NSW Department of Education

Review of Environmental Factors

New High School for Medowie

Document version: Final for Exhibition

Date: 26/02/2025

NSW GOVERNMENT

Acknowledgement of Country

The NSW Department of Education acknowledges the Worimi people, the traditional custodians of the land on which the New High School for Medowie 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 proposed New High School for Medowie, located at 6 Abundance Road, Medowie.

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 (T&I 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 we have declared any possible conflict of interests (real, potential or perceived) and we do not consider we have any personal interests that would affect my professional judgement.

Authors	Lucy Hammond Mel Krzus
Qualifications	Lucy Hammond • Master of Planning and Sustainable Development, University College Cork • Bachelor of Arts, National University of Ireland, Galway Mel Krzus • Registered Environmental Assessment Practitioner, PIA • Master of Planning, UNSW • Bachelor of Liberal Studies, USYD
Positions	Lucy Hammond, Senior Project Planner, Gyde Consulting Mel Krzus, Director, Gyde Consulting
Signature	
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Abbreviations

Abbreviation	Description
ACHA	Aboriginal Cultural Heritage Assessment
ACM	Asbestos Containing Materials
AEP	Annual Exceedance Probability
AHD	Australian Height Datum
AHIP	Aboriginal Heritage Impact Permit
AHIMS	Aboriginal Heritage Information Management System
AIA	Arboricultural Impact Assessment
APZ	Asset Protection Zone
ASS	Acid Sulfate Soils
AWS	Australian Warning System
BC Act 2016	Biodiversity Conservation Act 2016
BC Regulation	Biodiversity Conservation Regulation 2017
BAM	Biodiversity Assessment Method
BCA	Building Code of Australia
BDAR	Biodiversity Development Assessment Report
BPA	Bushfire Protection Assessment
BTEX	Benzene, Toluene, Ethylbenzene, Total Xylenes
CA	Certifying Authority
CCTV	Closed Circuit Television
CEMP	Construction Environmental Management Plan
CICL	Cast Iron Cement Lined
CKPoM	Port Stephens Comprehensive Koala Plan of Management
Council	Port Stephens Council
CWC	Connecting with Country
The department	NSW Department of Education
Db	Decibel
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DCP	Development Control Plan
DPC	Department of Premier and Cabinet
DPHI	Department of Planning, Housing and Infrastructure
Design Guide	Design Guide for Schools published by the Government Architect in May 2018
DSI	Detailed Site Investigation
DTM	Digital Terrain Models
DTS	Deemed-to-Satisfy
EFSG	Education Facilities Standards and Guidelines
EIS	Environmental Impact Statement

Abbreviation	Description
EMF	Electric and Magnetic Fields
EMP	Environmental Management Plan
EOI	Expression of Interest
EOT	End of Trip
EPA	Environment Protection Authority
EP&A Act	Environmental Planning and Assessment Act 1979
EP&A Regulation	Environmental Planning and Assessment Regulation 2021
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
EPI	Environmental Planning Instrument
EPL	Environment Protection License
ESD	Ecologically Sustainable Development
FERP	Flood Emergency Response Plan
FFA	Flora and Fauna Assessment
FIRA	Flood Impact and Risk Assessment
FM Act	Fisheries Management Act 1994
FTE	Full Time Equivalent
GBCA	Green Building Council of Australia
GFA	Gross Floor Area
GLS	General Learning Space
Ha	Hectares
HV	High Voltage
ICNIRP	International Commission on Non-Ionizing Radiation Protection
KPoM	Koala Plan of Management
kV	Kilovolt
kVm	Kilovolts per meter
LEP	Local Environmental Plan
LGA	Local Government Area
LoS	Level of Service
LPG	Liquefied Petroleum Gas
LSPS	Local Strategic Planning Statement
M	Meter
MNES	Matters of National Environmental Significance
MP	Member of Parliament
MPP	Medowie Place Plan
MPS	Medowie Planning Strategy
NCC	National Construction Code
NorBE	Neutral or Beneficial Effect on Water Quality Assessment Guideline (2022)
NPW Act	National Parks and Wildlife Act 1974

Abbreviation	Description
NPW Regulation	National Parks and Wildlife Regulation 2009
NPWS	National Parks and Wildlife Service (part of EES)
NSW BV	NSW Biodiversity Values
NSW RFS	NSW Rural Fire Service
NSW SES	NSW State Emergency Services
NT Act (Cth)	Commonwealth Native Title Act 1993
NVIA	Noise and Vibration Impact Assessment
NVMP	Native Vegetation Management Plan
ODS	Ozone Depleting Substances
OEH	(Former) Office of Environment and Heritage
OLS	Obstacle Limitation Surface
OPZ	Outer Protection Zone
OSD	On-site Detention
OSHC	Outside of School Hours Care
OWMP	Operational Waste Management Plan
PBP	Planning for Bushfire Protection 2019
PCB	Polychlorinated Biphenyls
PCEMP	Preliminary Construction Environmental Management Plan
PCT	Plant Community Type
Planning Systems SEPP	State Environmental Planning Policy (Planning Systems) 2021
PMF	Probable Maximum Flood
POEO Act	Protection of the Environment Operations Act 1997
PSL	Primary Social Locality
Proponent	NSW Department of Education
PSDCP	Port Stephens Development Control Plan 2014
PSLEP	Port Stephens Local Environmental Plan 2013
REF	Review of Environmental Factors
RF Act	Rural Fires Act 1997
RFS	Rural Fire Services
Resilience and Hazards SEPP	State Environmental Planning Policy (Resilience and Hazards) 2021
Roads Act	Roads Act 1993
RTP	Draft Hunter Regional Transport Plan 2041
SAC	Site Assessment Criteria
SAP	Williamtown Special Activation Precinct
SCG	School Catchment Group
SCPP	Stakeholder and Community Participation Plan (the department October 2024)
SCPP DPHI	Stakeholder and Community Participation for New Health Services Facilities and

Abbreviation	Description
	Schools (DPHI October 2024)
SDRP	School Design Review Panel
SEPP	State Environmental Planning Policy
SFPP	Special Fire Protection Purpose
SIA	Social Impact Assessment
SIS	Species Impact Statement
SMF	Synthetic Mineral Fibres
Sqm	Square Meter
STP	School Transport Plan
T&I SEPP	State Environmental Planning Policy (Transport and Infrastructure) 2021
TAG	Travel Access Guide
TAIA	Transport and Accessibility Impact Assessment
ToS	Test of Significane
TfNSW	Transport for New South Wales
TPH	Total Petroleum Hydrocarbons
TVOC	Total Volatile Organic Compounds
TWG	Transport Working Group
VET	Vocational Educational and Training
VOC	Volatile Organic Compounds
WM Act	Water Management Act 2000
µT	Microteslas

Executive Summary

This Review of Environmental Factors (REF) has been prepared by Gyde Consulting (Gyde) for the NSW Department of Education (the department). The department is proposing the construction and operation of a new high school in Medowie, located at 6 Abundance Road.

The activity is defined as such pursuant to Section 5.1 of the Environmental Planning and Assessment Act 1979 (EP&A Act)

This REF has considered the activity and its environmental impacts in accordance with the provisions of Part 5 of the EP&A Act and the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation), and other relevant statutory requirements. In accordance with Section 5.5 of the EP&A Act, this 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 Project. In particular, the REF has considered the factors set out in Section 171 of the EP&A Regulation.

The Site

The proposed activity is located at 6 Abundance Road, Medowie (the site). The site, which has an area of 6.51 hectares, comprises one parcel of land, legally described as Lot 3 in DP 7884451 and has an eastern frontage to Abundance Road and a northern frontage to Ferodale Road. The site is located approximately 1km west of the main township of Medowie, and directly southeast of the existing Medowie Public School, located on Ferodale Road. Medowie is located in the Port Stephens Local Government Area (LGA) and under the jurisdiction of Port Stephens Council. Port Stephens LGA is the traditional home of the Worimi people.

There is a 132kilovolt overhead transmission line situated within a 32.07-meter-wide easement that traverses the northwestern corner of the site. The site and surrounds are subject to historic agricultural activities and there is an existing contaminating land use (petrol station) immediately adjacent to the northwest of the site.

The site is not mapped as being subject to groundwater vulnerability but is located within a drinking water catchment pursuant to Clause 7.8 of the *Port Stephens Local Environmental Plan 2013* (PSLEP). Part of the eastern boundary of the site is identified as ‘Minimal Risk Flood Prone Land” and the site is mapped as being affected by Acid Sulfate Soils (Class 5) pursuant to Clause 7.1 of the PSLEP.

There are no mapped or recorded sites of Aboriginal Cultural Heritage significance on the site and investigations to inform the REF have confirmed there is a low potential for Aboriginal sites to be found. The site is not mapped as a non-Aboriginal heritage item and is not in proximity to any such items. The site is not located in a heritage conservation area.

Due to its proximity to Newcastle Airport and the Royal Australian Air Force Base Williamtown, the site is within the Obstacle Limitation Surface (OLS) area, pursuant to Clause 7.4 of the Port Stephen Local Environmental Plan (PSLEP) 2013. Therefore, the development restrictions set out in Port Stephens Development Control Plan 2014 (PSDCP) apply to the site. The proposed school buildings do not exceed the maximum 15m OLS height and therefore, will not penetrate airspace for the airport.

The site contains a densely vegetated area to the southwest, including approximately 2 hectares of tree coverage. The area is identified as Plant Community Type 3995 – Hunter Coast Paperbark-Swamp Mahogany Forest and mapped as comprising biodiversity values. The site is also mapped as Vegetation Category 3 on the bushfire prone land map.

The site is subject to ‘Preferred Koala Habitat’ and ‘Preferred Koala Habitat Buffer Over Other Vegetation’ affectations. There are several koala feed tree species present on the site, including

Swamp Mahogany (Eucalyptus robusta), Forest Red Gum (Eucalyptus tereticornis), and Scribbly Gum (Eucalyptus signata).

Koala have not been recorded on the site; however, they have previously been recorded in close proximity. Based on the presence of suitable habitat within the site, and being previously recorded in close proximity, the likelihood of occurrence for koala is considered high.

The Proposed Activity

The proposed activity involves the construction of secondary school facilities on the site for the purpose of the New High School for Medowie. The existing dwelling house and other structures on the site will be demolished as part of the works. No other works are proposed within this area or within the biodiversity significant area in the south-west. The buildings have been designed to sit outside of the relevant asset protection zone to minimise bushfire risk and the activity as a whole responds to all the relevant site constraints and characteristics identified above in “the site” description.

The proposed new school will accommodate 640 students in 29 permanent teaching spaces including three support teaching spaces across three storeys of buildings on the site. A detailed description of the site is in **Section 3.1** of this REF.

Project Need and Justification

If the project was to not proceed, there would be a significant shortfall of secondary school infrastructure within the locality required to support the enrolment needs of the growing population of Medowie and the wider area. If the department chose to “do nothing” and not proceed with the project, this would result in a failure to provide secondary education services within the nominated catchment.

New educational facilities have been designed to meet the long-term needs of high school students in the Medowie area. As demonstrated in this REF, the new school buildings have been designed to respond to the specific constraints and site conditions, and the surrounding area.

Section 35.1 of this REF includes a more detailed analysis of options and project need.

Permissibility

The site is zoned RU2 Rural Landscape pursuant to the PSLEP 2013. *Educational establishments* (the school) are prohibited under the PSLEP 2013.

Nevertheless, Section 3.36(1) of the Transport & Infrastructure State Environmental Planning Policy (T&I SEPP) states that development for the purpose of a school may be carried out with development consent on land in a prescribed zone. A prescribed zone is defined in Section 3.34(1) of the T&I SEPP and includes the RU2 Rural Landscape zone.

Public domain works are proposed along part of Ferodale Road and Abundance Road to support access to the school. The part of Abundance Road and Ferodale Road that are adjacent to the site are zoned RU2 Rural Landscape and R5 Large Lot Residential, respectively, and are *prescribed zones* pursuant to Section 3.34 of the T&I SEPP. Therefore, the public domain works are considered ancillary to the school use and are permissible pursuant to the T&I SEPP 2021.

As the activity is permissible, pursuant to Section 3.37A(1) of the T&I SEPP, the construction and use of a new government school is *development permitted without consent*.

Consequently, the proposal is an activity that is subject to assessment under Part 5 of the EP&A Act provided that the activity is not likely to significantly affect the environment.

Planning Pathway

The proposal involves works by the department (a public authority), which comprises a new government school. Accordingly, pursuant to Section 3.37A of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (T&I 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. The department is the proponent and the determining authority, and the required environmental assessment is in the form of this REF. This 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).

Public Domain Works

As noted above, the department will be undertaking a suite of public domain and other transport improvements in the immediate vicinity of the site to support the new high school activity. If these works were considered in isolation, they could be classified as exempt development under Chapter 2 Section 2.113 of the T&I SEPP. Nevertheless, for transparency and to enable a robust assessment, the public domain works have been assessed under this REF, including:

- Pedestrian wombat crossing on Abundance Road.
- Shared footpath connecting wombat crossing on Abundance Road to existing pedestrian crossing on Ferodale Road.
- Kiss and ride drop zone on Abundance Road.
- Improvements to the existing bus bay.
- Improvements to kerb and guttering along part of Abundance Road.

The transport improvements for the site (including the above) have been considered as a "whole" in this REF.

Consultation

The activity has been subject to early (non-statutory) consultation and engagement with key stakeholders. This includes meetings and workshops with Port Stephens Council, the NSW State Emergency Service (SES), Registered Aboriginal Parties, the NSW Rural Fire Service (RFS) the Government Architect NSW School Design Review Panel and the local Community (workshops and sessions in ranging through June 2024 to December 2024.

Refer to **Section 5.1** of this REF for a detailed description of engagement undertaken for the activity.

Consultation will be undertaken in accordance with statutory requirements under the T&I 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).

Comments received will be carefully considered and responded to in an updated version of this REF or in a separate submissions report.

Environmental Impacts

An environmental assessment has been undertaken to consider whether the activity is likely to significantly affect the environment. The assessment has also included assessment of:

- Whether there are likely to be impacts to matters of national significance under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).
- Whether a species impact statement would be required under the Biodiversity Conservation Act 2016.

This REF has found that the key potential environmental impacts associated with the activity include:

- Traffic, Access and Parking (**Section 6.16.1**): Whilst the cumulative impact of traffic generation in Medowie is expected to increase, including Medowie Public School, this has been mitigated through the staggering of school bell times, careful siting of kiss and ride drop off zone and bus zone and traffic calming measures that will ensure safe access of staff and students to and from the school.
- Noise and Vibration (**Section 6.2**): Noise that will increase temporarily during the construction phase has been adequately mitigated to ensure there is low impact to surrounding uses. The design has provided landscape buffers and careful placement of school buildings and open play spaces to prevent ongoing noise impacts to surrounding uses.
- Contamination and Hazardous Materials (**Section 6.3**): No significant sources of contamination were identified. However, mitigation measures have been included to minimise any potential impact associated with soil or groundwater contamination in the unlikely event of an unexpected find.
- Hazards (Blast Assessment) (**Section 6.4**): Assessments against potential Liquefied Petroleum Gas (LPG) tank cylinder rupture, LPG flash fires, boiling liquid vapour explosion, and vapour cloud explosion were carried out. The operation of the school will not be impacted by the adjacent petrol garage, any potential risk during an emergency event has been mitigated accordingly.
- Flooding (**Section 6.5**): The site is affected by flooding in all flood events. The activity will have localised impacts in the 1% AEP event, with impacts minor and on balance, and some reductions in flooding to Abundance Road. In the 1% AEP there is a safe means of access and egress during evacuation. Due to the extent of the flood in the PMF, an emergency response plan is required, which includes school closure, and shelter-in-place in the possibility of the school day having already commenced.
- Bushfire (**Section 6.6**): Bushfire risk of the activity and its occupants can be managed through various measures. The activity complies with the Planning for Bushfire, and appropriate measures are included to ensure ongoing compliance with the requirements for access, APZs, landscaping and utilities provision.
- Ecology and Biodiversity (**Section 6.7**): There is expected to be minimal impacts to trees on site, ecological communities on the site, and any threatened species, including the PCT 3395 Hunter Coast Paperbark-Swamp Mahogany Forest. The activity is unlikely to have a significant impact on any vulnerable species. Therefore, a SIS is also not required.
- Surface Water and Groundwater (**Section 6.8**): Subject to implementation of the mitigation measures, the activity will not result in any adverse impact on surface water or groundwater. Measures incorporated into the civil and stormwater design will ensure a neutral or beneficial outcome in terms of the broader drinking water catchment within which the site is located.

Other environmental impacts include Aboriginal heritage, waste, odour and air quality, social impact and visual impact.

Mitigation measures have been identified for the activity, to ensure it is constructed and operated in a manner that does not adversely affect the amenity of the locality or the environment. Those mitigation measures can be found in **Appendix 1**.

Other consideration of potential impacts, in addition to the above, (whereby no mitigation measures are necessary) are detailed in this REF in **Section 6.14.**

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 activity will not have any effect on Matters of National Environmental Significance and approval of the Activity under the Commonwealth 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 REF.

1. Introduction

The NSW Department of Education (the department) proposes to construct and operate a New High School for Medowie (the activity) at the site. The new educational facility has been designed to meet the long-term needs of high school students in the Medowie area. This REF will demonstrate that the new school buildings have been sited and designed to respond to the specific constraints and site conditions, and the surrounding area.

This REF has been prepared by Gyde on behalf of the department to determine the environmental impacts of the proposed activity. For the purposes of these works, the department is the proponent and the determining authority under Part 5 of the *Environmental Planning and Assessment Act 1979* (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 protective measures to be implemented to mitigate impacts.

The proposed activity is categorised as a *new government school – development permitted without consent* pursuant to Section 3.37(A) of the T&I SEPP, as it meets all the following requirements:

> *(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.*
>
> *(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.*

The department will be undertaking a suite of public domain and other transport improvements in the immediate vicinity of the site. They include:

- Pedestrian wombat crossing on Abundance Road.
- Shared footpath connecting wombat crossing on Abundance Road to existing pedestrian crossing on Ferodale Road.
- Kiss and ride drop zone on Abundance Road.
- Improvements to existing bus bay.
- Improvements to kerb and guttering along part of Abundance Road.

The above public domain improvements are entirely ancillary to the activity.

A detailed description of the proposed activity and assessment of the associated environmental impacts have been documented in this REF 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 EP&A Regulation, and the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (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 Part 5 of the EP&A Act; and

- The potential for the activity to significantly impact Matters of National Environmental Significance (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 take into account to the fullest extent possible, all matters affecting, or likely to affect, the environment by reason of the proposed activity.

2. The Site and Proposed Activity

2.1 The Site

The site is located at 6 Abundance Road, Medowie, refer to **Figure 1**. The legal description of the site is Lot 3 in DP 788451. The site has an area of 6.51 hectares (ha), and is bounded as follows:

- 40.85 meters (m) to the northern boundary (to Ferodale Road)
- 328m to the eastern boundary (to Abundance Road)
- 267m to the western boundary (to 24 Ferodale Road)
- 200m to the southern boundary (to 8 Abundance Road)

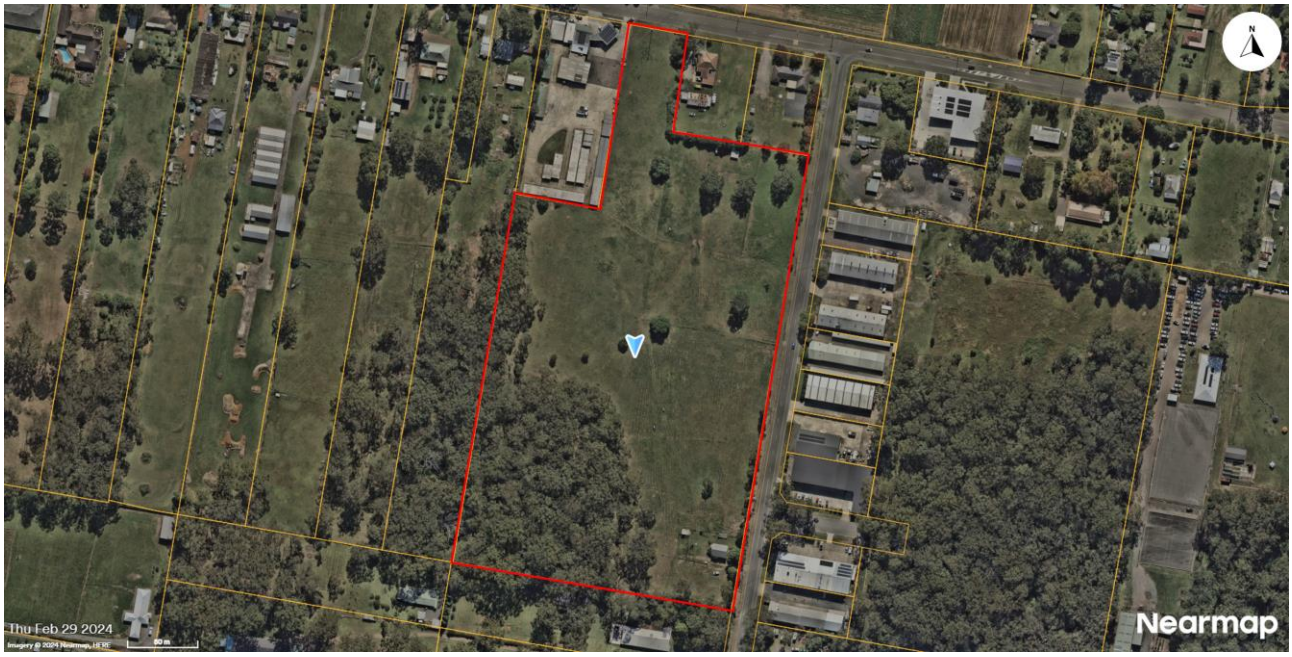


Figure 1: Aerial imagery of site – site outlined by the red line (Source: Nearmap)

The majority of the site is currently used for horse agistment. A small, shed structure and caravan is located to the northern boundary. A collection of buildings consisting of a single storey dwelling, an outhouse/shed and temporary greenhouse are in the southeastern corner (refer to the aerial image above). The existing tenants vacated the dwelling in August 2024, and the site was continued to be used for horse agistment until such time that it is relocated.

The site contains a densely vegetated area to the southwest corner (approximately 2ha of tree coverage). There is a 132kilovolt (kV) overhead transmission line situated within a 32.07m wide easement that traverses the northwestern corner of the site. The site is relatively flat with a gradual fall of 16m to 14m from northwest to southeast toward Abundance Road. A copy of the site survey can be found at **Appendix 4.**

The site is not Crown Land. The Minister for Education and Early Learning is the landowner of the site. The site is zoned RU2 Rural Landscape pursuant to the *Port Stephens Local Environmental Plan 2013* (PSLEP). The RU2 zone is a *prescribed zone* pursuant to Section 3.34 of the T&I SEPP. Public domain works are proposed along Ferodale Road and Abundance Road, of which Port Stephens Council is the relevant landowner/road authority. The part of Abundance Road that is adjacent to the site is also zoned RU2 Rural Landscape, therefore ancillary works to the school activity are thus permissible. Ferodale Road to the north is zoned R5 Large Lot Residential. The

R5 zone is also a *prescribed zone* pursuant to Section 3.34 of the T&I SEPP. Refer to **Section 4.1** of this REF for further information on the land use zoning and permissibility.

Vehicular access is currently provided to the existing dwelling within the southeast corner from Abundance Road. Vehicular access from Abundance Road does not appear to have been formalised, comprising an informal driveway (unsealed with a gravel surface). Historical imagery of the site shows that the gravel driveway was previously more defined, however, in recent years it appears to have grown over.

On-site parking comprises a singular car park adjacent to the existing dwelling house.

2.1.1 Site Locality

Medowie is referred to as the 'Place of Tall Trees', with open space and bushland settings defining the identity of the town. Medowie is located on the edge Grahamstown Dam (west of the site) and is surrounded by open bushland, the Medowie State Conservation Area, the Tilligerry State Conservation Area and the Moffatt Swamp Nature Reserve.

Medowie is located approximately 34kilometers (km) of the City of Newcastle (22km as the crow flies). The town is split by the Medowie Road (Road No. 0000518) which runs from south to north connecting Medowie to Newcastle Airport and the B63 Nelson Bay Road to the south, and the A1 Pacific Highway to the north.

A map of the site location in its regional setting is provided in **Figure 2**.

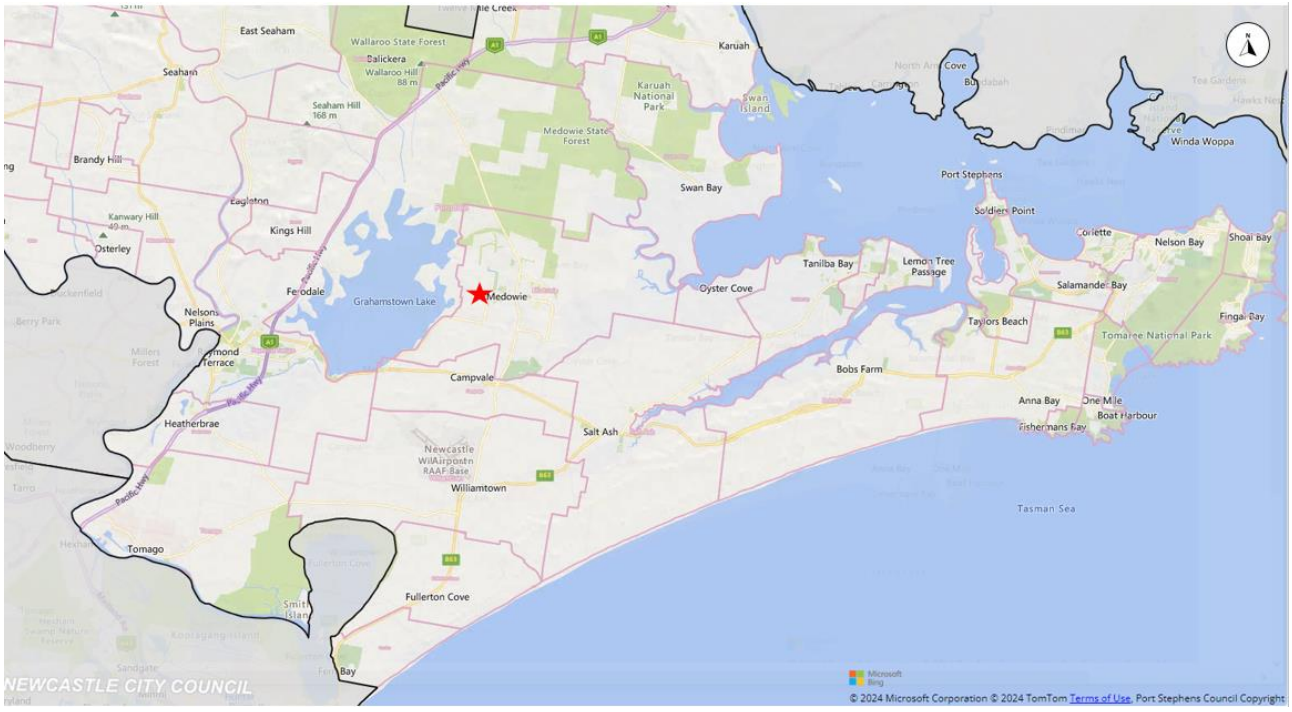


Figure 2: Locality Plan – regional context of the site (marked with the red star) in the Port Stephens LGA (Source: Port Stephens Council Mapping Portal)

The area immediately surrounding the site consists of a mix of industrial, rural residential, educational, and agricultural lands, however it is noted that the majority of surrounding developments are non-habitual in nature. Adjacent to the northwestern boundary is a petrol station and mechanic garage (26 Ferodale Road). Adjacent to the northeastern boundary is a residential dwelling (28 Ferodale Road) and the Port Stephens Foot Clinic (28A Ferodale Road). Across Abundance Road along the eastern boundary are a number of warehouse and light industrial developments, including a motorcycle dealer and an auto repair unit. Directly north of the site

across Ferodale Road are large lots that appear to be used for agricultural purposes. Medowie Public School is located on Ferodale Road, to the northwest of the site, and located opposite the petrol station. The site has frontages to Abundance Road and Ferodale Road. The primary frontage is to Abundance Road. Abundance Road and Ferodale Road are both classified Local Roads. Medowie Road, approximately 1km east of the site, is a classified Regional Road.

Ferodale Road has a speed limit of 60 kilometers per hour (km/h) and a speed limit of 40km/h during school hours of 08:00-09:30am and 2:30-4:00pm Monday to Friday. Abundance Road has a speed limit of 60km/h.

The site currently has limited pedestrian accessibility, noting there is currently no safe or dedicated pedestrian access directly to the site. There is a pedestrian footpath provided on the northern side of Ferodale Road, approximately 2 meters in width, providing a connection from the site to Medowie town centre to the east and residential areas along Fairlands Road to the west. There is no safe crossing directly from the site and the southern side of Ferodale Road to the existing shared footpath. The site also has limited access to cycleways and public transport options. There is a refuge 200m to the east connecting to this footpath network. There is a pedestrian crossing approximately 80m to the east, connecting a partial footpath on the southern side of Ferodale Road, to Medowie Public School. The site also has limited access to cycleways and public transport options.

There is currently limited transport infrastructure on the site/surrounding it. There is a bus stop on Abundance Road that services the 136 and 137 bus routes. In total, the existing 23 school buses and existing two public buses (136 and 137) serve the site. However, there are no formal bus stops or bus shelters currently present, or safe pedestrian access to these bus stops.

The site is not located within proximity to a rail corridor. It is located approximately 25km from the closest rail station of Hexham, located to the southwest of Medowie. This connects the Regional Trains – North Coast NSW Line which extends from Sydney to Brisbane.

