negatively impact the landowner of Lot 40 DP 8979 (lot to the south of the subject site).	This consideration was raised during the PP consultation phase and has been previously addressed by Council.	N/A
The Leppington Progress Association		
Traffic congestion a) Concerns around Rickard Road and the safety around the public school and proposed high school due to congestion during peak times. Proximity to Leppington Train Station results in extending parking on Rickard Road from patrons using the train. Frequent double parking occurs during pick-up and drop-off times.	a) Traffic congestion has been discussed above	a) As above
b) Concern over the delivery of the Rickard Road expansion	b) The draft LTC ILP under the SARP identifies the site as a future educational establishment. The proposal has been designed generally in compliance with the ILP. The TCRs south and east of the site will be delivered in alignment with the adjoining development further south and east. These will be provided by developers and dedicated to Council upon completed. Rickard Road is a Special Infrastructure Contribution (SIC) Road. Council is aware of the existing background growth resulting in congested and has undertaken 100% concept design for Rickard Road widening. Council is advocating for funding for the expansion of	b) N/A

Concerned Raised	Response	Mitigation Measure
	the road as it is subject to SIC and not local contributions. Notwithstanding, the population growth anticipated as a result of the PP will now lead to much of the precinct rezoned for high density residential development, accelerating the need for the Rickard Road upgrade.	
c) Anticipated additional traffic congestion from proposed temporary road	c) Section 4.3 of the TIA has provided scenario testing which does not consider the development but only background traffic growth. The assessment notes that the nearby intersections will operate adequately with some minor delays but will be saturated by 2027 and Rickard Road will need to be duplicated.	c)
Location of sports fields and multi sports courts		
a) Proximity of the multi sport courts to the adjoining public school may impact learning due to the noise generated by the courts. Recommendation to relocate the courts to the northern side of Building D and extension of the seeded grass area.	a) The noise consultant (**Appendix 24**) has assessed the noise of the sports courts and field in accordance with the *Guideline for Child Care Centre Acoustic Assessment Version 3.0* from the Association of Australasian Acoustical Consultants. The assessment was based on the assumption that 1000 students would use the spaces during recess and lunch periods, students would be distributed across the outdoor play areas and for every two students using the sports court, only one will be speaking at any given time with a 'raised' vocal effort (77dB(A) sound power per student). Future noise-sensitive residential receivers would be partially shielded by the hall (south-eastern corner) and outdoor play spaces have been located in the centre of the site to reduce impacts on surrounds. Relocation of the sports courts to the eastern boundary, near the Hall would have negative impacts on potential future high density residential development as per the ILP. The proposed location near the public school has been assessed and is compliant with the noise level criteria in the *Guideline for Child Care Centre Acoustic Assessment,* including cumulative sound power, distance, reflectivity and boundary noise. No further design changes are required.	a) N/A
b) Recommend relocation the central sports field to the seeded grass area to ensure it does not disrupt learning.	b) As stated above, the Noise and Vibration Impact Assessment (**Appendix 24)** has assessed the proposed location of the central sports field and determined it compliant with the relevant standards. The central location was chosen to mitigation noise impacts on surrounding sites through the use of the proposed buildings. Buildings will be in accordance with the relevant EFSG and standards to ensure sufficient insulation and noise barriers are installed. This will be a part	b) N/A

Concerned Raised	Response	Mitigation Measure
	of the detailed design phase.	
On-site parking 75 staff parking spaces have been provided but no spaces have been provided for visitors to the school. This is a requirement for Council for 1 space/100 students.	Adequate staff parking is proposed to accommodate 90% of staff with the remaining 10% to walk, cycle or catch public transport. 34 bicycle spaces have also been provided on site for students and staff. This mode share has been rationalised in the TIA (**Appendix 15**) at Section 4.1.2 and has considered the existing and future surrounding uses of the area. The parking provisions proposed for the school will be sufficient for the day-to-day operation of the school. Visitor parking will occur on Rickard Road as well as in the kiss & drop area on the internal road, outside of peak pick-up periods. The parking provision has also been made with consideration to the noise emissions from the car park and the site generally, minimising noise for future residential receivers. This is demonstrated at Section 5.5 of the Noise and Vibration Impact Assessment (**Appendix 24**). During school events, such as parent/teacher interview nights, performing arts nights and graduation ceremonies, parking will be managed under an event management plan.	N/A

6. Environmental Impact Assessment

6.1 Traffic, Access and Parking

This chapter summarises the TIA report, which is provided at **Appendix 15**. The TIA reviews the school's future travel demand, establishes transport modes, identifies transport infrastructure and operations, describes potential impacts and provides mitigation measures where impacts are unavoidable.

6.1.1 Assessment guidelines

Traffic impacts have been assessed in accordance with the following guidelines:

- NSW Department of Education Transport Assessment and School Transport Plan Report Guidelines.
- NSW Department of Education Transport Planning Advisory Note.
- Transport for NSW Bus Infrastructure Guide.
- Traffic Modelling Guidelines (Roads and Maritime Services, 2013).

6.1.2 Existing conditions

Pedestrian and Cycling

Existing pedestrian access to the site is via a footpath on the eastern side of Rickard Road from Leppington Station and commuter car park to the north and to the intersection of Rickard Road and Neptune Road in the south, providing access to Leppington Village and a series of new residential developments (approx. 1km). There are no dedicated cycling infrastructure or lanes connected to the school site or no shared paths within the vicinity of the site.

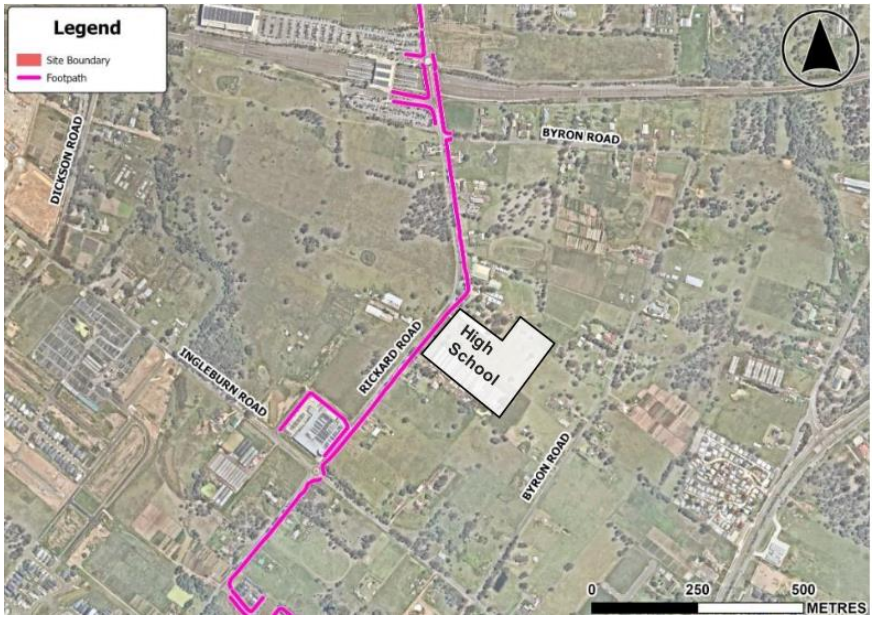


Figure 39: Existing pedestrian footpaths (source: Stantec)

Public Transport

The site is around 500m south of Leppington Train Station. The T2 Leppington and Inner West Line and T5 Cumberland Line trains terminate at Leppington Train Station.

A bus stop (Stop ID 2171166) is located 20m from the site to the north and services both public and Leppington Public School buses. The site will be serviced by the existing network that services in the adjoining LPS. This includes four public bus services and two school services during the AM and three public bus services and four school services in the PM.

Table 18 summarises the existing bus routes and schedules at this bus stop.

Table 18: Existing bus routes and schedules

Public Bus		
Number	**Route**	**Arrival/ Departure time**
1020	Catherine Field to Carnes Hill Marketplace	8.50am
1025	Leppington (South) to Leppington Public School and Carnes Hill	8.45am
841	Narellan to Leppington via Gregory Hills	8.49am 3.06pm 3.25pm
856	Bringelly to Liverpool	7.22am
858	Oran Park to Town Centre to Leppington	8.43am 3.30pm
861	Denham Court to Carnes Hill via Austral	8.28am
2028	John Edmondson High School to Leppington	3.20pm
2032	Good Shepherd Public School to Bringelly and Kelvin Park	3.26pm
2044	Leppington Public School to Ridge Square and Narellan	3.22pm
2051	John Edmondson High School to Rossmore and Leppington	3.10pm 3.18pm
School bus		
Leppington Public School bus services include the 1025 and 1020 in the AM period and the 2028, 2032, 2044 and 2051 in the PM period.		
1025	Dwyer & Camden Valley to Leppington PS and Carnes Hill	8:05am
1020	Catherine Field and Camden Valley to Carnes Hill Marketplace	8:29am
2028	John Edmondson HS to Leppington	3:20pm
2044	Leppington PS to Ridge Square and Narellan	3:22pm
2032	Good Shepherd PS to Bringelly and Kelvin Park	Departure from Good Shepherd PS at 14:45pm
2051	John Edmondson HS to Rossmore and Leppington	Departure from John Edmondson HS at 14:45pm

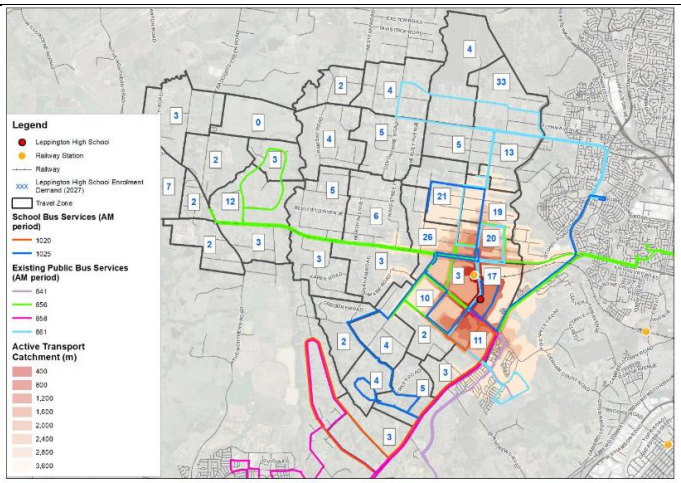


Figure 40: Existing bus network AM (Source: Stantec)

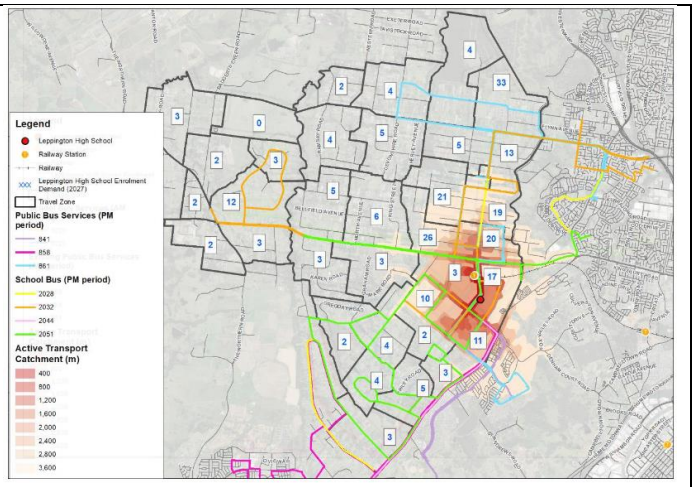


Figure 41: Existing bus network PM (Source: Stantec)

Road Network and Vehicular Access

Existing vehicular access to the site is via Rickard Road which is a local, rural road that provides wider access to the site from Bringelly Road, further north, and Heath Road, further south. Rickard Road currently provides a single lane of traffic in each direction with a speed limit of 60 kilometres per hour (kph). During the Leppington Public School peak times the speed limit for part of Rickard Road is 40 kph between 8:00am and 9:30am and 2:30pm and 4:00pm.

6.1.3 Proposed conditions

Proposed Catchment

The catchment for the new school is illustrated in **Figure 42**. When the new school opens, the catchment will extend to and include Catherine Field, Leppington, Rossmore, Austral and Bradfield. The new high school is likely to open in 2027 with about 270 students. This is not representative of all high school aged students living in the catchment area, as many would have previously enrolled at other high schools and will remain there to complete their studies. However, new students entering into year 7 will be encouraged to attend the new high school.

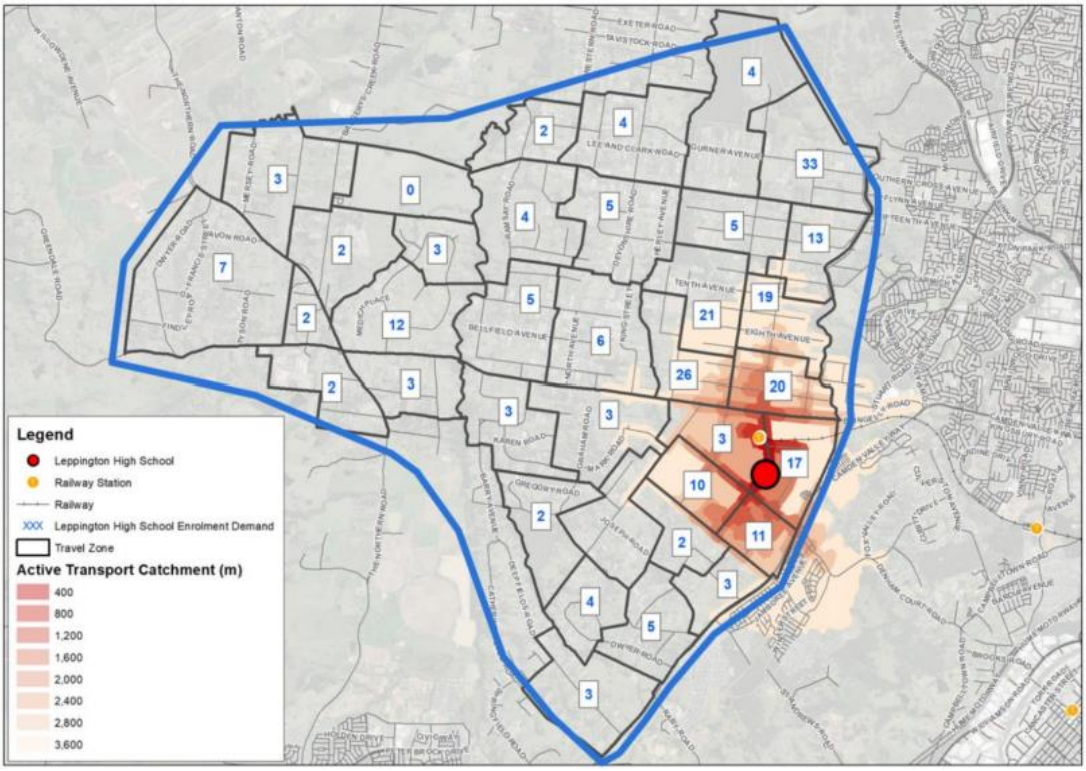


Figure 42: Proposed catchment for the new school (Source: Stantec)

The TIA identifies the active transport catchment of the students attending the new school in 2027 as being:

0 to400m	400 to 800m	800 to 1,200m	1,200 to 1,600m	1,600 to 2,000m	2,000 to 2,400m	2,400 to 3,600m	>3,600m
1	3	7	16	14	15	45	169
0%	1%	3%	6%	5%	6%	17%	63%

Figure 43: Active transport catchment, day 1 term 1 2027 (Source: Stantec)

A new high school in Austral is likely to be operational in 2029 (refer to **Figure 44**). The catchment for this new high school will include students living north of Bringelly Road, which is currently included in the catchment identified for the Leppington HS. As such, once the school becomes operational, new year 7 students who are living north of Bringelly Road will attend the Austral HS. There is also an opportunity for students attending Leppington HS to relocate to the new Austral HS, once it opens to reduce commuting time.

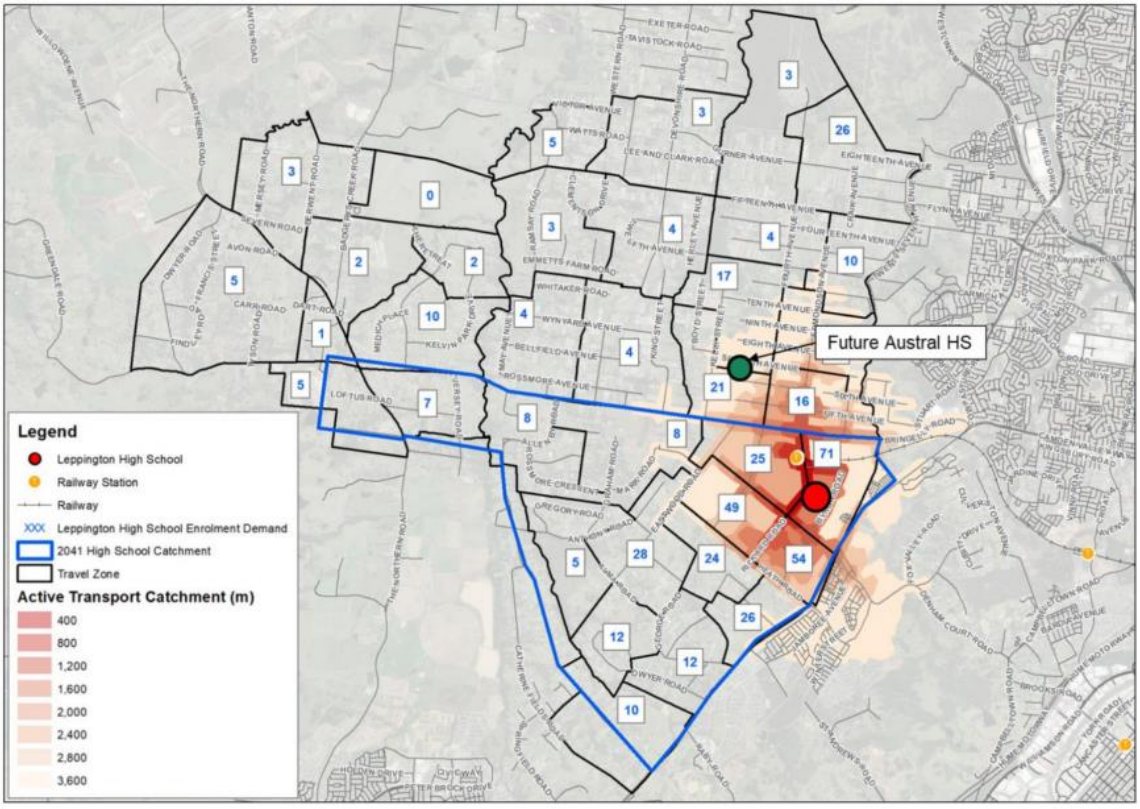


Figure 44: Location of the new Austral High School and its future catchment (Source: Stantec)

The TIA suggests that about 30% of the students enrolled at LHS will relocate to the new Austral HS when it opens. The resulting change in the catchment for LHS will see a greater proportion of students living close to the high school, primarily in Leppington and Catherine Field. An analysis of the active transport catchment for 2029 is provided in the TIA as being:

0 to400m	400 to 800m	800 to 1,200m	1,200 to 1,600m	1,600 to 2,000m	2,000 to 2,400m	2,400 to 3,600m	>3,600m
18	34	38	77	46	27	69	190
4%	7%	8%	15%	9%	5%	14%	38%

Figure 45: Active transport catchment 2029 (Source: Stantec)

Ultimately, the capacity of LHS relies on the delivery of the LTC PP which seeks to increase the density and number of appropriately aged students within the catchment area. Should the LTC PP not be delivered by 2029, when the new high school in Austral is likely to open, then there could be a stagnation in the number of students in the catchment area for LHS. Once the new dwellings, envisaged by the LTC PP, start being constructed, then the number of students in the catchment area will increase and so to will the number of students attending LHS.

Pedestrian and Cycling

Pedestrian access is proposed at the following locations:

- Main entrance of the school site from Rickard Road
- Secondary entrance at the northern end of Rickard Road, near LPS
- Secondary entrance from the internal temporary road on the southern boundary of the site

The existing footpath on the eastern side of Rickard Road will be retained and provide access for students walking or cycling to school.

No crossing will be provided from the western side of Rickard Road as there is no footpath or urban residential development creating active transport demand. Given the current low density in surrounding areas, no additional crossing or path infrastructure is required to support the site, prior to the expansion of Rickard Road. However, students are anticipated to travel to the site from the south, crossing the site driveway. As such, safety measures have been proposed including painted line markings, signage and the provision of adequate site lines.