Pursuant to the PSLEP, the surrounding areas are provided in **Figure 3.**

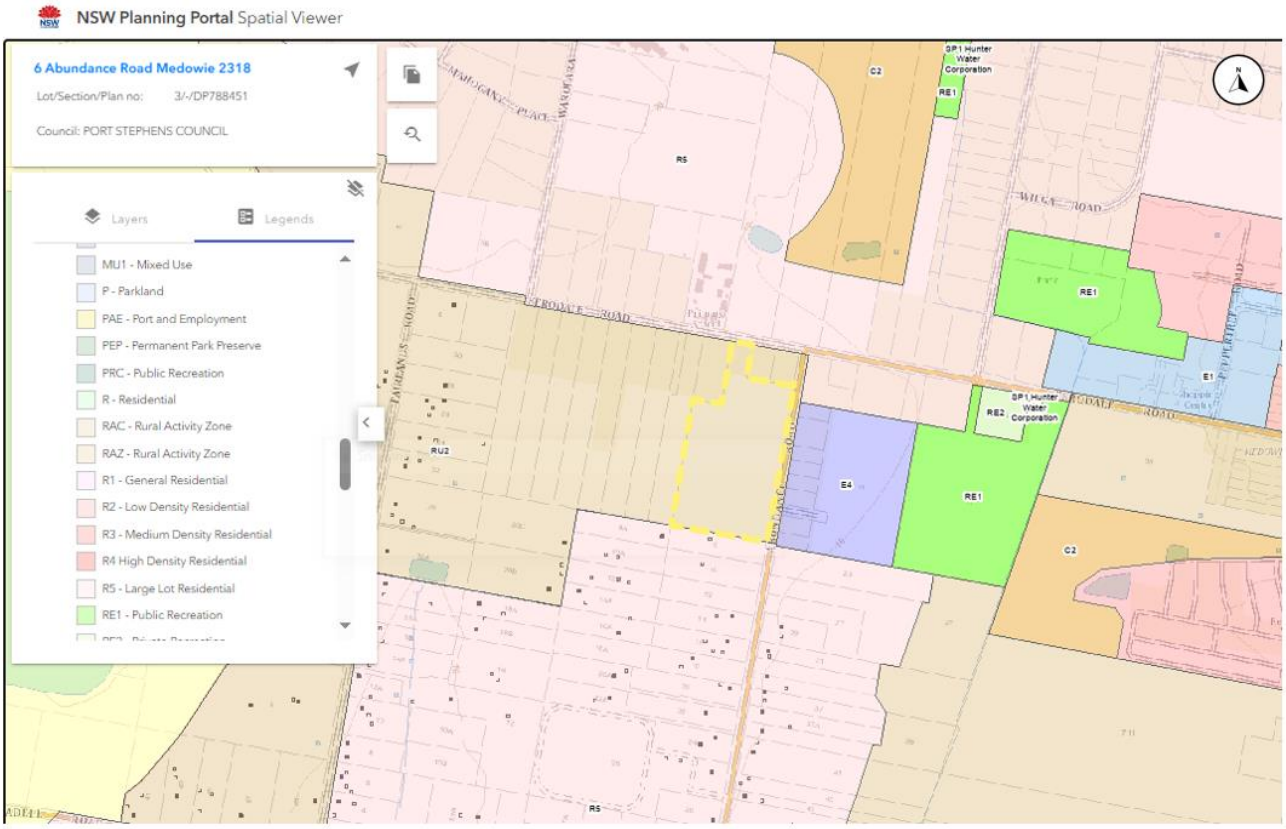


Figure 3: Land use zoning of surrounding area – site outlined in yellow dashed line (Source: NSW Planning Portal Spatial Viewer)

The site is located in proximity to an existing educational establishment:

- Medowie Public School is located on the northern side of Ferodale Road, approximately 30m to the northwest of the site.

Furthermore, two existing educational establishments are located within the Medowie area, though not in close proximity to the site:

- Wirreanda Public School is located at 43 Brocklesby Road, Medowie, approximately 2km east of the site.
- Catherine McAuley Catholic College is located on Medowie Road, approximately 4km to the southeast of the site.

Whilst the area is currently more rural and relatively undeveloped (in comparison to further east toward Medowie Town Centre), the Port Stephens Local Strategic Planning Statement (LSPS) identifies Medowie as an 'Emerging Strategic Centre' in the Port Stephens LGA. However, it appears that no specific growth plan has been prepared for the area under the LSPS.

Under the Medowie Planning Strategy (MPS), the site is identified within the residential release area 'Precinct K', which extends to 20ha, proposing an estimated future dwelling yield of 240 dwellings (**Figure 4**). The MPS does not outline any strategic vision or proposal for education establishments in Precinct K. The intended land use in residential release areas is R2 Low Density Residential. This would provide housing needs of the community within a low-density residential environment, and enable other land uses that provide facilities or services to the meet the day-to-day needs of residents.

These residential release areas are identified as having the capacity and infrastructure available to accommodate growth in Medowie. Whilst this relates to residential development, the increase in residential yield in Medowie would generate a greater demand for a high school at this location.

Port Stephens Council have not given any specific feedback or comment on their overall vision for the site being located in a residential precinct under the MPS.

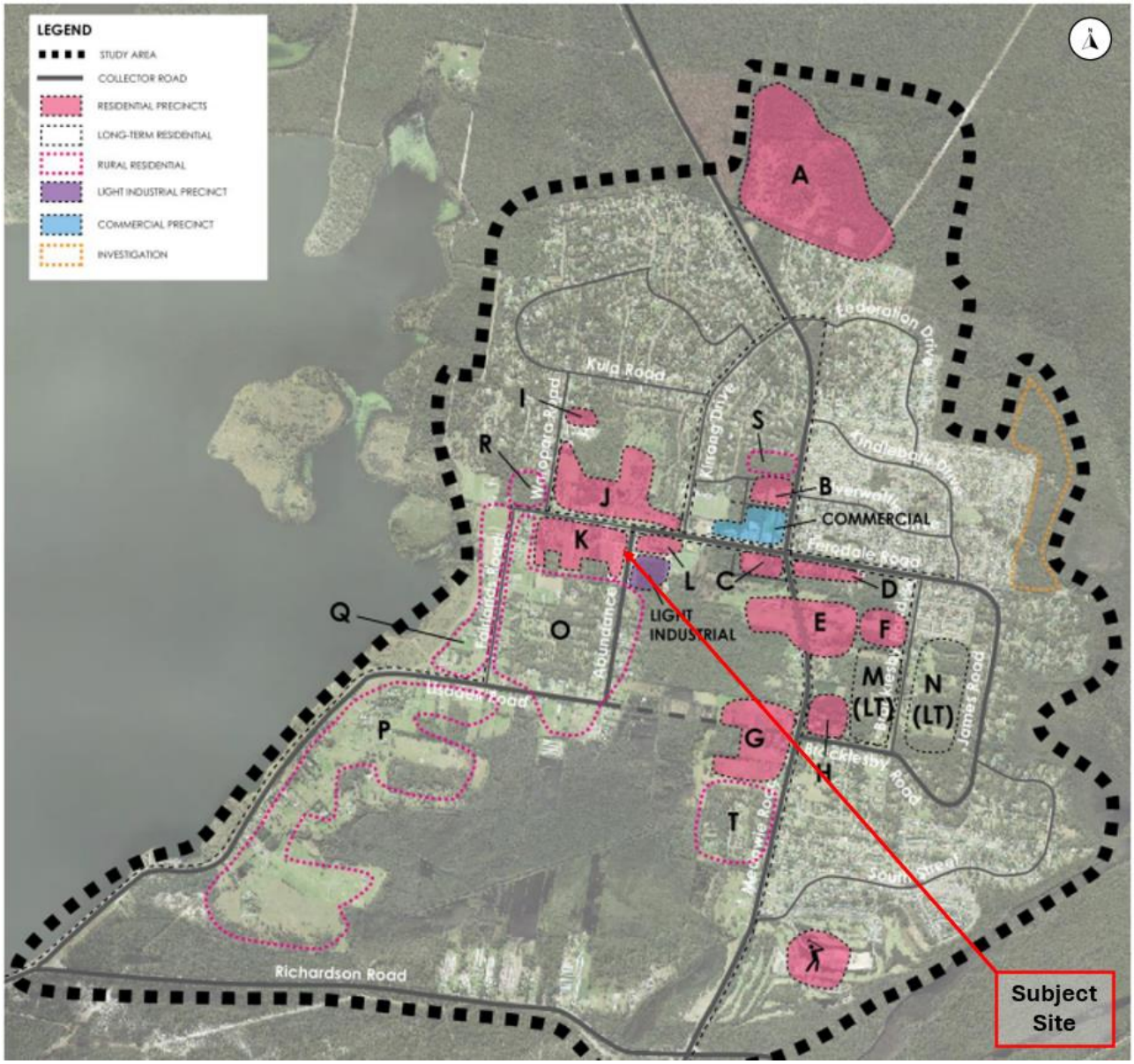


Figure 4: Planning Precincts in Medowie – site location marked with the red arrow (Source: Medowie Planning Strategy)

2.1.2 Site Constraints and Opportunities

Consideration of site constraints has been undertaken through a review of the Section 10.7 (2 & 5) Planning Certificates dated 17 June 2024 mapping under relevant Environmental Planning Instruments (EPIs), and a review of specialist consultant reports and other desktop assessments.

A summary of the identified constraints has been provided in **Table 1**, with relevant map extracts at **Appendix 2.**

Table 1: Site considerations and constraints

Consideration	Applicable	Source	Description
Hazards	Yes	Survey Plan prepared by SDG **Appendix 4** Detailed Site Investigation prepared by ADE **Appendix 11** Blast Hazard Assessment Report prepared by Arriscar **Appendix 13** Hazardous Materials Survey Report prepared by ADE **Appendix 14** Odour and Volatile Organic Compound Assessment prepared by ADE **Appendix 15**	There is a 132kV overhead transmission line situated within a 32.07m wide easement that traverses the northeastern corner of the site. The site is directly adjacent to a petrol station along the northwestern boundary. Across Abundance Road, opposite the site's eastern boundary are warehouses and light industrial developments.
Hydrology, Groundwater, and Flooding	Yes	Medowie Floodplain Risk Management Study Section 10.7 Planning Certificate **Appendix 3** Flood Impact Risk Assessment prepared by Enstruct **Appendix 9**	The site is not mapped as being subject to groundwater vulnerability. The Medowie Floodplain Risk Management Study and Plan identifies part of the eastern boundary of the site as 'Minimal Risk Flood Prone Land". The Section 10.7 Planning Certificate (dated 17 June 2024) states that: *"The land or part of the land is between the flood planning area and the probable maximum flood (PMF) and is subject to flood related development controls".*
Drinking Water Catchment	Yes	PSLEP NSW Planning Portal Spatial Viewer	The site is located within a drinking water catchment pursuant to Clause 7.8 of the PSLEP. This drinking water catchment is not a regulated catchment as per 171A of the EP&A Act (Sydney Drinking Water Catchment, Georges River Catchment, Sydney Harbour Catchment, and the Hawkesbury-Nepean Catchment).
Easements	Yes	Survey Plan prepared by SDG Pty Ltd **Appendix 4**	As above, a 132kV overhead transmission line is situated within a 32.07m wide easement that traverses the northwestern corner of the site.
Aboriginal Cultural Heritage	Yes	Aboriginal Cultural Heritage Assessment prepared by Biosis **Appendix 29**	There is low potential for Aboriginal sites to be located within the site. The Aboriginal Cultural Heritage Assessment confirmed that no Aboriginal sites are located within the site. The most proximate Aboriginal Heritage Information Management System (AHIMS) site is

Consideration	Applicable	Source	Description
			approximately 2km to the southeast. There are no EPI recorded sites of Aboriginal Cultural Heritage Significance on the site. A search of the online National Native Title Tribunal which contains a register of any Native Title Claims was undertaken and confirmed the site is not subject to any Native Title Claims. As the land is not identified as Crown Land, it is understood there is a low likelihood of there being any Aboriginal Land claim.
Non-Aboriginal Heritage	No		There are no non-Aboriginal heritage affectations (either items or areas) identified on, or in proximity to the site.
Acid Sulfate Soils	Yes	PSLEP	The site is mapped as being affected by Acid Sulfate Soils (Class 5) pursuant to Clause 7.1 of the PSLEP.
Salinity	No	Detailed Site Investigation prepared by ADE Consulting Group **Appendix 11**	The DSI prepared by ADE Consulting Group confirms "*the site is mapped as being in a non-saline area with a salinity value of 500-1500mg/L and an area 204.2m east of the site as a non-saline area with a salinity value of <500mg/L according to the NSW Office of Water>".*
Bushfire	Yes	Bushfire Protection Assessment prepared by Ecological Australia **Appendix 35**	The site is mapped as Vegetation Category 3 on the bushfire prone land map.
Contamination	Yes	Detailed Site Investigation prepared by ADE Consulting Group **Appendix 11**	The site and surrounds are subject to historic agricultural activities and there is an existing contaminating land use (petrol station) immediately north-west of the site.
Asbestos	Yes	Hazardous Materials Survey Report prepared by ADE Consulting Group **Appendix 14**	Following site investigations, the Hazardous Materials Survey Report identified samples of Asbestos Containing Materials (ACM) in the residential dwelling due to be demolished as part of the proposed activity. The Hazardous Materials Survey Report addresses management for the removal of the ACM.
Aviation	Yes	PSLEP PSDCP	Due to its proximity to Williamtown Airport, the site is within the Obstacle Limitation Surface (OLS) area, pursuant to Clause 7.4 of the PSLEP. Therefore, the development restrictions set out in PSDCP apply to the site. Any structures on the site that exceed 15 meters in height will need to be referred to the airport for comment. The proposed school buildings do not exceed 15m and therefore referral to the airport for comment is not required. The site is located within Group B of the Bird Strike Zone mapping under the PSDCP. Group B requires an 8km radius for certain developments from the airport runway. However,

Consideration	Applicable	Source	Description
			educational establishments are not one of the development types to be avoided or where impacts need to be mitigated in a bird strike zone. The site is also not located within the 2025 Australian Noise Exposure Forecast (ANEF) contours.
Vegetation	Yes	Native Vegetation Management Plan prepared by Water Technology **Appendix 32**	The site contains a densely vegetated area to the southwest corner (approximately 2ha of tree coverage). The area is identified as PCT 3995 – Hunter Coast Paperbark-Swamp Mahogany Forest.
Koala Habitat	Yes	Koala Plan of Management prepared by Water Technology **Appendix 33**	The site is subject to 'Preferred Koala Habitat' and 'Preferred Koala Habitat Buffer Over Other Vegetation' affectations. There are several koala feed tree species present on the site, including Swamp Mahogany (Eucalyptus robusta), Forest Red Gum (Eucalyptus tereticornis), and Scribbly Gum (Eucalyptus signata). Koalas were not recorded on the site; however, they have been previously recorded in close proximity. Based on the presence of suitable habitat within the site, and being previously recorded in close proximity, the likelihood of occurrence for koala is considered high.
Biodiversity	Yes	Native Vegetation Management Plan prepared by Water Technology **Appendix 32**	The NSW Biodiversity Values (BV) Map identifies land with high biodiversity value particularly sensitive to impacts from development. The areas mapped as comprising biodiversity values correspond with the areas of remnant native vegetation present to the south-west of the site.
Infrastructure – Transport	Yes	Transport and Accessibility Impact Assessment prepared by WSP **Appendix 26**	As noted above, there is currently limited transport infrastructure on the site and surrounding it. There is a bus stop on Abundance Road that services the 136 and 137 bus routes, and various local school bus services. The site is not located within proximity to a rail corridor. The site is located approximately 25km from the closest rail station of Hexham, located to the southwest of Medowie. This connects the Regional Trains – North Coast NSW Line which extends from Sydney to Brisbane.
Infrastructure - Services	Yes	Electrical and ICT Services Report prepared by Arup **Appendix 17** Hydraulic Services Report prepared by DSC Consulting Engineers **Appendix 18**	The Ausgrid Before You Dig Australia (BYDA) plans indicate that there are currently no existing High Voltage (HV) cables or substations at the site perimeter. The nearest HV connection is located at an existing kiosk substation that supports the existing primary school. Telstra is available at the site perimeter. A 100mm Cast Iron Cement Lined Pipe (CICL) water main is located on the eastern side of Abundance Road and is available for the site's potable water connection and fire connection. A 50mm PE pressure sewer main is located on the eastern side of Abundance Road.

2.2 The Proposed Activity

The proposed activity involves the construction of school facilities on the site for the purpose of the New High School for Medowie. The site contains a densely vegetated area to the southwest corner which is identified as land with high biodiversity values corresponding to the areas of remnant native vegetation (PCT 3995 – Hunter Coast Paperbark-Swamp Mahogany Forest). The existing dwelling house and other structures on the site will be demolished as part of the works. No other works are proposed within this area.

The proposed new school will accommodate 640 students in 29 permanent teaching spaces including three support teaching spaces across three storeys of buildings on the site. The proposed activity will consist of the following:

29 permanent teaching spaces including three support teaching spaces, to accommodate 640 students, and school hall to accommodate 1,000 students (at a future stage). 7,376 sqm of GFA is proposed.

- Main vehicular ingress and egress to Ferodale Road to the north, with a new pedestrian and vehicle crossing proposed.
- Main pedestrian access to Abundance Road.
- Kiss and ride, and bus drop and pick up areas to Abundance Road (6 x parallel spaces).
- New pedestrian wombat crossing to Abundance Road
- 46 car parking spaces and three accessible car parking spaces.
- 57 bicycle parking spaces.
- Block A (Admin) consisting of administration and learning spaces.
- Block B (Foodtech/Workshop) consisting of food technology rooms and workshops.
- Block C (Hall) consisting of school hall to accommodate 1,000 students.
- Central quad, one playing field, and one sports courtyard.

The proposed school activity will include the following spaces: general learning spaces, General support learning spaces, administrative services, staff areas, gym and canteen, library areas for science, wood and metal, food and textiles, health PE, performing arts, additional learning spaces, student amenities, storage, movement (stairs and covered walkways).

The figures overleaf demonstrate the overall site plan, ground level plane, Level 1 and Level 2 proposed, as outlined in the architectural drawings prepared by NBRS (**Appendix 6**).

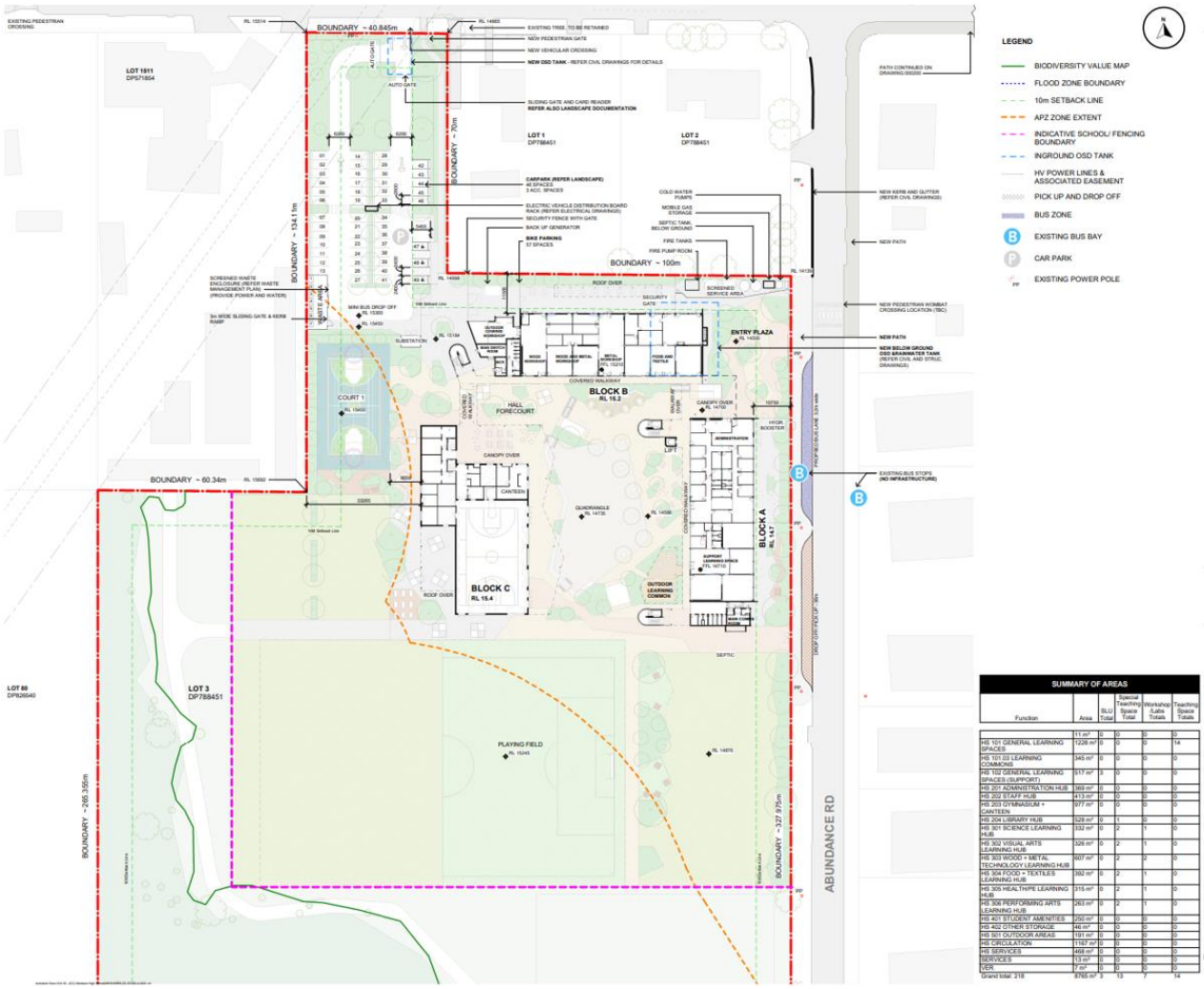


Figure 5: Proposed Site Plan (Source: NBRS)

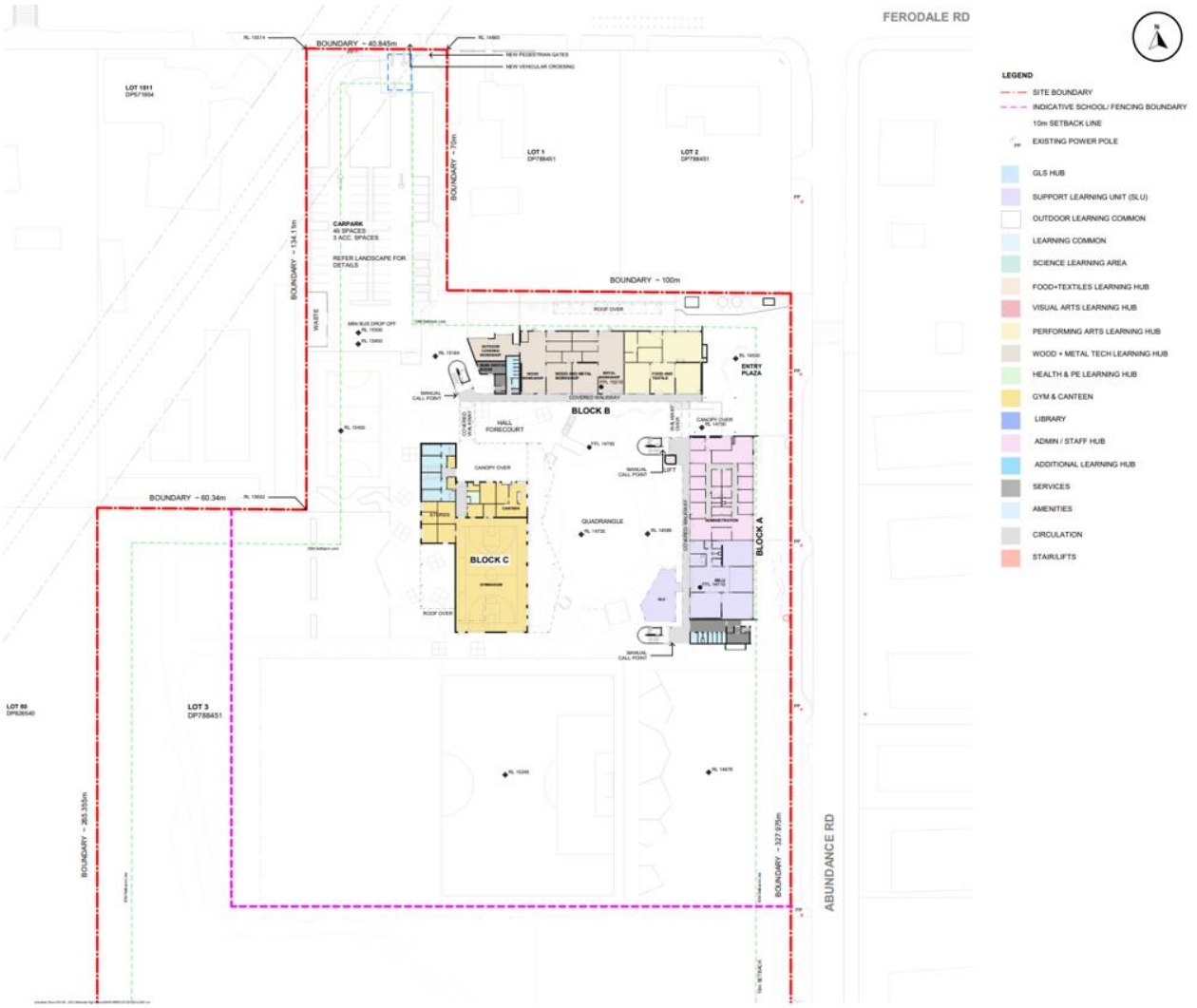


Figure 6: Proposed Ground Level Plan (Source: NBRS)

Figure 7: Proposed Level 1 Plan (Source: NBRS)

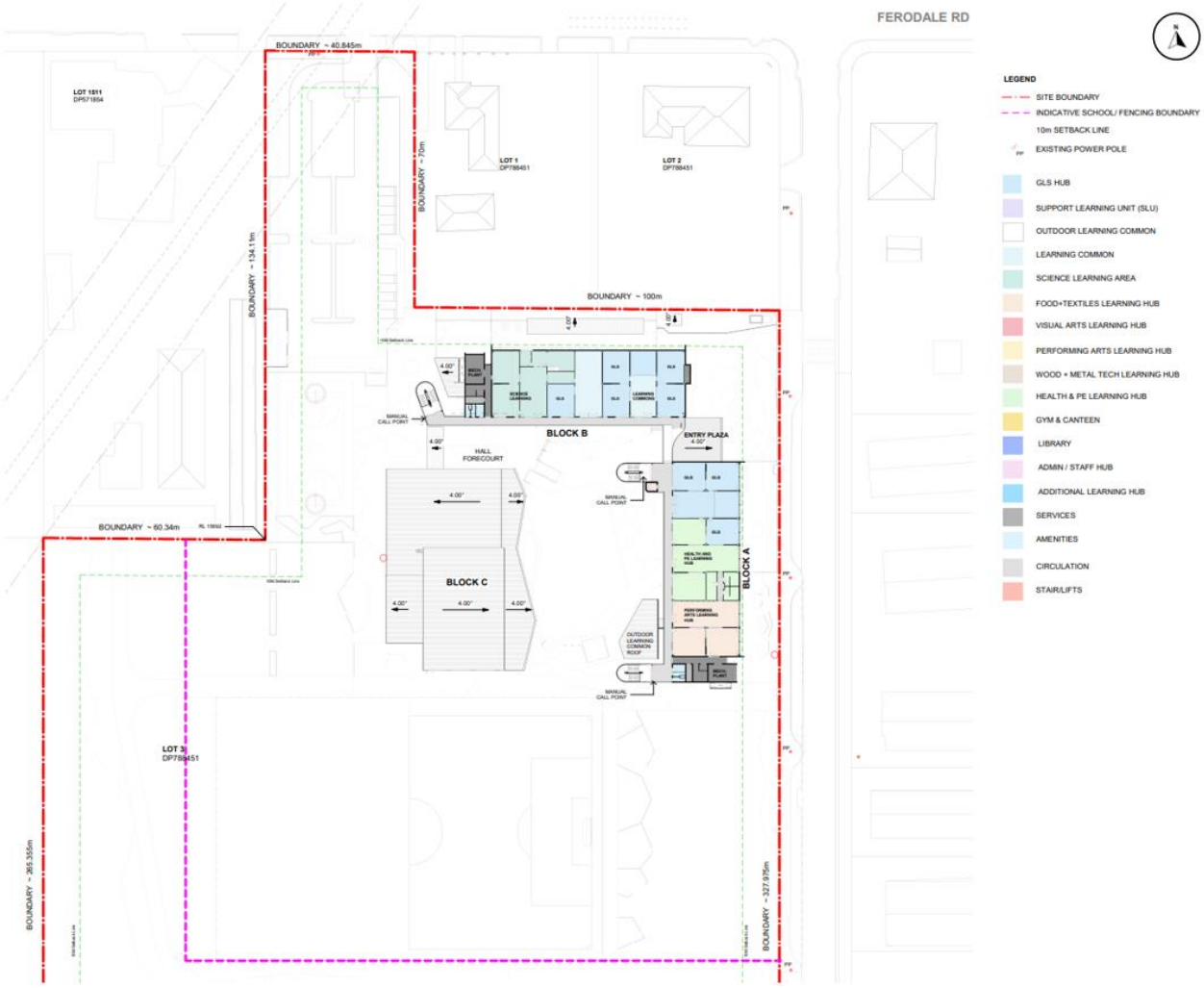


Figure 8: Proposed Level 2 Plan (Source: NBRS)

A detailed description of the works associated with the proposed activity is provided in the table and sections below.