Cyclists will access the site via the Main entrance on Rickard Road as bicycle parking (totalling 34 spaces) will be provided in this area. Cycling will not be permitted within the internal road to support road safety outcomes and separation of vehicles from student cyclists. One end of trip shower facility is provided for use by staff who cycle to work. At the site expands (Section 2.7), subject to town centre development being constructed, bicycle parking may be extended to cater for demand as it arises with the LTC.

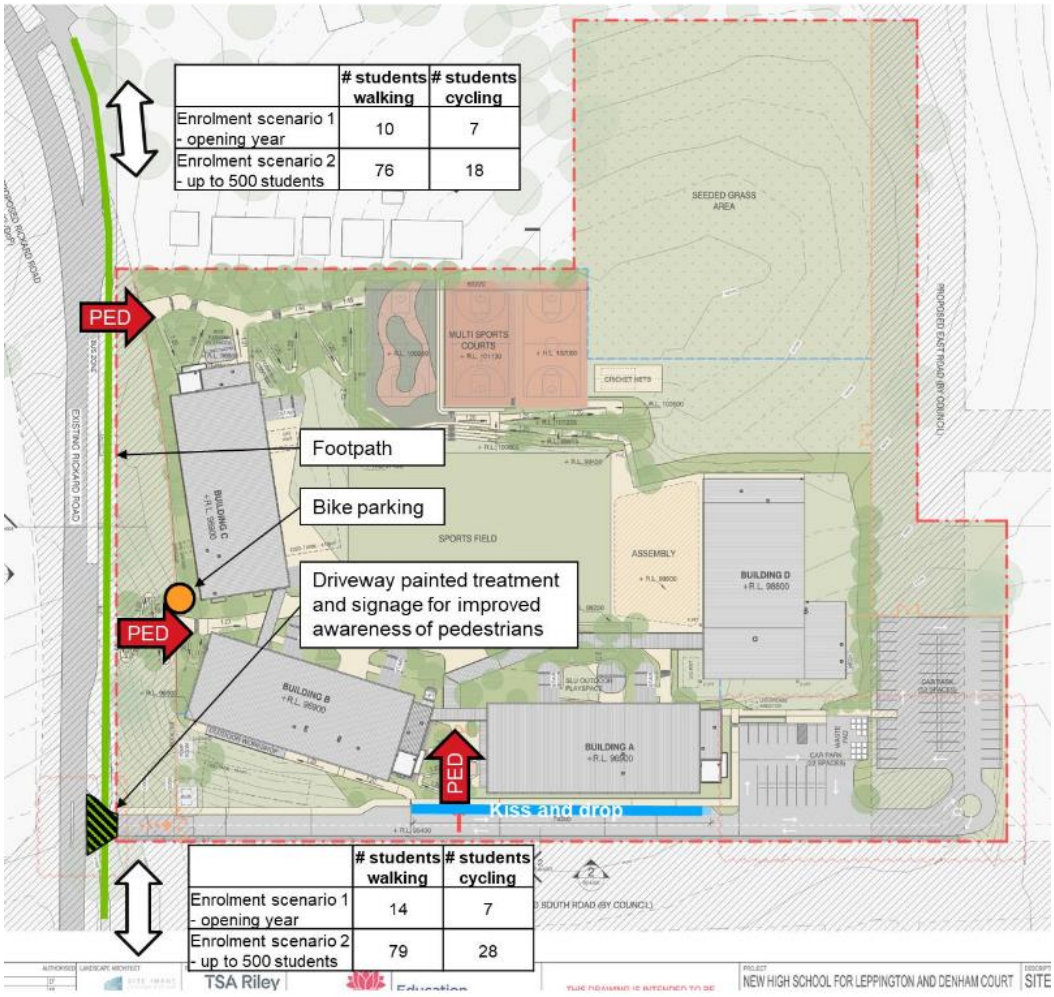


Figure 46: Pedestrian and cyclist site access (Source: Stantec)

Public Transport

This REF does not propose any changes to the planning and operation of public and school buses as this is the responsibility of TfNSW. Nonetheless, the scenario modelling has been prepared on the assumption that the Rickard Road duplication will occur by 2041. Therefore, at the time of school opening in 2027, Rickard Road will continue to operate in its current layout. Section 6.1.4 provides detail of the modelling and mode share.

The proposed bus bay to be provided along the eastern side of Rickard Road has been designed to align with TfNSW Bus Infrastructure Guide including the length require for buses to adequately enter and exit the bay. The proposed bus bay will be 57m in length and accommodate up to 3 busses at one time or a total of ten over a 20-minute period. The bus bay is identified as a “bus box” and sits within the lane.

Road Network and Vehicular Access

The proposed vehicular access has been designed with regard to the draft LTC PP, including future upgrade to Rickard Road and future new roads (Section 2.3.1) and in consultation with Council. An internal access way is proposed at the southern boundary to provide access to the vehicles travelling from Rickard Road to the kiss and drop zone, staff parking, servicing and loading zone. Vehicles are proposed travel along the southbound lane of Rickard Road and then turn left to enter the internal access way and also turn left to exit the internal access way back onto Rickard Road. Two cars are able to enter and exit the access way without having to give way to each other. The following measures have been included in the proposed activity to manage the internal access way:

- a “No through-road” sign will be provided at the entrance to the driveway, within the site boundary.
- a sliding gate is to be provided across the access way to prevent unauthorised vehicles from entering. The gate will be operated automatically, opening 30min before and after kiss and drop period. The staff and other authorised vehicles will access with a swipe card.
- a concrete median is proposed on Rickard Road to provide a physical barrier for enforcing the left in left out arrangement of the onsite access way.
- painted line markings at the driveway and Rickard Road interface to provide additional warning to drivers of potential pedestrians of cyclists.

“No stopping” signage is also proposed on the western side of Rickard Road

Students being dropped at and picked up from the kiss & drop zone on the internal road will be encouraged to use the secondary pedestrian entrance through the location of the zone immediately outside the secondary site entrance. Other students who may chose active transport modes will be encouraged to use the main entrance to reduce any conflicts with vehicles entering the site. The kiss & drop zone will be 2m to cater for the demand of up to 501 student enrolments.

Car Parking

The on-site car parking is to be located in the south-eastern corner of the site and accessed via the internal temporary road. A total of 75 spaces will be provide for staff, including 2 accessible spaces. Visitor parking will be permissible at the kiss & drop zone, outside of pick up and drop off periods.

6.1.4 Impact assessment

Traffic

The TIA acknowledges there are several issues in the existing local road network that contribute to safety and congestion concerns, including:

- Rickard Road currently being a local, rural road with single lane travel in each direction

- High existing background traffic volumes which are approaching network capacity in peak periods
- Priority controlled intersection at the intersection of Ingleburn Road / Rickard Road
- Congestion resulting from the existing pick up and drop off zone at Leppington Public School to the immediate north.

To address these issues and understand the impacts of the proposed development, the TIA assesses the impacts of the new high school in three different scenarios:

1. Student enrolment 1 – the school operating with a maximum of 270 students in its opening year (2027)
2. Student enrolment 2 - the school operating with a maximum of 500 students. This cap in student numbers has been established to mitigate the excessive congestion in the local road network that will occur prior to the upgrades to Rickard Road and the delivery of the local roads in the LTC PP
3. Student enrolment 3 – the school operating with more than 500 students, which will only occur following the delivery of the roads in the LTC PP

The TIA found that the below intersections are key to accessing the site:

- Rickard Road/ Byron Road
- Rickard Road/ Ingleburn Road
- Ingleburn Road/ Byron Road

The TIA also modelled the future performance of the above intersections, with a background traffic growth was assumed to be 1.5% per annum, for the following scenario:

Upon opening in 2027, the school would only operate with approximately 270 students:

- a moderate mode share target with 58% being dropped-off or picked-up from the school
- 1.3 students per vehicle
- a total of generation of 120 kiss and drop associated vehicles

The TIA also considered that teachers are not expected to arrive or leave the school during the peak drop-off and pick-up period and so their impact on the peak flows is therefore considered negligible.

It should be noted that the TIA modelled future intersection performance based on the existing road infrastructure. That is, the modelling did not include the future road upgrades and new roads to be construction by Council or developers in the draft LTC PP, which includes:

- Upgrades to Rickard Road, which will provide a 37.6m wide transit boulevard, with two travel lanes in each direction
- A new road adjoining the southern boundary of the site (Southern Road - identified in the Draft ILP as a “Town Centre Street”)
- A new road adjoining the eastern boundary of the site (identified in the Draft ILP as a “Town Centre Street”)
- Signalisation of the intersection of:
  - Rickard Road and the proposed Southern Road
  - Rickard Road and Ingleburn Road.

The Draft DCP identifies a Town Centre Street as follows:

*"**Town Centre Streets** are active and pedestrian friendly, with capacity for buses to circulate on bus capable streets. Town Centre Streets have active ground floor frontages."*

The modelling undertaken has not included the upgrades to Rickard Road or the future roads to the south and east of the site, as the timing for delivery of these roads is currently unknown and cannot be committed prior to 2027 when the school will commence operation. As the Rickard Road upgrade requires funding and the southern and eastern roads will only be delivered at the time these adjoining sites are developed, the modelling has been prepared, based on the current road network.

The performance of the key intersections is summarised in **Table 19**.

The intersection performance for 2027 without development of the school and only considering background growth for AM and PM peak periods is concluded as follows:

- All three intersections operate at LOS C or better with acceptable delays and spare capacity in both AM and PM peaks.
- Traffic Modelling Guidelines (Roads and Maritime Services, 2013) outlines that a roundabout has a maximum practical degree of saturation of 0.85. In both AM and PM peaks, the degree of saturation of intersection at the Rickard Road / Ingleburn Road exceeds the practical value of 0.85 for roundabouts. This suggests that the intersection is nearing capacity and after 2027, the need to duplicate Rickard Road is exacerbated.

Table 19: Performance of key intersections

Intersection	Existing	Without school 2027	2027 school opening LoS	Full capacity LoS
Rickard Road/ Byron Road	A	A	A	F
Rickard Road/ Ingleburn Road	B	C	F	F
Ingleburn Road/ Byron Road	B	B	B	F

This modelling confirms that the Rickard Road duplication is required to manage the background growth, even without the provision of the new high school. Camden Council has confirmed this and advised that this is why design of the Rickard Road duplication has been completed as it is essential for the growth of the area, particularly in consideration of the LTC PP which will significantly increase population density with the inclusion of more medium and high density land in this location.

The full capacity scenario relies upon the existing road network and an assumed student population of 1,000 in 2027, which will not occur as the student population will require several years to reach this capacity, but demonstrates the maximum possible scenario, prior to the duplication of Rickard Road and provision of the surrounding road network.

The full capacity scenario of 1,000 students provides for a left in left out arrangement for the school driveway and a moderate mode share target with school traffic of 480 vehicles to show the performance results for Rickard Road/ Ingleburn Road and Rickard Road/ School driveway intersections at AM and PM peak periods. The key findings conclude:

- The roundabout at Rickard Road/ Ingleburn Road exceeds capacity and operates at LOS F in both AM and PM peaks. A significant delay of 185 seconds total and 485 seconds total is

observed at the north approach of this intersection in the AM and PM peaks respectively. The degree of saturation exceeds the practical value of 0.85 for roundabouts. The queue length at this intersection exceeds 40 vehicles in both peaks.

- The Rickard Road/ School Driveway intersection performs at LOS A with spare capacity and acceptable delays.

Due to the high degree of saturation, average delay and extensive queues, the future performance of the roundabout at Rickard Road / Ingleburn Road with 1,000 students enrolled in 2027 is considered poor. However, the school will only reach this capacity after several years of operation, with the school commencing in 2027 with only years 7 and 8.

While the school population is expected to increase each year, the development of the high school is not the core reason for the poor performance of the intersections. Rather, the background traffic and predicted growth of LTC are the main contributor to the volumes that govern the poor performance, as can be seen by the Degree of Saturation of 0.88 and greater at the intersection of Rickard Road and Ingleburn Road without the development traffic added.

Leppington is currently evolving due to the location within a growth centre and previous rezoning of the locality. In addition, the LTC PP has been recently identified as a State Assessed Rezoning, given the significance of the rezoning which is proposed in this location. The proposed Town Centre rezoning will further increase the population of the immediate location and increase the need to proceed with the duplication of Rickard Road. The implementation of the ILP and high density zoning proposed surrounding the school site is also likely to see development proceed which will include the provision of southern and eastern roads surrounding the school site.

From engagement outcomes with Camden Council, it is understood that the Rickard Road duplication has been planned for several years, and Council has completed the 100% design of the proposed road and is eager to proceed, subject to funding. Along with the proposed local roads which comprise the LTC masterplan, there is a clear understanding from Council and Transport for NSW that road upgrades are a necessary priority in this location.

It is anticipated the State Assessed Rezoning will allow the upgrade of Rickard Road to become a priority and anticipate the works will be undertaken following the opening of the high school in 2027, but prior to reaching a student capacity of 1,000.

- A further scenario, in addition to those scenarios listed in the table above, has been developed which provides for redistribution of background traffic, which is likely to reroute to avoid the congestion. Based on the investigation of the area as well as information provided by Council, it is understood that much of the traffic providing the background congestion is utilising the Ingleburn Road/ Rickard Road intersection as a “rat run” to avoid other traffic in the broader locality. Consequently, some assumptions have been made that this background traffic will reroute away from the Ingleburn Road/ Rickard Road intersection to avoid congestion as follows: Northbound and southbound traffic on Rickard Road may use Dickson Road, Eastwood Road and Heath Road as alternative routes.
- Eastbound and westbound traffic on Ingleburn Road may reroute to Heath Road.

To account for this predicted rerouting of traffic patterns, a background traffic redistribution was applied for the SIDRA assessment with the following changes:

- Westbound and eastbound background traffic at the roundabout is reduced by 20%, assuming these vehicles would reroute without using Ingleburn Road.

- Northbound and southbound background traffic at the roundabout is reduced by 10%, assuming these vehicles would reroute without using Rickard Road.

This rerouted scenario provides the following key findings with regard to the performance results for Rickard Road/ Ingleburn Road and Rickard Road/ School driveway intersections at AM and PM peaks:

- The roundabout performs at LOS B and LOS C with spare capacity and acceptable delays in the AM and PM peaks respectively.
- The Rickard Road/ School Driveway intersection performs at LOS A with spare capacity and acceptable delays.

LPS located to the north and its anticipated growth in student population has also been incorporated in the assessments with an assumed offset of 30 minutes between bell times for the two schools to reduce congestion at drop off and pick up times.

Walking

There is an existing footpath on the eastern side of Rickard Road, providing a connection with the new high school, Leppington Train Station to the north and the Home Co Shopping Centre to the south. It is unlikely that students will use trains to commute to and from school, as there are no other train stations within the existing school catchment area.

Further, there is no existing footpath on the western side of Rickard Road, so no crossings are required to be provided for safety.

Safe walking routes and options will be included as part of the School Travel Plan, which seeks to encourage alternative means of access to the new school. However, it is unlikely that many students will walk to school when it opens due to the size of the current catchment area and as there are very few houses within a reasonable walking distance from the new school to enable students to walk. As the LTC PP is delivered, the proportion of students close to the school will increase, with alternative means of commuting, including walking and cycling, to the school becoming available. Further, as the LTC PP is delivered, Rickard Road widening will occur and will provide footpaths and safe pedestrian crossings for the students walking and cycling to school.

Kiss and Drop

In order to design the kiss and drop, the TIA has considered mode share targets, which refers to the proportion of trips made by different modes of transport, such as walking, cycling, public transport and private vehicles. These targets are categorised into baseline, moderate and reach targets to set progressive goals for improving sustainable transport options. The mode share targets were developed in consultation with the Transport Working Group for the Leppington Education Campus.

The baseline mode share target for Leppington HS reflects the travel patterns of students during 2027 without any proposed interventions and considers that only existing school buses would operate without any new services, as well as assuming most students will live outside the active transport catchment. Therefore, the students are expected to rely heavily on private vehicles as the preferred mode of transport.

The moderate mode share target assumes the introduction of additional school bus services with the same amount of active transport and reduced private vehicle trips.

The reach mode share target will see a further increase in school bus services with walking and cycling access maximised through behaviour change programs. It is considered that this culture of active transport can be set from day one as it is a new school. This scenario would also minimise dependence on the kiss and drop zone and reduce overall road network congestion during pick-up and drop-off periods.

The length of the onsite kiss and drop zone has been designed based on:

- the school capacity of 1,000
- mode share target of 31% for private vehicle use (reach target)
- average dwell time of 1.6 minutes (the time it takes on average for the high school student to locate their vehicle and enter). This is considered appropriate with high school students usually able to identify their vehicle quickly, where 2 minutes is generally observed as a conservative estimate by the traffic consultant at other schools through their travel coordinator role and for younger students who may take a little longer to identify their car.
- an average of 1.3 student per vehicle. This average is considered achievable by the traffic consultant, given a strong car pooling system that is championed by the school principal and staff.

Based on these assumptions, a kiss and drop length of 79m is proposed adjoining the administration building, which provides for 13 spaces at any time and has also assessed that there is appropriate space for queueing onsite and away from Rickard Road, as detailed within the TIA.

The kiss and drop is located off the internal access way which provides access from Rickard Road via a left-in left-out arrangement. Kiss and drop vehicles will be able to exist the site using the turn around area on the eastern side of the site. “No-through-road” signage is to be provided at the entrance to the driveway to warn drivers that the road is to used by kiss and drop vehicles only. A sliding gate is to be provided along the site fence line to prevent unauthorised vehicles from entering. The gate will automatically open 30 minutes before and after the kiss and drop periods, while staff will be provided a swipe card function for outside this period.

A concrete median is proposed to provide a physical barrier for enforcing the left-in left-out arrangement and painted line markings at the driveway and Rickard Road interface will provide additional warning to drivers of potential pedestrians or

LPS located to the north and its anticipated growth in student population has also been incorporated in the assessments with an assumed offset of 30 minutes between bell times for the two schools to reduce congestion at drop off and pick up times.

No stopping signage is proposed on the western side of Rickard Road in order to disallow and discourage vehicles from dropping off or picking up students on the western side of the road where there is no safe crossing location and to establish behaviours before the duplication of Rickard Road occurs. No stopping signage is also proposed on the eastern side of Rickard Road outside the proposed bus zone to encourage all vehicle to use the kiss and drop zone. Kerbside signage is depicted in the following figure.

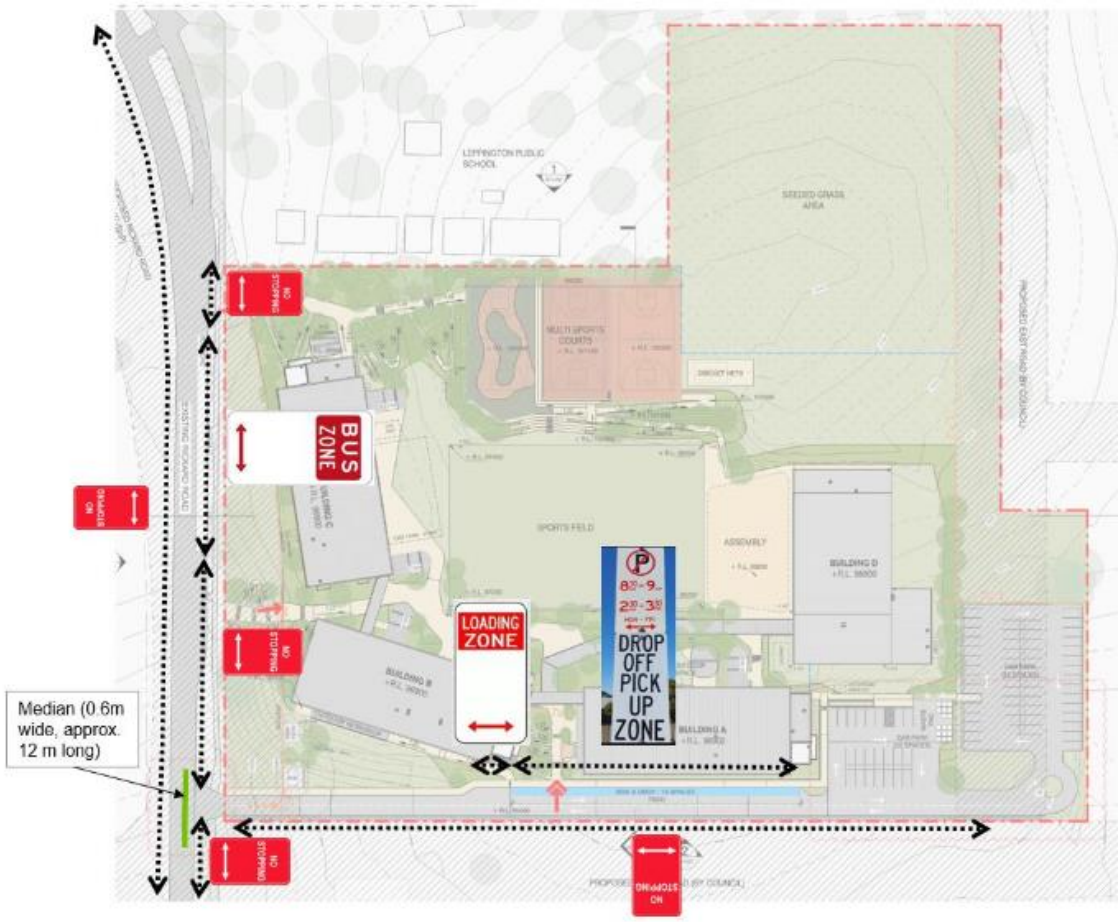


Figure 47: Kerbside signage plan (Source: Stantec)

The TIA recommends that as part of the annual review of the School Transport Plan, an assessment of the changing need for remote pickup / drop off locations is undertaken.