Table 2: Summary of the activity

Project Element	Description	
Total Site Area	65,262 sqm	
Activity Area	26,900 sqm	
Project Name	New High School for Medowie	
Use	Educational establishment comprising a high school	
Total GFA	7,376 sqm	
Breakdown of GFA	**Function**	**Area**
	14 General learning spaces	1,228 sqm
	Learning commons	345 sqm
	General learning spaces (support)	517 sqm
	Administration hub	369 sqm
	Staff hub	413 sqm
	Gymnasium and canteen	977 sqm
	Library hub	528 sqm
	Science learning hub	332 sqm
	Visual arts learning hub	326 sqm
	Wood and metal technology learning hub	607 sqm
	Food and textiles learning hub	392 sqm
	Health/PE learning hub	315 sqm
	Performing arts learning hub	263 sqm
	Student amenities	250 sqm
	Other storage	46 sqm
	Outdoor areas	191 sqm
	Circulation	1,167 sqm
	Services	481 sqm
Student and Staff Numbers	• 26 permanent teaching spaces • Three support learning teaching spaces • 640 students	
Car Parking and Bicycle Spaces	• 46 car parking spaces • Three accessible car parking spaces • 57 bicycle parking spaces	
Height of Buildings	• Block A: Maximum building height of 13.875m • Block B: Maximum building height of 14.575m • Block C: Maximum building height of 11.475m	
Play Space	16,070sqm (exceeds 10 sqm per student) This excludes the densely vegetated area and is calculated against the activity area of 26,500sqm.	
Tree Removal	40 trees in total require removal, including	

Project Element	Description
	• High Retention Value - 4 • Moderate Retention Value - 6 • Low Retention Value - 4 • Very Low Retention Value – 26 (weeds as per Weed Wise NSW)
Proposed Landscaping	• 16,050sqm landscaped area (turf and garden beds) • 3,550sqm deep soil planting • 107 new trees will be planted (pot size 200 litres), and mass planting throughout the site (14,128 combined plantings including shrubs and grasses)
Canopy Cover	2,725 sqm (10.1% of the activity area)
Deep Soil Planting	3,550 sqm of the activity area.
Off Site Works	• 36m long kiss and ride drop off zone to accommodate 6 cars on Abundance Road. • Pedestrian wombat crossing on Abundance Road. • 1.5m wide footpath connecting wombat crossing on Abundance Road to existing pedestrian crossing on Ferodale Road. • Improvements to kerb and guttering along part of the western side of Abundance Road along the boundary of 28A Ferodale Road. • Improvements to the existing bus bay to provide a 49m long bus bay to accommodate 1 bus on Abundance Road.

2.2.1 Design Development and Intent

2.2.1.1 Overview

The school masterplan prepared internally by the department was reviewed and revised after a comprehensive examination of constraints and implementation of opportunities. The design demonstrates proactive approach in designing out risks and mitigate challenges, including response to bushfire and flood risk.

The current plan locates school buildings outside the prescribed Asset Protection Zone (APZ) and the biodiversity zone, and above the Probable Maximum Flood Level. The design outcomes also address issues such as accessibility, sustainability, contextuality, and the architectural design aesthetics.

As the site is located on Worimi Country, it is acknowledged that the Worimi People are the Traditional Custodians of the land. The Connecting with Country process and architectural and landscape concepts have been developed through stakeholder consultation (which is ongoing). The Connecting with Country framework of starting, imaging, shaping and caring for Country has been embedded in the design.

The proposed activity has been designed according to relevant design principles:

- T&I SEPP - Chapter 3 Schedule 8 - Design quality principles in schools.
- GANSW Design Guide for Schools.
- Education Planning Principles in the Place Creation Handbook for Public Schools.

The following sections explore the activity in detail, outlining the design, Connecting with Country initiatives, and sustainability initiatives that have shaped the design.

Figure 7: Photomontage of the proposed activity – view from Abundance Road looking northwest (Source: NBRS)

Throughout this REF, the overall site is discussed by referencing two key areas, which are identified as:

- "Activity area" – the activity area is the northern portion of the site, where the school activity will take place. The majority of the assessment refers to the activity area where works are proposed, and the school will operate from after its completion.
- "Densely vegetated area" – the densely vegetated area is the southern portion of the site which consists of native vegetation, which will be retained as part of the activity.

Refer to the landscape masterplan that identifies these areas in **Figure 8**.

2.2.1.2 Design Guide for Schools and Design Quality Principles

The Architectural and Landscape Design Report at **Appendix 5** evaluates how the activity responds to the Design Guide for Schools and the Design Quality Principles in the T&I SEPP. A summary (and relevant extracts from the design report) is below.

Design Quality Principles

Principle 1: Responsive to Context

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

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

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

Design Response to Principle 1:

The concept design phases of the school were focused on the site context, with particular regard of the natural environment of the Medowie Locality, and the wet sclerophyll forest species of flora and fauna. The wider site context of the dam, aviation facilities, and landscape of the area have informed the materiality and colour palette of the buildings. The local environment which has been developed for thousands of years by the Worimi people has integrated into the design of the school which is focused on the celebration of Country.

Principle 2: Sustainable, Efficient and Resilient

Good school design combines positive environmental, social and economic outcomes and should align with the principles of caring for Country.

Schools should be designed to be durable and resilient in an evolving climate.

Schools and their grounds should be designed to minimise the consumption of energy, water and other natural resources and reduce waste.

Design Response to Principle 2:

Sustainability and environmental protection have been at the forefront of the school design. The school has been designed in accordance with ESD consultants, with climate resilience plans incorporated, and sustainable initiatives that will support the state's net zero targets. Waste management plans for the demolition, construction, and operational phases of the school ensure that production of excess waste is minimised. The school operation will be conducted with best practices to ensure that students and staff are educated on environmental sustainability.

Principle 3: Accessible and Inclusive

School buildings and grounds should be welcoming, easy to navigate and accessible and inclusive for people with differing needs and abilities.

Schools should be designed to respond to the needs of children of different ages and developmental stages, foster a sense of belonging and seek to reflect the cultural diversity of the student body and community.

Schools should be designed to enable sharing of facilities with the community and to cater for activities outside of school hours.

Design Response to Principle 3:

The school has been fully designed to be accessible and inclusive, ensuring compliance with the National Construction Code and relevant Australian Standards. The school provides sufficient allowances for support learning spaces, and support teaching staff, accessible car parking spaces, landscaping, student facilities, and access routes that are accessible and designed to be functionable for students and staff with limited mobility.

Principle 4: Healthy and Safe

Good school design should support wellbeing by creating healthy internal and external environments.

The design should ensure safety and security within the school boundaries, while maintaining a welcoming address and accessible environment.

In designing schools, consideration should be given to connections, transport networks and safe routes for travel to and from school.

Design Response to Principle 4:

Healthy internal and external spaces are provided through outdoor play spaces and landscaped areas, and student facilities provided to promote a healthy educational environment. CPTED

principles have been considered in the design process, and safety of students and staff within and around the site have been a priority from the early design stages.

Principle 5: Amenity, Functional and Comfortable

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

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

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

Design Response to Principle 5:

The school has been designed in accordance with design input from a range of user groups, technical stakeholders, and specialist advice. Consideration of overshadowing, noise acoustics, separation distances, landscaping and planting typologies, and traffic and access movements through the sites have all contributed to ensuring high levels of amenity are provided.

Principle 6: Whole of Life, Flexible and Adaptable

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

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

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

Design Response to Principle 6:

The design of the New High School for Medowie has been developed with the best practices for educational establishments. The design is based on SINSW Pattern Book and Standardized design, which has been developed in response to teaching and learning practices across NSW. This allows for flexibility of the school into the future to allow for changes in pedagogical practices and changing demographics of the local area.

Principle 7: Aesthetics, Visual Appeal

School buildings and their landscape settings should be aesthetically pleasing by achieving good proportions and a balanced composition of built and natural elements.

Schools should be designed to respond to and have a positive impact on streetscape amenity and the quality and character of the neighbourhood.

The identity and street presence of schools should respond to the existing or desired future character of their locations.

The design of schools should reflect the school's civic role and community significance.

Design Response to Principle 7:

The school buildings have been designed in context of the landscape setting with consideration of proportions, composition, and the material palette. The materials were selected to reflect the heavily treed forest setting of the town of Medowie, and immediate site context. The design reflects the dense canopy, of the area, with natural colours selected to reduce stress, glare and overstimulation in staff and students occupying the buildings. The forms reference the ingenious

aerodynamics of the boomerang, developed over thousands of years for its precise flight paths and tie back to the big idea of the project, celebrating human engineering and ingenuity.

Design Considerations – Design Guide for Schools

The Architectural Design Quality Report provides consideration of the design considerations in the Design Guide. In summary, the proposal is contextually responsive (in terms of physical context, neighbourhood character, Aboriginal Cultural heritage, streetscape and design quality) to the surrounding environment, employs sustainable and durable features in both design and future operations, is accessible and inclusive, promotes good internal and external amenity, is resilient and flexible to support the needs of the school and promotes a good quality design aesthetic.

2.2.1.3 School Design Review Panel Response

One School Design Review Panel (SDRP) meeting was attended in relation to the activity on 23 October 2024. The proposal has considered all feedback and where feasible, incorporated changes into the proposal. Refer to **Section 5** and **Appendix 5** for a detailed response to each matter raised by the SDRP.

2.2.1.4 Connecting with Country

The objective of Connecting with Country is to recognise the material and spiritual connection of Aboriginal people to the land, water and sky of Country. By committing to a process of equitable and meaningful co-design with Aboriginal cultural knowledge holders, school environments which include culturally safe spaces for Aboriginal people can be developed. Aboriginal cultural knowledge and truth telling will be embedded in these environments.

In consultation with Aboriginal culture knowledge holders the design intent is to embed elements of Aboriginal culture within the design. In addition to physical design elements, explore opportunities for the incorporation of intangible cultural elements into the design, including signage, naming, way finding strategies, graphics and artworks, throughout the school. Architectural and landscape design concepts are developed based on listening to knowledge about Country.

The Connecting with Country strategy for the New High School for Medowie was initiated with a desktop study produced as part of the feasibility and early design. Consultants have been engaged to facilitate consultation with local Aboriginal stakeholders, Elders and knowledge holders. The design process has incorporated knowledge from consultation sessions and workshops and will be ongoing into school operation.

2.2.1.5 Sustainability and Climate Change

The proposed measures in the Ecologically Sustainable Development (ESD) report, and the Net Zero Statement, reflect a comprehensive approach to environmental responsibility, addressing key principles and aligning with regulatory standards. The project will achieve the following sustainability targets:

- Green Star minimum rating of 4 stars in accordance with the Green Building Council of Australia ‘Best Practice’ performance measures.
- Exceedance with the Deemed-to-Satisfy (DTS) requirements of the National Construction Code (NCC)2022 Section J, targeting a 10% reduction in energy consumption in comparison to a minimum NCC 2022 DTS compliant building.
- Designed to minimise the use of fossil fuels upon occupation as part of the goal of achieving net zero emissions in NSW by 2050, this is through:

- Fully electric project sourcing renewable electricity for all electrical energy use. A minor component of fossil fuels is required for bottled LPG required for school science lab Bunsen burners and Vocational Educational and Training (VET) kitchen cooktops, and diesel fuel required for the emergency backup power generators.
- Renewable energy generation and storage through the solar photovoltaic (PV) generation to rooftop aeras with a total capacity of 70kWp, and future expansion capabilities to 99kWp.
- Energy efficient design elements:
  - NCC Section J compliance.
  - Passive design elements with consideration of air tightness, thermal insulation, thermal bridge free envelopes, high performance windows, and energy efficient mechanical plant.
  - Energy efficient LED lighting.
  - Maximisation of natural daylight.
  - Natural ventilation to all classrooms.
  - New lighting and heating, ventilation, and air conditioning (HVAC) systems with timed and sensor function.
  - New electrical equipment to be at least 0.5 stars above the market average star rating.

The key sustainability initiatives have been incorporated to comply with the Education Facilities Standards and Guidelines (EFSG) under the following themes:

Responsible

- Appointment of a Green Star Rating accredited professional.
- Environmental targets to include:
  - 20% reduction in energy use compared to reference building.
  - Water efficient fixtures and water-using appliances.
  - 10% reduction in upfront carbon emissions compared to reference building.
  - Air tightness targets in accordance with the Air Tightness Testing & Measurement Association (ATTMA) technical standards L2.
- Ongoing management through appropriate metering and monitoring systems.
- Provision of building information to facilitate operator to understand all building systems, and their specific operation and maintenance requirements and/or environmental targets.
- Implementation of project specific best practice environmental management plan.
- Waste management to include a minimum of 90% of waste generated from construction and demolition to be reused or recycled, with a limitation of amount of waste going to landfill. Operational waste management principles to be incorporated into including separation of waste streams.

Healthy

- Minimisation of pollutants entering the building, and a high level of outdoor air provided to regularly occupied spaces.
- Best practice lighting provided to improve lighting comfort, and a limited glare from light sources.
- High levels of daylight and external view are provided to regularly occupied learning and administration areas to support high level of visual comfort for occupants.
- Acoustic design and comfort through achieving maximum internal noise levels, provision of acoustic separation and control of reverberation.
- On-site Total Volatile Organic Compounds (TVOC) and formaldehyde tests to verify levels are within concentration limits.

Resilient

- Adoption of a climate adaption risk register adopted in Climate Resilience Plan.
- Minimisation of the urban heat island effect including light coloured roofing and external finishes, as well as maximisation of the extent of landscaped elements.
- Positive
- Compliance with the SINSW Commitment to Sustainability Goals for 2030 and the Sustainable Buildings SEPP requirements. Inclusions such as 100% electric services including heat pumps for heating domestic water, no piped gas connections only LPG gas for the science labs and kitchens.
- Passive deign principles including high performance building envelope, effective shading and building orientation, and natural ventilation openings to support comfortable and low-energy indoor environmental quality.
- Exceedance of the NCC 2022 Section J minimum DTS requirements.
- Effective shading devices which reduce solar heat gains to conditioned spaces.
- Energy efficient lighting, and high efficiency heating and cooling.
- Fully electric building services.
- Roof mounted solar PV system.
- Reduction of potable water consumption with a selection of water-efficient sanitary fittings and fixtures, rainwater harvesting and water reuse system for irrigation and toilet flushing, and no water-based heat rejection systems for air conditioning.

Places

- End of trip facilities for staff to encourage active transport modes of travel.
- Encouragement of access by public transport and site walkability.
- Provision of bicycle parking facilities.

People

- Construction practices that promote diversity and reduce physical and mental health impacts.
- Universal design principles to provide safe an equitable access for persons with disabilities.
- Generate employment opportunities for disadvantaged and under-represented groups.

Nature

- Appropriate internal and external lighting design to reduce light pollution.
- Landscape area that includes diversity of species and prioritises climate-resilient and Indigenous planting.

2.2.1.6 Landscaping

The REF includes Landscape plans (**Appendix 7**) and a landscape design and strategy detailed in the Architectural and Landscape Design Report (**Appendix 5**). The overall landscape design responds and adapts to the site's flooding and bushfire characteristics, ensuring a safe and inclusive learning environment for all students, and the feedback from Connection with Country. A diverse array of spaces, ranging in scale and function, will be created to support active recreation, passive relaxation, social interaction, learning, and play. These open spaces will be enhanced with the use of native and endemic plant species, strengthening connections to the local flora and fauna while supporting biodiversity and ecological resilience.

Canopy Cover

Canopy cover has been designed in accordance with BAL requirements of a maximum percentage of 15%. Canopy cover is calculated against the activity area in which the scope of works is proposed (26,500 sqm).

10.1% of tree canopy cover is provided, with a total of 107 trees to be planted on the site. This calculation is based on the activity area (a total of 26,900sqm), and does not extend to the total site area that incorporates the densely vegetated area to the south to be retained and protected. Trees that will be planted will be of native species, local to Medowie, with final species proposed to be carried out in accordance with a bushfire consultant and ecology consultant. Tree species have also been selected to ensure that koala habitat across the site is protected and enhanced.

Open Play Space

- The open play space provision of 16,070sqm meets the 10sqm per student requirement under the EFSG. It has been designed with a focus on the following landscape strategies:
- Controlled access points with clear definition of entry and exit points which will prevent unauthorised access. Fencing and hedging assists in delineating boundaries of the site.
- Strategic lighting in the form of motion activated and solar lights throughout the site and landscaped areas enhances security and sustainability.
- Clear lines of sight and natural surveillance of open play spaces which are passively supervised by staff rooms, classrooms, and large windows.
- Definition of zones throughout open play spaces to separate specific areas for quiet play, active games, group gatherings, minimising conflict of uses and reducing overcrowding of areas.
- Inclusive design of open play space areas for students with disabilities and limited abilities.
- Natural boundaries are created using native and low maintenance plants.

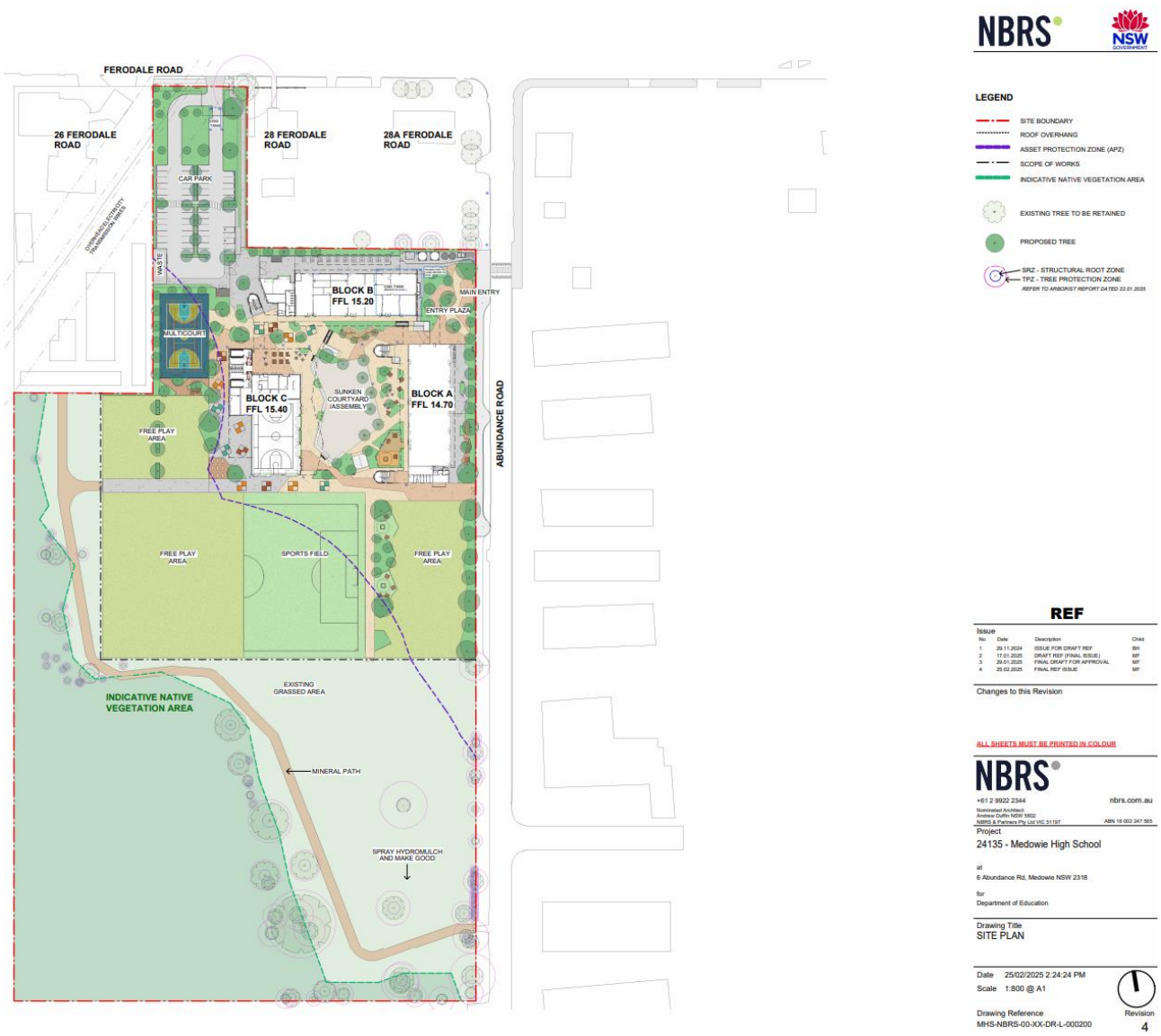


Figure 8: Landscape Masterplan (Source: NBRS)

2.2.1.7 Tree and Vegetation Removal

In order to facilitate the proposed activity, the removal of 40 trees and the retention (and protection) of one tree within the activity area is required (Trees 1). Of the 40 trees to be removed, 26 of these are listed as weeds on the NSW Weedwise website and are to be removed regardless of the activities as part of the regional weed program. Four trees of low retention value and 26 trees of very low retention value are recommended for removal has it will have a positive impact on the local environment by eliminating the possibility of further distribution of the weed species.

Six trees to be removed are of moderate retention value and four trees to be removed are of high retention value to accommodate the proposed activity. To support long-term environmental sustainability the proposal includes107 new trees. The proposed tree planting will integrate endemic species from the Hunter Coast Paperbark-Swamp Mahogany community to restore local habitats and enhance biodiversity while meeting bushfire management requirements.

There is one tree (namely Tree 1) located within the activity area, to the far northeastern corner of the site adjoining Ferodale Road. Tree 1 is a Wallangarra White Gum (Eucalyptus scoparia) and is listed as vulnerable under the EPBC Act 1999 and Endangered under the BC Act 2016. Protection of this tree is of high priority; protection measures are outlined in the Arboricultural Impact Assessment (**Appendix 34**).

Three additional trees outside the northeastern corner of the site are to be retained during the activity: trees 99, 100, and 101. These trees are on the neighbouring property and are part of the retention strategy for the activity to ensure no damage occurs as they encroach the school activity area.

The remainder of the site area, that is not within the proposed activity area, will undergo ongoing vegetation management.

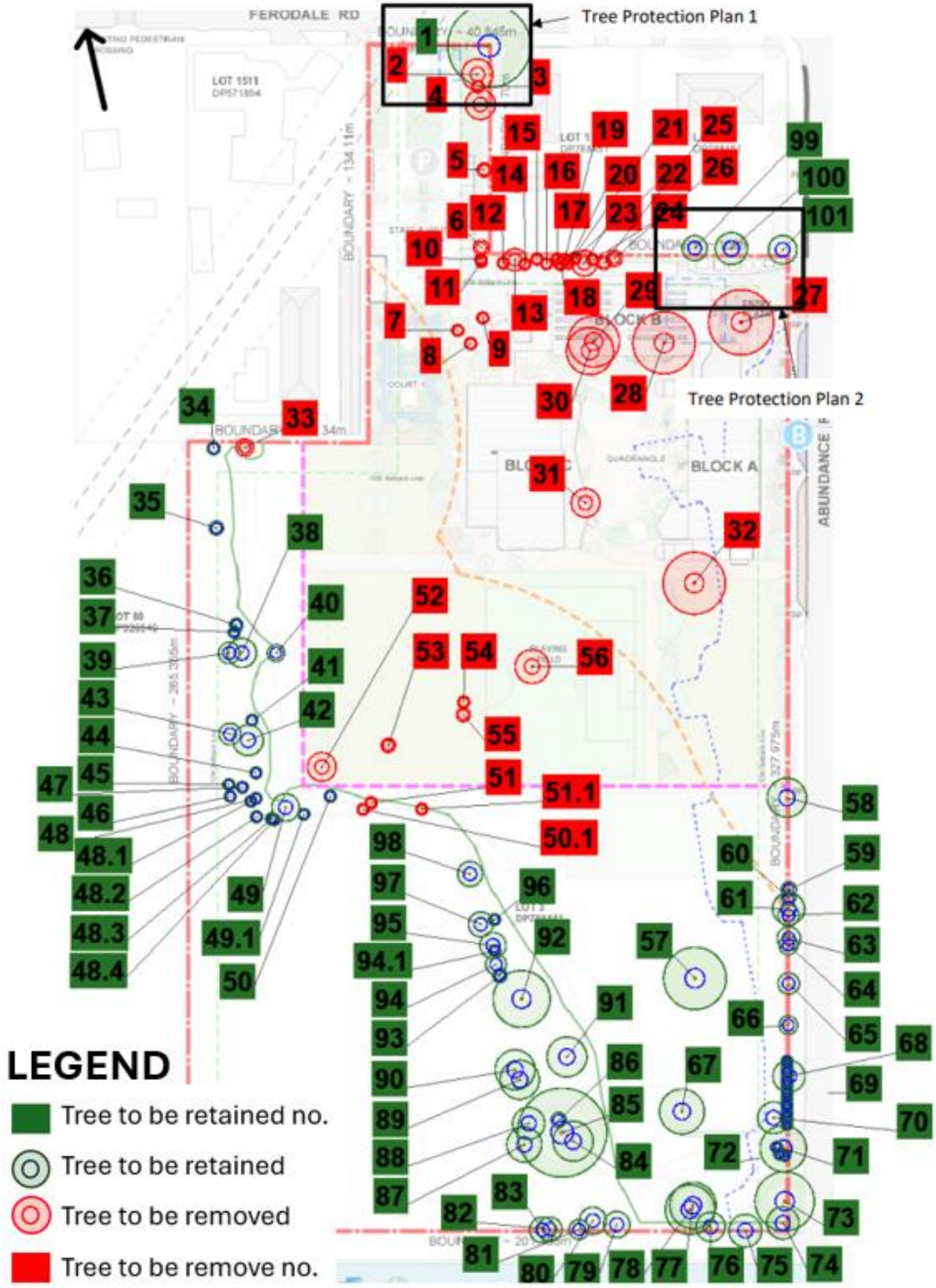


Figure 9: Tree Removal and Retention Plan (Source: Assurance Trees)

2.2.2 Crime Prevention Through Environmental Design

Crime Prevention Through Environmental Design (CPTED) principles have been incorporated into the school design to ensure the space is both safe and welcoming to positive interactions.

Territorial Re-enforcement

Achieved by defining school boundaries with perimeter fencing along the property boundary. The design includes fencing arrangements which improves delineation between spaces, and safety and access limitation to unauthorised persons. Increased fencing heights adjacent to the sports field ensures no safety impact on the adjoining sites occur as a result of sporting activities.

Surveillance

Natural surveillance is achieved in the design layout of the open space, pathways, and entrances, in the maximisation of visibility. Classrooms and staff areas are oriented toward high traffic areas such as the playgrounds to allow for passive monitoring. Organised surveillance can be achieved with seating areas near play zones where teachers are encouraged to partake in active monitoring of students. Closed circuit television (CCTV) will be in operation throughout the school where appropriate, in high traffic areas such as the school entry points, bicycle parking, and circulation areas.

Access Control

Access and wayfinding around the site will be controlled by access gates, signage, and clear formalised routes through smooth pathways that encourage easy movement and access throughout the site. Safety features such as clearly marked evacuation routes, assembly points, and communication systems allow for emergency readiness throughout the site.

Space / Activity Management

The proposed school has been designed to ensure that maintenance and upkeep of the site is easily manageable, such as landscaping, material finishes, and open play areas. The lighting design provides adequate illumination reducing opportunities for concealed activity or poor visibility in areas. School caretakers will be responsible for undertaking site management and maintenance to ensure the school site is cared for, maximising community safety.

2.2.2.1 Access and Parking

Access

The overall design seeks to enhance pedestrian, bicycle, and vehicular access through a combination of on-site and public domain improvements. The primary main pedestrian access from Abundance Road is located at the northeast corner of the site and is directly linked to the main public bus and private vehicle drop off points also on Abundance Road. A new 1.5m wide shared footpath along Abundance Road will link to the existing footpath network that serves Ferodale Road. The existing footpath network in Medowie extends to 2km, allowing students to safely access the school via walking or cycling.

Secondary pedestrian access is provided to the Ferodale Road entry. End of trip facilities are also available from Ferodale Road for staff who access the site via cycling.

Vehicular access for staff parking, site servicing, accessible drop off and pick up, and minibus drop off is provided at Ferodale Road. Emergency and maintenance access are proposed through the secondary gate onto Abundance Road to access south of the school buildings if required. Emergency vehicles will drive across the kiss and ride drop off zone to access the site and the fire

trail along the western side of the site if required. Smaller emergency vehicles such as an ambulance will also be able to stop directly in the kiss and drop off zone if required.

Parking

Staff and visitor car parking is located to the north with access from Ferodale Road. The proposed parking includes 46 car parking spaces, and three accessible parking spaces. Sheltered bicycle parking for 57 spaces for staff and students are provided along the northern boundary adjacent to the car park. A Kiss and ride drop zone provide spaces for six cars and a school bus bay for one bus are provided along Abundance Road.

The figure below demonstrates the parking and access strategy and the pedestrian and vehicular circulation patterns throughout the site.

Figure 10: Access and circulation within the site (Source: NBRS)

2.2.3 Construction

2.2.3.1 Construction activities

Indicative estimates of employees on site during the construction phases includes:

- 60 employees on site from September to December 2025.
- 120 employees on site from January to March 2026.
- 220 employees on site from April to September 2026.
- 40 employees on site from September to December 2026.

Construction activities include site establishment works, ground works and demolition. The equipment likely to be employed during construction works may include:

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

Site establishment works include the provision of site amenities within the boundaries of the New High School for Medowie, and include:

- An on-site office,
- Worker's toilets,
- First aid kit(s),
- Lunchroom,
- Secured storage, and
- Toilets.

Construction hours will be as follows:

- 7:00am to 6:00pm, Monday to Friday
- 8:00am to 4:00pm, Saturday
- No work without prior approval on Sundays and Public Holidays

2.2.3.2 Demolition

The site consists of existing fenced paddocks, small sheds, and a single storey fibre cement clad, metal roof dwelling located at the southeast corner of the site. These are proposed for demolition in order to accommodate the new school buildings.