Bus stop

This REF does not propose any changes to the planning and operation of public and school buses as this is the responsibility of TfNSW. Nonetheless, the below scenario modelling has been prepared on the assumption that the Rickard Road duplication will occur by 2041. Therefore, at the time of school opening in 2027, Rickard Road will continue to operate in its current layout.

The TIA used the travel zone projections provided by TfNSW which show that approximately 554 of the 1,000 students are expected to live within a distance from the school site that can be services by buses. Out of those 554 students that can travel to school by bus, 451 students are from the north and 103 are from the south. Based on this projection, the TIA found that a total of 10 school buses are required to service the school, including eight traveling to the site from the north and two from the south.

The activity includes construction of a 57m long bus bay on the eastern side of Rickard Road with dimensions that comply with the TfNSW Bus Infrastructure Guide. The proposed bus bay can accommodate up to three buses at one time, or a total of ten over a 20 minute period. The bus bay is identified as a “bus box” and sits within the lane.

The bus stop is currently located just north of the site, adjoining the public school but will be relocated to the proposed location in front of the high school and extended to accommodate the existing public school buses and proposed high school buses. The bus stop will remain as a public

bus zone and will be operational at all times as currently occurs, albeit approximately 20m south of the current location. There is an existing bus stop on the western side of Rickard Road. As part of the School Travel Plan, parents and students will be discouraged from using this bus stop due to safety concerns. All pick up and drop off activities will occur on the eastern side of Rickard Road, adjacent to the frontage of the new high school.

High school students may choose to catch public buses, however TfNSW has indicated that there is no plan for increased frequency or coverage for public services before the development of the LTC and increase density in the area. Therefore, usage of the existing public services would likely be low. Dedicated school buses have been discussed with TfNSW at the TWG and a mitigation measure is proposed to continue discussion to increase school buses.

The following routes are proposed for the school buses (noting that bus route planning is the responsibility of TfNSW. Through engagement with the TfNSW bus planning team within the TWG for the Leppington Education Campus, the traffic consultant has communicated to the team the locations suitable for planning the routes. These areas are shown in the TIA. The TfNSW team were receptive to the information and have said that they will investigate. A mitigation measure is proposed to continue advocating with TfNSW.

- from the south - Dickson Road and Bringelly Road, or, Camden Valley Way, then Cowpasture Road and Bringelly Road the proposed bus zone on Rickard Road
- from the north - Ingleburn Road, Dickson Road and Bringelly Road, or, Ingleburn Road, then Camden Valley Way and Cowpasture Road.

Camden Valley Way, Bringelly Road and Ingleburn Road are already functioning bus routes and no upgrades to existing intersections are required to accommodate proposed bus routes.

The TfNSW Bus Planning team is responsible for service route planning and are currently being engaged with during the Transport Working Group process. The TWG were made aware of the plans for the bus zone on Rickard Road, outside the high school, during the 19 December 2024 meeting. A mitigation measure is provided to continue advocating with TfNSW to ensure additional school bus services are implemented for the high school.

Car parking

Car parking is provided in accordance with the rates provided in the Camden Growth Centres DCP for staff with 1 space provided per full time employee, which is a total of 75 spaces. This includes two accessible spaces. As there are a maximum of 75 staff when the school reaches capacity and 75 car parking spaces available for staff, there will be no need for staff to park off site.

When the LTC PP is finalised and the Draft DCP and Draft ILP are implemented, there is a future road proposed within the boundary of the school site in along the eastern edge of the site. When the adjoining sites to the east are developed, the school will need to accommodation a full width of the road within the southern portion of the site and a half width road within the northern portion of the site. At such a time, there will be a separate planning pathway to relocate the eastern most area of the car park to the unused northern grassed area of the site.

The DCP provides for one space per 100 students and one space per five students in year 12 where appropriate however, DoE does not provide on site parking for students as they are encouraged to use sustainable methods of transportation. While sustainability in travelling to and from school is the main driver of this policy position, safety is also a concern and the department discourages inexperienced drivers entering school grounds or carpooling with friends.

Delivery and waste vehicles

Delivery vehicles will be directed to park immediately west of the kiss and drop zone with swept paths shown to depict how 8.8m vehicles will enter and exit in a forward direction.

Waste collection will occur from the waste collection area located in the car park. Swept path assessment for a 10.5m waste vehicle with rear loading capability is provided which depict that the vehicle is able to enter and exit the site in a forward direction.

The location of the waste and delivery areas has been sited to provide onsite servicing and remove the potential for any waste pick up or delivery to occur on Rickard Road.

The delivery area is provided within the kiss and drop zone but limited to hours outside peak drop-off and pick-up times to ensure no conflict with kiss and drop operation. The delivery vehicles will then have access to the wood, art and science classrooms in Building B for material delivery as well as the canteen for food delivery and access to the school at the Admin building in Building A to check in as a visitor to the site. Waste will be collected from the waste area adjoining the car park outside school hours to ensure there is no conflict with waste vehicles, staff parking of kiss and drop.

6.1.5 Mitigation Measures

A complete set of mitigation measures relating to Traffic, Access and Parking impacts is located at **Appendix 1**. The key measures have been highlighted below.

Construction

- Prior to the commencement of any construction work within the road reserve, approval under Section 138 of the *Roads Act 1993* is to be obtained from the relevant road authority.
- Prior to commencement of construction, a detailed Construction Environmental Management Plan is to be prepared to manage construction traffic impacts

Operation

- A School Transport Plan is required to be prepared prior to the operation of the School, to continually assess travel demands as the timing of the proposed LTC residential densification and road network infrastructure delivery is unknown.
- Student enrolments are to be capped at 500 if the surrounding road network is not upgraded
- Bicycle parking and End-of-Trip facilities are to be provided to encourage staff and students to use active travel modes
- The internal site driveway and road are to be designed and constructed to ensure compliance and provide safe access for kiss & drop, parking and service vehicles
- Provide a bus bay on Rickard Road and ensure school bus optimisation and route planning suite the needs of the students
- Provide “No Stopping” signage to discourage any pick-up or drop-off activities occurring on the western side of Rickard Road
- Provide various safety measures to ensure drivers entering the site and pedestrians, including signage, a concrete median strip and line markings, both at the internal driveway
- Ensure bell times are off set with the adjoining public school to reduce congestion, and provide staff supervision for students

6.2 Noise and Vibration

6.2.1 Introduction

This chapter summarises the Noise and Vibration Impact Assessment (NVIAR), which is in **Appendix 24**. The NVIAR describes the existing environment, noise assessment criteria which apply to the project, potential construction and operation noise sources, modelling method and results, potential impacts and mitigation measures where impacts are unavoidable.

6.2.2 Assessment guidelines

Noise impacts from operations and road traffic at relevant receivers have been assessed in accordance with the following guidelines:

- NSW Environment Protection Authority (2017) Noise Policy for Industry (NPI).
- NSW Department of Environment, Climate Change and Water (2011) Road Noise Policy (RNP).
- NSW Department of Environment and Conservation (2006) Assessing Vibration: a technical guideline.
- Australian Standard AS2021:2015 'Acoustics – Aircraft Noise Intrusion – Building Sitting and Construction'.

6.2.3 Existing environment

The nearest sensitive receivers are:

- Residential buildings located along eastern, southern and western property boundaries.
- Educational buildings (Leppington Public School) on the northern property boundary.

Table 20: Current sensitive receivers surrounding the site

Receiver ID	Sensitive Receiver	Receiver Status	Receiver Type	Approx. Distance, m
1	144 Rickard Road	Existing	Educational (Business Park – B7)	<5
2	129, 141, 153 Byron Road	Existing	Residential (Business Park – B7)	<5
3	118 Rickard Road 74 Ingleburn Road	Existing	Residential (Business Park – B7)	<5
4	151 Rickard Road	Existing	Residential (Commercial Core – B3)	15

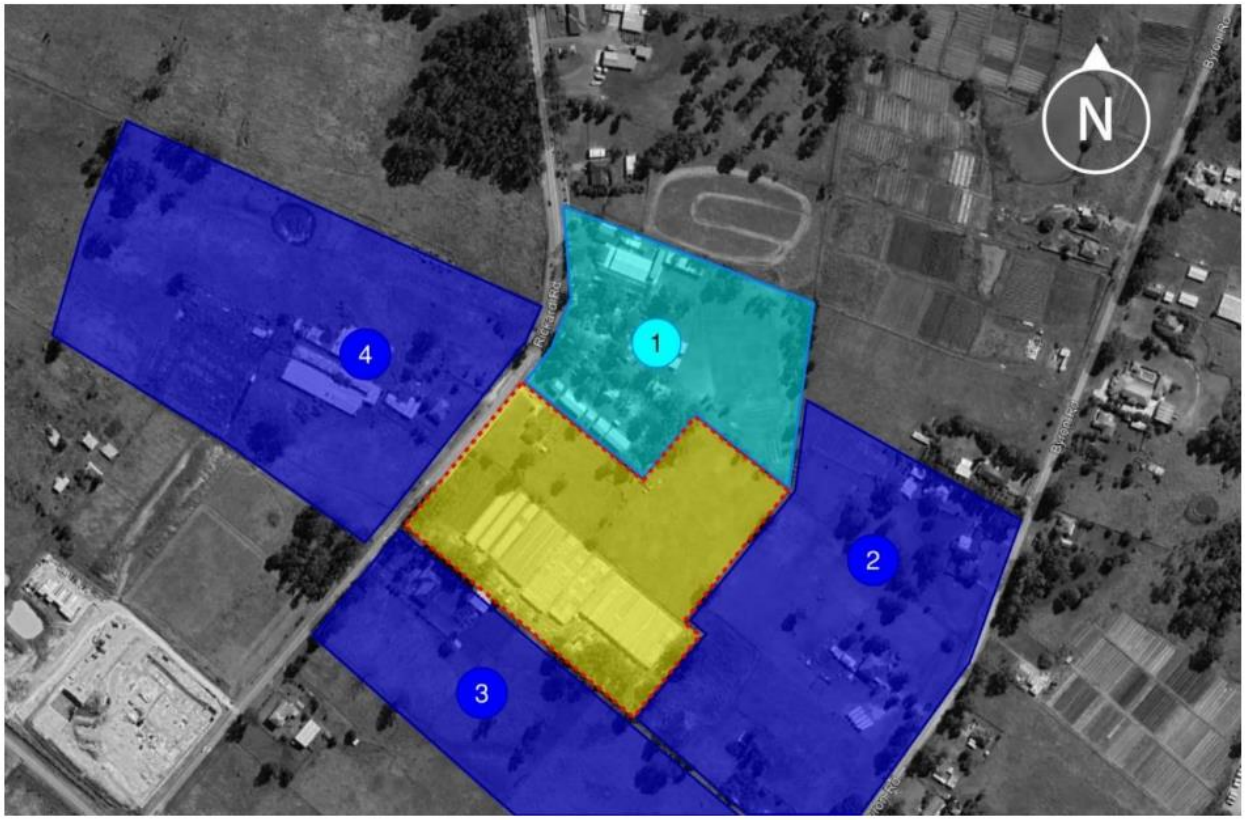


Figure 48: Current sensitive receivers surrounding the site (Source: JHA)

Noise was monitored around the site (unattended) from 6 to 18 December 2023 to characterise existing ambient noise levels (**Table 21**). Noise was also monitored using a hand-held monitor on the first day of unattended monitoring (**Table 22**).

The monitoring was used to determine the rating background level (RBL) (the noise level exceeded for 90% of the measurement time) and the ambient noise level (the all-encompassing noise in the environment).

Table 21: Summary of unattended background noise monitoring

Location	Rating background level dB(A)			Ambient level, dBA(A) L_{Aeq}		
	Day	Evening	Night	Day	Evening	Night
L1 & L2	37	40	32	45	49	42

Note: day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Table 22: Summary of attended background noise monitoring

Location	6/12/2023 – 10:26-10:41			6/12/2023 – 10:26-10:41		
	$L_{90,15min}$	$L_{eq,15min}$	$L_{10,15min}$	$L_{90,15min}$	$L_{eq,15min}$	$L_{10,15min}$
S1 & S2	41	47	47	42	65	69

Figure 49: Attended and unattended noise logger locations (Source: JHA)

6.2.4 Impact assessment

Operational noise – impacts on receivers

The NVIAR considered the following as noise generating source associated with the operation of the school with potential impact on the surrounding sensitive receivers:

- Public address and bell system
  - the EPA notes numerous reports of community concern arising from inadequate design and installation as well as inappropriate use of school public address and bell systems. The mitigation measures will be implemented to reduce impacts on sensitive receivers.
- Activities and events in the hall
  - the hall's noise emissions must meet the SEPP noise limits in **Table 23**. It was assumed the majority of use will be during the day and there will be occasional events during the evening (6-10pm) (Scenario 2) and that doors and windows will be open at times (Scenario 1 – doors and windows open, Scenario 2 – doors and windows closed).
- Playgrounds
  - the school will have a combination of multisport courts, a sports field, assembly area and landscaped areas in the centre of the site which will moistly only be used during school hours.
- Carpark
  - there will be two carparks which are assumed to occasionally be used during evenings (6-10pm).

Table 23: Noise impact assessment results for nearest receiver

Item	Criterion dB(A) L_{Aeq}	Results dB(A)	Compliant
Hall	42	Scenario 1 – 35	Yes
		Scenario 2 – 11	Yes
Play areas	42	30	Yes
Carpark	42	36	Yes

Each of the noise sources have been considered in terms of the following:

- Continuous noise over the assessment time period to provide the worst-case scenario.
- Distance attenuation, building reflections and directivity.
- Lowest background noise levels measured.

The NVIAR, against the project noise trigger levels (PNTL) determined in accordance with the NPI and stated that the predicted noise levels of the above operational sources at the boundary of the nearest receiver will comply with the relevant criteria for each. The NVIAR also noted that the TI SEPP provides the noise criteria for the use of the school in Schedule 6, Chapter 3. The policy states:

A new building or (if the development is an alteration or addition to an existing building for the purpose of changing its use) an existing building that is to be used for the purpose of a school or school-based childcare must be designed so as not to emit noise exceeding an LAeq of 5dB(A) above background noise when measured at any lot boundary.

The NVIAR assumed that the school will operate during typical school hours with occasional evening use. Based on the long-term unattended noise results of background noise levels, the school's operational noise level criterion for the daytime and evening time periods are shown in **Table 24**.

Table 24: TI SEPP noise level criteria

Noise amenity area	Period	Criteria, L_{Aeq} dB(A)
Rural residential	Day (7am-6pm)	42
	Evening (6pm-10pm)	45

Mitigation measures have been provided in the NVIAR requiring the mechanical plant and public address/school bell systems to go through acoustic assessments during the detailed design phase of the project to confirm any noise control measures required to achieve the relevant noise criteria at the nearest noise sensitive receiver. Notwithstanding, preliminary assessments of each has been based on location, distance to noise sensitive receivers and the most restrictive criteria, demonstrating that compliance can be achieved. The noise emission from the hall has demonstrated compliance with the relevant criteria at the nearest noise sensitive receiver with the windows and doors open. Other mitigation measures include time restrictions on deliveries and waste collection and provide sound insulation

Proposed mechanical services have not been designed in detail and associated noise has not been comprehensively assessed. The NVIAR acknowledged that noise must not exceed the maximum permissible cumulative noise levels for the external plant areas in **Table 25** to meet the PNTL for the nearest receiver. Therefore, a conservative approach has been used by applying the maximum permissible noise level, assuming compliance with relevant criteria at the sensitive receivers and attenuation of noise over the distance between the indicative plant locations (**Figure 50** of the NVIAR) and receivers (**Table 25**). The external plant areas are shown on **Figure 50**.

Mitigation measures have been provided for consideration during selection, installation and operation of external mechanical plant.

Table 25: Maximum permissible noise limits for external plant

Plant area	Receiver	Criteria, dB(A)	Maximum permissible noise level at source, dB(A) @ 1 m
1	Residential/education	42/45	73
2	Residential	42	75
3	Residential	42	74
4	Residential	42	74
5	Residential	42	73
6	Residential	42	60

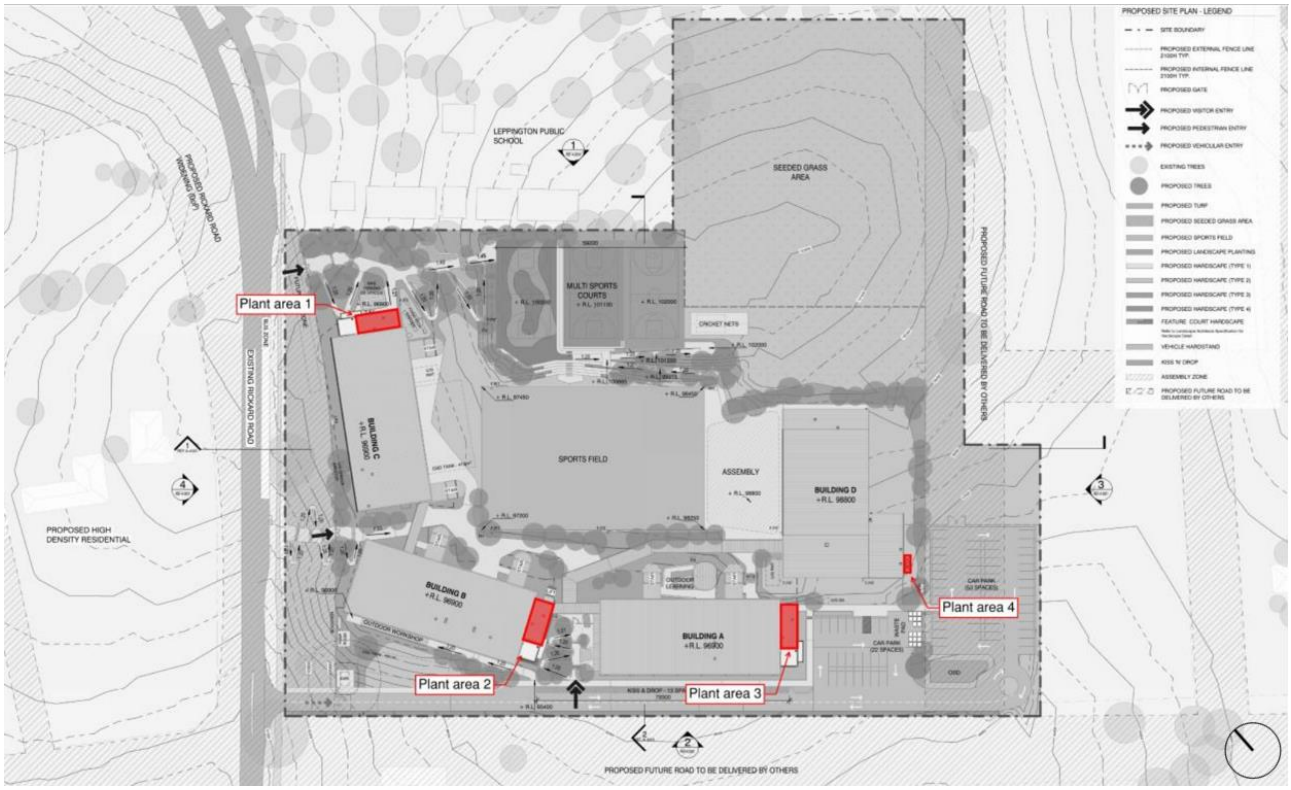


Figure 50: External mechanical plant locations (Source: JHA)

The NVIAR prepared by the acoustic consultant confirms the various components associated with the operational aspects of the development comply with the relevant noise criteria. The school has been designed to locate buildings along the east, south and west areas of the site with the sports fields and multi sports courts located centrally and adjoining the existing public school to the north. This is to minimise impacts as much as possible. On this basis, the public address and bell system, activities and events in the hall, playgrounds and carpark have demonstrated compliance with the relevant noise criteria.

<u>Assessment of school traffic noise on sensitive receivers' assessment and design / mitigation measures</u>

The NVIAR measured traffic noise on Rickard Road for an adjacent project between 16 to 27 February 2023 (**Table 26**).

Table 26: Traffic noise on Rickard Road, February 2023

Location	Measured traffic noise levels, dB(A)			
	Day (7am-10pm)		Night (10pm-7am)	
L2	$L_{Aeq,15hour}$ 59	Noisiest $L_{Aeq,\ 1hour}$ 62	$L_{Aeq,9hour}$ 60	Noisiest $L_{Aeq,\ 1hour}$ 62

Any increase in the total traffic noise level should be limited up to 2 dB above the existing noise levels for existing residences and other sensitive land uses affected by additional traffic on existing roads. This is based on the RNP considering an increase of up to 2 dB representing a minor impact and barely perceptible to the average person. In cases where existing traffic noise levels are above the noise assessment criteria, the primary objective is to reduce these through feasible and reasonable measures to meet the assessment criteria. The NVIAR confirms that the likely generated vehicle movements of the proposed activity are anticipated to be insignificant and the noise levels at sensitive receivers are not expected to increase by more than 2 dB.

Based on the activities compliance with the traffic noise criteria, there are no design or mitigation measures required for sensitive receivers.

Assessment of road noise impact (Rickard Road, etc) on the school and design / mitigation measures

The NVIAR noted that project related traffic noise must comply with the RNP. Traffic noise from Rickard Road could impact facades of the project. Based on measurements of road noise carried out by the acoustic consultant, the noise level at the façade of Building C is predicted to be 67 dB(A).

It is understood that Rickard Road is subject to future road widening. However, the details of this are yet to be confirmed but it is assumed that traffic on Rickard Road will double, which will result in an increase of 3 dB(A) at the façade (to 70 dB(A)) and a reduced distance to the edge of the road.

Based on the predicted noise levels outside the western façades of the school buildings due to traffic on Rickard Road; to achieve the internal noise level criteria, it is recommended in install glazing with a sound reduction index of RW + Ctr 33 for educational spaces facing Rickard Road within Building C. A minimum sound reduction index of RW32 is to be provided for all other glazing. The acoustic performance of the glazing and building façade shall be reviewed during the design phases of the project, once glazing and façade areas will be finalised and more detail regarding the road widening will be known.

Assessment of Noise impact of the onsite access way/carpark on the school and design / mitigation measures

The proposed new school includes construction of two new carparks and an access way to the south of the site. A carpark noise assessment has been conducted and noise emissions to the nearest noise-sensitive sensitive receiver boundary have assumed future sensitive receivers to be approximately 40m east of the site.

Impacts from the carpark are considered to be:

- Use of the carpark during school hours (7am to 6pm) and occasionally during evening time (6pm to 10pm)
- Assuming two cars entering or leaving each carpark every 15 minutes (4 total) with each car taking approximately 30-60 seconds to park
- Typical sound power level of a one car movement being 85dB(A).

The assessment found that the noise level criterion for the day time complies at the sensitive receiver boundary and the predicted noise level will also comply with noise level criteria during evening time as the noise level criteria during the day time period is more stringent than evening time.

Operation noise - aviation

The school will be outside the Australian Noise Exposure Concept (ANEC) shown in the Western Sydney Airport EIS. Therefore, as per AS 2021:2015 'Acoustics – Aircraft Noise Intrusion – Building Sitting and Construction', the school site is acceptable and there is no requirement to assess aircraft noise.

Operational noise - cumulative impacts

The site is in the SWGA, which is experiencing substantial growth and densification. Leppington is changing significantly and transitioning following recent rezoning by the NSW Government. Further transformation is anticipated with the future rezoning of the LTC. This town centre is the focus of an active PP which, if approved, will greatly impact the character and context of the surrounding area.

The cumulative impacts of the new high school with the adjacent primary school have been considered with the application of the NSW NPI.

The NSW NPI specifies amenity noise level objectives for the total noise levels at receivers in different noise amenity areas. To ensure that cumulative noise levels remain within the recommended amenity objectives, the project amenity noise level is set at 5dB(A) lower than the amenity noise level.

Each neighbouring development is expected is apply the same strategy from the NPI in order to maintain the acoustic amenity of the area.

Construction noise and vibration

The NVIAR considered the temporary noise and vibration during construction. The NVIAR stated that the ICNG recommends noise management levels (NMLs) to reduce the likelihood of noise impacts from construction. The NML is determined by adding 10 dB (standard hours) or 5 dB (out of hours) to the RBL for each assessment period (**Table 27**).

The recommended ICNG standard construction hours are:

- 7am to 6pm Monday to Friday;
- 8am to 1pm Saturday; and
- No work on Sunday or public holidays.

Table 27: ICNG criteria for airborne construction noise

Receiver		Airborne construction noise criteria, L_{Aeq} dB(A)	
		Standard hours	Outside standard hours
Residential	Noise affected/external	RBL + 10	RBL + 5
	Highly noise affected/external	75	N/A
Active recreation	External (when in use)	65	N/A
Classrooms	External (when in use)	45	N/A

The ICNG recommends internal ground-borne noise maximum levels at residences affected by nearby construction activities. Ground-borne noise is noise generated by vibration transmitted through the ground into a structure and can be more noticeable than airborne noise for some sensitive receivers.

The below ground-borne noise levels are for sensitive receivers during evening and night-time only, as the objective is to protect the amenity and sleep of people when they are at home.

- Evening: $L_{Aeq,15min}$ 40 dB(A) – internal.
- Night: $L_{Aeq,15min}$ 35 dB(A) – internal.

The internal noise levels are assessed at the centre of the most affected habitable room of a sensitive receiver.

A detailed construction program has not been prepared, therefore, general construction noise and vibration planning mitigation measures have been provided. The preliminary advice in relation to construction noise and vibration management shall form the basis for the contractor's construction noise and vibration management plan (CNVMP), which shall identify any noise criteria exceedance once construction methods and stages are known.

The noise assessment will be reviewed if the design is modified, including and not restricted to selection of mechanical plant, modifications to the building and introduction of any additional noise sources.

6.2.5 Mitigation Measures

A complete set of mitigation measures relating to Noise and Vibration impacts is located at **Appendix 1**. The key measures have been highlighted below.

Design and Operation

- The Detailed Design phase should consider a noise assessment to be undertaken once equipment selection has occurred, following the NPI requirements
- Low-powered horn-type speakers shall be located and orientated to provide a good coverage of the school areas whilst being directly away from residences and near sensitive receivers
- Prior to the commencement of operations, it must be demonstrated by a suitably qualified acoustic engineer that noise associated with the operation of mechanical plant or machinery installed does not exceed the relevant project noise trigger levels.

Construction

- Time restrictions are to be applied to construction noise activities as required to comply with the construction noise limits.

6.3 Contamination and Hazardous Materials

6.3.1 Introduction

This chapter summarises the DSI report, which is in **Appendix 8**. It describes the existing environment, assessment method and results, potential impacts and mitigation measures where impacts are unavoidable.

6.3.2 Assessment guidelines

Preparation of the DSI report was done with reference to relevant sections of the following guidelines:

- National Environment (Assessment of Site Contamination) Protection Measure (NEPM, 2013).
- NSW EPA (2022) Sampling Design Guidelines: Part 1 – Application and Part 2 – Interpretation.
- NSW EPA (2020), Contaminated land guidelines: Consultants reporting on contaminated land.
- State Environmental Planning Policy (Resilience and Hazards) 2021.
- NSW EPA (2017) Contaminated Land Management, Guidelines for the NSW Site Auditor Scheme (3rd Edition), NSW Environment Protection Authority, October 2017.
- NSW EPA (2005), Contaminated Sites, Guidelines for Assessing Former Orchards and Market Gardens, Environmental Protection Authority, June 2005.
- NSW EPA (2022), Contaminated Land Guidelines - Sampling Design part 1 – application.
- NSW EPA (2014), Waste Classification Guidelines - Part 1: Classification of waste, dated November 2014.
- NSW EPA (2016), Addendum to the Waste Classification Guidelines – Part 1: classifying waste, October 2016.
- CRC CARE. (2017). Technical Report No. 39 - Risk-based management and remediation guidance for benzo(a)pyrene.
- Standards Australia (2005) Australian Standard AS 4482.1-2005 – Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds. Standards Australia, Homebush, NSW (withdrawn).
- Standards Australia (1999) Australian Standard AS 4482.2-1999 - Guide to the sampling and investigation of potentially contaminated soil. Part 2: Volatile substances. Standards Australia, Homebush, NSW (now Withdrawn).
- PFAS National Environmental Management Plan (NEMP, 2020).

6.3.3 Impact assessment

The objective of the DSI was to provide the department with additional advice on the contamination status of the site and its suitability for the proposed activity. Specifically, the objectives of the DSI were to:

- Assess the potential for contamination to be present at the site.
- Provide recommendations on the suitability of the site for its intended future land use.
- Provide recommendations on the need for further investigations and/or management based on the findings.

The DSI carried out a site walkover and reviewed the available site background information and identified the following:

- The site has historically been used for agricultural (paddock) and crop growing including the construction and demolition of some structures.
- Fill containing anthropogenic inclusions such concrete, brick, terracotta and asphalt was present to depths between approximately 0.1 m to 0.5 m bgl.
- Fragments of ACM were present onsite. Some elevated concentrations of Polycyclic Aromatic Hydrocarbons (PAHs), zinc and TRH were present in soils.

The five potential areas of environmental interest identified in the DSI are the existing:

- Areas near former/existing buildings from weathering and/or ineffective demolition of hazardous building materials.
- Areas of possible filling of unknown origin and/or quality.
- Whole site from potential spraying of pesticides and herbicides related to crop growing activities.
- Farm dam/wastewater ponds (Dam A and B).
- Septic tank

The DSI also carried out testing, including the excavation of 44 test pits, collection of two surface water and sediment samples from the existing dam and wastewater pond and groundwater samples.

The results sampling found:

- Concentrations of Contaminant of Potential Concern (CoPC) in soil were generally less than the adopted assessment criteria
- Asbestos in the existing stockpile, access roads and in subsurface fill in the northern portal of Lot B
- Some exceedances in Benzo(a)pyrene, lead and nickel above the acceptable human health criteria
- That soil materials are non-saline
- That Acid sulfate soils were not present
- There may also be opportunity to apply the Excavated Natural Material (ENM) Order to some of the natural material, in portions of the site.

The areas of environmental interest were of concern as the potential contaminants could migrate offsite to impact other human or ecological receptors or could affect the users of the site.

It was concluded the site can be made suitable from a contamination perspective for a future land use as a high school, subject to the management of identified contamination and implementation of the following recommendations.

- Prepare and implement a remedial action plan (RAP) to manage the identified contamination. This may include segregation and stripping of shallow soils impacted by metals (copper and zinc), benzo(a)pyrene and asbestos, with waste classification and disposal offsite at a licensed facility or onsite encapsulation.
- Supervision of material segregation works as part of remediation works, by an experienced environmental engineer/scientist or occupational hygienist.
- Preparation of a construction environmental management plan (CEMP) outlining unexpected finds, including for areas underneath building footprints post demolition.

- Undertaking a hazardous building material (HBM) assessment for Lot B.

It is noted a RAP has been prepared and is in **Appendix 9**. The RAP recommends onsite encapsulation of contaminated material, with offsite disposal as an alternative option for excess soils (**Table 28**). An Interim Advice Endorsement Letter of the Remediation Strategy can be found in **Appendix 30.**

Table 28: Remediation Works

Remediation works	Remediation option	
	Onsite encapsulation	Offsite disposal
Establishment of Encapsulation Area.	Suitable non-leaching material will be placed in an appropriately located and designed Encapsulation Area. The proposed location of the Encapsulation Area is beneath the 'Island' area or the proposed carpark in the southern part of the Site (presented on Figure 5, Appendix A). Soil material generated as part of remediation (i.e. impacted material) and construction works (i.e. in excess of Site levels) is to be placed within Encapsulation Area in order of 'most' to 'least' contaminated, with surplus soils disposed of offsite. Once filled, the Encapsulation Area is to be capped.	–
Demolition of existing structures/infrastructure as required, following relevant codes and guidelines including removal of surface waste/rubbish.	–	Waste classification and offsite disposal.
Excavation of soil material above adopted assessment criteria (including soil stockpiles)	Placement within the Encapsulation Area in order of 'most' to 'least' contaminated.	Waste classification and offsite disposal.
Excavation of soil material as part of construction works (i.e. in excess of Site levels)	Classification and re-use on/offsite. Placement within the Encapsulation Area in order of 'most' to 'least' contaminated	Waste classification and offsite disposal.
Long Term Environmental Management Plan (LTEMP)	At the completion of remediation, preparation of an LTEMP to be implemented in areas where contaminated materials are retained onsite. This is to provide administrative controls/ restrictions, ongoing monitoring and to manage potential future exposure beneath capped areas.	–

The RAP describes the following remediation strategy, which will likely occur during the bulk earthworks phase of construction:

1. Obtain approvals, licences and undertake notifications.
2. Establish and implement Unexpected Finds (UEF) protocols (during earthworks).
3. Set up Site controls.
4. Draining of Dam B (re-use onsite e.g. for irrigation, or disposal).
5. Survey remediation area extents.
6. Demolition and removal of structures / utilities.
7. Conduct surface asbestos pick and asbestos clearance.
8. Preparation of Encapsulation Area (i.e. the 'Island' area or the proposed carpark in the south-west corner of the Site, as a "borrow pit" including the removal of existing soils beneath the Site to ensure sufficient volume for contaminated soils to be placed).
9. Excavation of impacted fill material (i.e. material exceeding adopted assessment criteria) and either placement within the Encapsulation Area or waste classification and disposal offsite.
10. Validation sampling and survey to confirm impacted fill material areas have been removed from the Remediation Areas.
11. Earthworks involving management of excavated materials.
12. Validation sampling to confirm suitability of capping layer (this may be either site won material or imported fill).
13. Installation of the capping layer where required.
14. Preparation of a validation report.
15. Preparation of a LTEMP for the ongoing management of the Encapsulation Area.

6.3.4 Mitigation measures

A complete set of mitigation measures relating to Contamination and Hazardous Materials impacts is located at **Appendix 1**. The key measures have been highlighted below.

Construction

- Remediation of known contaminated land is to be carried out in accordance with the requirements of the Remediation Action Plan
- An independent review of the remedial approach is suitable and is to be conducted in accordance with all appropriate regulations, standards and NSW EPA guidelines
- Contamination capping design is to be reviewed by the independent auditor
- At least 30 days prior to the commencement of any Category 2 remediation work, all required regulatory notifications are to be provided, including Notification of Category 2 Remediation Works to Council.
- Where asbestos or asbestos-containing material is to be disturbed or uncovered, compliance with SafeWork NSW requirements shall be adhered to
- Any unexpected contamination information or contaminants that are identified are to be immediately notified to the Project Lead and work must cease in the location

6.4 Historic heritage

6.4.1 Introduction

This chapter summarises the SOHI, which is in **Appendix 7**. It describes the existing environment, assessment method and results, potential impacts and mitigation measures where impacts are unavoidable.

6.4.2 Assessment guidelines

Heritage impacts have been assessed in accordance with the following guidelines:

- *The Australian International Council on Monuments and Sites, Charter for Places of Cultural Significance* (also known as the Burra Charter, Australia ICOMOS 2013).
- NSW Heritage Manual (Heritage Office 1996, with regular additions).
- Assessing Significance for Historical Archaeological Sites and 'Relics' (NSW Heritage Branch 2009).

6.4.3 Impact assessment

Historical heritage

The site is not listed as having a heritage item. City Plan Heritage (City Plan 2023) prepared a summary report of initial site investigations that identified that the subject site may possess some archaeological and historical significance tied to the current and former outbuildings on Lot B DP411211.

LPS is adjacent to the site along the north boundary. This site is listed on the Department of Education's S.170 Heritage and Conservation Register. The buildings designated as having significant heritage significance, as officially listed on the Department of Education S170 Register and the 2021 SEPP for the Western Parkland City Precinct, include B00H, B00I, B00J, B00K, B00L, and B00M. Lot 38E in DP 8979 and Lot 39C in DP 8979, comprising the two southern lots of the public school site are identified as items of Local Heritage significance pursuant to the provisions of Appendix 5 'Camden Growth Centre Precinct Plan' of the Precincts SEPP.

The SOHI was assessed the site against the against the NSW Heritage Manual and found:

- While 128-134 Rickard Road was initially part of the 3000-acre grant awarded to Alexander Riley in 1810—reflecting the agricultural focus of the area's early settlement—the site itself does not have any direct associations with significant historical events or developments.
- Although owned by a range of people, there are no strong or special historical associations identified with 128-134 Rickard Road, Leppington.
- The outbuildings contained on Lot B DP411211 were constructed post 1960 and are in very poor condition. These outbuildings are constructed of corrugated sheet metal on a simple timber frame with sections missing and portions fallen down. They do not have any unique or special qualities.
- 128-134 Rickard Road does not possess any uncommon, rare or endangered aspects of NSW or the local areas cultural or natural history

The potential impacts of ground disturbance on historic heritage were also assessed in the SOHI. The potential impacts on the heritage values were assessed using criteria development from the *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*. Impacts are summarised in **Table 29**, which shows the project will have an overall neutral impact on historic heritage.