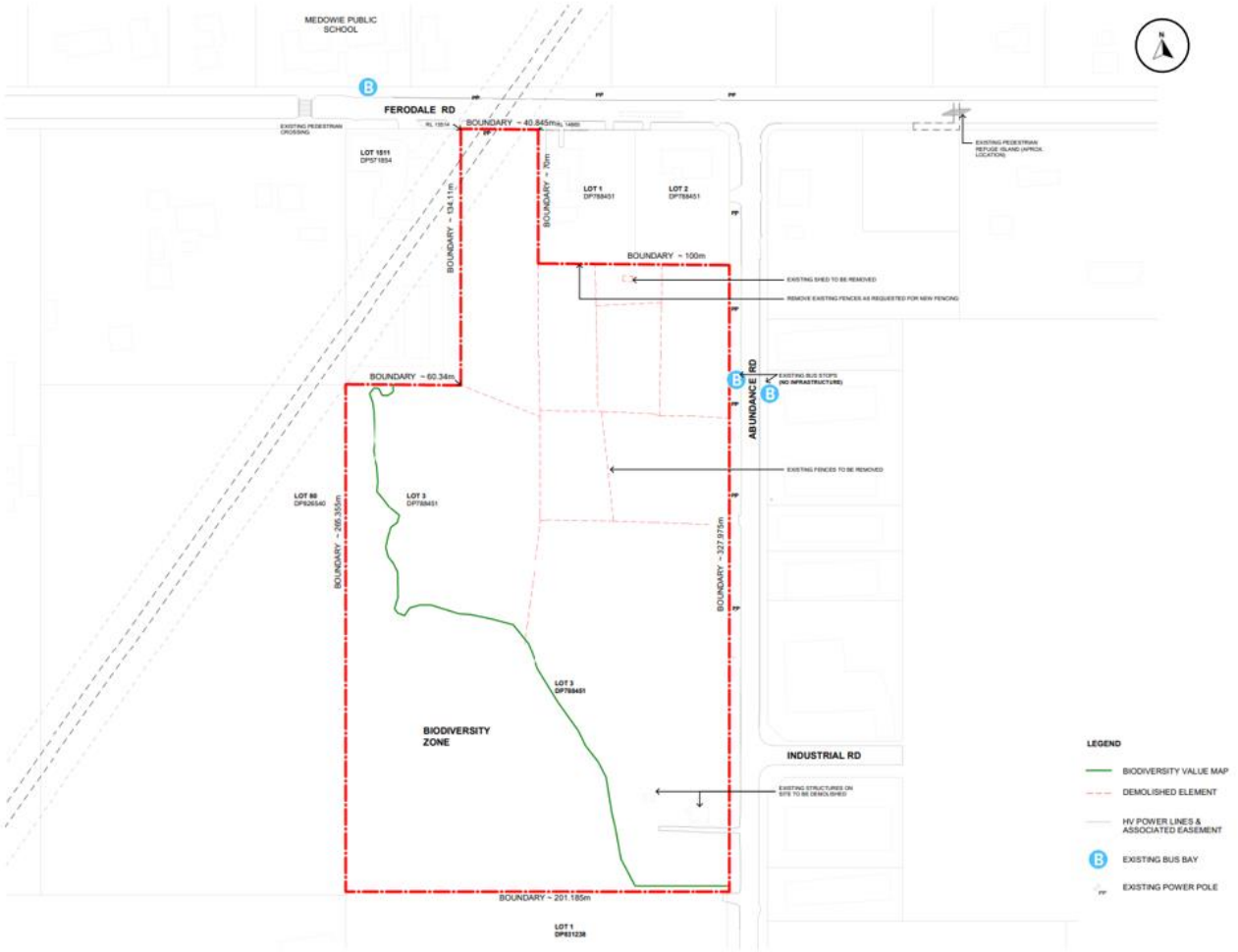


Figure 11: Demolition details (Source: NBRS)

2.2.3.3 Remediation

A Detailed Site Investigation (DSI) has been undertaken (**Appendix 11**) which comprised an intrusive investigation of soil and groundwater. The DSI confirmed that the site is suitable for the proposed activity; no significant sources of soil contamination were identified and asbestos or any presumed asbestos containing materials were not detected in any samples during the investigation. The DSI found that:

- The site was subject to historic agricultural and residential activities, including orchards from as early as 1954 through to 1998 after which the site has been used for hobby scale livestock rearing.
- There were no signs of fill materials in the subsurface at any of the sampling locations.
- Analytical results for the soil samples were below the adopted criteria considering the most conservative scenario for residential land-use with assessable soils.
- All analytical soils were below the contaminant threshold 1 criteria for general solid waste.
- Minor exceedances of zinc were reported in the groundwater samples with all other analytes either below the adopted site investigation criteria or the laboratory limit of report.
- From all the completed site investigations and observations, soils are considered to present a low risk of contamination.
- The groundwater sampling did not identify any contamination associated with potential off-site sources including the service station adjacent to the site.
- Overall, the site is considered suitable for the proposed activity.

2.2.3.4 Earthworks

The site preparation will generally be limited to topsoil stripping (200mm) and ground levelling. The extent of excavation beyond this will depend on the foundation system adopted (i.e., shallow or deep (such as using piles)).

The estimated general ground fill to be placed over the site varies between approximately 0 – 1m.

2.2.3.5 Utilities and Services

The proposed building services requirements for the activity are summarised in the table below:

Table 3: Utilities and Services Provision

Building Services	Proposed Arrangement
Electrical	**Substation** A 1000kVA kiosk substation adjacent to Block A, installed on a raised plinth for flood resilience. **Emergency Generator** A 500-600kW generator with an acoustic canopy to comply with noise attenuation requirements set out in the Arup Acoustic Specification. Includes an 8-hour double-skin fuel tank to support he facility during a bushfire. **Photovoltaic System** Initial capacity of 70kW, expandable to 100kW in future stages. **LV Distribution** Underground cabling connecting the substation to Block A's main switchboard and other buildings.
ICT	**Main Communications Room (MCR)** Located on the ground floor of Block A, housing the Campus Distributor.

Building Services	Proposed Arrangement
	Building Communications Rooms (BCRs) Strategically located to maintain the required 75m cabling radius. **Wireless Access Points (WAPs)** Distributed across classrooms, corridors, and communal spaces, with external WAPs for covered outdoor learning areas. **Lead-In Infrastructure** Extension of Telstra conduits from the perimeter and integration with NBN conduits.
Water and Sewer	**Water** The proposed water infrastructure consists of: • Domestic cold water connection 80mm with an authority water meter. • Fire hydrant system water connection 100mm. • Domestic cold water pumps for boosting the water pressure within the site. • Fire hydrant tanks with a total capacity of 72,000 Litres. **Sewer** • The proposed sewer infrastructure consists of: • Two septic tanks 7000L. • Two sewer pumping stations 6000L. • Property boundary connection kit for connection to the pressure sewer main. Gravity sewer drainage system from buildings draining to the septic tanks and sewer pumping stations.
Gas	There will be no piped gas connection required for the proposed activity. There will only be the provision of gas bottles for science laboratory and 50% of Vocational education and training (VET) cooking stovetops.

2.2.3.6 Waste management

Waste management has been assessed in the Construction and Demolition Waste Management Plan (**Appendix 24**) and the Operational Waste Management Plan (**Appendix 25**).

Demolition Waste Management

Demolition of the existing dwelling and outbuildings on the site will be required to accommodate the proposed activity. Waste generated during the demolition phase will largely include excavation material, green waste, bricks, concrete, asbestos, and other waste materials. Demolition waste will be sorted on-site, and stored for possible re-use, such as crushed concrete for use as clean fill. Most waste components from demolition phases will be either reused for the same purpose or disposed of offsite to landfill.

Based on the estimated volumes of anticipated materials two 3m³ skip bins, to be collected as required, are needed for the demolition phase.

The estimated area required to provide this is approximately 10 sqm. The figure below outlines the proposed bin storage area for the demolition phase. This is conveniently located adjacent to the existing dwelling and outbuildings.

Figure 12: Location of proposed demolition waste area (Source: Elephant's Foot)

Construction Waste Management

Waste generated during the construction stage will be managed by the principal contractor and sub-contractors. Materials will be reused and recycled where possible, if neither reuse nor recycling are possible options, waste will be disposed of as general waste at a licensed landfill site.

It is expected that the types of materials that can be reused and recycled are bricks, tiles, concrete, and some metals. Some timber and plasterboard may need to be directed to landfill, however, this will be as minimal as possible, with 94.8% of waste to be diverted from being sent to landfill.

All staff employed during the construction (and demolition stage) will be required to undertake site specific induction training, of which waste management procedures will be enforced by the head contractor/site manager. Waste and recycling areas on site will ensure the sufficient separation storage of waste on site, safety and signage will be implemented throughout the site to ensure all construction staff are following the proper waste management procedures according to regulatory guidelines.

Based on the estimated volumes of anticipated materials two 3m³ skip bins, to be collected as required, are needed for the construction phase. The estimated area required to provide this is approximately 10 sqm. The dedicated construction waste area is proposed to be in the same location as the operational waste area that forms part of the school activity, refer to the figure overleaf.

Operational Waste Management

The Operational Waste Management Plan details the waste management strategies to be implemented 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 as follows:

- General waste: Four, 100 litre (L) bins collected three times a week.

- Recycling: Three,100L bins collected three times a week.

A total waste area of 21 sqm is required. General waste and recyclables will be managed through a system of labelled waste receptacles of approximately 20L in size, placed in each room and throughout the school grounds. Higher numbers of receptacles may be required in areas of high traffic and high waste generation. Students, staff, and visitors will be responsible for disposing and separating waste, with overall monitoring to be carried out by school groundskeepers or cleaners.

Bins will be emptied throughout the day between 7:00am and 10:00pm, with the relevant person transporting all general waste and recycling to the bin waste area, located to the southwest of the carpark (**Figure 13**).

A private waste collector will be engaged to service the school's general waste and recycling as per an agreed schedule. Waste vehicles are proposed to enter the site from Ferodale Road to the north, and park in the loading bay. Once the bins are serviced, the collection vehicle will exit the carpark onto Ferodale Road in a forward direction.

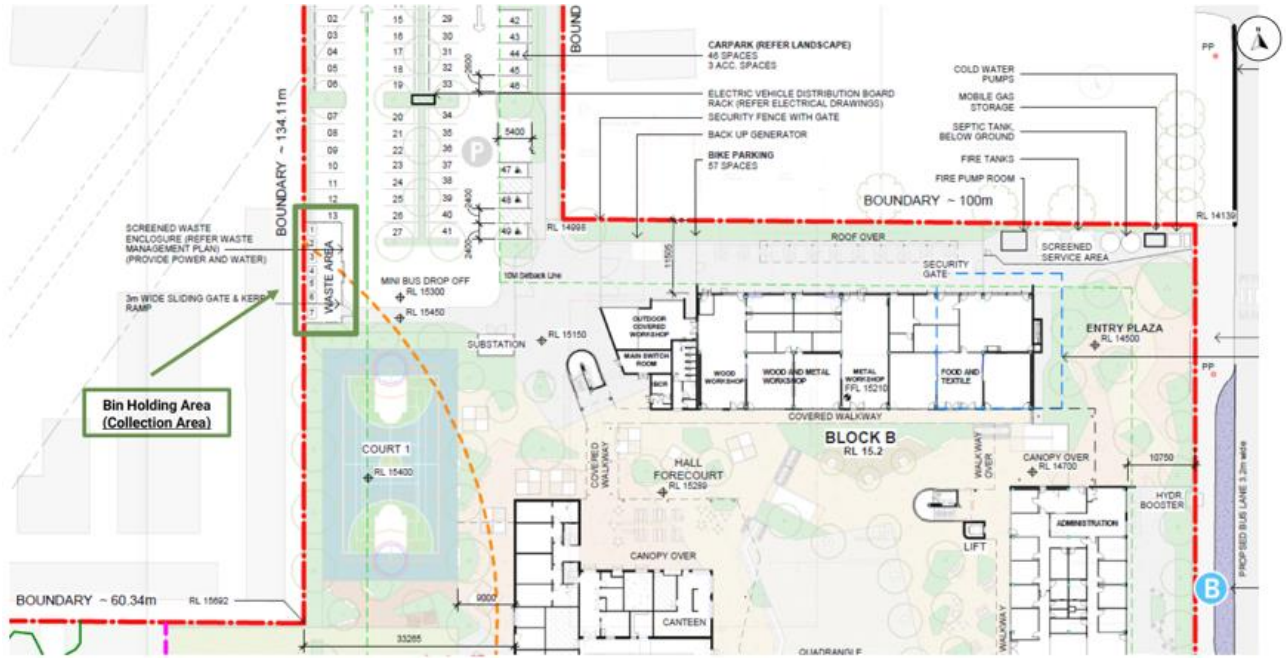


Figure 13: Location of operational bin storage and collection area (Source: Elephant's Foot)

2.2.3.7 Staging

The proposal for the New High School for Medowie will be delivered in one stage only, therefore, a staging plan is not required.

2.2.4 Operation

The school will be due to open and operate from Day 1 of Term 1 in 2027. The school is expected to service:

- 26 full time equivalent (FTE) school staff
- 3 support learning staff
- 640 student enrolments

It is recommended to allow for a 20-minute staggering of bell times between the high school and the existing Medowie Public School. However, this will be confirmed and coordinated with the principal of Medowie Public School prior to operation. Staggering of bell times will help to reduce

the traffic and on-street parking impact during peak durations, by minimising vehicle movements in the surrounding environment.

Medowie Public School bell times are 8:55am and 2:50pm. Whilst this is to be confirmed at a later stage, expected bell times may be within the range of 9:10-9:20am and 3:05-3:15pm.

No outside of school hours care (OSHC) is proposed.

2.3 Related Activities

There are no other projects or works occurring concurrently at the site under other planning pathways, with the exception of the off-site public domain improvements. As noted earlier in this REF, those works will comprise:

- Pedestrian wombat crossing on Abundance Road.
- Shared footpath connecting wombat crossing on Abundance Road to existing pedestrian crossing on Ferodale Road.
- Kiss and ride drop zone on Abundance Road.
- Improvements to existing bus bay.
- Improvements to kerb and guttering along part of Abundance Road.

The figure below demonstrates the public domain improvements to take place along Abundance Road to support the safe operation of the school.

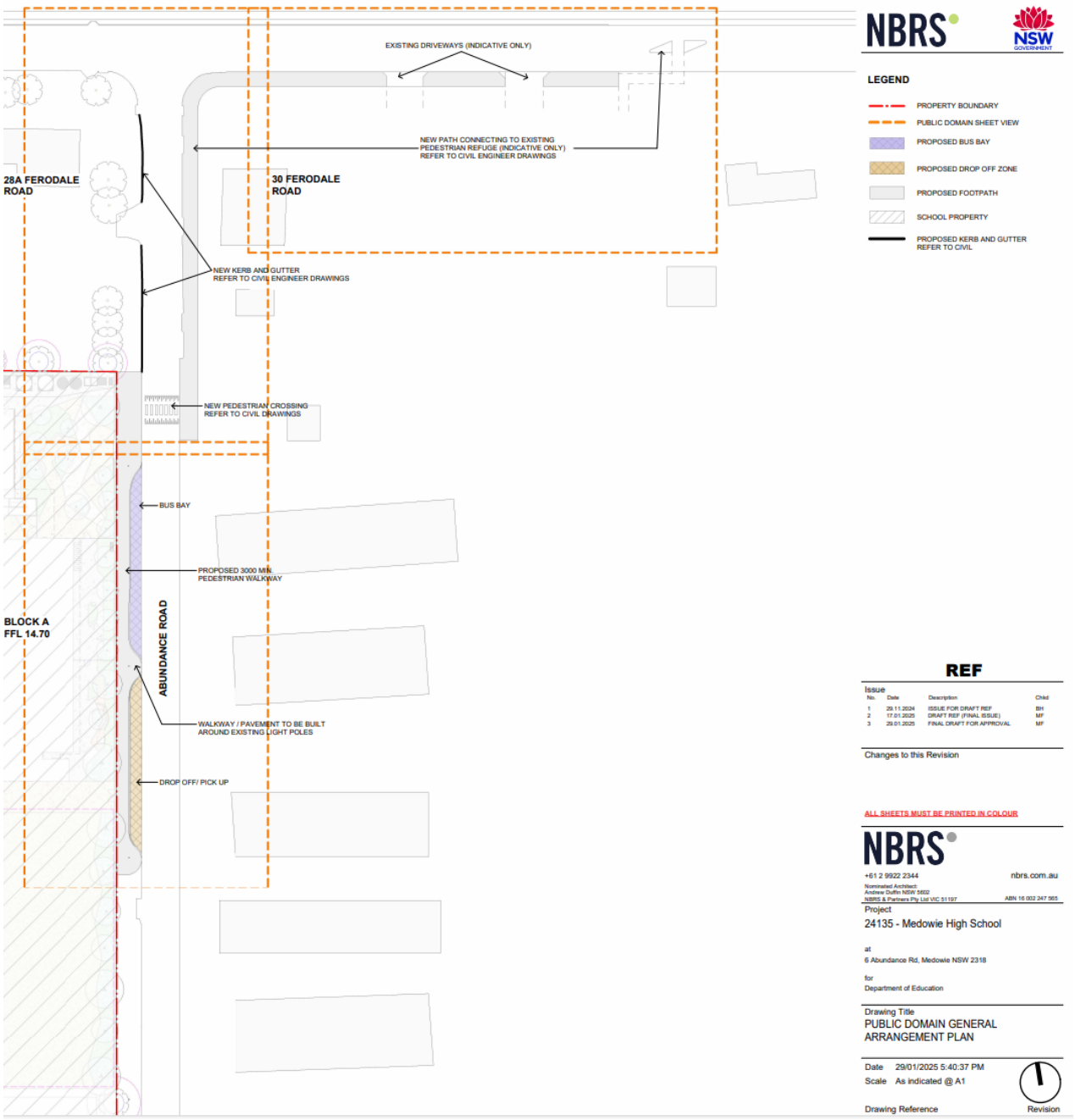


Figure 14: Extract of Public Domain Plan works – Abundance Road (Source: NBRS)

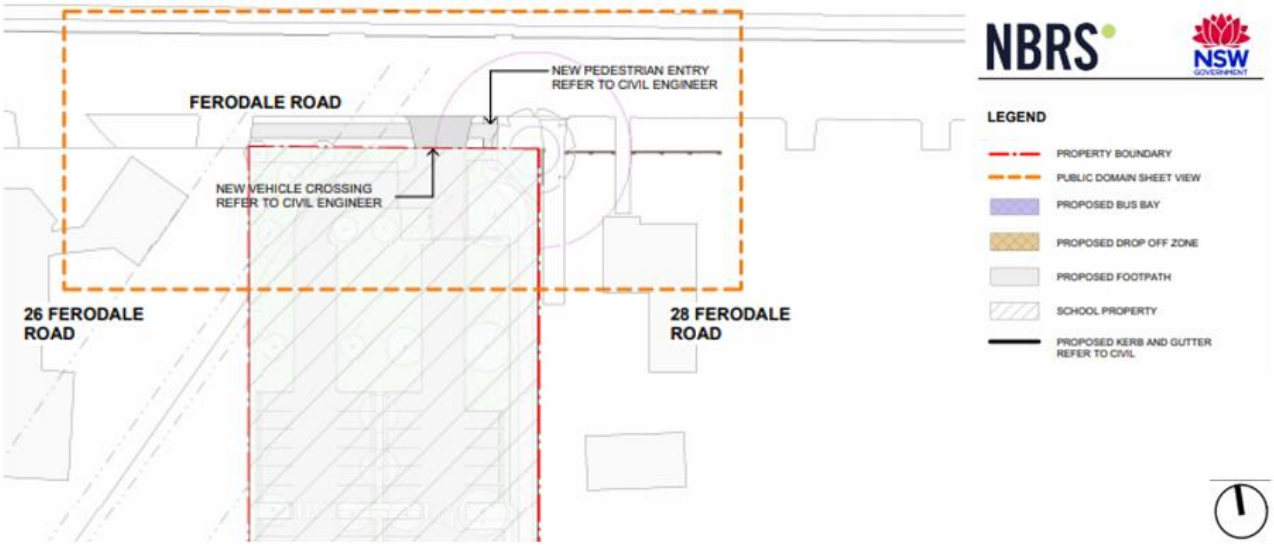


Figure 15: Extract of Public Domain Plan – Ferodale Road (Source: NBRS)

3. Proposal Need and Alternatives

3.1 Proposal Need

Medowie was identified by the department as the location for a new high school, to meet the need for a local high school for the forecasted growth in the local area to ease demand and unlock capacity in existing high schools in the School Catchment Group (SCG). An outline of the SCG is provided below.

Figure 16: School Catchment Group (Source: NBRS)

3.2 Alternatives Considered

The proposed activity has been developed following a consideration of options and alternatives to address the need identified above. The department carried out an extensive due diligence phase, considering a number of potential sites and design options for the school activity. A public Expression of Interest (EOI) for a school site was launched in 2023. This included an assessment against the school site selection criteria and involved feedback from Port Stephens Council. The EOI identified a long list of potential school sites, where 3 sites were shortlisted from the initial investigations. Further due diligence and masterplan testing on the 3 shortlisted sites resulted in identification of the preferred site at 6 Abundance Road, Medowie as being most suitable for the proposed activity. Successful negotiations with the owner resulted in site confirmation and acquisition by the department in 2024.

A summary of the options considered is provided in **Table 4.**

Table 4: Assessment of Options and Alternatives

Option	Discussion	Preferred Option
Option 1: The Proposed Activity (preferred)	As part of the NSW Government's plan to rebuild public education, the 2024-25 Budget is delivering record education funding, including a historic $1.4 billion for new and upgraded schools in regional NSW. This targeted investment will ensure growing communities get access to a world class public education. New educational facilities are required in Medowie to meet the long-term needs of high school students in the Medowie area. Currently students are having to travel to Irrawang High School (Raymond Terrace) to attend high school. This project will deliver a new high school for the growing community in Medowie.	Option 1 is preferred as new educational facilities will best meet the long-term educational and social needs of high school students in Medowie. It also will allow students to easily transition from primary school to high school given the school's location across from Medowie Public School.
Option 2: Alternative Sites	The department carried out an extensive due diligence phase, considering several possible alternative sites for the activity. The process of site selection resulted in the subject site being deemed the most suitable for the school activity. The original site that was considered was the existing Wirreanda Public School site at Medowie, a large site owned by the department which had a sufficient area of undeveloped land that was considered for the high school. Due diligence investigations identified significant biodiversity values on the undeveloped area, and this prompted initiation of an alternative site search. Following this, a public Expression of Interest for a school site was launched in 2023. This identified a long list of potential school sites, where 3 sites were shortlisted from the initial investigations. This included an assessment against the school site selection criteria and involved feedback from Port Stephens Council. Further due diligence and masterplan testing on the 3 shortlisted sites resulted in selection of the subject site as the preferred site. Successful negotiations with the owner resulted in site confirmation in 2024.	Option 2 is not preferred as the Wierreanda Public School site is heavily constrained with significant biodiversity values, and there was limited area for the activity to therefore take place.
Option 3: Alternative Designs for Preferred / Subject Site	Alternative designs and options for the chosen site have been considered during the design development of the project. With the consideration of several specialities and expertise of the project team including traffic, flooding, heritage, ecological, and bushfire, the design proposed has been nominated as the most suitable to accommodate the facilities required and the site's constraints. Some elements that have been redesigned based on consultant feedback and input are: Block C was relocated, with improvements to its	Alternative designs that were considered were not preferred as the chosen design was required to ensure safety and minimal impacts as a result of the activity.

Option	Discussion	Preferred Option
	location and siting, the courtyard arrangement of buildings was in response to the need to meet bushfire setback requirements. Block A was relocated, to sit adjacent to the main student entry, providing external access and improving sight lines for arriving students and visitors. The carpark was relocated to the northern portion of the site for improved adjacencies to the roadway and petrol station. Vehicle movements have been constrained to only one part of the site. The masterplan has been designed to reflect circulation and servicing requirements. The drop off zone was relocated to Abundance Road to decrease risk of conflict with parking area to the north, and students within the site. Bushfire requirements have been accommodated in the building setbacks. Flood requirements have been accommodated with building minimum floor heights.	
Option 4: Do Nothing	If the project was not to proceed, there would be a significant shortfall of secondary school infrastructure within the locality required to support the enrolment needs of the growing population in the area.	Option 4 is not preferred. A “Do nothing” approach would result in the failure of the department to provide secondary education services within the nominated catchment.

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.

The T&I SEPP is an EPI that aims to facilitate the effective delivery of infrastructure and educational establishments across the State and provides that various developments for the purposes of a school are permitted without consent. The proposed activity is 'development permitted without consent' as outlined at Table 5.

Furthermore, the proposal can be assessed under Part 5 as it is consistent with the definition of an activity as it:

- is within the definition of an activity under section 5.1 of the EP&A Act;
- is not any act, matter or thing for which development consent under Part 4 is required or has been obtained;
- is not prohibited under an environmental planning instrument;
- is not exempt development;
- is not development carried out in compliance with a development control order; and
- is not development prescribed under Section 169 of the EP&A Regulation.

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 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.

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 an REF.

> ***activity*** *means—*
>
> *(a) the use of land, and*
>
> *(b) the subdivision of land, and*
>
> *(c) the erection of a building, and*
>
> *(d) the carrying out of a work, and*
>
> *(e) the demolition of a building or work, and*
>
> *(f) any other act, matter or thing referred to in section 3.14 that is prescribed by the regulations for the purposes of this definition,*

The activity is permitted without consent under Section 3.37A(1) of the T&I SEPP.

Table 5: Description of Proposed Activities under the T&I SEPP

Division and Section within T&I 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) The site is zoned RU2 Rural Landscape. Under the LEP, educational establishments are a prohibited use. As RU1 lands are listed as a prescribed zone, the activity can be carried out as

Division and Section within T&I SEPP	Description of Works
(a) in a prescribed zone, and (b) on which there is no existing or approved school	development permitted without consent under 3.37(1)(A) of the T&I SEPP. Public domain works are proposed along Ferodale Road and Abundance Road. The part of Abundance Road that is adjacent to the site is also zoned RU2 Rural Landscape, therefore ancillary works to the school activity are permissible. Ferodale Road to the north is zoned R5 Large Lot Residential. The R5 zone is also a *prescribed zone* pursuant to Section 3.34 of the T&I SEPP. (b) There is no existing or approved school on the land.
(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 PSLEP applying to the land does not outline a maximum building height for the site. (b) The proposed buildings do not exceed 4 storeys.
(3) Development must not be carried out under this section unless— (a) the public authority is satisfied that appropriate consultation has been undertaken having regard to— (i) the SCPP—new health services facilities and schools, and (ii) the stakeholder and community participation plan, and (b) 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.	(a) Early stakeholder consultation has been undertaken in accordance with the SCPP (as described in **Section 5.1** of this REF). (b) The public authority has considered the following design requirements: (i) Refer to the Architectural and Landscape Design Report prepared by NBRS (**Appendix 5**) that outlines an assessment against the Schedule 8 design quality principles. (ii) Refer to the Architectural and Landscape Design Report prepared by NBRS (**Appendix 5**) that outlines an assessment against the Better Placed 'Design Guide for Schools'.
(4) In this section— government school includes a relevant preschool.	Not relevant. A preschool does not form part of the proposed activity.

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 rather than an REF. The effects of the activity on the environment are considered in **Section 6** and have been assessed as not having any 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 an REF.

Pre-conditions to Pathway

Under the T&I SEPP, there are several requirements which must be complied with for an activity to be undertaken as development without consent. Compliance with the relevant sections and requirements of the T&I SEPP are outlined below:

Table 6: Compliance with pre-conditions to the 'development without consent pathway'

Section of T&I SEPP	Comment Section	Complies
Pre-Conditions to the 'development without consent pathway'		
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. While the activity will not trigger any of these threshold requirements for consultation under Section 3.8, notification of Port Stephens Council will be made as part of the broader exhibition of this REF and accompanying documents.	N/A
3.9 Consultation with councils—development with impacts on local heritage	The site is not listed as a heritage item nor is it located within a heritage conservation area. Further, an Archaeological Report has been prepared **(Appendix 29**) which concludes that the activity will not impact on any known historical archaeological relics. Based on the above, consultation with Council regarding impacts on local heritage is not required. Irrespective, as above, notification of Port Stephens Council will be made as part of the broader exhibition of this REF and accompanying documents.	N/A
3.10 Notification of councils and State Emergency Service—development on flood liable land	The site is located on flood liable land. Notification of Council and the SES is required under this section of the T&I SEPP. The requirement for consultation under Section 3.10 will be satisfied as part of the broader exhibition of this REF and accompanying documents. The activity has been designed in accordance with SES review and feedback, which is has been addressed in the FIRA (**Appendix 9**), and the FERP (**Appendix 10**).	Capable of complying, subject to exhibition of this REF prior to determination and provision of written notification to Council and the SES.
3.11 Consideration of Planning for Bush Fire Protection	The site is located on bushfire prone land. Consideration of Planning for Bush Fire Protection has been undertaken by Ecological Australia (ELA) in the Bushfire Protection Assessment (**Appendix 35**).	Yes.
3.12 Consultation with public authorities other than councils	The activity will not involve: • Development adjacent to land reserve under the NPW Act. • Development on land immediately adjacent on a rail corridor that would have an effect on rail safety	Capable of complying subject to exhibition of this REF prior to

Section of T&I SEPP	Comment Section	Complies
	(noting the rail corridor south of the site is dis-used and not intended to be reinstated). • Development that would increase the amount of artificial light in the night sky. • Development on land within a mine subsidence district. The activity will however involve access to a road and a school capacity of more than 50 students, as well as a new vehicular access point to the school from a public road. Therefore, notification of TfNSW is required under this section of the T&I SEPP. The requirement for consultation under Section 3.12 will be satisfied as part of the broader exhibition of this REF and accompanying documents.	determination and provision of written notification to TfNSW.
3.38A Notification of carrying out of certain 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.

Exempt Development

Ancillary to the activity, the department will be undertaking a suite of public domain and other transport improvements in the immediate vicinity of the site. If these works were considered in isolation, for the most part, they could be classified as exempt development under Chapter 2 Section 2.113 of the T&I SEPP. Nevertheless, for transparency and to enable a robust assessment, the public domain works have been assessed under this REF, including:

- Pedestrian wombat crossing on Abundance Road.
- Shared footpath connecting wombat crossing on Abundance Road to existing pedestrian crossing on Ferodale Road.
- Kiss and ride drop zone on Abundance Road.
- Improvements to existing bus bay.
- Improvements to kerb and guttering along part of Abundance Road.

4.2 Environmental Protection and Biodiversity Conservation Act 1999

The provisions of the EPBC Act do not affect the proposal as it is not an activity that takes place on or affects Commonwealth land or waters. Further, it is not activity carried out by a Commonwealth agency or development on Commonwealth land, nor does the proposed activity affect any matters of national significance. An assessment against the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) checklist is provided at **Table 7**. We refer to Section 3.6 of the Flora and Fauna Assessment at **Appendix 31** for further details. The FFA confirms that:

"It is concluded that the proposal is not likely to have a significant impact on any EPBC listed threatened species, populations or communities nor is it likely to impact on any MNES, and so it does not require referral to the Commonwealth under the EPBC Act".

Table 7: 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
Would the activity affect a water resource, with respect to a coal seam gas development or large coal mining development?	No

4.3 Other Approvals and Legislation

Table 8 identifies any additional approvals that may be required for the proposed activity.