Table 29: Historic heritage impact assessment

Matter for consideration	Summary	Impact
Fabric and spatial arrangements	The 1960 outbuildings on Lot B DP411211 are in poor condition and do not possess heritage significance, aesthetically or yield research potential.	Neutral
Setting, views and vistas	The site landscape has comprised small-scale rural agricultural gardens since 1929, which will be transformed into a high school setting. However, LPS is adjacent to the site, which has been in operation since 1922. Transformation of the area into a high school further fits the educational theme of the area. The proposed activity will further compliment and strengthen this educational landscape. LPS contains numerous buildings with moderate to high level of significance. The setting, views and vistas would be changed by the proposed activity with the construction of sporting fields, planting of trees and several general classroom buildings. The views from Rickard Road to the classroom buildings would not be obscured by the proposed activity. The views from the back of the classrooms are not of heritage significance and therefore not considered impacted by the proposed activities.	Neutral
Landscape	The site landscape will be transformed from a small-scale agricultural rural landscape to an urbanised landscape. Most of the site vegetation will be removed and replaced with trees to provide shade to site occupants. The site does not have any significant landscape elements or aesthetic qualities that would be impacted by the proposed activity and the trees proposed for removal are not of heritage significance. LPS would be altered by the proposed activities with the proposed planting of trees along the northern boundary of the site. The landscape of the adjoining block (the site) does not contribute to the heritage significance of the area. It is in an area of lower value, with buildings positioned against a fence on the edge of the school, and therefore does not form a key part of the school's landscape.	Neutral
Use	The site has been used for small scale agriculture since the 1930s and the proposed activity would change this use to educational. The use of the site does not contribute to the heritage significance of the area or the landscape.	Neutral
Demolition	The proposed activity would demolish the existing buildings across Lot A and Lot B DP411211, which have been assessed as not holding heritage significance.	Neutral
Curtilage	As the site does not possess identified heritage significance, no heritage curtilage is applicable.	Neutral
Moveable heritage	The site does not have any identified items of moveable heritage.	Neutral
Aboriginal cultural heritage	A test excavation was conducted by the Aboriginal consultant which did not identify any Aboriginal objects and/or features of cultural and archaeological value.	Neutral
Historical heritage	Through documentary research and a site visit, it has been determined that the site has a low potential for archaeological	Neutral

Matter for consideration	Summary	Impact
	resources. Any resources present are likely to have been highly disturbed and it is unlikely these resources would meet the threshold for local significance as relics under the Heritage Act 1977.	
Natural heritage	Site trees have been assessed by an arborist and have high retention value. However, these trees do not have heritage significance related to their natural heritage.	Neutral
Conservation areas	The site is not in a conservation area.	Neutral
Cumulative impacts	The activity will transform the site from a traditionally open, agricultural landscape to a more urbanised environment with the introduction of the new high school. This change reflects broader planning decisions made at the state level to accommodate urban growth in Leppington. While this transformation will alter the character of the local area, the site itself does not hold any heritage value. The new high school aligns with the educational theme of the area and complements the existing LPS, which is listed on the Department of Education's Section 170 Heritage and Conservation Register under the Heritage Act 1977.	Neutral
Conservation management plan	No conservation management plan applies to the site.	Neutral
Other local heritage items	LPS adjoins the northern site boundary and is listed on the Department of Education's S.170 Heritage and Conservation Register and the Local heritage listing under the Precincts SEPP. LPS was established in 1920, and some of the original weatherboard buildings from the early phase of the school are still present. The proposed activities will have some indirect visual impacts on these buildings, viewing from the southeast. These impacts have been addressed under 'setting' and 'landscape'. Leppington Progress Hall (I19) listed on the Western Parkland City SEPP 2021 is 420 m south-west of the site. There are no view lines between the site and this item and as such there are no direct or indirect impacts.	Neutral
Commonwealth/national heritage significance	There are no items of Commonwealth/National heritage significance in or near the site.	Neutral
World heritage significance	There are no items of World Heritage significance in or near the site.	Neutral

In summary, the SOHI found that 128-134 Rickard Road does not meet the threshold for heritage significance under the NSW heritage assessment criteria. The site lacks strong associative connections with significant individuals or communities, does not exhibit noteworthy aesthetic, technical, or architectural attributes, and holds limited potential for further research or archaeological insight. Furthermore, it does not represent rare or unique qualities or characteristics that would distinguish it within NSW's cultural heritage framework.

The high school design considered the potential for impact on the adjoining heritage item at the public school and responded by ensuring no built form in close proximity to the northern boundary of the high school site. Building C, which is the closest building to this boundary has provided a generous setback to provide adequate landscape provision and screening to protect the curtilage of the item. The balance of the northern boundary contains no buildings and instead provides for sports courts and landscaping treatment to further protect locally listed item.

Archaeological heritage

The SOHI summarised the site history and potential for archaeological heritage as follows:

- From 1810, the site was used for grazing and mixed farming. Shepards huts or other farm outbuildings may have existed on the site, but no documented evidence exists of this being the case. The archaeological resources, if present, would have been disturbed by later development and agricultural activities. Therefore, the potential for relics relating to this phase is low to nil.
- Mary Ann Wright purchased the property in 1929 and from the 1947 aerial it can be seen there was at least three buildings established on the Lot B DP411211 portion of the site. These buildings were demolished and impacted by later development. There may be footings, fence posts, cess pits and traces of artefact deposits related to everyday life related to this phase of occupation. The potential for relics related to this phase is predicted to be low to nil.

Table 30: Historic heritage impact assessment

Matter for consideration	Summary	Impact
Fabric and spatial arrangements	The 1960 outbuildings on Lot B DP411211 are in poor condition and do not posses heritage significance, aesthetically or yield research potential.	Neutral
Setting, views and vistas	The site landscape has comprised small-scale rural agricultural gardens since 1929, which will be transformed into a high school setting. However, LPS is adjacent to the site, which has been in operation since 1922. Transformation of the area into a high school further fits the educational theme of the area. The proposed activity will further compliment and strengthen this educational landscape. LPS contains numerous buildings with moderate to high level of significance. The setting, views and vistas would be changed by the proposed activity with the construction of sporting fields, planting of trees and several general classroom buildings. The views from Rickard Road to the classroom buildings would not be obscured by the proposed activity. The views from the back of the classrooms are not of heritage significance and therefore not considered impacted by the proposed activities.	Neutral
Landscape	The site landscape will be transformed from a small-scale agricultural rural landscape to an urbanised landscape. Most of the site vegetation will be removed and replaced with trees to provide shade to site occupants. The site does not have any significant landscape elements or aesthetic qualities that would be impacted by the proposed activity and the trees proposed for removal are not of heritage significance. LPS would be altered by the proposed activities with the proposed planting of trees along the northern boundary of the site. The landscape of the adjoining block (the site) does not contribute to the heritage significance of the area. It is in an area of lower value, with buildings positioned against a fence on the edge of the school, and therefore does not form a key part of the school's landscape.	Neutral
Use	The site has been used for small scale agriculture since the 1930s and the proposed activity would change this use to educational. The use of the site does not contribute to the heritage significance of the area or the landscape.	Neutral
Demolition	The proposed activity would demolish the existing buildings across Lot A and Lot B DP411211, which have been assessed as not holding heritage significance.	Neutral
Curtilage	As the site does not possess identified heritage significance, no heritage curtilage is applicable.	Neutral
Moveable heritage	The site does not have any identified items of moveable heritage.	Neutral
Aboriginal cultural heritage	A test excavation was conducted by the Aboriginal consultant which did not identify any Aboriginal objects and/or features of cultural and archaeological value	Neutral
Historical heritage	Through documentary research and a site visit, it has been determined that the site has a low potential for archaeological resources. Any resources present are likely to have been highly disturbed and it is unlikely these resources would meet the threshold for local significance as relics under the Heritage Act 1977.	Neutral

Matter for consideration	Summary	Impact
Natural heritage	Site trees have been assessed by an arborist and have high retention value. However, these trees do not have heritage significance related to their natural heritage.	Neutral
Conservation areas	The site is not in a conservation area.	Neutral
Cumulative impacts	The activity will transform the site from a traditionally open, agricultural landscape to a more urbanised environment with the introduction of the new high school. This change reflects broader planning decisions made at the state level to accommodate urban growth in Leppington. While this transformation will alter the character of the local area, the site itself does not hold any heritage value. The new high school aligns with the educational theme of the area and complements the existing LPS, which is listed on the Department of Education's Section 170 Heritage and Conservation Register under the Heritage Act 1977.	Neutral
Conservation management plan	No conservation management plan applies to the site.	Neutral
Other local heritage items	LPS adjoins the northern site boundary and is listed on the Department of Education's S.170 Heritage and Conservation Register. LPS was established in 1920, and some of the original weatherboard buildings from the early phase of the school are still present. The proposed activities will have some indirect visual impacts on these buildings, viewing from the southeast. These impacts have been addressed under 'setting' and 'landscape'. Leppington Progress Hall (I19) listed on the Western Parkland City SEPP 2021 is 420 m south-west of the site. There are no view lines between the site and this item and as such there are no direct or indirect impacts.	Neutral
Commonwealth/national heritage significance	There are no items of Commonwealth/National heritage significance in or near the site.	Neutral
World heritage significance	There are no items of World Heritage significance in or near the site.	Neutral

6.4.4 Mitigation measures

A complete set of mitigation measures relating to Historic Heritage impacts is located at **Appendix 1**. The key measures have been highlighted below.

Construction

- If any unexpected archaeological relic (or potential relic) of heritage significance is discovered during any construction work, all work in the vicinity must cease and the area must be appropriately protected

All stages

- If future development plans change and involve constructing structures along the northern boundary of the site, potential indirect impacts on LPS should be reassessed.

6.5 Aboriginal Heritage

6.5.1 Introduction

This chapter summarises the ACHAR, which is in **Appendix 6**. It describes the existing environment, assessment method and results, potential impacts and mitigation measures where impacts are unavoidable.

6.5.2 Assessment guidelines

Potential impacts on Aboriginal heritage have been assessed in accordance with the following guidelines:

- Aboriginal Archaeological Survey, Guidelines for Archaeological Survey Reporting (NSW NPWS 1998);
- Aboriginal Cultural Heritage Standards and Guidelines Kit (NPWS 1998);
- Australia ICOMOS 'Burra' Charter for the conservation of culturally significant places (Australia ICOMOS 1999, revised 2013);
- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010b);
- Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010a);
- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW, Part 6 National Parks and Wildlife Act 1974 (OEH 2011)
- Part 6; National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010c);
- Protecting Local Heritage Places: A Guide for Communities (Australian Heritage Commission 1999).

Aboriginal consultation

Aboriginal parties were thoroughly consulted as described in the ACHAR at Appendix 6. Eighteen Aboriginal groups registered (RAPS) their interest in the project and contributed cultural knowledge and archaeological expertise to the assessment process.

The RAPS were issued a draft of the ACHA report and asked the following questions regarding the cultural significance of the site:

Intangible significance:

- Does the study area hold any social, spiritual or cultural values? If so, what are these values and are they confined to particular parts of the study area?
- Are unrecorded places or resources of cultural, natural or archaeologically significance present within the study area? If so, where are they located?
- Are there any traditional stories or legends associated with the study area?
- Are there any gender specific cultural values associated with the study area which cannot be raised in general meeting? If so, how would the Aboriginal stakeholders like these managed?

Tangible remains and significance:

- Are there any recollections of Aboriginal people living within the study area?
- Is there any information to suggest the presence of burials within the study area?

No specific responses to the RAP questions were received from registered stakeholders who provided a response to the draft ACHA report.

6.5.3 Impact assessment

The ACHA carried out an AHIMs search which returned nineteen registered sites within 1,000 m of the site and no sites have been registered in or adjacent to the site (**Figure 51**).

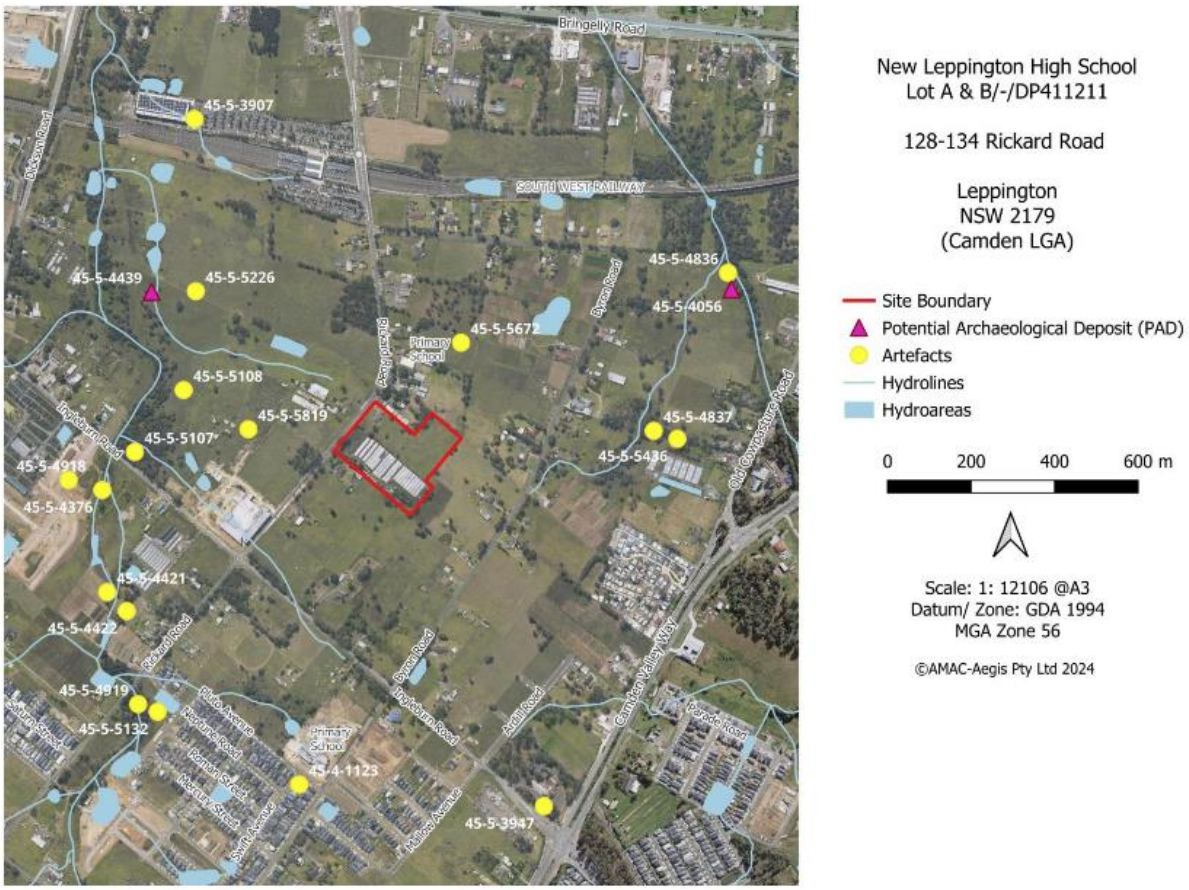


Figure 51: AHIMS search results (Source: AMAC)

The most common site type was artefacts, which comprised almost 90% of sites. Of these artefacts, five have been completely destroyed and five partially destroyed. Two potential archaeological deposits (PADs) were also identified.

Notably most were close to mapped watercourses, regardless of site type. Additionally, most sites were on very low slopes and were more frequently identified when exposure was higher.

The site is in a zone which had resources that may have been exploited on either a regular or repeated basis. Reliable access to fresh water may have been present near the site.

Sites containing fresh water and sedentary food sources, coupled with the presence of other resources which may have been exploited or available on a seasonal basis, would suggest that Aboriginal land use of the region was regular and repeated.

The site is within 200 m of an ephemeral water source and, therefore, has archaeological potential as an area people may have traversed. In the past the accessibility of permanent water and resources along creek banks would have channelled Aboriginal movement and land use to this location and would have been a major resource of food and water There are several artificial dams near the site as a result of European occupation and past land use.

The ACHA also included a site inspection on 13 February 2024, by archaeologist and Registered Aboriginal Parties (RAPS), which found that the site has been modified for agricultural use, with most of the site comprising introduced vegetation, structures and accessways. While mature trees were identified on the site, there was no evidence of modification. The site has been moderately and highly disturbed, however, there were possible intact soils in some areas which could have

deep profiles containing evidence of previous Aboriginal occupation. No surface evidence of previous Aboriginal occupation was observed during the site inspection.

Given the proximity of the site to water and the possibility of areas of deep soil profiles, it was determined areas of the site were likely to contain Aboriginal artefacts. The ACHA then carried out test excavations spread evenly across the proposed activity footprint to systematically determine a distribution and/or density pattern within the site. However, test excavation revealed no subsurface Aboriginal objects and/or features.

As described above, no evidence of previous Aboriginal occupation of the site was discovered during the site inspection and test excavations. Therefore, the activity is unlikely to directly impact any items Aboriginal cultural significance.

The assessment of Aboriginal archaeological and cultural significance of the site against the Burra Charter has been summarised in **Table 31**. No significance has been determined against the Burra Charter criteria (social, historic, scientific and aesthetic significance).

Table 31: Archaeological and cultural significance

Criteria	Assessment
Social significance The social value embraces the qualities for which a place, object, or site has become a focus of spiritual, political, national, or other cultural sentiment to a majority or minority group. According to the Guide to investigating, assessing, and reporting on Aboriginal cultural heritage in NSW, "social or cultural value can only be identified though consultation with Aboriginal people".	No specific social significance has, of yet, been assigned to the study area by Stakeholders. Previous assessments of the area have received statements that the entire area is culturally significant, including the flora, fauna, landforms and associated histories.
Historic significance A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase, or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.	Historical research did not locate any specific historical significance of identified Aboriginal archaeological sites in the study area nor has any specific historical significance been assigned to the study area by any of the RAPS, as yet.
Scientific significance The scientific value of any given location will depend on the importance of the data that can be obtained from any archaeological material located on its rarity, quality, and on the degree to which this may contribute further substantial information to a scientific research process.	One piece of raw silcrete material was identified in the site. This material is widely identified in the Cumberland Lowlands, with evidence of heat treatment, retouch and reuse apparent in multiple assemblages. Contrastingly, no modification was apparent on this piece. As this is a common material, without evidence of treatment or processing, a nil scientific significance has been assigned.
Aesthetic significance Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, texture, and material of the fabric; the smells and sounds associated with the place and its use.	No specific aesthetic values have, as yet been assigned to the study area by any of the RAPS.

6.5.4 Mitigation measures

A complete set of mitigation measures relating to Aboriginal Heritage impacts is located at **Appendix 1**. The key measures have been highlighted below.

Construction

- If any unexpected Aboriginal objects, sites or places (or potential Aboriginal objects, site or places) are discovered during any construction work, all works in the vicinity must cease and the area must be appropriately protected.
- If human remains are identified, work must cease and the area around where the remains are found must be protected from all disturbance.
- If any Aboriginal objects, sites, places or human remains are found, materials and finds should not be removed from the ground wherever possible. The department's Heritage Team is to be notified and an archaeologist engaged to undertake a site inspection to ascertain whether the finds are significant relics.

6.6 Hydrology, Flooding and Water Quality

6.6.1 Introduction

This chapter summarises the surface water sections of the Civil Engineering Design Report (**Appendix 28**), Flood Statement and Flood Emergency Response Plan (**Appendix 5**). It describes the existing environment, assessment method and results, potential impacts and mitigation measures where impacts are unavoidable.

6.6.2 Assessment guidelines

Flood impacts have been assessed in accordance with the following guidelines:

- Australian Institute of Disaster Resilience (AIDR) Guideline 7-3: Flood Hazard (2017).
- Camden Growth Centre Precincts Development Control Plan (CGCPDCP), 2023.
- Leppington Town Centre Development Control Plan, 2023 (draft version).
- Camden Development Control Plan (DCP), 2019.
- Camden Council Flood Risk Management Policy, 2023.
- Camden Council Engineering Design Specification, 2020 (draft version).
- Camden Council Review of Upper South Creek Flood Study in the Context of Ongoing Development Report, 2022 (prepared by WMAwater 2022).
- Camden Local Environmental Plan (LEP) 2010.
- NSW Department of Environment and Heritage – Flood Risk Management Guideline LU01, June 2023.
- NSW Department of Planning and Environment – Flood Risk Management Manual, 2023.
- NSW Department of Planning, Housing and Infrastructure – Planning Circular PS 24-001, Update on addressing flood risk in planning decisions, 1st March 2024.
- NSW Floodplain Development Manual, June 2023.
- School Infrastructure New South Wales (SINSW) Guidelines for School Site Selection and Master Planning, 2023.

- Office of Environment and Heritage Flood Emergency Response Planning Classification of Communities (2007).

6.6.3 Impact assessment

Stormwater

There is a crest in the north-east of the site, with the majority of downward slope (and surface water flow) to the south, south-west and west. There is no existing under or above ground stormwater infrastructure on or adjacent to the site, other than a swale on Rickard Road. Stormwater leaves the site as sheet flows onto Rickard Road and adjacent private property.

The proposed stormwater treatment train will comprise the following devices:

- 39 x Ocean Protect Oceanguard pit filter baskets.
- 20 x Ocean Protect 690 mm Psorb Stormfilter cartridges.
- Total of 40 kL rainwater tank for landscape irrigation reuse.
- 135 m^2 of Bioretention area.

Stormwater quality treatment is required to comply with the requirements outlined in Section 2.3.2 of Council's Growth Centre Precinct DCP, shown in **Figure 52**.

	WATER QUALITY % reduction in pollutant loads				ENVIRONMENTAL FLOWS Stream erosion control ratio[1]
	Gross Pollutants (>5mm)	Total suspended solids	Total phosphorous	Total nitrogen	
Stormwater management Objective	90	85	65	45	3.5-5.0: 1
'Ideal' stormwater outcome	100	95	95	85	1:1

[1] *This ratio should be minimised to limit stream erosion to the minimum practicable. Development proposals should be designed to achieve a value as close to one as practicable, and values within the nominated range should not be exceeded. A specific target cannot be defined at this time.*

Figure 52: Water quality and environmental flow targets (Source: DPE)

Compliance with DCP pollutant reduction targets is demonstrated in **Table 32**.

Table 32: MUSIC model results

Pollutant	Min. required reduction (%)	Modelled reduction (%)	Compliant?
Gross pollutants	90	100	Yes
Total suspended solids	85	87	Yes
Total phosphorus	65	66	Yes
Total nitrogen	45	50	Yes

Two OSD tanks are proposed to detain runoff. Most of the works, consisting of the sports field, multisport courts, Building C and Building D drains to OSD Tank 1. Building A and Building B drain to OSD Tank 2. A combined effective OSD volume of 1,525 m^3 is required to comply with Council requirements. Compliance is demonstrated in **Table 33**. In addition, the SSR and PSD requirements for the activity area for the minor and major storm events have also been provided in **Table 33**.

Table 33: SSR and PSD compliance

Storm	SSR	Site storage provided	PSD (L/s)	Peak flow (L/s)	Compliant?
2yr ARI	750	1,525	75	74	Yes
100yr ARI	1,480	1,525	425	220	Yes

Section 6.5: Ecologically Sustainable Development of Council's Growth Centre Precinct DCP stipulates that post-works peak flows up to and including the 1% AEP storm event must be reduced to pre-works levels by the implementation of stormwater detention. Separately, the DCP requires works to meet a site storage requirement (SSR), and permissible site discharge (PSD) based on the site activity area.

Compliance with post-work peak flow requirements is demonstrated in **Table 34**.

Table 34: Pre-works peak flows vs post-work peak flows

Storm	Pre-works peak flow (L/s)	Post-works peak flow (L/s)	Compliant?
1 EY	152	67	Yes
50% AEP	171	74	Yes
20% AEP	365	104	Yes
5% AEP	566	167	Yes
1% AEP	939	221	Yes

A combined detention and bioretention basin system has been proposed to reduce peak flows discharging through the carpark at the southeast of the site. Compliance is demonstrated in **Table 35**.

Table 35: Pre-works peak flows vs post-work peak flows with carpark

Storm	Pre-works peak flow (L/s)	Post-works peak flow (L/s)	Compliant?
1 EY	49	47	Yes
50% AEP	56	48	Yes

Storm	Pre-works peak flow (L/s)	Post-works peak flow (L/s)	Compliant?
20% AEP	132	88	Yes
5% AEP	205	190	Yes
1% AEP	329	291	Yes

Flood

Mapping in WMAWater (2022) shows the site is in the Upper South Creek Catchment and is outside the mainstream and overland flood planning area zones (**Figure 53**). It is not affected by any design annual exceedance probability (AEP) flood up to and including the probable maximum flood (PMF). Therefore, the site is not in any flood risk precincts.

Even though the site is not affected by flooding, access to the site will be cutoff during severe floods. Rickard Road to the south (near the intersection with Ingleburn Road), Bringelly Road (approximately 500 m and 600 m to the west and east of Rickard Road respectively) and Edmondson Avenue (approximately 700 m north of intersection between Rickard Road and Bringelly Avenue in Liverpool LGA) will be inundated by floodwater and not safe for traffic during severe floods.

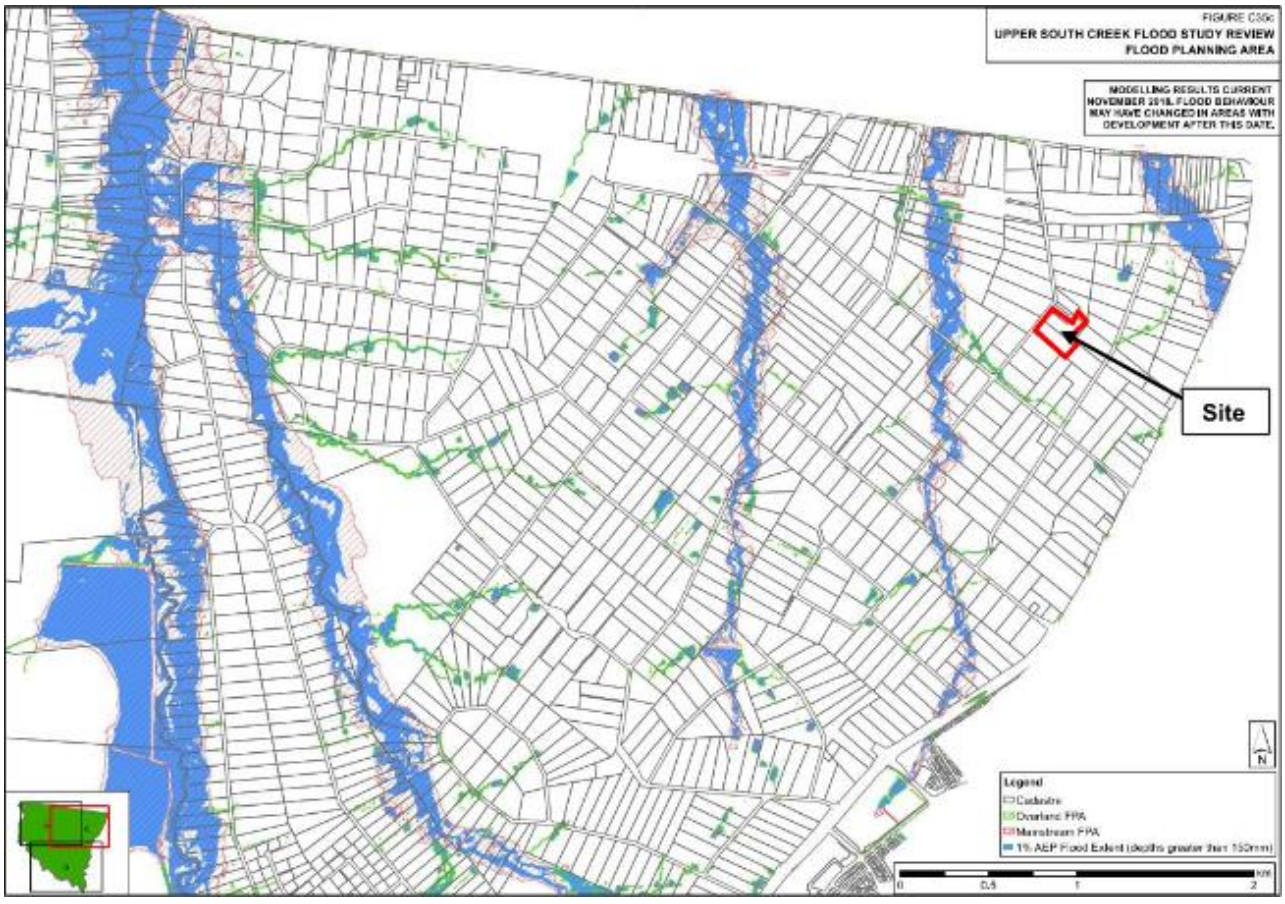


Figure 53: Upper South Creek Flood Study Review – flood planning area (Source: WMAWater, 2022)

The Flood Risk Report found that the site is outside the PMF extent, the proposed activity will not result in any cumulative flood impacts to the surrounding properties, provided that the site stormwater runoff is being maintained to the pre-development levels.

The FERP found that there is a flood-free access route from the site to the north of Rickard Road onto Bringelly Road and then onto Camden Valley Way to the east, in all events, up to, and including the 1% AEP event. However, the route will likely be cutoff on Camden Valley Way at the Cabramatta Creek crossing as Liverpool City Council's flood mapping shows that this crossing is impacted by floodwater in events more frequent than the 1% AEP. Though not flood free, there is a trafficable route from Rickard Road to the south onto Ingleburn Road, then to the east onto Camden Valley Way, and commencing south on this road, in the 1% AEP event.

Flood onset time and time of inundation over some affected roads for the adopted critical storm durations can be derived from WMAWater (2022) as follows:

- Bringelly Road (at South Creek) – the time it takes in the PMF event for the road to first inundated is less than 90 minutes and the road is estimated to be inundated for approximately 5.8 hours before the road is flood free. The inundation time for the critical durations of the 0.2% AEP and 0.5% AEP events are estimated to be less than four hours and two hours, respectively.
- Cowpasture Road (at Bonds Creek) – the time it takes in the PMF event for the road to first inundated is less than 30 minutes and the road is estimated to be inundated for approximately 3.5 hours before the road is flood free. The inundation time for the critical durations of the 0.2%-2% AEP events are estimated to be less than 2.5 hours.

Further, the onset time and time of inundation of the flood affected roads along the evacuation route to the south are expected to be short as these road crossings are mainly subjected to overland flooding and are at the upper end of minor catchment areas.

In contrast, the onset time and time of inundation of Bringelly Road and the connecting Camden Valley Way to the north of the site are expected to be longer than the evacuation route to the south as the catchment areas that contribute to these crossings are considerably larger. This can be confirmed during the detailed design phase of the activity and prior to the operation of the school.

Construction

The impact of construction related erosion and sediment flow is reduced with the implementation of the erosion and sediment control plans in the civil drawings. The plans comprise:

- Silt fences to prevent silt and waste being washed into neighbouring sites and streets and may be integrated with safety fencing.
- Catch drains with hay bales to carry and treat site runoff
- Sedimentation basin(s) to be installed at the low point of site excavation.
- Shaker grids at the construction site entrance(s) to ensure that vehicles and machinery leave the site with clean wheels.
- Pits will have silt protection installed to prevent silt from entering the stormwater system during construction.

Overall, the site was considered in terms of its accessibility, topography and stormwater flows to understand local factors that could contribute to stormwater management, flood and evacuation risks and opportunities. The location, built form and accessibility of the activity was then

considered in the context of applicable DCPs, LEPs and flood policies to determine flood related design requirements and constraints. Management measures were determined, including a FERP.

6.6.4 Mitigation measures

A complete set of mitigation measures relating to Hydrology, Flooding and Water Quality impacts is located at **Appendix 1**. The key measures have been highlighted below.

Construction

- An Erosion and Sediment Control Plan must be implemented
- Should any unexpected groundwater be encountered during construction works, works are to cease immediately
- All water-softened material to be removed prior to backfilling
- Compact clay at close to its optimum moisture content and ensure it is not over compacted as this will increase the risk of swelling of the clays.
- Extremely weathered claystone is to be treated in a similar manner to residual clay
- Thick pavements and subgrade treatment are to be adopted for the residual silty clay
- The design of foundations must consider the potential for bands of weaker material to be present at depth.

Design and Operation

- The operational stormwater management system must be designed by a suitably qualified civil engineer
- Prior to the commencement of operation, the Flood Emergency Response Plan is to be incorporated with the Emergency Management Plan

6.7 Ecology and Arboriculture

6.7.1 Existing ecology and tree planting

As the site is within the Western Sydney Parklands growth area and it is biodiversity certified, all biodiversity values have been accounted for and no further biodiversity assessments are required. The only requirements are that when vegetation that may provide habitat for native fauna is removed, then fauna must be rescued/relocated.

A search of the Biodiversity Values Map did not identify any areas of biodiversity value. Notwithstanding, the site is biodiversity certified and all values have already been offset.

A search of the SEED Portal determined PCT 3320 Cumberland Shale Plains Woodland occurs in the area, which is a part fit to the critically endangered Cumberland Plain Woodland in the Sydney Bioregion. Historical imagery indicates the site has been cleared of endemic vegetation and any vegetation now present is either regrowth or planted. The earliest historical imagery is from 1965 and pre-dates the residential properties on the site. It shows many of the currently vegetated areas were clear patches in 1965.

A search of the BioNet Atlas determined the following species have been recorded near the site:

- Swift Parrot.
- Grey-headed Flying-fox.

- Large Bent-winged Bat.
- Cumberland Plain Land Snail.

Previous recordings near the site have been low and there is only a low to moderate likelihood of occurrence on the site, with the Grey-headed Flying-fox most likely to forage at the site.

There is no key fish habitat or waterfront land mapped on or adjacent to the site.

An ecologist inspected the site on 4 December 2023 and 10 April 2024, comprising a walk-through of all accessible vegetated areas. The ecologist searched for habitat for the following species, which have been previously recorded in the area:

- Swift Parrot (*Lathamus discolor*) – endangered.
- Grey-headed Flying-fox (*Pteropus poliocephalus*) – vulnerable.
- Large Bent-winged Bat (*Miniopterus orianae oceanensis*) – vulnerable.
- Cumberland Plain Land Snail (*Meridolum corneovirens*) – endangered.

The site has 135 mapped trees on and adjacent to the site, 27 are in the road corridor and 108 are on the site. Trees in Area E shown on Figure 5.5 of the arborist report were not assessed, nor was management of trees for bushfire protection.

6.7.2 Assessment guidelines

Potential impacts on trees have been assessed in accordance with the following guidelines:

- Australian Standard AS4373 *Pruning of amenity trees.*
- Safe Work Australia (2016) *Guide to managing risks of tree trimming and removal work.*

6.7.3 Impact assessment

Ecology

The ecological values of the site were assessed to determine if there is suitable habitat for fauna. This chapter summarises the ecological assessment report, which is in **Appendix 13**. It describes the existing environment, assessment method and results, potential impacts and mitigation measures where impacts are unavoidable.

Due to the cryptic and nocturnal nature of many species, the fauna assessment primarily evaluated the site's potential as habitat. The precautionary principle was adopted, assuming the presence of threatened species if suitable habitat exists.

The inspection on 4 December 2023 observed native vegetation to be sparse with a large canopy in the south and western corners, which were representative of PCT 3320. There is a water hole in the southern corner with fringing vegetation comprising Forest Red Gum (*E. tereticornis*) and Ribbon Gum (*E. viminalis*). The water hole is proposed to be removed as part of the activity. A number of weeds of national significance were observed on the site.

Small sections of suitable habitat for the above threatened species were observed. There is also suitable habitat for a range of other native birds, bats, reptiles, amphibians and fish.

A masterplan survey overlay became available, so the site was inspected again on 10 April 2024, which confirmed the observations of the first inspection.

The ecological assessment report noted that:

- that noise, light and increased human activity during construction may disrupt the foraging behaviour of the Grey-headed Flying-fox and deter them from using the site
- any removal of flowering native trees and planted citrus trees could reduce the availability of food resources
- tree removal will remove hollows and nests and construction activities could introduce plant pathogens such as *Phytophthora cinnamomi*, the fungus myrtle rust *Uredo rangelli* and amphibian chytrid fungus.

Through the implementation of the mitigation measures, the impacts associated with the activity can be appropriately mitigated to comply with the relevant requirements.

Trees

The masterplan was designed to retain existing trees where possible. Up to 113 native trees will be removed as they occur within the design footprint. The offsets for this tree removal have already been covered by the biodiversity certification for the land.

Some trees may require removal inside the constraints area shown on the constraints map in Appendix C of the ecological report. The ecological report notes that if possible, the red areas should be avoided, and are designated as 'no go' zones. It is important to note that activities are scheduled to take place in the ‘no go’ constraints area and tree protection zones (TPZs) of the trees designated for retention. Protection of vegetation in the ‘no go’ constraints area been prioritised through the design with all areas on Site B and the northern portion of Site A being retained, however some vegetation shaded red along the southwestern boundary of Site A is proposed for removal as a result of the accessway and car park location. All other native trees to be retained should be protected to avoid them being damaged.

Trees 7, 24, 25, 113, 115-119, 124, 126, 127, and 134 can be retained assuming an acceptable encroachment based on the nominated zones of protection (TPZ and structural root zone (SRZ)) and the requirements of the protection specification in the arborist report.

Trees 2, 3, 8-23, 26-110, 120-122, 128-133 and 135 will be directly impacted and are unable to be retained. Trees 2, 3, and 8-27 are in the road reserve and are likely to be removed for future road widening. However, the impact can be negligible and can allow for tree retention. Allowing for the high significance rating, any opportunity to retain these trees should be considered. These trees will require consent from Camden Council for removal.

Trees 1, 4-6, 111, 112, 114, 123, and 125 will be subject to major encroachment but design and work methods can accommodate the trees and allow for retention. Trees 1 and 4-6 are public assets and their retention during future road works will be based on feedback from Camden Council.

Through the implementation of the mitigation measures outlined in the ecological assessment report and this REF, trees identified for retention will be appropriately protected and retained.

6.7.4 Mitigation measures

A complete set of mitigation measures relating to Ecology and Arboricultural impacts is located at **Appendix 1**. The key measures have been highlighted below.

Construction

- Induction of all contractors and staff outlining the ecological sensitivity of the site, no-go areas, the need to minimise ecological impact, and all other required mitigation measures is to be undertaken
- A Dewatering Management Plan should be prepared and a dewatering permit obtained prior to undertaking the dewatering
- Trees not approved to be pruned or removed are to be protected and maintained
- A project arborist is required to be nominated before works start
- A Tree Management Plan must be developed and implemented
- Protective fencing and signage around existing trees and within TPZs must be installed before any site work begins. No works, stockpiling of bulk or harmful materials, excavation, parking or any other potentially harmful activities will be undertaken within TPZs
- No activities are to take place within the SRZs of mature tree
- The tree owner is to be consulted with in consideration of retaining or removing particular trees on site
- Retain trees No. 111, 112, 114, 123, and 125
- Inspect all trees for hollows and nests and have an ecologist present during tree removal works
- If a threatened species is recorded on the site all works should be put on hold until further instruction from the Project Manager as advised by an ecologist.
- Works are to be planned so that night works and works around dusk and dawn can be avoided during the breeding season of the Grey-headed Flying-fox (January-April).
- Key habitat features which are planned to remain on site for Grey-headed Flying-fox are to be preserved.
- Establish buffer zones around known foraging areas planned to remain on site for Grey-headed Flying-fox
- Regular monitoring of the site should be conducted to ensure that mitigation measures to protect Grey-headed Flying-fox are effective and to adjust them as necessary.

6.8 Waste Management

6.8.1 Introduction

This chapter summarises the CDWMP and Operational Waste Management Plan (OWMP), which are in **Appendix 25 and 26** respectively. It describes the assessment method and results, potential impacts and mitigation measures where impacts are unavoidable.

6.8.2 Assessment guidelines

Potential waste impacts have been assessed in accordance with the following policies and guidelines:

- Camden City Council Growth Centre Precincts Development Control Plan 2016.
- Australian Government, Department of Sustainability, Environment, Water, Population and Communities. Construction and Demolition Waste Guide – Recycling and Re-use Across the Supply Chain. (2014, November).
- NSW Waste Avoidance and Resource Recovery (WARR) Strategy 2014-2021.

- NSW Waste Classification Guidelines 2014.
- Australia's National Waste Policy 2018.
- Camden Council Waste Management Guideline 2019
- NSW Better Practice Guide For Resource Recovery In Residential Developments 2019.
- NSW Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012.

6.8.3 Impact assessment

The objective of the waste assessments was to determine potential waste generation during construction and operation of the activity and provide measures to enable it to meet the NSW WARR Strategy 2014-2021 targets, comprising:

- Increasing construction and demolition recycling rates to 80%.
- Increasing waste diverted from landfill to 75%.
- Reducing litter by 40%.
- Reduce illegal dumping incidents by 30%.

Demolition and construction

Most waste will be generated during the demolition phase, which includes excavation. Demolition and construction waste volumes and diversion rates have been summarised as follows:

- Demolition
  - The estimated demolition and excavation waste is 3,101m^3 or 1,997 tonnes with high recovery rates for excavated material (99.8%), bricks, tiles, concrete and metals (100%) and lower recovery rates (below 50%) for timber, plasterboard and other waste, including asbestos.
  - 97.4% (or 1.945 tonnes) of demolition waste will be diverted from landfill through reuse and recycling, with high diversion rates for excavated materials (1,56 tonnes), green waste (150 tonnes), concrete (120 tonnes), bricks (42 tonnes) and tiles (22 tonnes). Timber, plasterboard, metals and other waste have lower diversion rates and asbestos is not diverted.
- Construction
  - The estimated construction waste volumes are 553 m^3 or 599 tonnes with high recovery rates for bricks, tiles, concrete, and metals (100%) and lower recovery rates for timber (33%), plasterboard (50%), and other waste (50%).

97% (or 580 tonnes) of construction waste will be diverted from landfill through reuse and recycling, with high diversion rates for concrete (525 tonnes) and bricks (32 tonnes). Tiles, timber, plasterboard, metals and other waste have lower diversion rates. Reuse and recycling opportunities for demolition and construction waste are summarised in **Table 36**.

Table 36: Reuse and recycling opportunities for demolition and construction waste

Material	Reuse/recycling opportunities
Asphalt	Hot in-place recycling or reprocessed into Reclaimed Asphalt Pavement.
Bricks	Cleaned and/or rendered for reuse, crushed for fill, sold or provided to a recycled materials yard.
Cardboard packaging	Recycled at a paper/cardboard recycling facility.