Table 8: Consideration of other approvals and legislation

Legislation	Relevant?	Approval Required?	Applicability
State Legislation			
National Parks and Wildlife Act 1974	Yes	No	The activity is accompanied by an ACHA prepared by Biosis (**Appendix 29**). The ACHA outlined that an archaeological survey of the study area was conducted on the 31 May 2024, 22 July 2024 and 15 October 2024. The surveys did not identify any surface artefact sites or other Aboriginal site types. Although the survey demonstrated that the study area has been subject to disturbance, one area of moderate archaeological potential was identified. This area of potential is located in the western portion of the study area and was identified as they have remained relatively undisturbed, and evidence of oyster shell was noted. As the proposed works will not impact the western portion of the study area, no further investigation was warranted.
Water Management Act 2000	No	No	The activity is not located within 40 meters of a watercourse or coastline (**Appendix 2**). Water Technology confirm that *"This project is being conducted further than 40 meters away for any waterways and is exempt from requiring a Controlled Activity Approval in accordance with the WM Act"* in the Flora and Fauna Assessment (**Appendix 31**).
Biodiversity Conservation	No	No	The activity will not affect threatened flora or fauna or a critical habitat. Refer to the Flora and Fauna

Legislation	Relevant?	Approval Required?	Applicability
Act 2016			Assessment at **Appendix 31** for further detail. An impact assessment including a Test of Significance (ToS) as set out in Section 7.3 of the BC Act was undertaken by Water Technology for threatened species and threatened ecological communities considered likely to occur within the project site, to determine if a species impact statement (SIS) is required. The species herein are listed as threatened under the Biodiversity Conservation Act 2016 (BC Act). All species are also listed under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). ToS were prepared for the following species based on potential impacts: • Koala • Threatened microbats - Eastern Coastal Free-tailed Bat, Little Bent-winged Bat, Yellow-bellied Sheathtailbat, Greater Broad-nosed Bat • Squirrel Glider • Grey-headed Flying-fox • Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions Threatened Ecological Community (TEC). The Flora and Fauna Assessment concluded that the proposed activity is unlikely to result in a significant impact on the above species that are protected under the BC Act.
Contaminated Lands Management Act 1997	Yes	No	The DSI at **Appendix 11** concludes that: • From the completed site investigation, including observations during the intrusive investigation and sampling, and analytical results, soils are considered to present a low risk of contamination. • The groundwater sampling did not identify any contamination associated with potential adjacent off-site sources. The site is considered suitable for the proposed school activity. Considering the above, the site is not declared to be significantly contaminated, and such a declaration is not necessary based on the findings of the DSI.
Roads Act 1993	Yes	No	Off-site public domain improvements are part of the scope of works, which includes the kiss and ride drop off zone on Abundance Road. Typically, such works would require a Section 138 Roads Act approval. However, Schedule 2, Part 2, Division1, Clause 5 states that Section 138 does not require a public authority (i.e., the department) to obtain a roads authority's consent to exercise the public authority's functions in, on, or over an unclassified road. Given the roads that surround the site and where the off-site works are proposed are not classified roads (rather, local roads –**Appendix 2**), a Section 138 approval is not, in our opinion, required. We understand this matter is currently under review by the department. A

Legislation	Relevant?	Approval Required?	Applicability
			cautionary mitigation measure has been included in **Appendix 1**, requiring a Section 138 Roads Act approval, ***if deemed to be required***. Irrespective, landowners' consent will be required from Council prior to undertaking the works given the land is within its ownership. Section 4 of the Inclosed Lands Protection Act 1901 makes it an offence to enter inclosed lands without permission or consent from the landowner.
Local Government Act 1993	Yes	Yes	Separate consent will be required from Port Stephens Council, under Section 68 of the Local Government Act for stormwater drainage work (Part B of Section 68). The combination for the public domain upgrade and the discharge point for the site stormwater on Abundance Road will result in a new stormwater line on Abundance Road. Where the existing drainage consist of an open swale on the west side of the road, the proposed works include new pits and pipes to the existing stormwater on Ferodale Road.
Environmental Planning and Assessment Regulation 2021 (Section 171 and 171A)	Yes	No	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 Part 5 of the EP&A Act. These factors are considered in detail at **Section 6.16.** Further, Section 171(4) outlines circumstances where an REF must be published on the department's website or the NSW Planning Portal. This REF is required to be published as the activity has an estimated development cost of more than $5 million and the determining authority considers that it is in the public interest to publish the review. The subject REF will be published once determined. In addition, Section 171A of the EP&A Regulation requires the consideration of the impact an activity in a defined catchment. The site is not located in a defined catchment and therefore, no further consideration of Section 171A matters is required.
State Environmental Planning Policies			
State Environmental Planning Policy (Planning Systems) 2021	No	No	It is noted that the proposal may be identified as State significant development under Chapter 2 of the SEPP (Planning Systems) 2021. However, the proposal is assessed under Part 5 of the EP&A Act, and permissible under the T&I SEPP. As stated in the note in Section 2.6 of the Planning Systems SEPP, *"development does not require consent under Part 4 of the Act merely because it is declared to be State significant development under this section".* Therefore, the provisions of Chapter 2 are not relevant.
State Environmental Planning Policy (Biodiversity	No	No	Chapter 2 Vegetation in non-rural areas does not apply to the site as it is not located in any of the areas listed in Section 2.3(1)(a). The site contains a densely vegetated area in the

Legislation	Relevant?	Approval Required?	Applicability
and Conservation) 2021			southwest corner which is identified as remnant native vegetation (PCT 3995 – Hunter Coast Paperbark-Swamp Mahogany Forest). This vegetation is also mapped as comprising Biodiversity Values under the BOS. No clearing of native vegetation is proposed therefore approval is not required. A Koala Plan of Management (KPoM) has been prepared (**Appendix 33**), in line with the requirements of the Port Stephens Comprehensive Koala Plan of Management (CKPoM). A KPoM has been prepared in accordance with Chapter 2 and Chapter 3 of the Biodiversity and Conservation SEPP as the subject site contains three categories of koala habitat (**Appendix 2**): • Preferred Koala Habitat. • Preferred Koala Habitat Buffer Over Cleared Land. • Preferred Koala Habitat Link over Cleared Land.
State Environmental Planning Policy (Sustainable Buildings) 2022	Yes	No	Section 3.1(1)(a) of the Sustainable Buildings SEPP 2022 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 Ecologically Sustainable Development (ESD) Report has been prepared by Arup (**Appendix 22**) to demonstrate how sustainability has been integrated into the design and operations of the activity. In doing so, Arup considered the provisions outlined in Section 3.2 of this SEPP.
State Environmental Planning Policy (Resilience and Hazards) 2021	Yes	No	The DSI (**Appendix 11**) concluded that the site is suitable for the proposed school activity. The Blast Hazard Assessment (**Appendix 13**) concluded that the operation of the petrol station will not have a significant impact or impact the suitability of the site for the proposed school activity.
State Environmental Planning Policy (Transport and Infrastructure) 2021	Yes	No	In accordance with Section 3.58(1)(a) of the T&I SEPP, the proposed activity would be considered as traffic-generating development. Traffic generating development applies to an educational establishment being able to accommodate 50 or more additional students. If development consent was required (via a DA), then the application would need to be referred to Transport for NSW (TfNSW) for comment. The activity does not require development consent. However, as noted earlier in this REF, notification to TfNSW is required prior to determination of the activity. This will be undertaken, providing TfNSW with an opportunity to comment on the activity and the relevant transport arrangements.

Legislation	Relevant?	Approval Required?	Applicability
State Environmental Planning Policy (Industry and Employment) 2021	No	No	Chapter 3 Advertising Signage of the SEPP (Industry and Employment) does not apply to the proposed activity. Chapter 3 applies to regulating signage under Part 4 of the EP&A Act. As the proposed activity is assessed under Part 5, this is not relevant.
Port Stephens Local Environmental Plan 2013			
Land Use Table - Zoning	Yes	No	The site is located in the Port Stephens LGA. Under the *Port Stephens Local Environmental Plan 2013*, the site is zoned RU2 Rural Landscape. An *Educational Establishment* (including a school) is a prohibited land use in the RU2 zone. However, Section 3.36(1) of the *State Environmental Planning Policy (Transport and Infrastructure)* 2021 (T&I SEPP) provides that a school in a prescribed zone is development permitted with consent. A prescribed zone is defined in Section 3.34 and includes the RU2 zone. The proposal is therefore permitted with consent on the land. Public domain works are proposed along Ferodale Road and Abundance Road. The part of Abundance Road that is adjacent to the site is also zoned RU2 Rural Landscape, therefore ancillary works to the school activity are thus permissible. Ferodale Road to the north is zoned R5 Large Lot Residential. The R5 Large Lot Residential zone is also a *prescribed zone* pursuant to Section 3.34 of the T&I SEPP. All works proposed for the school activity and ancillary public domain improvements are permissible.
Cl. 4.1 Minimum subdivision lot size	Yes	N/A	The minimum subdivision lot size is 20 hectares. Cl. 4.1 is not relevant as the site does not exceed 20 hectares.
Cl. 4.3 Height of Buildings	No	N/A	No maximum building height applies to the site.
Cl. 4.4 Floor Space Ratio	No	N/A	No maximum floor space ratio applies to the site.
Cl. 5.10 Heritage	No	N/A	The site is not listed as a heritage item and is not located in a heritage conservation area.
Cl. 5.21 Flood Planning	Yes	N/A	A detailed Flood Impact Risk Assessment (FIRA) and Flood Emergency Response Plan (FERP) can be found at **Appendix 9** and **10.** The FIRA for the site and activity identifies the site is affected by flooding in all relevant scenarios/events. The model developed for the site demonstrates the activity will have localised impacts on flooding with respect to flood depths and levels in the 1% Annual Exceedance Probability (AEP) event. These impacts are minor and on balance, there are some improvements/reductions in flooding to the Abundance Road boundary. In the 1% AEP, there is a safe means of access and egress from the site to enable evacuation

Legislation	Relevant?	Approval Required?	Applicability
			by students and staff. Due to the extent of flooding in the PMF, to the site and surrounds (including site access/egress), the preferred emergency management response, as outlined in the FERP, is for the school to close for a short period of time. If closure is not possible, occupants have the capability to shelter-in-place given the buildings sit above the PMF level, as required by the PSDCP. All details regarding the various flood scenarios and emergency response protocols are set out in the FERP.
Cl. 7.1 Acid Sulfate Soils	Yes	N/A	Investigations carried out as part of the DSI (**Appendix 11**) found that the proposed activity would not disturb, expose or drain acid sulfate soils and cause environmental damage. The probability of acid sulfate soil risk at the site is low. A review of the Acid Sulfate Soils (ASS) the site to be located upon Class 5 acid sulfate soils risk management zone, meaning that "*development consent is required for the carrying out of works within 500m of adjacent Class 1, 2, 3 or 4 land that is below 5m AHD and by which the water table is likely to be lowered below 1m AHD on adjacent Class 1, 2, 3 or 4 land*". The site is situated approximately 250 m north northwest from a Class 3 land where PASS may be found beyond 1 meter below the natural ground surface. Testing was carried out as part of the DSI, and the screening results indicated that ASS are not considered likely at the site.
Cl. 7.2 Earthworks	Yes	N/A	The objective of this clause is to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land. The proposed earthworks will not impact on the environment subject to implementing the mitigation measures in **Appendix 1** related to erosion and sediment control.
Cl. 7.4 Airspace Operations	No	N/A	The site is located within an Obstacle Limitations Surface (OLS) area. The site is in an area mapped as 'Refer structures higher than 15m'. The maximum building height of block B is 14.575m. Therefore, the OLS will not be penetrated, and the activity will meet the objectives of Cl. 7.4: (a) to provide for the effective and ongoing operation of the RAAF Base Williamtown Airport by ensuring that such operation is not compromised by proposed development that penetrates the Limitation or Operations Surface for that airport, (b) to protect the community from undue risk from that operation.
Cl. 7.6 Essential Services	Yes	Yes	The activity has made adequate arrangements to provide the following essential services: (a) the supply of water, (b) the supply of electricity,

Legislation	Relevant?	Approval Required?	Applicability
			(c) the disposal and management of sewage, (d) stormwater drainage or on-site conservation, (e) suitable vehicular access. Refer to the Hydraulic and Fire Services Report (**Appendix 18**) and the Electrical and ICT Services Report (**Appendix 17).**
Cl. 7.8 Drinking Water Catchment	Yes	No	The site is located within a drinking water catchment. The objective of Cl. 7.8 is to protect drinking water catchments by minimising the adverse impacts of development on the quality and quantity of water entering drinking water storages. The REF includes erosion and sediment control plans, stormwater management plans and a Civil Engineering Report (**Appendix 8**) to address stormwater quality and quantity. Stormwater detention has been designed to result in no increase in peak discharge from the site. Rainwater re-use combined with stormwater filters will be used to achieve a neutral or beneficial impact on stormwater quality. Erosion and sediment control measures are to be in place during construction to prevent contamination of the downstream stormwater system.

4.4 Port Stephens Development Control Plan 2014 (PSDCP)

There are no PSDCP controls that specifically relate to educational establishments and school infrastructure. The following table lists the most relevant development controls that are applicable to the proposed activity.

Table 9: Relevant Development Controls

PSDCP Provision	Comment
B6 Williamtown RAAF Base – Aircraft Noise and Safety	The site is located within an OLS and Bird strike mapped area, therefore the provisions of Chapter B6 apply. The proposed activity is not identified as a 'development type' to be avoided where impacts can be mitigated in a bird strike zone. The PSDCP states that *"development on land identified on the RAAF Base Williamtown Obstacle Limitation map, as shown in Figure BM, is subject to Section 7.4 (Airspace Operations) of the LEP".* Refer to Table 8.
B8 Road Network and Parking requirements	<u>B8.B On-site parking provisions</u> *B8.4 Except as required by B8.5, B8.6, or B8.7, all development that has the potential to create demand for on-site parking must provide parking in accordance with Figure BU.* Figure BU in the PSDCP stipulates the following parking rates for educational establishments: – One car space per employee – One car space per eight senior high school students – One bicycle space per 10 employees and students – One accessible parking space per 20 car spaces The activity provides 46 car parking spaces, three accessible spaces, and 57 bicycle parking spaces to comply with PSDCP rates. Regarding high school students, no parking provision is made to the students which will be encouraged to use alternative transport modes to align with the

PSDCP Provision	Comment
	department's policy. The decision reflects the department's intention to promote more sustainable travel options (specifically public transport) for students commuting to and from school.
	B8E Access to public transport for 20 or more dwellings *B8.18 Council may require the provision of taxi, private vehicle and bus/coach drop off/set down areas for significant scale developments, such as educational establishments or commercial premises.* Bus and a kiss and ride drop off zone are proposed on Abundance Road, as part of the public domain improvements.

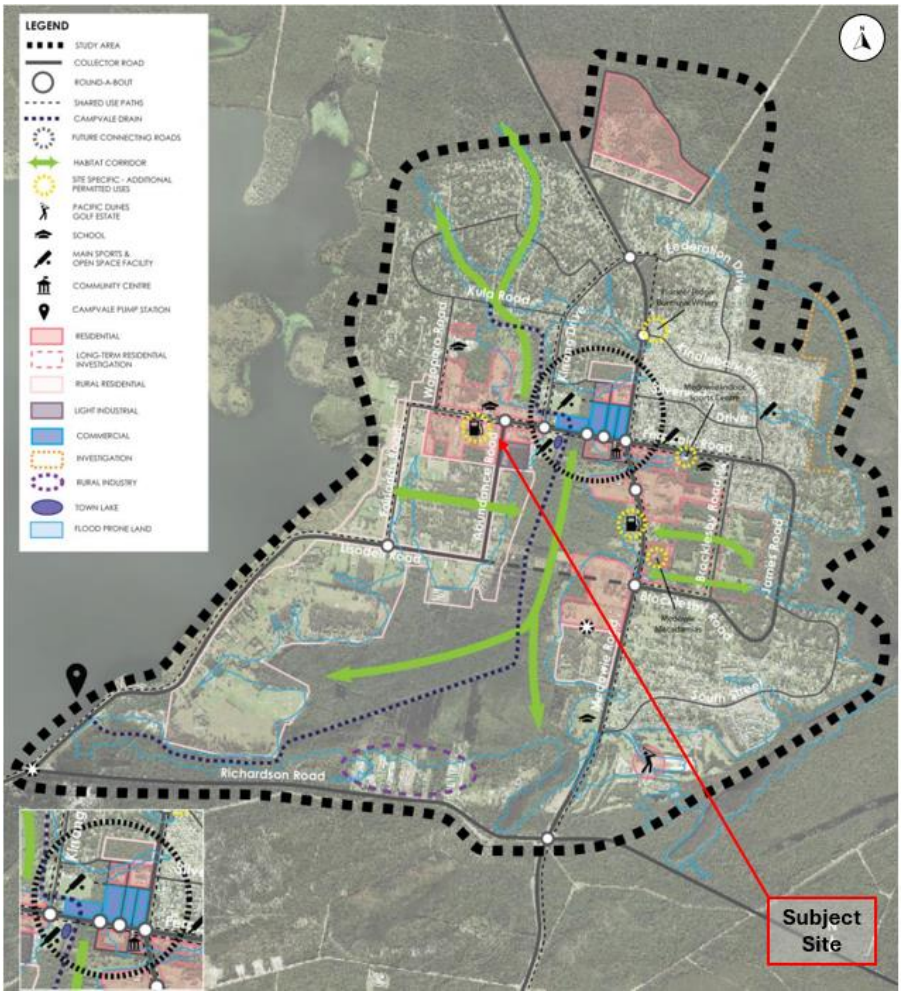
4.5 Strategic Plans

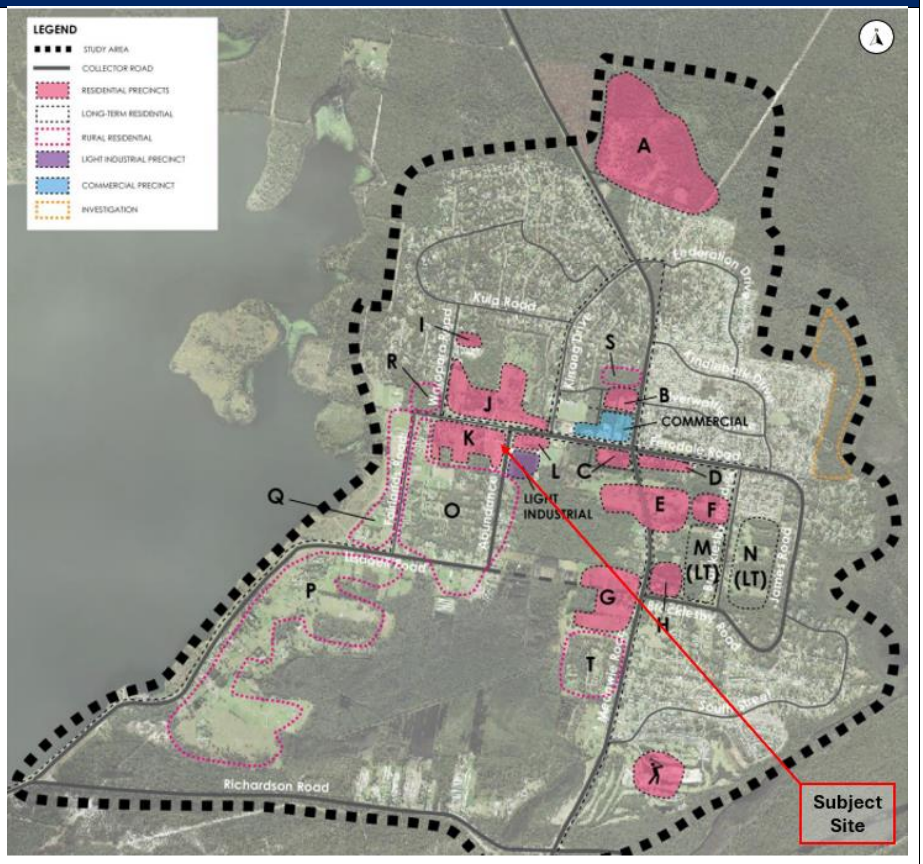
Table 10 considers strategic plans that are relevant to the proposed activity.

Table 10: Consideration of applicable Strategic Plans

Strategic Plan	Assessment
Hunter Regional Plan 2041	The vision for the region identified in the Hunter Regional Plan 2041 is aimed to be implemented with the support of key objectives. Under Objective 8 'Plan for businesses and services at the heart of healthy, prosperous, and innovative communities', it is stated that: *"Access to health care services and education improve quality of life and boost workers' skills. With a growing and ageing population, and an increase in complex and long-term health conditions, planning needs to support hospitals and ancillary services. Education and training facilities should also be supported".* It is integral to the success of the region that people have access to critical infrastructure such as education establishments. The proposed activity will also support meeting Objective 3 'Create 15-minute neighbourhoods to support mixed, multi-modal, inclusive and vibrant communities'. The activity for a new school development meets 2 key performance outcomes to create a 15-minute neighbourhood, being: 3. Neighbourhoods provide local access to education, jobs, services, open space and community activities. 4. Neighbourhoods encourage healthy lifestyles with opportunities to experience and engage in the cultural, entertainment, sport and recreation, and educational and activities. Medowie is recognised as one of the priority locations for future housing to service the Williamtown Special Activation Precinct (SAP). The Williamtown RAAF employs 3,500 people, and with employment opportunities expected to grow, the requirement to house employees within 30 minutes of Williamtown is crucial. Whilst this relates to residential development, if Medowie is earmarked for
Draft Hunter Regional Transport Plan 2041	The Draft Hunter Regional Transport Plan 2041 (RTP) provides a blueprint for how Transport for NSW will proactively respond to the transport needs of the region, as well as address the key trends that will necessitate a transport related response into the future. The RTP forecasts change to the Pacific Highway intersection at Medowie Road due to the increase projected in the Williamtown SAP (detailed above). This intersection will become a key connection as growth around Newcastle Airport and Williamtown SAP increases. Due to the proximity from the site, it is not expected to impact the local transport network and operations surrounding the school site. Objective 16 of the RTP 'Improve connectivity to jobs, health, education and

Strategic Plan	Assessment
	visitor attractions', discusses the potential to explore additional transport options for education campuses. Items for investigation by Port Stephens Council relative to the wider area that would benefit the school development at a future stage are: Item 33 – Provide a Rapid Bus Package for high frequency bus network along key corridors (in 0–10-year timeframe) Item 41 – Bus Headstart Program to improve bus services to newly developing residential growth areas (in 0–5-year timeframe). This may be applicable to Medowie and the site being in Precinct K – earmarked for future residential growth. These investigations are at the responsibility of Council to meet the RTP's vision themes of connectivity, and resilience.
Port Stephens Local Strategic Planning Statement	The LSPS identifies the vision for the area and states that *"Opportunities for education and innovation make Port Stephens a desirable place for new business and provides a convenient lifestyle for local workers and their families".* The local, regional, and global transport networks that connect Port Stephens provide easy access for educational services. The proposed activity benefits from these transport networks with its strategic location fronting Abundance Road and Ferodale Road. The proposed activity will provide more education opportunities in Medowie and the wider Port Stephens LGA, aligning with the overarching vision for the LGA.
Port Stephens Housing Strategy	The Port Stephens Housing Strategy is the overarching strategy to guide land use planning decision for new housing in Port Stephens LGA and satisfies an action in the LSPS to prepare a local housing strategy. The Housing Strategy identifies Medowie as a future urban residential release area as well as an infill housing opportunity location that can provide affordable options for people looking for a relaxed lifestyle less than 30 minutes from major employment areas. The Housing Strategy identifies Medowie as being: "*likely to emerge as a strategic centre playing both an important role both within Port Stephens and Greater Newcastle".* Opportunities for investment in rejuvenating emerging strategic centre at Medowie will create vibrant communities and boost local economies. It is identified as an emerging strategic centre that will create opportunities for people to live in a vibrant centre and an increased residential population that will support local economies. To assist these outcomes, the Strategy identifies the need to prepare a local character statement for Medowie to guide the delivery of new housing.
Medowie Planning Strategy	The site is located within the area of which the Medowie Planning Strategy 2016 applies. The Medowie Planning Strategy was prepared to provide local direction for land use planning and sustainable growth over the next 20 years (to 2036). The Planning Strategy identifies the site within the residential precinct K.

Strategic Plan	Assessment
	 **Figure 17: Strategy Map (Map source: Medowie Planning Strategy)**

Strategic Plan	Assessment
	 **Figure 18: Planning Precincts in Medowie (Source: Medowie Planning Strategy)** This overall area is identified as a 20ha area with a dwelling yield of approximately 240 dwellings. These residential release areas are identified as having the capacity and infrastructure available to accommodate growth in Medowie. Whilst this relates to residential development, the increase in residential yield in Medowie would generate a greater demand for a high school at this location. Additionally, the Strategy identifies Abundance Road as a collector road, with a future roundabout required at the junction of Abundance Road and Ferodale Road. Collector roads are higher order roads than local roads as they carry larger volumes of traffic. A future roundabout at this location would be of benefit to the school development and broader locality as it will improve and increase safety to the surrounding road network.
Medowie Place Plan	The Medowie Place Plan (MPP) is designed in conjunction with the Medowie Planning Strategy. The site is identified as Residential in the 'Future of Medowie' Map, with the southwestern corner identified as Rural, which coincides with the biodiversity values on the site. The MPP and map below states for the area the site is in (Precinct K) to 'Refer to the Medowie Planning Strategy'.

Strategic Plan	Assessment

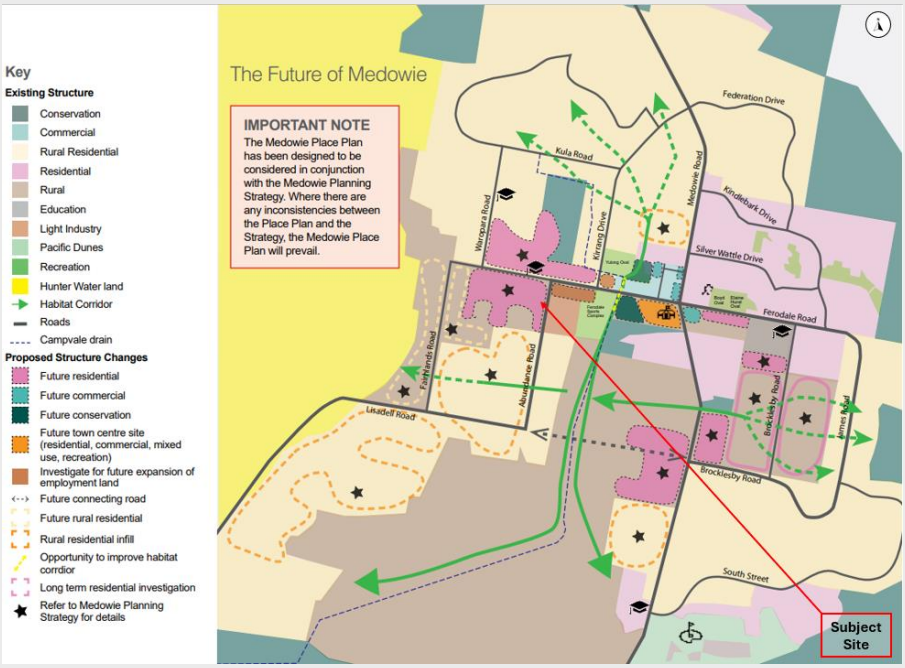


Figure 19: 'The Future of Medowie' Map (Source: Medowie Place Plan)

A key action in the MPP that is relevant:

Getting to school safely 'Giving our kids a safe walking and cycling environment to get to school is great for their physical wellbeing, confidence, independence and for creating social connections. Future shared paths along Ferodale Road to connect to school will benefit Medowie's kids. Regular 'walk to school' and 'safe cycling' days can be organised to encourage the use of these paths'.

This is listed as an action to be delivered in the short term (0-2 years) and a cost of 'low'. Port Stephens Council has a role in the delivery of 'Support' – as a supporter, they may provide support, permission, inspiration or funding. This is also identified as being one of the key indicators of a 'vibrant Medowie'.

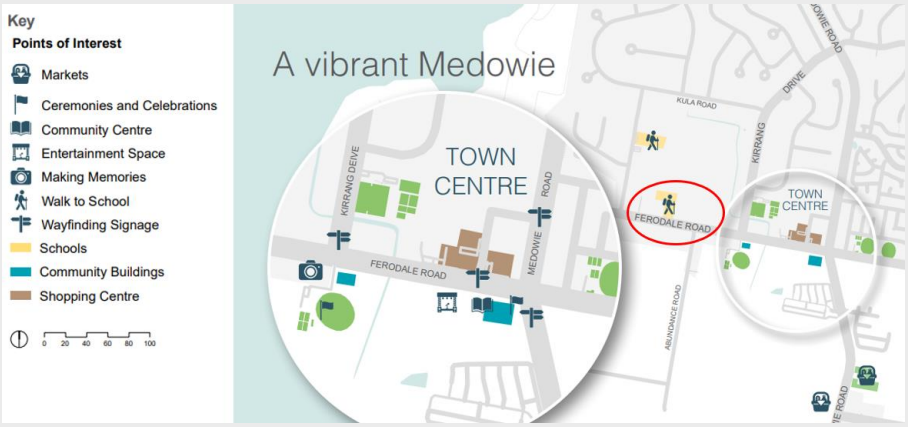


Figure 20: 'A vibrant Medowie' Map (Source: Medowie Place Plan)

Strategic Plan	Assessment
Design Guide for Schools (Government Architect NSW)	The Design Guide for Schools (Government Architect NSW) outline seven design principles to be used when designing new schools. A high-level response to these is outlined below, and in further detail in the Architectural and Landscape Design Report prepared by NBRS (**Appendix 5**). 1. Context, built form and landscape 2. Sustainable, efficient and durable 3. Accessible and inclusive 4. Health and safety 5. Amenity 6. Whole of life, flexible and adaptive 7. Aesthetics

5. Consultation

5.1 Early Stakeholder Engagement

Table 11 provides a summary of early stakeholder (non-statutory) consultation undertaken to inform project development and preparation of the REF.