Material	Reuse/recycling opportunities
Carpet	Cleaned and reused for the same purpose, reused in landscaping or garages/sheds, recycled at an appropriate processing facility.
Concrete, masonry, spoil	Reused on site as fill, levelling or crushed for road base.
Doors, windows, fittings	Reused in new or existing buildings or sent to second-hand supplier.
Glass	Recycled at a glass recycling facility, aggregate for concrete production, crushed for termite barrier, reused as glazing.
Green waste	Mulched, composted for reuse, trees chipped for use in landscaping or removed carefully and reused on site or sold.
Hardwood beams	Reused as floorboards, fencing, furniture or sent to second-hand timber supplier.
Insulation material	Reprocessed to remove impurities and reused for the same purpose or as off-cuts, compressed for ceiling tile manufacture.
Metal, steel/copper pipe	Recycled at a metal recycling facility, melted into secondary materials for structural steel, roofing, piping etc. copper sold for re-use.
Other timber	Reused in formwork, ground into mulch for garden or sent to second-hand timber supplier.
Plasterboard	Crushed for reuse in manufacture of new plasterboard, returned to supplier or used in landscaping.
Plastics	Reused as secondary materials for playgrounds, park benches etc.
Roof tiles	Cleaned and reused, crushed for reuse for landscaping and driveways or sold or provided to a recycled materials yard.
Soil	Stockpiled on site for reuse as fill.
Synthetic & recycled rubber	Reused for the same purpose or reprocessed for use in manufacture/construction of safety barriers, speed humps.
Topsoil	Stockpiled on site for reuse in landscaped areas.

The impacts of demolition and construction waste can be appropriately managed through the mitigation measures provided in Section 6.8.4.

Operations

Operational waste generation rates have been estimated for a 1,000-student capacity school, which are shown in **Table 37** below, including the types and numbers of bins required to manage the predicted waste volumes.

Table 37: Estimated operational general waste and recycling

Waste generation type	# students	General waste generation rate (L/ student/ week)	Generated general waste (L/week)	Recycling generation rate (L/ student/ week)	Generated recycling (L/week)
School: secondary	1,000	20	20,000	15	15,000
Total			20,000		15,000
Bins and collections		General waste bin size (L)	1,100	Recycling bin size (L)	1,100
		General waste bins per day	2.6	Recycling bins per day	1.9

Waste generation type	# students	General waste generation rate (L/ student/ week)	Generated general waste (L/week)	Recycling generation rate (L/ student/ week)	Generated recycling (L/week)
		General waste bins per week	18.2	Recycling bins per week	13.6
		General waste collections per week	2	Recycling collections per week	2
		Total general waste bins required for collection	10	Total recycling bins required for collection	7

The estimated operational general waste and recycling volumes have been calculated based on the NSW EPA's Better Practice Guide's, listed above in **Section 6.8.2**. Taking into consideration the below waste rates, waste equipment required and collection times, the waste consultant has determined the bin storage area needs to be a minimum of 50m^2. The waste pad satisfies the estimated waste quantities.

The impacts of operational waste can be appropriately managed through the mitigation measures provided in Section 6.8.4

6.8.4 Mitigation measures

A complete set of mitigation measures relating to Waste Management impacts is located at **Appendix 1**. The key measures have been highlighted below.

Construction

- Construction waste is to be contained wholly on site

Operation

- The size of vehicles entering the site must not exceed 10.5m for the waste truck and 8.8m for delivery trucks
- An Operational Waste Management Plan shall be prepared and implemented

6.9 Ecologically Sustainable Development

6.9.1 Introduction

This chapter summarises the ESD report, which is in **Appendix 23.** It describes the assessment method, results and mitigation measures to ensure ESD is a key consideration in project design, construction and operation.

6.9.2 Assessment guidelines

The ESD design strategies for this activity have been developed in accordance with the following guidelines and standards:

- Government Resource Efficiency Policy (GREP).
- Sustainable Building State Environmental Planning Policy (SB SEPP).
- SINSW Educational Facilities Standards & Guidelines.
- *Environmental Planning and Assessment Act 1979*.
- National Construction Code of Australia (NCC) 2022.
- Green Star Buildings V1.

6.9.3 Impact assessment

Table 38 shows how the activity has been designed to consider ecologically sustainable development in accordance with the Educational Facilities Standards & Guidelines (EFSG).

Table 38: Educational facilities standards and guidelines for ecologically sustainable development

Educational Facilities Standards & Guidelines		
Requirement	**Requirement summary**	**Activity**
Resilience.	Utilise environmentally preferable materials, such as low carbon concrete and steel, selection of sustainable materials with low volatile organic compounds and formaldehyde content and have their Environmental Product Declaration certificates.	The design of the new buildings is guided by green star credits 16 (climate change resilience), 17 (operations resilience) and 18 (community resilience) and responds to potential risks arising from climate change, including extreme weather temperatures, rain events, fire and bushfire, drought and wind.
Passive design.	Design high quality spaces to promote comfortable and productive learning environments, while supporting the functional demand of the building, i.e., a learning / teaching environment. Key design emphasis is on providing optimised Indoor Environmental Quality (IEQ) and occupant comfort, including optimised indoor air quality, thermal, acoustic, and visual comfort.	Passive design initiatives have been included in the design development of the new buildings: Placing glazing strategically to create more relaxed environmental conditions and to benefit from access to daylight, views and natural ventilation. Designing shade structures over windows to ensure appropriate shading, where required, or to control heat gains and glare. Achieving above NCC 2022 Section J Energy Efficiency minimum requirements by at least 10%. Ensuring airtightness to prevent unwanted heat transfer to the exterior. Including occupancy sensors to activate artificial lighting system only when a space is being occupied and remained off at other times
Reduction in peak demand for electricity.	Incorporate energy efficient design features to ensure a reduction in peak demand for electricity, i.e., monitoring air quality to adjust ventilation rates accordingly, maximise daylight	Additional energy efficient design features are being considered to reduce peak demand for electricity: Air quality monitoring systems to

Educational Facilities Standards & Guidelines		
	availability through design, chose high efficiency electricity technology and install renewable energy sources wherever possible.	adjust ventilation rates depending on air quality, minimising the demand for outdoor air and therefore saving energy. Maximise natural daylight availability. Electric lighting to comprise high efficiency LED technology and include occupancy sensors. Install 99kW photovoltaic panels on the roof of Building B (**Figure 54**).

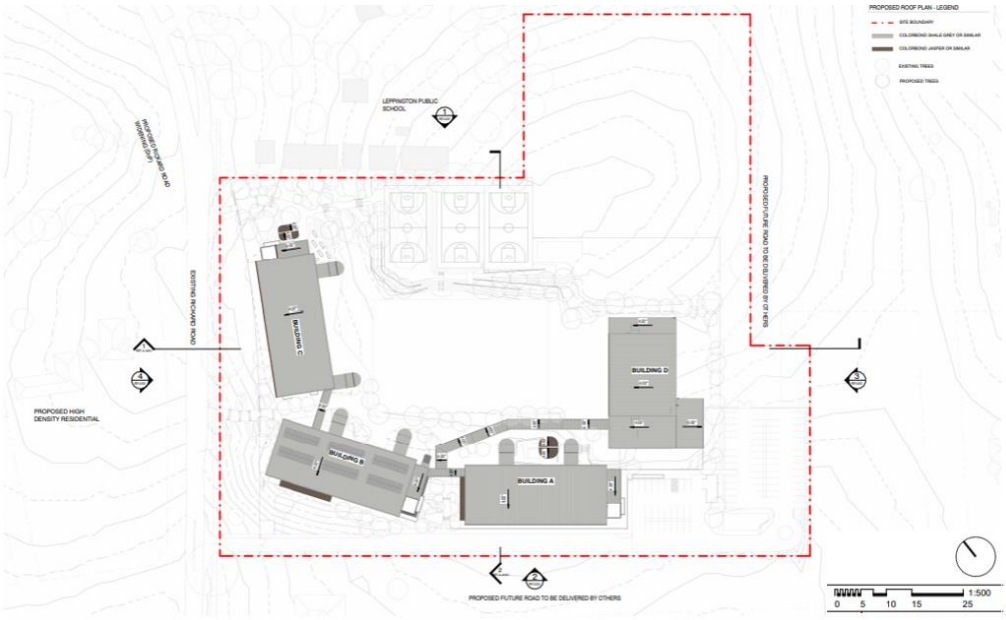


Figure 54: Proposed roof plan showing location of photovoltaic panels (Source: DJRD)

Energy efficiency.	Incorporate a high-performance building envelope, to ensure energy efficiency as well as occupant comfort (including thermal, visual, and acoustic comfort).	The activity will: Install 99kW photovoltaic system on the roof of Building B. The design of the roofs for Buildings A and C will ensure that at least 20% of the roof space is available for installation of photovoltaic panels in the future. Design the main switchboard in accordance with NCC 2022 Section J requirements to allow for photovoltaic and future battery installation
Metering and monitoring of energy consumption.	Incorporate appropriate passive design strategies, such as improved fabric thermal performance and active design strategies that include low energy active systems (mechanical and lighting systems) to ensure a low-energy and low-maintenance design outcome	The activity will: Include a building management system, as per NCC requirements. Monitor energy use to understand energy usage and distribution.
Minimum potable water consumption.	Adopt Water Sensitive Urban Design (WSUD) principles that include rainwater reuse for landscape irrigation, planting of	The new buildings will: Be fitted with water efficient fixtures and fittings, for example taps,

Educational Facilities Standards & Guidelines		
	low water species and stormwater management	showerheads, toilets, etc, that are certificated under the WELS rating scheme. Include rainwater harvesting for landscape irrigation. Ensure efficient water management through an automatic water meter monitoring system
Minimisation of waste	Adopt practices to minimise construction and operational waste including recycling of construction and operational waste	As part of this REF package, demolition, construction and ongoing occupation waste management plans are available in **Appendix 25 and 26** respectively. These plans will ensure waste generation and disposal practices from initial site works to occupation consider ESD principles, address green star credit 2 and waste mitigation measures in Section 6.8.
Impact on biodiversity	Adopt a landscape strategy that aligns with the relevant sustainability requirements to reduce the impact on biodiversity, including integrating endemic species and WSUD design features in the activity.	The landscape strategy has been guided by green star credit 35 (impact to nature) and includes integration of native plant species and incorporates water sensitive urban design features

The activity has also been designed to reduce embodied emissions. In response to the Sustainable Buildings SEPP, a NABERS Embodied Emissions Material form is required to be prepared by a quantity surveyor. This will be prepared and submitted following determination of the application. This requirement is included in **A complete** set of mitigation measures relating to Ecologically Sustainable Development impacts is located at **Appendix 1.** The key measures have been highlighted below

- Green Star Building certification must be obtained demonstrating that the activity achieves a minimum 5 star rating
- A comprehensive sustainability strategy must be implemented and address the requirements of the Green Star Buildings framework, including during operation
- Final building design must achieve high levels of daylight and natural ventilation
- The final building design must achieve high levels of daylight and natural ventilation for passive design and achieve a reduction in energy demand
- Potable water consumption will be minimised on site through rainwater tanks
- A ‘reduce-reuse-recycle’ strategy must be implemented.
- A 99kW Photovoltaic system must be incorporated in the design.

and **Appendix 1** as a mitigation measure.

Further, the activity considers the Green star rating and initial calculations by the ESD consultant indicate the activity will meet the target 35 green star points with a five point buffer.

6.9.4 Mitigation measures

A complete set of mitigation measures relating to Ecologically Sustainable Development impacts is located at **Appendix 1**. The key measures have been highlighted below

- Green Star Building certification must be obtained demonstrating that the activity achieves a minimum 5 star rating
- A comprehensive sustainability strategy must be implemented and address the requirements of the Green Star Buildings framework, including during operation
- Final building design must achieve high levels of daylight and natural ventilation
- The final building design must achieve high levels of daylight and natural ventilation for passive design and achieve a reduction in energy demand
- Potable water consumption will be minimised on site through rainwater tanks
- A 'reduce-reuse-recycle' strategy must be implemented.
- A 99kW Photovoltaic system must be incorporated in the design.

6.10 Social Impact

Table 39 provides consideration of social impacts generated by the proposed activity.

Table 39: Social Impact

Type of Impact	Describe the impacts on the community and how they might be experienced, either positively or negatively	Discussion
Impacts on access – will there be an improvement to the quality of provision and a response to emerging and changing needs?	The proposed HS will improve access to secondary education in a consolidated education precinct, adjoining the existing PS and provide a positive impact for access to education in the community. The vehicular access to the HS has been separated from the existing PS access to allow for an internal access way within the school site at the southern boundary which will include a kiss and drop away from Rickard Road.	The development of LTC will see a significant increase in the local population, with access to secondary education currently available 10km away at Casula High School. The creation of an education precinct through the co-location of the HS and PS will significantly improve access to secondary education for the students of the area, who will be able to progress next door into the HS following completion of primary, rather than travelling 10km to attend school. As the local population is anticipated to grow significantly over the next 10 years through the implementation of the LTC Masterplan, the need for educational establishments is going to increase proportionally and this HS goes some way to addressing that demand.
Impacts on privacy, overshadowing, peace and quiet, and visual amenity (views / vistas) - will there be	Impact on amenity for existing neighbouring properties could be negative in the short term during construction but need to be	Short term negative impacts from neighbouring properties could relate to privacy, peace and quiet and visual amenity as

Type of Impact	Describe the impacts on the community and how they might be experienced, either positively or negatively	Discussion
significant change for neighbours and the local area during both construction and operation?	considered in the context of the site being located within a growth centre. The long term impact will be positive as the design has considered the future road layout as detailed within the ILP and draft ILP and the buildings have been sited to align with the two road frontages of Rickard Road and the future southern road.	the existing environmental is a low scale rural residential and agricultural environment. The land is currently zoned B7 business park and provides a maximum height of buildings control of 24m so it is likely that adjoining land owners have been prepared for the change in the local environment for several years, since the implementation of the current zoning. The design and siting of buildings has provided for a maximum of three storeys in a perimeter style block which places buildings close the western and southern street frontages and provides for large centrally located open space and view corridors through the proposed built form. Visual impacts and privacy considerations informed the design, with generous setbacks provided to buildings and placement of building form towards the existing street frontage or proposed future road. Greater separation distances are proposed to the northern and eastern boundaries which will provide for generous soft landscaping treatments.
Impacts on sense of place - will there be effects on community cohesion or how people feel connected to the place and its character?	The impact is considered positive for a developing community, which is anticipated to grow significantly over the next 10 years.	Schools provide a great heart to the community, particularly in new and developing communities, which has been seen across the growth areas of the north west and south west. Schools can act as a meeting place, provide a sense of community and belonging for new community members and families in newly developed areas.
Impacts on the way people get around – will there be changes associated with traffic or parking in the area?	Any short term negative traffic impacts that may result from the activity as a result of the new HS have been ameliorated through the design of the activity. The community may be negatively impacted through some additional	Construction traffic impacts are considered short term negative impacts that can be managed so that the impact is minimal. Construction worker traffic will be addressed through a management plan that will be

Type of Impact	Describe the impacts on the community and how they might be experienced, either positively or negatively	Discussion
	traffic in this locality. However, the TIA has undertaken extensive modelling to understand the likely impacts on the local road network and relevant intersections of Rickard Road and the school driveway as well as Rickard Road and Ingleburn Road. The TIA and SIDRA models have considered the likely impacts of 270 students in 2027 when the school opens as well as 1,000 students when the school reaches capacity. The SIDRA model confirmed that even without the activity, the intersections start to become overwhelmed by 2027 based on the background grown of the locality. As this site is located within a grown area and subject to a PP for LTC, which seeks to increase the density of the locality, Council has undertaken a design for the duplication of Rickard Road, which is necessary for the locality whether a new HS is developed or not. Parking will not be impacted as a result of the activity as 75 spaces are provided on site for all staff and students are not encouraged to drive to school. The kiss and drop is located on site with access from Rickard Road and is adequate in length for the school once it reaches capacity at 1,000 students. Bus services are expected to increase with the opening of the HS and engagement with TfNSW has been undertaken in relation to the activity.	implemented and encourages green travel. The STP will be updated annually to consider any community complaints, if received during the 12 month period. Operational traffic impacts are long term negative impacts but are mitigated / have been addressed via design so that the impact is minimal. Infrastructure upgrades proposed, include a median strip in Rickard Road and on site kiss and drop.
Impacts on wellbeing - will there be benefits for students and the community associated with better school facilities, sporting facilities and grounds, and active transport options?	A long term positive impact is anticipated with regard to wellbeing through local access to a HS which will provide a consolidated education precinct with the HS and PS co-located on Rickard Road which will allow a seamless transition for students between primary and high school.	The proposed HS is being provided to service the growing LTC locality and provide direct access for the new residents and families locating in the south west growth area. At present, students are travelling long distances to attend HS and this will be improved through the activity which provides for a HS within

Type of Impact	Describe the impacts on the community and how they might be experienced, either positively or negatively	Discussion
		the future LTC with a capacity of 1,000 students to service the need of the developing community. The PP currently being considered as a SARP provides for integration of the PS and HS to provide an education precinct, which is located directly south of a large area proposed to provide public recreation and playing fields.

6.11 Other issues

In addition to those considerations detailed earlier in this section of the document, the following table provides a summary of other issues that require consideration.

Table 40: Other issues

Issue	Consideration
Visual Amenity and Privacy	The activity has been thoughtfully considered to ensure there are no adverse visual impacts on adjoining properties. The governing design principle for siting buildings was to address the streetscape and keep minimal impact towards neighbouring properties. This is particularly addressed on the northern portion of the site towards LPS due to the local heritage significance where a generous setback has been provided. The massing of buildings are separated into three individual teaching buildings and the hall is standalone, all surrounding a central courtyard, entry forecourt and landscaped spaces between. Generous landscape design and tree planting will reduce the impact of the scale of buildings on the surrounding properties. The height of buildings ranges from one storey to three storeys and as the land is currently zoned B7 business park with a height of buildings development standard of 12m on the northern lot and 24m on the southern lot, the proposed height is considered entirely appropriate. Surrounding properties currently comprise rural or rural residential lots, with the exception of LPS to the north. As a result of the rural nature of the surrounding properties, there is very little opportunity for overlooking. However, the design has also considered the future development anticipated within the locality. As identified the land is within a release area and future development is proposed. The land is also subject to a PP which proposes to increase the densities currently applying to the locality and introduce more medium and high density residential development surrounding the site. The activity has sited buildings towards the western and southern boundaries which will provide street addresses to Rickard Road in the west and the future proposed southern road to the south. At only three storeys in height and located towards the existing and future road frontages, the potential for visual impact has been ameliorated through siting in appropriate locations and landscaping.
Overshadowing	The proposed design has sited buildings to the southern and western extents of the site and as a consequence the shadow diagrams confirm that there is minimal impacts on neighbouring sites.

Issue	Consideration
	The shadow diagrams confirm that any impact is limited to less than one hour during mid winter and only impacting land adjoining to the south, which has been identified as a future road. Central play areas including assembly will benefit from solar access, except early in the morning and late in the afternoon. Each learning space has access to natural light and ventilation, outlook and privacy as required within the EFSG.
Bushfire	The activity is not located on land that has been designated as BFPL, while buildings are separated by 50m for grassland and 100m for woodland and forest. As such Specification 43 is not applicable to the school buildings or within the site. Despite the land not being designated as BFPL, a Bushfire Hazard Assessment has been prepared to evaluate potential fire hazards and ensure proposed activities align with fire safety standards and mitigation strategies. At a meeting with RFS on 29 October 2024, the RFS confirmed the site is low risk and will be treated accordingly with no requirement for compliance with PBP 2019, the NCC for Specification 43 of the Australian Standard for Construction of Buildings in Bushfire Prone Areas 2018 (AS3959). The activity is categorised as a Special Fire Protection Purpose (SFPP) development in accordance with Section 100B of the *Rural Fires Act 1997* however as the site is not affected or designated BFPL, no Bushfire Safety Authority is required from the RFS. For the purpose of the Bushfire Hazard Assessment, the BFPL map has been used as a base and a vegetation assessment has been completed independent of the map. A bushfire landscape assessment considers the likelihood of a bushfire, its potential severity and intensity and the potential impact on life and property in the context of the broader surrounding landscape. This site has direct access to existing developed areas to the west, north, east and south with areas for refuge potential and multiple access and emergency egress routes. The assessment has found that there is no potential for landscape scale fire to affect the site and that the overall landscape scale threat is assessed as Low Risk. Considering the site's low bushfire risk, no bushfire construction is required however, BAL 19 will be provided to all buildings to enhance resilience, and services will be provided to comply with PBP 2019. A complete set of mitigation measures relating to Bushfire impacts is located at **Appendix 1**. This includes details for the detailed design phase and the preparation of a Bushfire Emergency Management and Evacuation Plan. With regard to the consideration of cumulative impact, the assessment provides that the planned growth in LTC serves to further reduce bushfire risk and enhance infrastructure, so the activity is not considered to negatively impact the surrounding area from a bushfire perspective. The report has found that the activity is able to meet the requirements of PBP 2019 through the implementation of mitigation measures.
Soils and Geology	The site's topography, geology and potential soil hazards are summarised in Section 2. The site is not in areas mapped as containing acid sulphate soils or salinity (as confirmed during intrusive geotechnical testing) and corresponding management plans are not required. A geotechnical report was prepared and is in **Appendix 10**. The geotechnical specialist considers the site is suitable for the proposed activity based on the following conditions: • Earthworks must be undertaken with adequate care and control if structures and pavements are to be supported on the fill. • There is a dam and a small pond in the southern and western portions of the site in No. 128 Rickard Road. A road is proposed above the dam and the small

Issue	Consideration
	pond may be below the footprint of Building 2. Prior to placement of any new fill in these areas, all water-softened material will need to be removed prior to backfilling and the backfill placed in accordance with the earthworks specification. • The residual silty clays are generally of high plasticity and care will be required during any earthworks where clay fill is used. Clay fill will need to be compacted at close to its optimum moisture content and must not be over compacted, as this will increase the risk of swelling of the clays. Adequate drainage will be required during earthworks so the exposed clays do not become moisture affected. • Extremely weathered claystone may also be used for filling but will tend to break down to a residual clay during compaction. The extremely weathered claystone will be reactive to variations in moisture content and should be treated in a similar manner to residual clay. • Low California bearing ratio (CBR) values were measured for the residual silty clay. This will require the adoption of relatively thick pavements, some form of subgrade treatment to improve the subgrade quality or bound subbases for concrete pavements. High swells were also measured during testing indicating the subgrade is highly sensitive to moisture variations and therefore it will be important to install subsoil drainage to reduce infiltration of moisture. • Bedrock encountered within the cored boreholes generally improves in quality and strength with depth. However, BH113 to BH115 in the eastern portion of the site had bands of siltstone rock classification Class V material encountered within Class III or better bedrock at depth. Design of foundations must consider the potential for bands of weaker material to be present at depth. • Class II or better bedrock is present below the footprints of the three main buildings (Buildings a to C). Based on the detailed geotechnical investigations there is sufficient information to adopt this stratum for the design of foundations for these three buildings. Adopting these parameters will require inspection during drilling of all piles. In-situ testing of piles designed to found in Class II or better bedrock could also be completed during construction to allow the adoption of a higher geotechnical reduction factor where ultimate limit state values are adopted. • Cut and fill requirements are shown on the *Earthworks cut and fill volumes plan* in Appendix D of the Civil Engineering Design Report in **Appendix 28**. There will be a cut balance of approximately 4,624 m^3, which will be removed for offsite recycling and landfilling via truck. Some soil will be temporarily stockpiled on site, which will be managed in accordance with the erosion and sediment control plan.
Air quality	Generation of dust during construction will be the main potential air pollutant of concern. Construction and operation of the activity will not involve odour or significant other potential air pollutant generating activities. Dust and other minor pollutants could be generated during earthworks and on site vehicle/equipment use. However, ground disturbance/construction will be limited in extent and duration and can be managed by implementing the mitigation measures in **Appendix 1.**
Wind	The activity provides for buildings between one and four storeys and are not anticipated to impact the wind environment.
Land Use	The site is currently zoned B7 Business Park and forms part of the Leppington North precinct within the SWGA. There is a PP applying to the land which is identified as LTC PP and this package was publicly notified at the end of 2023/ beginning 2024. The PP was identified as a State Assessed PP in December 2024 and is expected to be assessed and finalised as a priority. The PP identified the site within a broader education precinct, also including LPS to the north and proposes to zone the two sites SP2 for education purposes.

Issue	Consideration
	The surrounding land uses are proposed to intensify with the inclusion of more medium and high density development surrounding the site, as well as more mixed use development in the precinct and the broader town centre.
Coastal Risks	The land is not located in a Coastal Management Area or otherwise in close proximity to coastal lands and as a consequence there is no potential to impact coastal lands or to consider any coastal hazard provisions.
Aviation	The site is located within the outer horizontal surface of the Western Sydney Airport, as depicted in the Obstacle Limitation Surface Chart. The outer horizontal surface has a radius of 15,000m and is identified at a height of 150m above level datum being RL 230.5 AHD. The existing site ground levels range from RL 91.85 to RL 102.27 with building heights of only three storeys maximum. There will be no impact on the OLS as a result of the proposed activity.
Accessibility and BCA	Reports have been prepared for the activity to address BCA compliance (**Appendix 31**) and accessibility requirements (**Appendix 32**). Both reports identify that the proposed activity is capable of complying with the relevant requirements and standards subject to detailed design, and where appropriate, performance solutions. Compliance with the recommendations in the reports has been included in the mitigation measures at Appendix 1, to be addressed in detailed design, prior to construction.

6.12 Cumulative Impact

Potential cumulative impacts associated with the activity are outlined in the following sections.

6.12.1 Leppington Town Centre Planning Proposal

As the site forms part of the SWGA and is located within the LTC, cumulative impacts are predominantly related to the precinct in its entirety. This is an area which is undergoing significant change in development from primarily rural residential land to a mixed use and high density residential locality. Given the anticipated population growth and increased demand for infrastructure, the current LTC PP was announced by DPHI as a SARP in December 2024. The PP was nominated as a state-led rezoning proposal to streamline the assessment process ensuring the delivery of a strategically important rezoning, addressing the housing and employment needs of a growing population in the SWGA.

LTC is currently undergoing transformation, with significant changes to occur over the next few years. The PP helps support a more integrated precinct, offering increased opportunities for commercial, industrial and residential development. The new high school will provide necessary relief to nearby John Edmondson High School and Casula High School, which are currently accommodating the residential population.

6.12.2 Traffic, Access and Parking

Leppington HS and the existing LPS will form the future Leppington education precinct, as identified with the PP, Draft DCP and Draft ILP. The construction of the HS must carefully be

managed to reduce safety concerns and maintain current and proposed operations at Leppington Public School during construction. The contractor is therefore required to consider the safety of students attending LPS during any construction activities and not interrupt established processes such as the kiss and drop activities occurring on Rickard Road. Mitigation measures have been provided to address the various changes in traffic, access and parking in this regard.

The design of the kiss and drop activities for the high school have been intentionally located to the south of the site within the internal access way to provide separation between the existing PS kiss and drop and the HS kiss and drop, while placing the bus bays adjoining the existing bus bays.

The TIA addressed the intersection performance at Rickard Road and Ingleburn Road to fully interrogate the failing performance of surrounding intersections in coming years. The school is not found to be the main contributor to traffic growth, instead being attributed to background growth within the locality. Even without the increase in density proposed as part of the LTC PP, Rickard Road and Ingleburn Road is moving towards an unsustainable level. Engagement with Camden Council and TfNSW through the TWG has confirmed that the congestion on Rickard Road is well known and as a consequence Council have undertaken a design to duplicate Rickard Road and provide two lanes of traffic in each direction. This design is complete and awaiting funding to proceed. The Council anticipates that finalisation of the LTC PP will enable progress of the Rickard Road upgrades to occur before the opening of the high school.

6.12.3 Noise and Vibration

Given the changing nature of the Precinct, noise generated from the new high school could combine with noise from the adjoining primary school and/or surrounding projects, during both construction and operation, resulting in cumulative impacts.

The NPI noise assessments inherently consider cumulative impacts as the noise trigger levels are derived from either the project intrusiveness or amenity noise level, whichever is lowest. To ensure that cumulative noise levels remain consistent with the recommended amenity objectives under the NPI strategy, the activity has set an amenity noise level at 5dB(A) lower that the amenity noise level.

It is anticipated that each neighbouring activity, when development occurs, will apply the same strategy from the NPI in order to maintain the acoustic amenity of the area, being 5dB(A) lower than the noise trigger levels.

6.12.4 Contamination

There are five areas of environmental concern on the site which are contaminated with potential to be exposed to receptors. However, once remediated the site will not contribute to cumulative regional contamination issues.

6.12.5 Historic and Aboriginal heritage

No evidence of previous Aboriginal occupation of the site was discovered during the site inspection and test excavations. Therefore, the activity is unlikely to directly impact any items of Aboriginal cultural significance and will not contribute to cumulative impacts across the LTC.

The SOHI (**Appendix 7**) confirms that the site does not hold any heritage value. The site and surrounding precinct transformation will transition the area from predominantly open, agricultural landscape to a more urban environment. The new high school will positively contribute to the cumulative impact of the precinct, transforming the underutilised site whilst complementing the heritage value of the adjoining public school, enhancing the aesthetic appeal of the site and its immediate surrounds.

6.12.6 Hydrology, Flooding and Water Quality

As detailed in Section 6.6, the activity has been assessed against the relevant hydrological, flooding, access and evacuation routes and surface water under the required DCP and state guidelines. The adopted 1% AEP event, PMF event and other relevant assessment criteria have been considered in the Flood Statement (**Appendix 5**).

The activity will have no impact on the existing flood behaviour, flood levels and velocity for floods up to and including the PMF within the site or the surrounding area, provided that the site stormwater runoff is being maintained to the pre-development levels. The site is at a crest (near the north-east corner), has no external upstream catchment that will contribute stormwater runoff to the site and is outside of the PMF flood extent. Flood evacuation has been considered with the activity during operation and evacuation procedures are acceptable. There are no flow on impacts for evacuation on the surrounding area in the event of a flood as confirmed in the flood assessment submitted.

6.12.7 Ecological and Arboriculture

The activity will not have a cumulative impact on biodiversity, given that the site and surrounds received biodiversity certification in 2006 as outlined in Section 0. A biodiversity assessment was made at the time when land was rezoned, considering the future SWGA transformation and has allowed development to proceed without further assessment in certified areas.

6.12.8 Social Impact

As summarised in Section 6.10, the social impacts of the activity, over the long term are generally considered positive. The creation of a new high school will support the developing community and improve wellbeing with local access to a HS. There could be short term negative impacts relating to privacy, noise and visual amenity during construction but given the changing nature of the area, this is considered minor.

6.12.9 Utilities and Services

As assessed in the Hydraulic Services and Utility Services Report (**Appendix 16**), the only impacts on utilities and services will be during construction and are generally considered minor. Discussions with Sydney Water are ongoing with regard to sewer connections, however various options are available to the site and these will be progressed further subject to feasibility. During plumbing, access to the necessary activities may cause traffic congestion and noise and vibration during pipe installation and trenching. Mitigation measures have been included to reduce disturbances, particularly near schools and residential areas.

6.12.10 Bushfire

As detailed in the Bushfire Hazard Assessment (**Appendix 11**), as the Leppington Major Centre grows and densifies, bushfire hazards will be removed as urban areas expand and natural fuel loads are replaced with built infrastructures and managed areas. The cumulative impact of the planned growth and development for the area will be positive, mitigating the threat of bushfire to future and existing communities, including the high school. The upgraded road network will also improve connection and emergency response times.

6.13 Consideration of Environmental Factors

Section 171(1) of the EP&A Regulation notes that when considering the likely impact of an activity on the environment, the determining authority must take into account the environmental factors specified in the guidelines that apply to the activity.

Section 171A of the EP&A Regulation sets out additional matters to take into account when considering the likely impact of an activity on the environment in a regulated catchment.

In considering the likely impact of the activity on water quality and quantity, aquatic ecology, flooding, recreation and public access, the impact has been adequately considered within the Environmental Impact Assessment of this REF.

The activity is shown to have a neutral or beneficial effect on water quality through compliance with Council's requirements for pollutant reduction and provision of water quality treatment measures as part of the water-sensitive urban design.

The assessment provided in the sections above has been prepared to provide a detailed consideration of the factors that must be taken into account for an assessment under Division 5.1 of the EP&A Act. These factors are summarised at **Table 41** and where mitigation measures have been proposed in response to the factor, these have been identified.

Table 41: Environmental Factors considered

Environmental Factor	Consideration	Mitigation Measure Reference
Any environmental impact on a community?	Short term impacts may arise during the demolition and construction process including traffic, noise, access and dust. However, suitable mitigation measures have been included to ensure potential impacts are minimised during the demolition and construction process. Environmental impacts have been assessed as part of this REF and subject to the implementation of the proposed mitigation measures, the activity will not result in unacceptable environmental impacts. The proposed activity has been designed in accordance with the recommendations of the consultant team and with consideration of the feedback provided by Council and State government agencies. Long-term, the proposed activity will have a beneficial impact for the community by providing secondary educational infrastructure with modern and fit-for-purpose school facilities within proximity of the primary school, train station and emerging town centre.	PACMM1-4, CEMM1, CEMM2, CMM13, OPMM1
Any transformation of a locality?	The proposed new high school contributes positively to the already changing nature of the locality. The Leppington Major Centre forms part of the SWGA, a strategically planned growth area that is undergoing transformation into an integrated precinct for housing and employment. The activity will contribute essential infrastructure to the existing and future community, providing an integrated educational precinct with the adjoining primary school to provide local access to education amenities. The school has been designed to situate buildings at an appropriate distance towards neighbouring properties and the streetscape. Due to the heritage significance of the adjoining PS, generous side setbacks apply. Massing has been separated into 3 buildings and the hall, with an entry forecourt, central courtyard and landscaped spaces in between. Landscape and tree planting will also help reduce the visual impact and protect views.	HMM4, TRMM1, TRMM7-9, TRMM18
Any environmental impact on the ecosystems of the locality?	The proposed activity will not result in significant impacts on the ecosystems of the locality. The land is biodiversity certified as part of the SWGA.	EMM2-EMM3, TMM1-TMM18

Environmental Factor	Consideration	Mitigation Measure Reference
Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality?	There will be short-term impacts on the aesthetic qualities of the site during construction. Mitigation measures have been included to address construction noise, vibration, visual privacy and traffic impacts. In addition, measures are in place to mitigate environmental impacts of the school's operations. Accordingly, the proposed activity will not reduce aesthetic, recreational, scientific or other qualities of the locality.	CMM2, CMM13, CMM14,
Any effect on locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations?	The SOHI (**Appendix 7**) confirms that the activity will have a neutral impact on the adjoining heritage item, Leppington Public School. There will be no impact on Aboriginal heritage items (including cultural significance and archaeology) noting that the site does not comprise any and is not in proximity to any other such items. The CWC Report (**Appendix 19**) supports this activity, integrating the CWC Framework into the design of the new high school. Further opportunities have been identified to enable Country to be incorporated into the design, in consultation with the local Aboriginal community, with respect to educational opportunities, the development of signage and selection of landscaping for the site.	CMM1, HMM1 – HMM3
Any impact on the habitat of protected animals, within the meaning of the *Biodiversity Conservation Act 2016*?	The works do not impact on the habitat of any protected animals, within the meaning of the BC Act. Mitigation measures have been identified in Section 6.7 to mitigate any impacts.	TMM3, EMM2, EMM3
Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air?	The proposed activity will not result in the endangering of any species of animal, plant or other form of life. Mitigation measures have been identified in Section 6.7 to mitigate any impacts.	TMM3, EMM2, EMM3
Any long-term effects on the environment?	The proposed activity has been designed to ensure there will be no unacceptable long-term impacts on the environment. The activity will help contribute to reduced bushfire risk in the area as the precinct transforms into a more urbanised environment. ESD initiatives have been included in the activity to reduce the environmental impacts and ensue a sustainable outcome as detailed at **Appendix 23**. Long term social and economic effects will be positive, providing essential infrastructure in a growth area, supporting existing and	TMM12, BFMM1 – BFMM5, SCMM1, SCMM2, SCMM6

Environmental Factor	Consideration	Mitigation Measure Reference
	future community members with educational and job opportunities.	
Any degradation of the quality of the environment?	Appropriate mitigation measures have been included to ensure that the activity will not reduce the quality of the natural environment, including ecology, landscape, stormwater management, noise and waste management.	CMM2, SWMM1, SCMM6, LCMM1, LCMM2, TMM2, TMM3, TMM6
Any risk to the safety of the environment?	The proposed activity has been designed in accordance with the environmental constraints of the site, with particular focus on contamination leak risks. Following the DSI (**Appendix 8**), a RAP (**Appendix 9**) has been developed for the site and the activity, having regard to the risk profile of the site and surrounds.	LCMM1, LCMM2, TCMM5
Any reduction in the range of beneficial uses of the environment?	The proposed activity will not result in a reduction in the range of beneficial uses of the environment.	N/A
Any pollution of the environment?	The activity will not result in pollution of the environment. Stormwater and sewage management has been considered in the assessment of potential polluting impacts of the activity and appropriate mitigation measures have been provided to protect the environment.	OPMM1, OPMM2
Any environmental problems associated with the disposal of waste?	A CDWMP (**Appendix 25**) and an Operational Waste Management Plan (**Appendix 26**) have been prepared of the activity which set out all management practices required to reduce, minimise or avoid adverse impacts arising from the disposal of waste. All outcomes and recommendations of these reports have been captured in the mitigation measures for the activity.	CMM2
Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply?	The activity is unlikely to result in increased demands on resources that are, or are likely to become, in short supply. Measures to reduce the consumption of materials, energy and water over the lifetime of the building have been incorporated into the building's design and so will be implemented through the terms of the activity, once approved.	CMM2, SCMM5
Any cumulative environmental effects with other existing or likely future activities?	As outlined in Section 6.12 of this REF, cumulative impacts from the activity predominantly relate to the broader LTC PP and its implementation, with the primary consideration relating to traffic congestion on Rickard Road, which will be addressed by Council's finalised design to duplicate Rickard Road and provide two lanes in	N/A

Environmental Factor	Consideration	Mitigation Measure Reference
	each direction.	
Any impact on coastal processes and coastal hazards, including those under projected climate change conditions?	The site is not in a coastal location. Therefore, further consideration of this factor is not required.	N/A
Applicable local strategic planning statement, regional strategic plan or district strategic plan made under Division 3.1 of the Act?	The proposed activity is consistent with the aims, objectives, planning priorities of the relevant strategic plans, as set out in Section 0 of this REF.	N/A
Any other relevant environmental factors?	There are no further environmental factors that need to be considered in the assessment of the activity.	N/A

7. Justification and Conclusion

The proposed new high school for Leppington and Denham Court at 128-134 Rickard Road, Leppington is subject to assessment under Division 5.1 of the EP&A Act. The REF has examined and taken into account to the fullest extent possible all matters affecting, or likely to affect, the environment by reason of the proposed activity.

As outlined in this REF, the proposed activity can be justified on the following grounds:

- It responds to an existing need within the community;
- It generally complies with, or is consistent with all relevant legislation, plans and policies;
- It has minimal environmental impacts; and
- Adequate mitigation measures have been proposed to address these impacts.

The activity is not likely to significantly affect threatened species, populations, ecological communities or their habitats, and therefore it is not necessary for a Species Impact Statement and/or a BDAR to be prepared. The land is located in the SWGA which received Biodiversity Certification under the former *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* (the provisions have been transferred to the Precinct SEPP). The Order was made under Section 126G(1) of the *Threatened Species Conservation Act 1995* by the Minister Assisting the Minister for Climate Change, Environment and Water (Environment), Verity Firth M.P., and took effect on the 11 December 2007. This certification allows development in certified areas to proceed without further biodiversity assessment, provided the agreed conservation outcomes are undertaken. Further, as the site is certified, the Biodiversity Offsets Scheme does not apply. As such, there are no additional requirements for offsets for clearing and developing the land.

The environmental impacts of the activity are not likely to be significant. Therefore, it is not necessary for an EIS to be prepared and approval to be sought for the activity from the Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act. On this basis, it is recommended that the department determine the proposed activity in accordance with Division 5.1 of the EP&A Act subject to the implementation of mitigation measures identified within this report.