Table 11: Summary of Early Stakeholder Engagement

Stakeholder	Dates of Engagement	Key Matters Raised	Project Response
Local Aboriginal Community	Worimi Local Aboriginal Land Council (LALC) 20 November 2024	The purpose of this meeting was to provide a project introduction and request the involvement in Connecting with Country workshops. LALC provided ideas for incorporating Aboriginal culture into the design, including: • Cultural spaces for Aboriginal people. • Outdoor learning. • Outdoor seating. • Bush tucker plants. • Teaching in foodtech with bushtucker plants of Indigenous plants. • LALC expressed their support in carrying out a smoking ceremony at the time of construction starting on site.	The design has been inspired by the LALC recommendations and has been done so in a manner that respects and celebrates Aboriginal cultures and heritage. The contractor will be required to undertake cultural immersion activities at the LALC. A smoking ceremony will be held at the commencement of construction.
	NSW Aboriginal Education Consultative Group (AECG) 03 December 2024	The purpose of this meeting was to provide an update of the project and request community involvement in Connecting with Country Workshops. Attendance by Junior AECG representatives shared their thoughts on what should be considered as part of the school, including: • Forming a junior AECG. • NAIDOC Week Activities. • A special celebration with singing or smoking ceremony. • Connection with country work at the school. • A mural installed or artwork. • A yarning circle opening. • A landscaped area completed. • Planting completed. • Language displayed at the school. • A special meeting, local community members or Elders attending the school to	Following the Consultative Group, members were invited to attend the Connecting with Country workshop (outlined below). There were several members who expressed interest in being involved and kept up to date with the project. It is acknowledged that many of the items raised are relevant to school operations and will be provided to the principal and relevant parties to implement accordingly into the school's operational plans. The design does however include for landscape areas and planting that are native species, and representative of the Worimi people and traditional materials of the land. Details of artwork will be

Stakeholder	Dates of Engagement	Key Matters Raised	Project Response
		share stories. • Opening of a cultural room or space.	developed during the detailed design phase, however, artwork is proposed into the building facades and located in the raised walkway overlooking the school plaza.
	Connecting with Country Workshop 09 December 2024	The purpose of the Connecting with Country workshop was to address important cultural considerations in the design and operations of the new school. The key matters raised as being integral to the proposed activity were: **Spaces and Places** • Outdoor learning environments are high priority, most stakeholders mentioned this as an area of importance. • Families would like to see a firepit area that can be used for smoking ceremony. • Incorporating a space for dance. • A central space for the Aboriginal and Torres Strait Islander students and Community to feel welcome, provide programs and engage. • Aboriginal staff including support staff is important. **Biodiversity** • Teaching and learning to be linked to outside space with Aboriginal perspectives embedded. • Cultural heritage assessment - identifying what is on site, including the identification of threatens species and artefacts lower then 300mm underground. • Animals: koalas, kangaroos, cockatoos, possums, dolphins. • Plants: tall trees, red soil, gum, gympies, grasses and medicine plants. **Culture and Heritage** • Incorporation of language and history. • Connection to the oldest story	In response to this workshop, the design responses are: • Spaces for a Performing Arts and Visual Arts Learning Hub are provided. • The school supports the provision of three support staff, and it will be for further discussion with the school principal how this incorporates Aboriginal support. • Native and indigenous species will be part of the landscaping strategy where possible. Further engagement with local knowledge holders is included as part of the contractor's design finalisation. Matters that relate to the operation of the school and curriculum design will require decision with the school principal and SI. A general mitigation measure has been included in **Appendix 1** to ensure ongoing engagement with the Aboriginal community takes place.

Stakeholder	Dates of Engagement	Key Matters Raised	Project Response
		of Medowie, where learning outcomes can be achieved through culture. • Connection to nature and music as a tool to support wellbeing. • Culture to be acknowledged, seen and heard, taught by knowledge holders. **Story of Place** Options that incorporate story of place into the design or curriculum.	
Port Stephens Council	Council Meeting 01	The purpose of this meeting was to inform Council of the plans to construct the New High School for Medowie and the subsequent land purchase in order to do so.	Project specific details were not provided at this stage to warrant a detailed response.
	Council Meeting 02 13 December 2024	The purpose of this meeting was to provide a general update of the New High School for Medowie at the request of the Local Member of Parliament (MP) and the Council Mayor. This meeting identified the following key matters: • A collaborative approach between the Department of Education and Port Stephens Council, established through the commitment to provide: • A project timeline and key project milestones being provided to Council as soon as possible to allow for scheduling with Mayor, Councillors and key staff. This is particularly important considering the compressed project timeframe. • Copies of technical assessments to Council as soon as available to allow for review and advice to be provided to the department. This advice will inform design consideration ahead of project decisions being made and ahead of further community engagement. • A briefing to the Mayor, Council and key staff ahead of the Review of Environmental Factors (REF) public exhibition process. This briefing is to detail the	The department has maintained a collaborative approach with Council, which has included two additional meetings taking place, outlined below. All technical assessments and reports that have been carried out as part of the REF process will be made publicly available during the consultation phases. In response, an additional meeting was arranged, refer below. Car parking for students remains unchanged from the meeting with Council. It is not part of the Department's policy to provide student car parking for high school students. Instead, the focus is on encouraging sustainable methods of transport for students. This is consistently applied across all high school projects across NSW. To ensure that this is viable, priorities have been made to upgrade public domain works to ensure that pedestrian and cyclist access is safe for use. The addition of the shared footpath along Abundance Road continuing onto

Stakeholder	Dates of Engagement	Key Matters Raised	Project Response
		community and Council concerns raised and the design response from the department to these concerns. Furthermore: The department advised that there is no intention to make payment to Council under the adopted Local Infrastructure Contributions Plan. The intention is to address the impacts of the school on local infrastructure as part of the project as delivered by agreement with Council. Matters relating to the provision of student car parking by SI remain unresolved requiring further discussion and consideration by Government. The department notes that student parking is not provided in line with State policy, and that this is a consistent approach taken for all new high schools.	Ferodale Road, connecting to the existing footpath network on Ferodale Road, the kiss and ride drop off zone, and bus zones proposed, alleviates the need to drive to school for students.
	Council Meeting 03 15 January 2024	The purpose of this meeting was to brief Council staff on the public domain works proposed as part of the activity. Council raised items on traffic, pedestrian safety and civil design: • Student kiss and ride drop off and how the vehicle movements from the east have been considered. • How buses would service the school and if there were additional bus routes that would impact the traffic on Abundance Road. • Request for student parking on site and concerns with capacity for on street parking. • Line marking / sign posting on Ferodale Road to support street parking. • Pedestrian demand warrants upgrading the existing refuge on Ferodale Road • Request for an additional crossing at the northern school gate on Ferodale Road • Future residential subdivision impacts on the school. • Council support the new kerb	Several actions have taken place in order for the department and the project traffic engineers; WSP, to consider in finalising the Transport and Accessibility Impact Assessment (TAIA) (**Appendix 26**). • Review of traffic movements and the suitability of a single kiss and ride drop off zone on Abundance Road. • Review of bus routes and how they propose to function with the new school. • Assess impacts from student parking and assess the availability of on street parking. • Assess student demands and the warrants to upgrade the pedestrian refuge if another crossing is required on Ferodale Road. • Incorporate Council

Stakeholder	Dates of Engagement	Key Matters Raised	Project Response
		and gutter on Abundance Road. Council request that road infrastructure standards should be referenced in the design.	standardised designs for road works.
	Council Meeting 04 23 January 2025	The purpose of this meeting was to brief councillors and the Lord Mayor on how the project is addressing important items and issues raised through the community information session. Council was generally supportive of the proposed new school. Key items raised were: • Student parking and whether there is an opportunity to provide a temporary parking area for students. • Department funding for future pedestrian upgrades on Abundance Road if there was an increased demand south of the site. • Request for a signalised pedestrian crossing on Medowie Road for students crossing to residential areas to the east. • The question was raised around how many expected bus routes were required to service the school. • The question was raised around the proximity of the wombat crossing on Abundance Road to industrial zones to the east.	All Council matters were noted. Council was encouraged to formally include any items they still had concern over, following review of the REF package, in their formal submission on the REF.
NSW State Emergency Service (SES)	Preliminary contact made 15 October 2024 Meeting with Enstruct, and the department held on 08 January 2025 Written feedback received 09 January 2025	A meeting was held with SES, Enstruct (the project flood consultants), and the department to provide them the opportunity to review the Flood Impact and Risk Assessment (FIRA) and the Flood Emergency Response Plan (FERP). The SES noted the following matters to be addressed: • The flood modelling did not address events between the 1% AEP and the PMF. • Evacuation of the school site must not require people to drive or walk through flood water. Their recommendations, in	The FIRA responds to the comments raised by the SES with the updated FIRA which includes: • Post development PMF flood mapping (Figure 10 in the FIRA). • Additional information on flooding between the 1% AEP event the PMF event, the 1 in 500 AEP flood event has been included in the analysis (Figure 12 and Figure 19 in the FIRA). Furthermore, the 5% AEP event has been included to show the potential flood

Stakeholder	Dates of Engagement	Key Matters Raised	Project Response
		summary, were: • Recommend considering the impacts of the development on the flood behaviour at the site and any offsite impacts up to and including the PMF event, particularly as the activity is considered of sensitive use. • Recommend seeking advice from the Department of Climate Change, Energy, the Environment and Water (DCCEEW) regarding the activity and any impacts of the activity on flood behaviour for adjacent and downstream areas, particularly considering that the area is prone to flash flooding. • Recommend considering site design and stormwater management that reduces the impact of flooding and minimises any risk to the community, including site design that permits rising road access/egress. Any improvements that can be made to reduce flood risk will benefit the community. This includes investigation into the provision of flood free access/egress (such as Ferodale Road west of the site and the site access driveway). • Recommend ensuring that all site users, including parents and carers, are made aware of the flood risk at the site and broader area and that entry/exit through hazardous roads is avoided. This could include informing people of the safe route and installing signage to make people aware of the flood risk on the roads to the north, east and south of the site. • Recommend updating the Flood Emergency Response Plan to include clear flood emergency response responsibilities and actions, remove all references to flood bulletins, and refer to the Australian Warning System	hazard and extents (Figure 11 and Figure 17 in the FIRA). Hazard maps have been included for all events. • It is noted that there are no official flood warnings available for flash flooding at the site. To minimise the risk of isolation during a flood, the separately prepared FERP contains a staged approach to flood response. In the event that severe weather conditions are forecast, the school should be closed down before the start of the school day and evacuated if safe to do so (refer to Section 5.2 and 5.4 of the FERP). Shelter-in-place is available as a last possible option for anyone remaining on site at the onset of flooding. The FERP responds to the comments raised by the SES with the updated FERP which includes: • Section 5 of the FERP outlines key personnel and responsibilities. Section 8 of the FERP outlines emergency response actions with trigger points based on the AWS. • Section 3 of the FERP references the AWS and removes any reference to flood bulletins as requested. • Section 8 of the FERP has been prepared on the basis of warnings being issued for the general area. Section 7 advises monitoring of the radio and other communication channels for specific information impacting potential evacuation

Stakeholder	Dates of Engagement	Key Matters Raised	Project Response
		(AWS) instead.	routes.
NSW Rural Fire Service (RFS)	19 November 2024	Informal consultation with RFS North Coast Office was undertaken to discuss the proposed bushfire protection measures and performance solutions for vehicle access around the buildings meeting the requirements of Table 3 of Appendix B of the Planning for Bush Fire Protection 2019 and Appendix B of Addendum to Planning for Bush Fire Protection 2022.	RFS agreed in principle to the proposed measures subject to reviewing the REF package in full detail. The Bushfire Protection Assessment prepared by Ecological Australia (**Appendix 35**), adequately addresses bushfire safety and an assessment. The RFS will be invited to prepare a submission during the public exhibition of the REF.
Government Architect NSW (School Design Review Panel)	23 October 2024	The SDRP generally supported the activity and suggested the following matters be addressed as the design develops: • Continue to integrate principles of Country and engagement outcomes into the design and operation of the school. • Incorporate references to Grahamstown Dam and surrounds into the landscape design. • Within the parameters of the APZ, develop a landscape led approach to the interface between the school and biodiversity zone. • Maximise tree retention by reconfiguring the carpark. • Relocate the OSD to maximise deep soil and large tree planting in the entry plaza. • Maximise canopy cover. • Strategically locate trees in high use play areas and gathering areas. • Fencing – reconsider the perimeter fencing to provide a more inviting presence for the school. Reduce fencing where possible and where not, use landscaping to screen it. • Materiality – use natural materials that are durable and weather well. Avoid dark coloured finishes. • Ensure an appropriate	Changes to the design such as adjustments to the carpark, tree protection measures, adjustments to the landscape design, increase in provision of shading across the site and adjustments to materiality have been made to respond to the SDRP comments. A more detailed response to each item raised by the SDRP is provided in the response by NBRS (**Appendix 5**).

Stakeholder	Dates of Engagement	Key Matters Raised	Project Response
		response to sustainability, climate change and risks such as bushfire and flooding. • Incorporate best practice WSUD measures into the landscape design. • Maximise permeable ground surfaces to help management the overland flows. • Use cooler colours in materials to reduce heat gain. • Illustrate how the project will achieve net zero emissions by 2050. • Consider increased shade provision, enlargement of overhangs, widening of walkways for better occupant amenity.	
Transport Working Group (TWG)	TWG 01 21 June 2024	This purpose of the initial meeting was to present the findings of the Rapid Transport Assessment. The TWG was attended by TfNSW, the department, Port Stephens Council, WSP (the project traffic consultants), and Colliers (the project managers). The key issues raised and matters to be addressed during the TWG included: • Mode Share: Substantiation of the mode share targets to support the findings. • Kiss and Ride: Kiss and ride drop off zone on the western side of Abundance Road may not be favoured by local community travelling from north of the school site • Access Opportunities: Roundabout at intersection of Ferodale Road and Abundance Road requested by Port Stephens Council in line with infrastructure strategy for the local area • School Zone amendments to be established.	Following TWG 01, further investigation of the mode share targets as well as the traffic modelling to support the project's position regarding the construction of a roundabout at Ferodale Road and Abundance Road. The assessment of a potential roundabout was carried out by WSP. The results from the traffic assessment indicate that the traffic generation of the proposed activity would not warrant the requirement for a roundabout at this location.
	TWG 02 08 October 2024	The purpose of this meeting was to provide relevant update to the TWG in response to TWG 01. TWG 02 was attended by the same stakeholders as TWG 01. The key issues raised and	The TAIA was updated to address the outcomes and concerns of the Councillors in attendance at the Transport Working Group meeting including: - Assessment of the Kiss

Stakeholder	Dates of Engagement	Key Matters Raised	Project Response
		matters to be addressed during the TWG included: Mode Share: Confirmation provided that mode share was based on finding from other local schools (Irrawang) • Traffic Survey: Traffic survey results presented confirming that traffic generation from the school would not reduce the Level of Service of the intersection of Ferodale and Abundance to a level requiring a round-a-bout. • Kiss and Ride: Port Stephens Council raised concerns a second time regarding the location of the Kiss and Ride and queried its effective functioning. • School Zones: Notes that TfNSW must be consulted with prior to changes being made and that this should be completed 6 months prior to change	and Ride on the western side of Abundance Road and how people travelling from the north would access the site and use the Kiss and Ride drop off zone - Background traffic to be considered in the traffic assessment of the intersection and be incorporated into the TAIA - School Transport Plan to be prepared and issued along with the REF. The TAIA is included at **Appendix 26**. The School Transport Plan is included at **Appendix 27.** All relevant stakeholders as part of the TWG will have the opportunity to comment on the TAIA during the exhibition stage.
Community	Community Information Session 27 November 2024	Traffic and Access: Concerns were raised around traffic congestion, speed management, footpath and road safety along Ferodale Road and Abundance Road. Parking: Queries were raised around increasing the number of car parking spaces, and kiss and ride drop off zone. Concerns were raised regarding potential overspill of parking into adjacent businesses property. Infrastructure: The community raised questions around what infrastructure the school would provide in terms of undercover shading areas, fencing, and whether upgrades of the current sewerage systems and septic systems would take place. School Operation: There were a number of general queries over the operation of the school, recruitment of staff and principal, support offerings of the school, and the enrolment numbers and format of the school. Site Selection: The community sought information on how the	The following assessments were undertaken to inform the preparation of this REF. This should address the concerns of the community and address any key matters raised. TAIA prepared by WSP (**Appendix 26**). School Transport Plan prepared by WSP. (**Appendix 27**). Landscape Plans prepared by NBRS (**Appendix 7**). Civil Report prepared by Enstruct (**Appendix 8**). Site selection process is addressed in **Section 3.2** of this REF. School operations are addressed in **Section 2.2.4** of this REF. Operational details are preliminary only and are subject to further engagement and confirmation with school stakeholders.

Stakeholder	Dates of Engagement	Key Matters Raised	Project Response
		site was selected.	

With regard to community engagement, various sessions and other forms of communication were undertaken, as summarised below.

- In June 2024 an initial planning update was distributed via a letterbox drop throughout the area. This was the first formal introduction to the community of the project and outline site announcement, project progress, and next steps. This was distributed across Abundance Road, Lisadell Road, Fairlands Road, and Ferodale Road.
- In November 2024 an additional project update was distributed via a letterbox drop throughout the area. The purpose of this second letterbox was to inform the local community about the project, progress update, and the upcoming community information session to be held where further information could be obtained. This update provided additional details to the community, such as concept designs, and an outline of the project team, and key documents being prepared to support the statutory planning approval for the project.
- A community information session took place 27 November 2024 at Medowie Public School. This purpose of this session was to update the community on the project progress and share updated designs and impressions with the school community. This was attended by more than 80 people that included future parents, local business owners, the Local Member for Medowie, and Port Stephens Council representatives.
- Following from the community information session, a Community Feedback Form in the format of a survey was available from 27 November 2024 to 04 December 2024. The survey was simple for community members to fill out, taking an average of 11:59 minutes to complete, and was widely accessible, it was shared at the community information session, included in information packs, and also displayed on the dedicated project webpage.
- General enquiries were taken through the dedicated inbox, and 1300 number, which saw a total of 1 webform enquiry, 10 email enquiries, and 7 phone enquiries.

In order to partake in the level of community consultation that took place, updated project information was prepared and distributed across a number of different formats, with all new information and updates being published on the dedicated project website; New high school for Medowie.

Information provided during the community consultation included

- Project update in October 2023, distributed to the school community through the Department of Education leadership.
- Planning update in June 2024, printed and distributed to neighbouring residents of the proposed new school site.
- Project update in November 2024, printed and distributed to neighbouring residents of the proposed new school site. This was also distributed to Medowie Public School, Wirreanda Public School, and to the Director of Educational Learning to share with school networks.
- Project information board, these were displayed throughout the community information session and uploaded to the project website.
- Information packs were distributed at the community information session.

5.2 Statutory Consultation

Consultation will be undertaken with in accordance with statutory requirements under the T&I SEPP and having regard to the SCPP DPHI and the SCPP Department of Education. This includes:

- sending notices to adjoining neighbours, owners and occupiers inviting comments within 21 days.
- sending notices to the local council and relevant state and commonwealth government agencies and service providers inviting comments within 21 days. This will include (but not necessarily limited to) Council, the SES, the RFS, TfNSW and the RAAF Base Williamtown Airport (aviation authority).
- placing an advertisement in the local newspaper.
- making the REF publicly available on the Planning Portal throughout the consultation period.

Comments received will be carefully considered and responded to prior to determination of the activity.

6. Environmental Impact Assessment

6.1 Traffic, Access and Parking

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 Assessment

A detailed TAIA has been prepared (**Appendix 26**) to inform evaluation of the traffic, access and parking requirements and impacts of the proposed activity. The methodology in the report, including approach to modelling (including scenarios), and the scope of public domain transport improvements, have been subject to discussion with key stakeholders at Transport Working Group (TWG) sessions. A summary of the TWG sessions is provided in **Section 5.1**.

Existing Environment

A summary of the existing transport environment relevant to the site is described below:

- The site has a primary frontage to Abundance Road to the east and Ferodale Road to the north. These roads intersect at the northeast corner of the site, operating as a priority-controlled intersection. Both of these roads are subject to a local classification.
- Further east of the site is Medowie Road, which is a regional road running north-south and connecting the Pacific Highway to the north with Richardson Road
- Newcastle Airport located approximately 11km southwest of the site.
- A pedestrian footpath is currently provided on the northern side of Ferodale Road, providing a connection from the site to the Medowie town centre to the east and residences along Fairlands Road to the west. There is currently no footpath on Abundance Road.
- There are four bus stops within proximity to the proposed site entry points and the existing 23 school buses, and two public buses (136 and 137) serve the site. The frequency of the school bus routes is limited, typically operating at one service per day. The public bus services typically operate every 40–60 minutes per day. These public bus services provide connectivity

from the school site to Newcastle to the south, Raymond Terrace to the west and Lemon Tree Passage to the east.

Figure 21: Existing Road and transport network (Source: WSP)

A review of available crash history data indicates that during the five years between 2019 and 2023, approximately 15 crashes occurred within the vicinity of the site. Most crashes occurred between vehicles and resulted in an injury (67%).

The TAIA identified the Ferodale Road and Abundance Road intersection as a key intersection for the use of the new school. The intersection is currently unsignalised and comprises a single lane of travel in each direction. To establish the existing traffic conditions, the TAIA undertook turning movement counts at this intersection for the week between Thursday the 22nd of August to Thursday the 29th of August 2024, to understand typical traffic movements during the school term. The existing AM and PM peak periods were observed to occur between 8:15 AM – 9:15 AM and 2:30 PM – 3:30 PM respectively. Peak hour vehicle movements are shown on **Figure 22**.

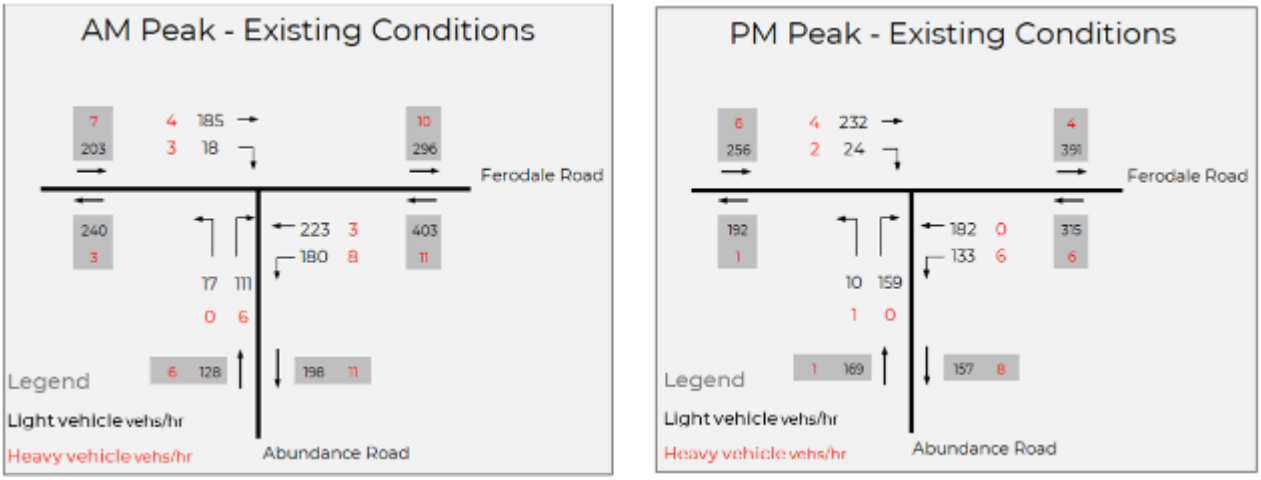


Figure 22: Existing intersection volumes (Source: WSP)

The TAIA carried out SIDRA modelling to determine the existing performance for the Ferodale Road and Abundance Road intersection which found that it currently operated a level of service (LoS) A, that is less than 14 seconds average delay per vehicle and good operation of give-way/stop signs.

Assessment

Design

The TAIA by WSP confirms the following:

- The bus bay on the Abundance Road frontage will allow for 30 to 45 buses per hour, which is deemed acceptable based on anticipated students demand for the school. Monitoring of the bus bay will need to occur during occupation to ensure efficiency in operations. An operational plan is also to be prepared to support the efficient working of the bus bay. The bus bay dimensions comply with the per State Transit – Bus Infrastructure Guide by TfNSW (Issue 2 - dated July 2012) and Guidelines for Public Transport Capable Infrastructure in Greenfield Sites by TfNSW (dated July 2018).
- 2 minibus parking spaces of varying lengths are provided on the site within the carpark. A swept path analysis has been conducted by WSP confirming adequate turning and movement. The mini-bus bays have been designed appropriately and are considered satisfactory for the proposed activity by WSP.
- Larger emergency vehicles will access the site by driving across the kiss and ride drop off zone to access the site and the fire trail along the western side of the site. Smaller emergency vehicles such as ambulances will be able to stop at the kiss and ride drop off zone during emergencies. A swept path assessment by WSP indicates compliance and adequacy of access, turning and egress for all emergency vehicles.
- On-site carparking has been designed in accordance with the required dimensions in AS2890.1:2004 and AS2890.6:2022.
- The kiss and ride drop off zone extent has been designed to comply with AS2890.5:2020.
- Servicing, loading and waste vehicles will access the site from Ferodale Road and will use the southern aisle of the northern carpark for loading, unloading and waste collection activities. These vehicles will access the site out of school operating hours to minimise the risk of interactions with vehicle movements in the carpark including mini-bus access.

Traffic

To predict the local traffic impact of the new school, the TAIA estimated trip rates per student using the TfNSW Guide to Transport Impact Assessment TS 00085 (2024) values for regional secondary schools shown in **Table 12**.

Table 12: Forecast traffic generation

	Peak	Vehicle trips/student	Student capacity	Vehicle trips
Vehicle trips	AM	0.4	640	256
	PM	0.3		192

Using the above forecasted vehicle trips and the school catchment area of the new high school, the TAIA made the following assumptions to determine the 2026 and 2036 trip distributions associated with school vehicle movements:

- in the AM peak 59% enter the kiss-and-ride and 41% exit and in the PM peak 39% enter the kiss-and-ride and 61% exit. This in/out split has been based on the TfNSW Trip Generation Surveys School Analysis Report.
- Based on the school catchment area:
  - 30% of students would access the site from the north
  - 10% of students would access the site from the southwest
  - 60% of students would access the site from the east.
- Background traffic growth rate for the future years was estimated using the ABS Census data between 2016 and 2021, which determined an average population growth rate of 2.75%. This growth rate was applied to the existing traffic volume generation to determine the future base traffic volumes by 2026 and 2036 (not including the proposed activity).

Using this information, the TAIA modelled the performance of the Abundance Road and Medowie Road intersection and found that, at all approaches of the intersection it would perform satisfactorily at LoS A, with the maximum 95 percentile queue at 12.1 m (approximately two cars length).

By 2036 (with the new school), all approaches will perform satisfactorily with Abundance Road south approach achieving LoS B (acceptable delays and spare capacity). The maximum 95th percentile queue will increase to 23.7 meters in the AM peak and 24.2 m in the PM peak (approximately four to five cars length).

While traffic impacts are considered to be minimal, mitigation measures related to staggering of bell times with the primary school and ongoing monitoring of traffic conditions will further minimise the impacts of traffic on the surrounding locality.

Kiss and Ride Drop Off Zone

The proposal includes a kiss and ride drop zone along Abundance Road that is 36m long and can accommodate up 6 vehicles at one time. The TAIA made the following assumptions on kiss and ride drop movements based on adopting the baseline mode share targets:

- 147 students will be dropped-off / picked-up from the school
- Average dwell time of 1.5 minutes per kiss and ride drop vehicle
- Approximately 1.5 students will be in one kiss and ride drop vehicle

- The new high school kiss and ride drop off times will not be the same time as Medowie Public School start and end times

Whilst there was initial concern raised during the TWG around the location of the kiss and ride drop off zone on Abundance Road, the TAIA has fully addressed any impacts and it is determined that it has been designed in accordance with relevant standards and is satisfactory for the proposed activity. Whilst there was initial concern raised during the TWG around the location of the kiss and ride drop off zone on Abundance Road, the TAIA has fully addressed any impacts and it is determined that it has been designed in accordance with relevant standards and is satisfactory for the proposed activity. The TAIA found that the proposed kiss and ride drop off zone arrangement can operate with minimal impact to the local traffic, subject to:

- Compliance with the standards set out in AS2890.5:2020
- The provision of signage which will support the safe operation of the kiss and ride drop off zone.
- Implementation of the Travel Access Guide (TAG) which will outline to parents and users of the kiss and ride drop off zone instructions to ensure safe use and no impact to local traffic. The correct use of the proposed access arrangement which sees users drive in a block formation by traveling west on Ferodale Road, south on Fairlands Road, east on Lisadell Road, and then accessing the kiss and ride drop off zone from the south. This is proposed under the School Transport Plan.

Car Parking

46 standard and three accessible on-site carparking spaces will be provided for staff. All staff members will have access to an on-site parking space as well as staff with accessibility needs as per the PSDCP. This carpark will support staff parking only.

No on-site parking spaces are provided for students in alignment with the department's policy.

Street parking is available for visitors along Ferodale Road and Abundance Road. In addition, signage is proposed at the Abundance Road kiss and ride drop off zone which will allow street parking out of school peak times to help minimise the impact of the activity of on-street parking.

The TAIA stated that based on typical student modal splits in NSW, which have been informed by travel surveys undertaken by the department for Hunter River and Irrawang High Schools, it can be assumed that 23% of Years 11 and 12 students will drive to school, which will require up to 15 street parking spaces.

The TAIA assessed the impact of student and visitor carparking on the surrounding streets and found that the proposed parking arrangements will likely have a minimal impact on the local traffic and would not unreasonably strain the existing street parking demand.

Public Transport

It is noted that there are 23 existing school buses that currently serve Medowie Public School and two public buses (136 and 137) that serve the site.

The proposal includes a 49m long bus zone on Ferodale Road that can accommodate up to 1 bus at one time to service the school. The TAIA found that the proposed bus zone is sufficient to accommodate the mode share target of 70% of students that would access the school by bus. This has been calculated against the baseline scenario which was explored in the School Transport Plan (STP).

The proposal will increase the existing school bus service so that buses can cater to students from Medowie Public School and the new Medowie High School. The additional bus services will be coordinated by the department and the relevant bus service provider and is included as a mitigation measure.

Cycling and Walking

The baseline mode share includes 2% (13) of students and 7% (four) staff cycling to school. The proposal includes 57 on-site bicycle parking spaces to be shared between staff and students. It is noted that the PSDCP requires 69 spaces be provided for an educational establishment. The TAIA stated that the proposed bicycle parking is sufficient at the opening of the school, however, the STP recommended that an additional 12 spaces will be required to achieve the reach scenario, and to support the increase student and staff demand for bicycle parking spaces. A mitigation measure is included to ensure that appropriate action is taken where additional bicycle parking spaces are required.

The proposed mode share includes 5% (32) students walking to school. The TAIA acknowledged that with this increase in walking, it is important that the infrastructure supports safe access for these students, with upgrades proposed to accommodate demand from this increase. To ensure that appropriate pedestrian infrastructure is available for students to safely walk to school, the proposal includes a new 1.5m wide shared footpath on Abundance Road along the entirety of the site frontage. The shared footpath would connect students from the existing pedestrian refuge on Ferodale Road to the proposed main entry located off Abundance Road.

A new pedestrian wombat crossing is also proposed, directly adjacent to the main pedestrian entry of the school (on Abundance Road). A new shared footpath will be provided along the school site frontage on Abundance Road, supporting access between the school site and the existing pedestrian refuge on Ferodale Road. End of Trip (EoT) facilities will be provided on site to support staff active travel to and from the site. These will be provided within Block C and will include a total of four lockers and two showers to be equally split between male and female staff members.

The School Transport Plan (STP)

The STP explored three mode share scenarios, outlined below:

- The baseline scenario – This represents typical modal splits in NSW, the targets for the baseline scenario have been informed by travel surveys undertaken by the department for the existing Hunter River and Irrawang High Schools, which share similar demographics and travel behaviours, as no travel surveys were available for this new high school. It is anticipated that the baseline scenario would be achievable from day one.
- The medium scenario – This reflects a moderate increase in sustainable transport modes compared to the baseline scenario. This would require students and staff members to actively change the way they would typically travel to school.
- The reach scenario – This represents the aspirational mode splits for the New High School for Medowie, which would require a significant behavioural change how students and staff travel to school.

The activity ensures that the baseline scenario can be met, with mitigation measures and recommendations that will assist the school in being able to meet the reach scenarios, which is the best-case scenario for successful implementation of sustainable modes of transport.

The following measures which have been implemented into the school design ensure that targets can be reached:

- Walking and cycling infrastructure in the form of improved shared footpath connections, and bicycle parking spaces within the site.
- Operational behaviours and active monitoring of the public domain areas including the pedestrian crossing on Abundance Road, and pedestrian access points to ensure the safety of students.
- Improvements to the existing bus bay which will allow for up to 16 buses per hour to drop off and pick up students to and from school.

- Kiss and ride drop off zone that will allow for 6 cars to drop off and pick up students at one time, which meets the baseline scenario of 147 students being driven to school.

As noted above, EoT facilities will be provided on site to support staff active travel to and from the site.

The STP outlines a number of mitigation measures that will support the implementation of the STP and will overall encourage and support sustainable modes of transport to school, for both students and staff.

Construction

Heavy construction vehicles will require permits from the National Heavy Vehicle Regulator to access the site from Abundance and Ferodale Roads.

Temporary parking and access will occur during construction phases, the site will be accessed by a temporary driveway and parking on the site via Abundance Road. To lessen impacts to Ferodale Road which has higher traffic volumes, construction traffic should access the site from the south, along Abundance Road. This has been recommended as the optimum construction traffic route due to the lower traffic volumes on Abundance Road. Estimated light and heavy construction vehicle movements are summarised in Table 13. Construction peak hour traffic is far lower than operational peak hour traffic, therefore less impact resulting from traffic is expected during the construction phase.

Notwithstanding the above, to minimise the impact of construction activities on the local traffic environment, it is recommended that construction vehicle access to the site is timed so as to not interfere with the AM and PM peaks as well as pick-up and drop-off times at Medowie Public School. This will help minimise the safety implications of construction vehicle activities as well as reducing traffic congestion along the local streets.

Construction vehicles will be accommodated on-site and, therefore, will not impact local roadside parking.

Table 13: Estimated construction vehicle movements

Period	Light vehicles		Heavy vehicles		All vehicles	
	In	**Out**	**In**	**Out**	**In**	**Out**
AM inbound	60	-	2	-	62	-
Day construction hours	15	15	18	18	33	33
PM outbound	-	60	-	2	-	62
Daily	75	75	20	20	95	95

A mitigation measure has been included so that a construction traffic management plan will be prepared to inform the broader Construction Environmental Management Plan (CEMP), to minimise traffic construction related impacts on the surrounding locality while the school is being built.

Conclusion

The traffic, parking and accessibility impacts during construction and operation of the proposed activity have either been mitigated through the current design, are minor impacts or can be

adequately ameliorated through the recommended mitigation measures. While the activity will increase traffic and active transport activity around the site, the impacts (including those combined with the existing primary school) are deemed to be minor or manageable, with the off-site transport improvements providing benefits for the school, but also, the broader community.

6.1.3 Mitigation Measures

Table 14: Mitigation Measures for Traffic, Access and Parking

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
TR1	During operation	Bell times of the proposed school are to be staggered with the bell times of the nearby Medowie Public School by at least 20 minutes (currently occurring at 8:55am and 2:50pm) to minimise the peak traffic conditions during pick-up and drop-off times. Bell times are to be staggered in accordance with the School Transport Plan at **Appendix 27**.	To reduce cumulative traffic impacts between the proposed school and the existing primary school.
TR2	During operation	On-going monitoring of the traffic conditions (e.g. identifying any bottlenecks and monitoring of the kiss and ride drop off zone) is to be undertaken to support the continuing management of traffic conditions in accordance with Appendix D of the approved School Transport Plan.	To reduce cumulative traffic impacts between the proposed school and the existing primary school.
TR3	Prior to the school operating and during operation –	Prior to the operation of the school, a Travel Access Guide (TAG) is to be developed and provided to all parents/ guardians of the school. The TAG is to encourage parent pick-up and drop-offs at the kiss and ride drop off zone, to minimise the disruptions to on-street parking, and to encourage the provision of active and public transport to and from the school. The TAG is to be provided to all parents/ guardians of the school upon enrolment.	To encourage use of kiss and ride drop off zone and to use active and public transport to the school.
TR4	Prior to the school operating and during operation	Prior to the operation of the school, students and parents are to be notified of the proposed access routes to the site as recommended in the approved School Transport Plan. Any new students and parents (or guardians) are to be notified of these proposed access routes upon enrolment.	To ensure people accessing the school via roads use the preferred route(s).
TR5	During operation	The approved School Transport Plan (STP) is to be implemented and subject to an annual monitoring and review program for the duration of the operation of the school, that includes (but is not limited to) the following: a) A suitably qualified Travel Coordinator who shall implement the objectives and strategies for the STP (including but not limited to the implementation of the Behaviour Change Strategies within Appendix D of the School Transport	To encourage and facilitate use of public transport.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		Plan) within the first three years of operation b) The annual review/ audit by the Travel Coordinator that ensures that mode share targets are being achieved, and complaints are, where possible, resolved and the drop off and pick up management sub plan is being adhered to by guardians. The result of the annual review is to be provided to Council and TfNSW for information within 2 months of completing the annual review/ audit. c) Where the annual review/ audit required by (b) above, identifies that mode share targets are not being met and the pre-registration system of the drop off and pick up management plan is not being adhered to, the school is to implement further measures in consultation with Council and TfNSW to meet the targets prior to the next annual review/ audit cycle. d) Evidence of this consultation in the form of a report must include a description of the proposed measures and a schedule for implementing the measures. e) A review of the adequacy of the existing school bus services and public bus services to cater for school demand and consultation with TfNSW and other bus providers in the area to increase bus services if required to meet demand. f) Identifications of measures to be implemented where demand exceeds capacity of the bus services. g) The demand for bicycle services should also be considered in this annual review/ audit and provisions made for increasing bicycle parking on site delivered if demand is generated. The need to revise, extend or conclude the audit / review program may be required when: i) The school can demonstrate that mode share targets are being achieved on a consistent basis, or ii) Mode share targets are not being consistently achieved, or iii) Where mode share targets are not consistently being achieved, but suitable evidence is provided detailing how impacts from the departure of mode share targets have been implemented. The methodology and review of the mode share splits in the annual review /audit identified in this mitigation measure must be reviewed and confirmed by an independent suitably qualified	

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		traffic/ transport professional prior to the commencement of the operation of the school	
TR6	During operation	Prior to the operation of the school, the proposed shared footpath along the Abundance Road school frontage as well as the proposed raised pedestrian crossing (as outlined in the Civil Plans and Reports at **Appendix 8**) are to be constructed and operational, to support safe access for students walking and cycling to school.	To facilitate safe foot and bike access to school from Day 1 operations.
TR7	During operation	Prior to the operation of the school, a plan for the visibility and on-going maintenance of the active transport infrastructure is to be prepared and implemented on site.	To encourage and facilitate active transport.
TR8	During operation	Prior to the operation of the school, a school zone travel speed restriction is to be approved by the relevant roads authority and implemented along Ferodale Road and Abundance Road with any other traffic calming measures required (such as kerb build-outs and speed humps if needed). The surrounding community is to be notified of these changes prior to implementation.	To increase road safety.
TR9	Prior to and during construction	During the construction process, a traffic controller is to be present on the site to support construction vehicle access and egress entrance to the site.	To increase road safety.
TR10	Prior to and during construction	Prior to construction commencing, a detailed Construction Traffic Management Plan is to be prepared and approved by either the department or a suitably qualified traffic engineer. The Construction Traffic Management Plan is to identify and provide management strategies for the future construction activities at the site and ensure that the Construction Vehicle Traffic Route as outlined in the approved TAIA at **Appendix 26** is identified and followed by heavy vehicles. The Construction Traffic Management Plan is to be incorporated into the general Construction Environmental Management Plan for the site.	To increase road safety.
TR11	Prior to and during construction	Construction vehicle access to the site is to be timed so as to not interfere with the AM and PM peaks as well as pick-up and drop-off times at Medowie Public School (8:30-9:00am and 2:30-3:15pm).	Reduce the impacts of construction traffic to the locality.
TR12	Prior to construction	If required, a Section 138 Roads Act approval is required to be obtained from Port Stephens Council prior to the undertaking of any works within the road reserve.	To ensure all requisite approvals are obtained prior to undertaking works.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
TR13	Prior to construction	Prior to the issue of any Crown Construction Certificate, updated plans are to be prepared and provided which demonstrates the provision of 69 on-site bicycle parking spaces.	To ensure the bicycle parking provision reflects Council's requirement and supports implementation of the STP.
TR14	During operation	Prior to the operation of the school, an operational management plan is to be prepared which includes monitoring of the bus bay to ensure efficiency in operations.	To support the efficient working of the bus bay.

6.2 Noise and Vibration

6.2.1 Assessment Guidelines

Noise and vibration impacts have been assessed in accordance with the following guidelines:

- Port Stephens Council – Development Control Plan 2014.
- NSW Department of Education – Educational Facilities Standards and Guidelines v2.0, 0001c Design Checklist – Acoustics.
- NSW Department of Planning, Development Near Rail Corridors and Busy Roads – Interim Guideline (2008).
- NSW Department of Environment and Conservation, Assessing Vibration: A technical guideline
- (February 2006).
- NSW Environmental Protection Authority – Noise Policy for Industry (October 2017).
- NSW State Environmental Planning Policy (Infrastructure) 2007.
- NSW Road Noise Policy (March 2011).
- NSW EPA, Environmental Criteria for Road Traffic Noise (1999) Australian and International Standards.
- NSW Department of Environment and Climate Change (DECC) "Interim Construction Noise Guideline" (ICNG) 2009.
- NSW Department of Environment and Conservation (DEC) "Assessing Vibration: A Technical Guideline" (AVTG) 2006.
- NSW Protection of the Environmental Operations (POEO) Act 1997.
- NSW Noise Policy for Industry (NPI).
- AS 2107:2016 Acoustics—Recommended design sound levels and reverberation times for building interiors.
- AS 2021:2021 – Acoustics – Aircraft noise intrusion – building siting and construction.
- AS 2436:2010 – Guide to Noise and Vibration Control on Construction, Demolition & Maintenance Sites.
- AS 1055:1997 – Acoustics – Description and Measurement of Environment Noise.
- Association of Australasian Acoustical Consultants (AAAC) — Guideline for Educational Facilities, Version 2.0.
- Association of Australian Acoustical Consultants (AAAC) Guidelines for Child Care Centre Acoustic Assessment, V 3.0.

- Green Building Council of Australia – Buildings v1Assessment.

6.2.2 Assessment

A Noise and Vibration Impact Assessment (NVIA) has been prepared by Arup (**Appendix 28**). The NVIA was undertaken in accordance with assessment criteria established for each relevant component of the activity (including project specific noise trigger levels), as per the guidelines and standards in **Section 6.2.1** above. The NVIA considers impacts associated with the following noise and vibration sources:

Operational Noise Emissions

- Noise emissions from building services
- Noise emissions from school activities and operations
- Noise emissions from additional traffic generated by the activity

Noise Intrusions

- Road traffic noise intrusion
- Aircraft noise intrusion
- Natural ventilation implications on any design or mitigation measures

Construction Noise and Vibration

- Construction noise impacts
- Construction vibration impacts

The figure below demonstrates the surrounding noise receivers (including sensitive residential receivers) and noise monitoring/measurement locations. Unattended noise levels were measured between 10-18 September 2024, with supplementary attended monitoring undertaken on 10-19 September.

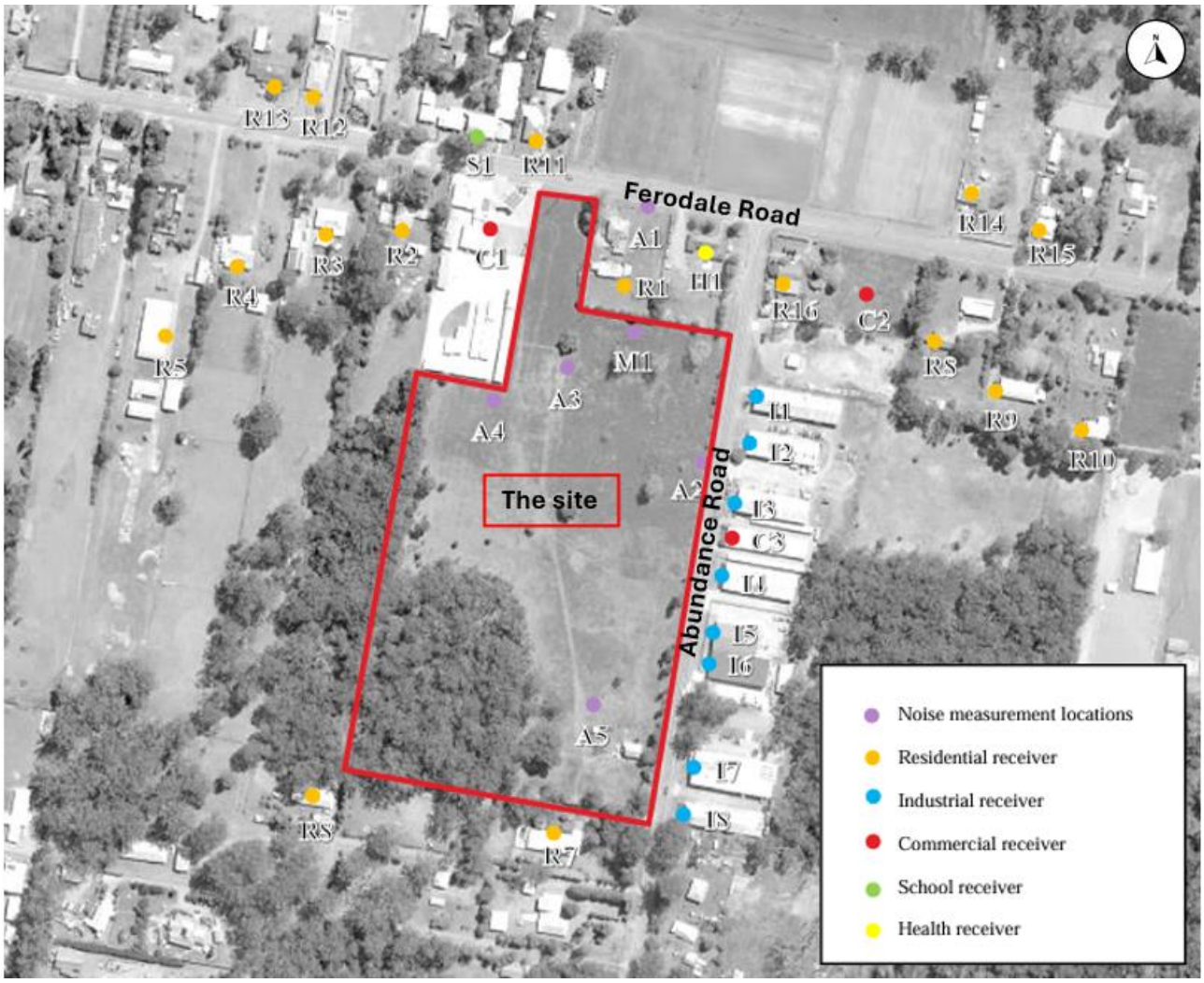


Figure 23: Site aerial demonstrating receiver and site measurement locations (Source: Arup)

Operational Noise Assessment

Building Services: The activity has a capability of compliance with target criteria based on preliminary condenser selections at all nearby noise sensitive receiver locations. Mechanical plant noise levels in outdoor areas throughout the school are predicted in the NVIA report to be below target noise criteria for both teaching and learning. Mechanical services assessed include condenser units, fan coil units, exhaust fans, and the electrical substation. Adverse impacts are not anticipated subject to relevant recommendations which have been provided where treatment is required to minimise and noise impact from mechanical services. These mitigation measures, as set out in **Section 6.2.3**, can be implemented in detailed design and compliance certified prior to operation of the school.

Operational Activities: Noise generation is expected from activities associated with school operations including the outdoor play areas, gymnasium, covered outdoor workshop area, carpark, school traffic, public address, and waste removal and servicing. Noise associated with operational activities have been minimised, where feasible, throughout the design development of the school, with careful placement of buildings, outdoor areas, and the implementation of buffer (including landscaping) zones. In some instances, the noise assessment has included a conservative “worst case scenario” basis (carpark operations, and the instance of using a circular saw in the covered outdoor workshop area). The operational noise levels are expected to meet target criteria in all locations, subject to implementation of mitigation measures outlined in **Section 6.2.3.**

With regard to school traffic, the predicted increase in noise during peak periods will not see an increase of more than two decibels (dB), which represents a minor (and generally imperceptible impact). Mitigation measures for operations generally relate to the following:

- Public Address system – restrict usage between 7:00am-6:00pm, use best practice design and limit volume levels.
- Waste collection, cleaning and deliveries – no noisy cleaning outside of 7am-10pm (unless the stated mitigations are implemented) and loading and waste collection is to take place between 7:00am-10:00pm.

Noise Intrusions

The primary source of noise intrusion for the site is existing and future projected road traffic on the immediately adjacent road network. Road traffic data noise model inputs from the traffic consultant and the TAIA (**Appendix 26)** were used to inform an assessment against the Calculation of Road Traffic (CoRTN) algorithm in SoundPLAN 9.0 to predict road traffic noise levels throughout the site. Other matters assessed included industrial noise from surrounding uses, and the outdoor area of the school. Measures that were considered in the design to reduce noise intrusion included glazing, natural ventilation, the façade wall, and treatments to the outdoor areas. Whilst the design allows for openable windows within the general learning spaces (GLS), internal noise criteria will not be met with the windows open.

To meet internal noise criteria for the assembly hall, an acoustic louvre is required to the 26m long and 1.5m high natural ventilation louvre which is located to the upper west and east façade of the gymnasium.

Any minor non compliances with performance criteria, can be adequately addressed through the implementation of mitigation measures. Any residual exceedances are minimal and considered acceptable on the basis of conservative assessment parameters representing the worst-case scenario.

Construction Noise and Vibration

Construction noise and vibration has been assessed against reference schools and using a professional assumption to construction equipment used. Equipment sound power levels were determined by relevant Australian Standards, with the equipment assumed to operate concurrently, however, equipment sound power levels have been adjusted according to its usage in a worst case 15-minute period, and penalty corrections for impulsive noise characteristics. Noise emissions have been modelled on the following assumptions:

- Equipment, staging and durations are based on typical scenarios for NSW school projects.
- Construction areas have been derived based on the latest architectural site plans.
- The location of equipment will be spread evenly across the site.

In general, construction works are temporary in nature therefore potential noise impact on the community and the surrounding environment will not be permanent or continuous. The surrounding uses are majorly non-residential in nature, with one dwelling house located directly adjacent to the proposed activity (being 28 Ferodale Road). However, the NVIA does assess a number of potentially affected noise sensitive receivers as identified in the previous figure. During the construction works, construction noises such as plant and equipment will move through the site which will change noise impacts in relation to the nearby sensitive receivers. In general, construction works are temporary in nature therefore potential noise impact on the community and the surrounding environment will not be permanent or continuous. Nevertheless, there are a number of construction noise mitigation measures that are included to assist in noise and vibration reduction of construction plant and equipment. This includes measures such as silencers, screening, and mufflers to lessen the impact to surrounding properties.

General recommendations have been provided to reduce the impact of construction noise and construction vibration, which will be further documented in a Construction Noise and Vibration Management Plan (CNVMP) (mitigation measure AC8).

Conclusion

The assessment of acoustic and vibration impact has been carried out in accordance with relevant environmental performance criteria. The mitigation measures proposed will effectively address any identified exceedances of screening criteria. Overall, the proposed activity is not expected to have a significant acoustic or vibration impact.

6.2.3 Mitigation Measures

Table 15: Mitigation Measures for Noise and Vibration

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
AC1	General	Equipment, plant and mechanical services are to meet the requirements and recommendations set out in the NVIA at **Appendix 28**. This is to be demonstrated in the relevant Crown Construction Certificate Application.	Achieve internal and external building services noise and vibration criteria.
AC2	During construction, prior to operation	Prior to the operation of the school commencing, acoustic louvres are to be installed within the Gymnasium and Covered Outdoor workshop areas where required by the NVIA Report at **Appendix 28** to achieve environmental noise emission criteria.	To minimise disruption to nearby residential receivers.
AC3	During operation	Usage of the Public Address system is to be restricted to daytime hours only (7am to 6pm). Directional speakers are to be used, and volume levels set to the minimum required to ensure clarity and audibility.	To minimise disruption to nearby residential receivers.
AC4	During operation	Where practicable, all loading dock activities, waste removal and noisy cleaning activities are to take place between 7:00am and 10:00pm, excluding peak drop off and pick up times for the school.	To minimise disruption to nearby residential receivers.
AC5	Prior to commencement of construction works	Façade glazing and lightweight elements and doors are to be designed to control noise break-in to sensitive areas. This is to be demonstrated on the Crown Construction Certificate drawings and verified in writing by a suitably qualified acoustic engineer.	To control noise intrusion into sensitive spaces throughout the school.
AC6	Prior to commencement of construction works	Prior to the issue of the relevant Crown Construction Certificate, the plans are to be amended to incorporate acoustic louvres over the natural ventilation openings in the upper east and west façade of the gymnasium in Block C where noise break-in is required to be controlled, in accordance with the NVIA Report at **Appendix 28**. These are to be installed on the building prior to the operation of the school commencing.	To control noise intrusion into sensitive spaces throughout the school.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
AC7	Prior to commencement of construction works	Prior to the issue of the Crown Construction Certificate, the plans are to be amended to show the installation of acoustically absorptive finishes to the underside of outdoor learning areas to control reverberation build up and mitigate noise intrusion. These are to be installed on site prior to the operation of the school commencing.	To control noise intrusion into sensitive spaces throughout the school.
AC8	Prior to commencement of construction works	Prior to the issue of the Crown Construction Certificate, a construction noise and vibration management plan (CNVP) is to be prepared and submitted to the Crown Certifier for approval. The CNVP is to provide specific details of proposed construction activities and be based on the preliminary measures outlined in the NVIA Report at **Appendix 28**. All measures outlined within the approved CNVP are to be incorporated on site during the construction works.	To effectively manage construction noise and vibration impacts to the surrounding community.

6.3 Contamination and Hazardous Materials

6.3.1 Assessment Guidelines

The legislative framework for the report is based on guidelines that have been issued and/or endorsed by the NSW EPA, formerly the Office of Environment and Heritage under the following Acts/Regulations and various supplementary guidelines

- Contaminated Land Management Act 1997.
- Environmental Planning and Assessment Act 1979.
- Protection of the Environment Operations Act 1997.
- State Environmental Planning Policy (SEPP) (Resilience and Hazards) 2021.
- Guidance for the Preparation of Standard Operating Procedures for Quality-Related Documents (EPA QA/G-6).
- Guidance on Data Quality Indicators, EPA QA/G-5I.
- Guidelines for the NSW Site Auditor Scheme (3rd Edition), NSW 2017.
- Guidelines on the Duty to Report Contamination (2015) under the Contaminated Land Management Act 1997.
- Guidance for the Data Quality Objectives Process (EPA QA/G-4)
- Guidance for Data Quality Assessment: Practical Methods for Data Analysis (EPA QA/G-9)
- National Environmental Protection Council [NEPC]. (2013). National Environmental Protection Measure 1999, 2013 Amendment (ASC NEPM, 2013).
- New South Wales Environmental Protection Authority (NSW EPA) Contaminated Land Guidelines: Sampling Design Part 1 - Application (NSW EPA 2022).
- NSW EPA Contaminated Land Guidelines: Sampling Design Part 2 - Interpretation (NSW EPA 2022).
- NSW EPA (2020). Consultants reporting on contaminated land - Contaminated Land Guidelines.
- WA Department of Health (DoH, 2009) Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Site.

- Relevant Australian Standards.
- Port Stephens Local Environmental Plan 2013.

6.3.2 Assessment

Contamination

As noted earlier in this REF, the site has been subject to contamination investigations, including a DSI (**Appendix 11**). Site contamination investigations were undertaken due to the historic agricultural activities on the site and the surrounds, as well as the adjacency of the site to a contaminating land use (the petrol station to the northwest). The DSI was prepared based on an intrusive investigation of soil and groundwater. Mechanical and manual boreholes were established on-site, followed by data evaluation and provision of the DSI report with the findings and recommendations from the 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 concludes:

- No significant sources of soil contamination were identified and asbestos or any presumed asbestos containing materials were not detected in any samples during the investigation.
- All analytical results for soil samples were below the site assessment criteria (SAC) considering the most conservative scenario for residential and use with assessable soils.
- There were some minor exceedances of zinc in three groundwater samples, with all other analytes either at or below the adopted SAC. However, the zinc exceedances are associated with the geological rock type named ‘Permian aged Tomago Coal Measures’, underlying the site, which are interpreted as background levels. The zinc levels are not likely to be associated with contamination of the groundwater.
- The groundwater sampling did not identify contamination associated with the adjacent petrol station and therefore potential risk linkages are considered incomplete.
- While the site is suitable for the proposed use, mitigation measures, as set out in **Section 6.3.3** are recommended to minimise any potential impact associated with soil or groundwater contamination in the unlikely event of an unexpected find.

Hazardous Building Materials

As the activity involves demolition of existing structures including a dwelling and sheds, a Hazardous Materials Survey Report (Hazmat Survey) has been prepared to support this REF (**Appendix 14**).

The objectives of the Hazmat Survey were to determine the presence and/or absence of hazardous materials and to ensure appropriate mitigation measures are implemented should hazardous materials need to be removed from the site.

The Hazmat Survey consisted of samples collected from the site, which were submitted to an accredited laboratory for analytical testing.

The results of the assessment indicate that there is a low to medium risk associated with hazardous materials given asbestos containing materials (chrysotile and amosite asbestos) and

synthetic mineral fibres were detected in the residential building on the site. The samples also indicate there are likely to be lead containing paints within the dwelling (although, a concentration of lead less than 0.1% by weight). No lead containing dust was found to be present and no fittings containing polychlorinated biphenyls (PCBs) were identified. The exterior shed adjacent to the residential building was presumed to contain ozone depleting substances (in the de-commissioned air conditioning unit) which is identified with a low-risk score, do not require a site specific management plan and can be handled in accordance with the Australia and New Zealand Refrigerant Handling Code of Practice 2007 Part 1 – Self-Contained Low Charge System and the Australia New Zealand Refrigerant Handling Code of Practice 2007 Part 2 – Systems Other than Self-Contained Low Charge System.

Conclusion

Subject to implementation of the measures identified in **Section 6.3.3** below, the site is considered to be suitable for the proposed use, noting any potential unexpected contamination or hazardous material find during site works can be managed through the identified measures.

6.3.3 Mitigation Measures

Table 16: Mitigation Measures for Contamination and Hazardous Materials

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
CON1	Prior to and during construction	A Construction Environmental Management Plan (CEMP) is to be prepared and implemented during demolition and construction of the activity. The CEMP must be prepared prior to the commencement of works on the site. The CEMP is to consider community consultation in accordance with SI6.	To manage the impact of construction during site works.
CON2	Prior to and during construction	Prior to the issue of a Crown Construction Certificate, a soil and water management plan (as part of the CEMP) is to be prepared and implemented during construction, to prevent erosion and generation of sediment.	To manage the impact of erosion and sediment control during site works.
CON3	Prior to and during construction	Prior to the issue of a Crown Construction Certificate, an unexpected finds protocol is to be prepared and submitted to the Crown Certifier prior to any site works and is to be implemented during the demolition and construction phase of the activity. The approved Unexpected Finds Protocol is to form part of and be implemented as part of the Construction Environmental Management Plan (CEMP) on site.	To manage the impact of any potential unexpected find during site works.
CON4	During construction	All soil to be removed from the site as “waste” is to be classified in accordance with NSW EPA (2014) prior to leaving the site and disposed of at an appropriately licensed waste management facility.	To ensure waste removed from the site is appropriately classified prior to off-site transportation and disposal.
HAZ1	During demolition (asbestos)	All external walls (represented by positive sample ASB02) and gable ends are to be	To appropriately manage the

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		removed (positive sample ASB01) prior to demolition. If the amount of non-friable asbestos containing material is greater than 10 square meters, removal must be performed by a Class A or Class B licensed asbestos removal contractor who must notify SafeWork Australia. Air monitoring is to be implemented on site during and after the removal. Asbestos waste must be disposed as hazardous special asbestos waste to an authorized asbestos waste facility. Clearance is required following the removal of greater than 10 square meters of non-friable asbestos containing material in accordance with the Safe Work NSW 'How to safely remove asbestos' Code of Practice. All removal of hazardous materials, including asbestos, is to be undertaken in accordance with the relevant standards and guidelines outlined in the Hazmat Survey at **Appendix 14**.	removal of asbestos containing materials from the site in accordance with the relevant guidelines.
HAZ2	During demolition (synthetic mineral fibres (SMF))	Prior to the demolition of any buildings on site, any ceiling cavity insulation batts (sampled as ASB05) are to be removed to minimise the generation of fibres and dust during refurbishment or demolition works. This is to be undertaken by a hazardous materials removal contractor and in accordance with the NSW SafeWork information guide on the safe management of synthetic mineral fibres (SMF) – glass wool and Rockwool.	To manage the risk of SMF exposure to the site and site occupants during demolition, in accordance with relevant requirements.
HAZ3	During demolition (ODS)	Ozone Depleting Substances (ODS) are to be removed and disposed of in accordance with the Australia and New Zealand Refrigerant Handling Code of Practice 2007 Part 1 – Self-Contained Low Charge System and the Australia New Zealand Refrigerant Handling Code of Practice 2007 Part 2 – Systems Other than Self-Contained Low Charge System	To manage the risk of impact of ODS when the decommissioned air conditioning unit in the dwelling is removed as part of the demolition works.

6.4 Hazards (Blast Assessment)

6.4.1 Assessment Guidelines

The consequence analysis of potential LPG and gasoline release at the petrol station, as relevant to the impact on the school has been prepared based on:

- Guidelines for Division 5.1 assessments by the Department of Planning, Housing and Infrastructure (formerly the Department of Planning and Environment), June 2022).

6.4.2 Assessment

Given the site's adjacency to a petrol station, a consequence analysis of the impact on the proposed school from potential LPG and gasoline releases during a bulk tanker unloading at the petrol station has been undertaken in support of this REF (**Appendix 13**). While this is not a potential impact from the activity on the surrounding environment, it is an important consideration on the suitability of the site for the proposed school in terms of safety during operations.

LPG storage at the site consists of two small tank cylinders each 420L (210 kg) capacity and two cages of "swap and go" cylinders, each with a capacity of approximately 40 cylinders per cage with a maximum capacity of 4.5 kg of LPG in each cage.

Liquid fuels stored for dispensing at the petrol station are gasoline and diesel, which are stored underground and are confirmed in the Blast Assessment to not pose any risk to the school. Despite this, the Blast Assessment states that if there are gasoline spills at the site during tanker deliveries, and ignition occurs, "a pool fire would result with thermal radiation affecting the school site. Unloading is by gravity and a potential release source is a rupture of transfer hose". There is also a risk of LPG release (for the reasons outlined in Section 3.3.1 of the Blast Assessment) (**Appendix 13**), LPG fires (as set out in Section 3.3.2 of the same report), boiling liquid expanding vapour explosion (BLEVE) (as per Section 3.3.3) and vapour cloud explosion (Section 3.3.4).

The outcomes of the Blast Assessment of the abovementioned risks/scenarios are summarised below:

- LPG flash fire – the modelled distances from such an event do not reach the school boundary and therefore, have no impact on the proposed school site (in the modelled scenario).
- LPG tank cylinder rupture – the distance/impact from rupture would only reach the north-western most corner of the frontage to Ferodale Road (the school entry driveway) but would not reach any buildings or open areas or play space.
- BLEVE – none of the modelled scenarios would impact any occupied areas. In the worst-case scenario, only a small part of the carpark would be affected in the north-western most corner of the site/Ferodale Road frontage, with no impact on any occupied areas of the school.
- Vapour cloud explosion – none of the modelled scenarios would reach any of the school buildings. A *"catastrophic failure of a 210kg tank cylinder would have no blast impact on the school site"*.

The Blast Assessment concludes as follows:

> *1. The operation of the petrol station will have no significant impact and suitability of the site for the proposed school.*
>
> *2. A rupture of a Swap 'n' Go cylinder and fire/ explosion would have localised effects within the petrol station and not impact on proposed school buildings or open areas/ play spaces.*
>
> *3. A tank cylinder rupture and fire/ explosion seven kilopascals (kPa) overpressure would affect the proposed school access driveway on Ferodale Road and proposed school car park, but will not affect any of the school buildings, open areas/ play spaces.*
>
> *4. In the event of a fire at the petrol station, people present in the school car park would need to be evacuated.*

Mitigation measures, as identified in the Blast Assessment and set out below, would mitigate the risk associated with the potential for an emergency event (such as fire or potential blast) to impact the school and its occupants.

6.4.3 Mitigation Measures

Table 17: Mitigation Measures for Blast Assessment

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
HAZB1	Prior to operation	Prior to the operation of the school, the department and the principal of the new high school in Medowie is to liaise with the adjacent petrol station operator to ensure the school is informed in the event of an emergency at the petrol station, so that evacuation of people present in the school car park can be initiated if necessary. This procedure is to be incorporated as part of a school site emergency plan.	To minimise risk from LPG release at the petrol station on the school site (carpark).
HAZB2	Prior to operation	Prior to the operation of the school, a School Emergency Management Plan is to be developed by the school, to address general school emergencies including (but not limited to) mitigation measure HAZB1 above. The School Emergency Management Plan can also capture the requirements set out in mitigation measures FL1, FL3, FL6 and BF6 with respect to bushfire risk and flooding.	To minimise risk from LPG release at the petrol station on the school site (carpark).

6.5 Flooding

6.5.1 Assessment Guidelines

The assessment of the site and activity with respect to flooding has been prepared based on the following, as well as consultation with the SES, a response to which is provided in **Section 5.1**.

- Medowie Drainage and Flood Study (May 2012).
- Medowie Floodplain Risk Management Study and Plan (April 2016).
- *TUFLOW model from Port Stephens Council (2016).
- DPHI Planning Circular PS24-001.
- Port Stephens Development Control Plan 2014.

*Whilst the TUFLOW model provided by Council is suitable for the regional flood analysis, a site-specific model for the subject site using modern methods and software is considered to be more appropriate for this project and has therefore informed the assessment in the FIRA and FERP.

6.5.2 Assessment

The flood risk assessment has been carried out with regard to the following flood categories, which are triggered when a flood reaches a certain size and depth, as outlined in the figure below:

- H1 – no restrictions
- H2 – unsafe for small vehicles
- H3 – unsafe for vehicles, children, and the elderly
- H4 – unsafe for people and vehicles
- H5 – unsafe for people or vehicles. Buildings require special engineering design and construction
- H6 – not suitable for people, vehicles, or buildings

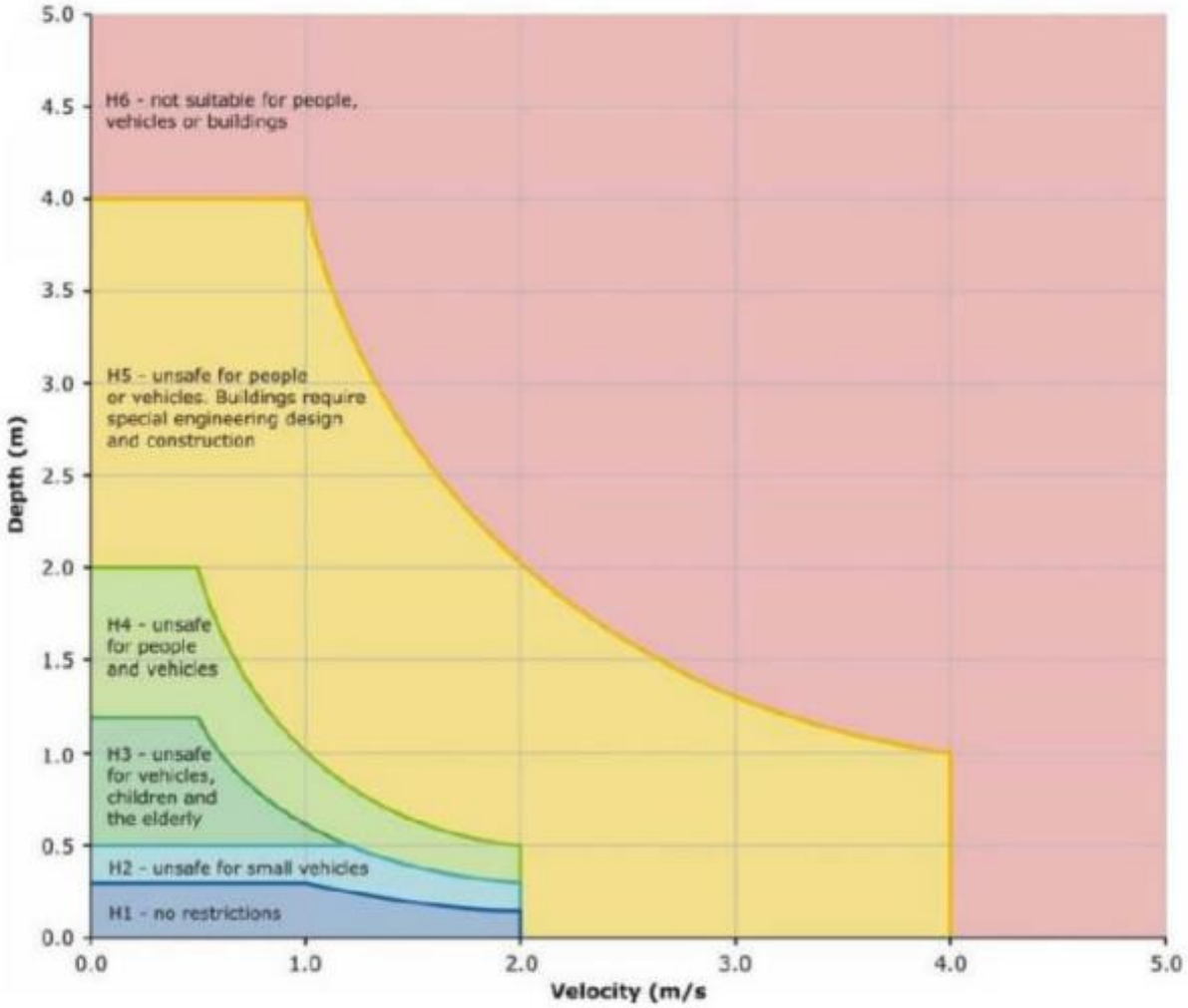


Figure 24: Flood hazard categories (Source: Enstruct)

Flood Impact and Risk Assessment

Flood Modelling

As outlined in **Section 6.5.1**, a FIRA has been prepared, including a site-specific flood model based on the TUFLOW model provided by Council, more recent LIDAR survey data for the catchment and field survey data for the site. The localised model developed for the site covers an area of 84 ha and includes the site, upstream to the north-west of the site to Mahogany Place and down to Campvale Drain to the east, the location of which is shown in the below figure.

Figure 25: Catchment Map (Source: Enstruct)

A hydrologic model was developed using DRAINS software using Council's recommended parameters. Various other inputs were incorporated including data on probable maximum precipitation and Digital Terrain Models (DTM) surface levels and terrain data.

Flood Model Results

A range of storms and temporal patterns were run through the model in order to establish the critical duration storm. At the site, the critical duration 1% Annual Exceedance Probability (AEP) storm is a 20-minute duration storm.

Model outputs include for the 1% AEP, the 5% AEP event, the 1 in 500-year event and the PMF event. Flood depths less than 100mm have been excluded from the model plot outputs as this provides a better representation of flood extent and risk for the site. A summary of pre-development and post-development flood condition results is provided below:

- 1% AEP – minor flooding (100-250mm) occurs along the eastern boundary to Abundance Road in the existing scenario. In the post-development scenario, there is generally less flood extent along the eastern boundary as the new pipe networks capture surface water. A small amount of localised ponding of between 100-250mm will occur on the site. The flood impact identified in Figure 7 of the FIRA identifies localised increase in flood levels between 50-200mm+ higher than the existing scenario. In the 1% AEP flood model the site is subject to a H1 hazard level. With the climate change factor applied to the 1% AEP scenario, there will be further increased flood extent across the site and broader precinct. This, however, is minimal, with a small portion of the site being subject to a H2 hazard level.
- Probable maximum flood (PMF) – the majority of the site is affected, in extreme rainfall events, in both the pre and post development scenario. In the internal courtyard between the buildings, there is a 500mm-1m increase in flood depth compared to existing conditions. In terms of flood hazard, Ferodale Road is unsafe for people and vehicles due to velocity of the flood (despite the depth being less than 500mm), at a hazard category of between H1 and H5. The central courtyard is also characterised with a higher hazard category of H3 during a PMF event. The H3 category is unsafe for vehicles, children, and the elderly, during an extreme flood event there should be no reason for people to enter this zone therefore this is not considered a significant issue.
- 5% AEP and 1 in 500-year post-development model – the site is subject to flooding in portions, with the extent greater in the 1 in 500-year event. Flood depths are between 100-500mm. During the 1 in 500-year flood event, the flood hazard on the site is H1 and small portions of H2. The extent of H2 hazard increases in this flood event, but Ferodale Road west of the site remains trafficable for emergency vehicles.

Flood Requirements and Project Response

The PSDCP requires the flood planning level for a school to be set at or above the PMF. The flood planning level (FPL) for each of the buildings is as follows:

- Block A – Finished Floor Level - RL 14.70 AHD
- Block B – Finished Floor Level - RL 15.20 AHD
- Block C - Finished Floor Level - RL 15.40 AHD

The FIRA confirms that all buildings are above the PMF, and there is no requirement for freeboard above this extreme flood event.

The site is resilient to increased rainfall intensity due to climate change given the flood planning level for the site is based on the PMF level which exceeds the levels shown in the climate change analysis (refer Figure 14 of the FIRA).

Site Access and Egress

Modelling of the surrounding road network has been undertaken in the FIRA to determine whether there is a safe evacuation route in each relevant flood event. A summary of the FIRA findings is below:

- 1% AEP - Ferodale Road will be flood affected at Campvale Drain (Brad’s Bridge), cutting off this access route. Alternative access and egress are available to the west via Ferodale Road, Fairlands Road, and on to Grahamstown Road, ultimately linking to the Pacific Highway at Raymond Terrace to the west. Refer to the figure below.

Figure 26: PMF flood extents and potential access/egress route (Source: Enstruct)

- Notably, this access route is flood affected and considered unsafe for small vehicles during the 1 in 500 AEP flood event (or larger), and unsafe for all vehicles during the peak of a PMF event. While the site should be if extreme weather is forecast, any persons at the site during a flood event should shelter-in-place until flood waters recede. Further information regarding emergency response is available in the separate FERP.

- PMF – the “alternative” access identified above is flood affected during the peak of a PMF event. Shelter-in-place will be required within the school buildings until PMF flood waters recede. The FIRA confirms:

As noted, shelter-in-place will be required for the PMF event. The critical storm duration of this event is 30 minutes. This gives little to no time to evacuate but the short duration limits the required isolation period whereby occupants of the site need to shelter-in-place. While it is acknowledged there is “no safe period of isolation” (FIRA, page 18), the FIRA notes that:

- The preferred management response for the school is for it to be closed prior to the commencement of the school day if extreme weather (i.e., a potential PMF event) is predicted. Again, the FERP outlines the process for communication to ensure this is prioritised as the first and preferred course of action. In the instance that the site is however occupied, if it has not been closed prior to commencement of the school day, staff and students are to remain on site during the flood event.
- As a last resort and if there is a need for occupants to shelter due to flooding, they can do so on-site safely and for a limited period of time. Details on preparation for such an event are included in a FERP for the site/school. Any person on site should shelter-in-place until flood waters recede, as a last possible option. Shelter-in-place can occur in any building above the PMF level. The FIRA confirms (Table 1 of the FIRA) that Block A, B, and C all sit above the PMF level (metre Australian Height Datum (mAHD)). To support shelter-in-place and prevent any potential disruption to essential services for those remaining on site during a flood event, the following design considerations have been made:
  - During a flood event, the stormwater system can accommodate any overflow of the local sewerage system, to prevent back up into surrounding properties.
  - Water supply can continue to operate during a flood event.
  - A backup generator can supply electricity in the event the local distribution network is not operating due to flooding. The substation and backup generators will both be located above the PMF.

Flood Emergency Response

As noted, due to the flood affectation of the site and surrounds, a FERP has been prepared for the school (**Appendix 10**).

The FERP aims to appropriately recommend procedures and actions for on-site personnel to maximise their safety and reduce the risk of death and injury due to flooding and flood water. The FERP also aims to raise awareness of the risk of flooding by outlining flood warnings, safe evacuation routes, designated safe assembly areas, and evacuation management plans.

The FERP sets out that in the 1% AEP, site evacuation is to the west only, with safe H1 routes to exit the site, given that the depth and/or velocity permits to do so.

When extreme weather events are forecast, the school is to be closed. The management strategy can be summarised as:

- *“Close the site where there is sufficient flood warning or where there is extreme weather conditions forecast by the Bureau of Meteorology (BOM)*
- *Evacuate the site where there is sufficient warning and the site is occupied*
- *Failing the above measure, shelter in place until the storm subsides, with all the buildings located above the PMF level.*
- *Based on the FIRA, it is noted that a portions of the site is subject to flooding during a PMF. Finished floor levels have all been located above the predicted PMF levels. As a result, the saftest option for site occupants if the site has not already been closed and/or evacuated, is to shelter in place for a short period of time until flood waters recede.*

- *Consequently, this flood emergency management plan is recommended to be prepared, reviewed, updated and implemented in perpetuity to provide adequate access to emergency services and procedures where extreme weather is forecast, and in the event of flood events".*

The FERP includes information on the different storm and flood warnings and provides detail on how to prepare for a flood event. A summary is below:

- An Emergency Planning Committee is to be established for the school. The Committee is to prepare a site-specific Emergency Management Plan, based on the FERP. The Plan will need to be implemented through induction training, nomination of flood wardens and a Chief Warden, education of flood risks and behaviour and preparation (and maintenance) of a Flood safe Emergency kit.
- Evacuation drills – to be undertaken annually to familiarise all personnel of the procedures when responding to a flood event (and details in the site-specific Emergency Management Plan and kit).

A summary of flood response actions is below:

- Close the school site – after flood advice has been issued, prepare to close the school and advise the school community to stay home. Refer Section 8.1 of the FERP.
- During school hours and after school hours – once a flood watch and act has been issued, evacuate the site by the protocol outlined in Section 8.2 of the FERP.
- Shelter in place – if an emergency warning has been issued, it may no longer be safe to evacuate. The protocol in Section 8.3 of the FERP is to be followed, requiring safe refuge in the school buildings for the duration of the PMF event.

The FERP is to be updated annually in consultation with Council and the SES.

Conclusion

The FIRA for the site and activity identifies the site is affected by flooding in all relevant scenarios/events. The model developed for the site indicates the activity will have localised impacts on flooding with respect to flood depths and levels in the 1% AEP event. These impacts are minor and on balance, there are some improvements/reductions in flooding to the Abundance Road boundary. In the 1% AEP, there is a safe means of access and egress from the site to enable evacuation by students and staff.

Site access and egress is limited during a 1 in 500 event, with closure for a short period of time during a PMF event.

Due to the extent of flooding in the PMF, to the site and surrounds (including site access/egress), the preferred emergency management response, as outlined in the FERP, is for the school to close for a short period of time. If closure is not possible, occupants have the capability to shelter in place given the buildings sit at the PMF level, as required by the PSDCP. All details regarding the various flood scenarios and emergency response protocols are set out in the FERP at **Appendix 10**.

6.5.3 Mitigation Measures

Table 18: Mitigation Measures for Hydrology, Flooding and Water Quality

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
FL1	Prior to operation	Prior to the operation of the school, an Emergency Planning Committee is to be established for the school. The Committee is to prepare a site-specific School Emergency	To ensure site occupant

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		Management Plan, which is to include the required details set out in the Flood Emergency Response Plan (FERP) and updated on an annual basis (alongside the FERP update, see FL2 below). The School Emergency Management Plan may also capture other risk/emergency management related requirements such as those outlined in HAZB1 and BF6.	
FL2	Prior to and during operation	Prior to the operation of the school, the FERP is to be updated to ensure it is consistent with the construction drawings and to confirm estimated flood depths, onset time and time of flood inundation time over the surrounding roads for evacuation. The FERP must be updated annually in consultation with Council and the SES to incorporate updated data and information as relevant.	To mitigate risk to students and staff during a severe flooding and ensure the FERP is up to date to ensure risk is appropriately managed.
FL3	Operation	Once the School Emergency Management Plan has been approved, staff are to be delegated responsibility in the event of an emergency. This is to ensure all staff are aware of their specific roles and associated flood response actions.	To ensure all responsibilities are delegated in case of emergency.
FL4	Operation	As part of the ongoing operation of the school, and as part of the preparation for a flood event, all staff and students will be made aware and advised of the flood risks present on site and the flood protocols and procedures.	To improve knowledge and safety on flooding, flood protocols and procedures.
FL5	Operation	As part of the ongoing operation of the school, a flood drill is to be held by staff annually to ensure all staff workers and students are familiar with the procedures to follow in the event of the alert sounding and their subsequent flood response actions.	To maintain awareness on correct flood protocols and procedures.
FL6	Prior to operation	Prior to the operation of the school, a flood emergency kit should be prepared and regularly checked to ensure that supplies within the kit are sufficient and in working condition. The flood emergency kit is to be reviewed and restocked after any flood event on the school site. The flood emergency kit is to be included as part of the School Emergency Management Plan referred to in FL1.	To prepare for a flood emergency.
FL7	Operation	As part of the ongoing operation of the school, staff and parents are to be notified (i.e. via SMS or equivalent communication tool at the earliest opportunity upon BOM issuing severe weather warning for the area) as soon as practically possible once the decision has been made to close the school.	To communicate to all relevant stakeholders prior to severe weather.
FL8	Operation	Staff, students and visitors present at the school	To enhance

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		during a flood event are to be notified and guided to the appropriate building areas within the school to shelter-in-place. A nominated Site manager/Chief Warden is to ensure that no one is present outdoors during a flood event.	safety during a flood event.

6.6 Bushfire

6.6.1 Assessment Guidelines

The assessment of bushfire risk for the site and proposed activity has considered:

- Geographic information system (GIS) analysis including online spatial resources (i.e. Google Earth, SIX Maps, Nearmap and the NSW Government Planning Portal).
- A site inspection by Ecological Australia (ELA) undertaken 18 July 2024.
- Rural Fires Act 1997.
- Planning for Bush Fire Protection 2019 (PBP) and Appendix B of Addendum to Planning for Bush Fire Protection (PBP) 2022.

6.6.2 Assessment

As noted earlier, the site is mapped as bushfire prone land. The full extent of the site is mapped as Vegetation Category 3. Land to the immediate north, west and east are similarly mapped. Land to the south and further east is mapped as Vegetation Category 1. The proposed use, being an educational establishment, is defined as a special fire protection purpose (SFPP) pursuant to the Rural Fires Act 1997. To assess the suitability of the activity on the site, and ongoing bushfire protection measures to minimise the risk of bushfire impact to the school, a Bushfire Protection Assessment Report has been prepared to undertake an assessment of the proposal in accordance with PBP.

Information consultation with the Rural Fire Service (RFS) North Coast office was undertaken in late 2024 to discuss the proposed measures and any performance solutions. The bushfire consultant that prepared the Bushfire Report stated that RFS informally agreed in principle to the proposed measures outlined by the bushfire consultant, subject to reviewing in full detail.

In the first instance, the bushfire consultant undertook a bushfire hazard analysis of the site, which identified the following vegetation and slope outcomes, and required asset protection zones (APZs).

Refer to the figure overleaf.

Transect # (Fig. 4)	Slope	Vegetation	SFPP APZ	Comment
1 (North)	>0°-5° downslope	Grassland	40 m	APZ accommodated within existing public road infrastructure (Ferodale Road) and the development site.
2 (East)	>0°-5° downslope	Grassland	40 m	APZ provided by existing Industrial development.
3 (East)	>0°-5° downslope	Forest	79 m	APZ provided by existing Industrial development and public road infrastructure (Abundance Road).
4 (South)	All upslopes and flat land	Forest	67 m	APZ accommodated within development site.
5 (West)	All upslopes and flat land	Forest	67 m	As above.
All other directions	Managed land for greater than 140 m			

Figure 27: Bushfire hazard assessment and APZ requirements (Source: ELA)

Figure 28: Bushfire hazard assessment, site outlined in red (Source: ELA)

As can be seen in the preceding figure, all proposed buildings (outlined in light blue) are located outside of the relevant APZ (identified in orange shading). A summary of other key considerations related to PBP and APZs, landscaping, construction standards, access, water supplies, electricity services, gas services and emergency and evacuation planning can be found below.

Table 19: Compliance with PBP

Matter	Compliance with PBP?	Comment
APZ requirement	Complies	As above, the buildings are provided with an APZ per PBP and located on lands with a slope of less than 18 degrees.
APZ maintenance	Capable of complying	APZ to be managed in accordance with PBP – refer to the mitigation measures in this section of the REF.
APZ maintenance	Satisfies performance criteria	PBP requires the APZ to be provided wholly within the site boundary. The APZ is located within the activity area, public road infrastructure and existing managed/developed lands as detailed by ELA in Table 4 and Figure 4 of the report.
APZ provision in perpetuity	N/A	No refuge buildings are proposed.
Landscape design and management (including fencing)	Capable of complying	Landscaping (including fencing) has been designed and managed in accordance with Appendix 4 of PBP. Refer to the Landscape Plans (**Appendix 7**) and Section 3.17, 5.13, 5.15, and 5.3.3 of the Architectural and Landscape Design Report (**Appendix 5**) for confirmation of compliance. Landscape has been designed to allow for vehicle movement through the site (for potential emergency access).
Construction standards	Capable of complying	The buildings have been designed to comply with a construction level of BAL-19 or greater under AS 3959 and Section 7.5 of PBP. Refer Architectural Drawings (**Appendix 6**) and the Architectural and Landscape Design Report (**Appendix 5**) for confirmation of compliance. All fences are of a metal/Colourbond finish and therefore, non-combustible.
Access	Satisfies performance criteria	There is limited developable area within the site to accommodate a road design meeting all the acceptable solutions from Table 3 from Appendix B of Addendum to PBP within its boundary due to the sensitive vegetation on site and required APZ. The proposal has been designed to utilise APZ areas for sporting fields and paved courts, maximising the remaining developable area of the site for school buildings. Extensive paved areas to and around the buildings, connecting to the carpark and public domain are provided incompliance with PBP. The carpark has been designed to allow for a load bearing 15t capacity for firefighting vehicles. A performance solution is proposed for firefighting vehicle access, as set out in detail in Section 5.4.1 of the Bushfire Protection Assessment. The performance solution confirms: • Firefighting vehicles are provided with safe, all-weather access to structures. Buildings A, B and

Matter	Compliance with PBP?	Comment
		C are easily accessible from Abundance Road. • Buildings B and C are also accessible from the internal carpark, which as above, has an adequate load bearing capacity for emergency vehicles. • There is safe access/egress for firefighting and emergency personnel throughout the site. • Fire services (internal and external) will be designed to comply with the relevant Australian standards. The hydrant booster is located on Abundance Drive near the main site entry with the bus bay used as hardstand when firefighting vehicles connect to the fire hydrant booster assembly. • A perimeter mineral earth track is proposed along the internal bushfire hazard to the south-west, connecting with Abundance Road. For these reasons, internal vehicular access through the site for emergency vehicles (firefighting) is not considered necessary.
Water supply	Complies	The activity will be serviced by a reticulated water supply and all fire hydrants will be designed and installed in accordance with AS2419:2021.
Electricity services	Complies	New electricity services to the site are located underground.
Gas services	Capable of complying (if installed)	Despite the capability of compliance, piped gas will not be used at the high school. There will be limited provision of bottled gas for science laboratory and 50% of Vocational Education and Training (VET) cooking stovetops.
Emergency and evacuation planning	Capable of complying	A bushfire emergency and evacuation management plan will be prepared prior to occupation in accordance with Section 6.8.4 of PBP. Further, an Emergency Planning Committee will be established with the school community. The committee will be responsible with developing and implementing an Emergency Procedures Manual. Detailed plans of all emergency assembly areas including ‘on-site’ and ‘off-site’ arrangements as stated in AS 3745:2010 are clearly displayed, and an annual (as a minimum) trial emergency evacuation is conducted.

Conclusion

Regarding the above, bushfire risk on the site and to the future occupants of the school have been, and are capable of being, managed through various measures. The current design accommodates bushfire protection measures, where appropriate at this stage of the design process. Detailed design will ensure ongoing compliance with requirements for access, APZs, landscaping and utilities provision. Construction will be undertaken in accordance with the construction specifications in BPB and AS 3959-2018 and operational emergency management will be implemented through a Bushfire Emergency Management and Evacuation Plan (and committee) prior to occupation. Mitigation measures to ensure minimisation of bushfire risk can be found in the section below.

6.6.3 Mitigation Measures

Table 20: Mitigation Measures for Bushfire

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
BF1	All stages	The identified Asset Protection Zone (APZ) is to be established on site and maintained in perpetuity to the specifications detailed in Appendix A of the approved Bushfire Protection Assessment (**Appendix 35**).	To ensure the required APZ is established and maintained to minimise bushfire risk to the school.
BF2	All stages	Landscaping is to continue to be designed (in detailed design) and managed in accordance with Appendix 4 of PBP (Appendix A of the Bushfire Protection Assessment) and allow for vehicular movement through the site (i.e. so as to not obstruct potential emergency access routes) throughout the duration of the activity.	To minimise bushfire risk to the school.
BF3	Prior to and during construction	Prior to the issue of the Crown Construction Certificate, the construction plans are to demonstrate that the proposed activity will be constructed to BAL19 based on the construction specifications detailed in AS 3959-2018, including additional ember provisions detailed in section 7.5 of PBP as required. If necessary, written confirmation by a suitably qualified bushfire professional is to accompany the Crown Construction Certificate.	To minimise bushfire risk to the school.
BF4	Prior to construction	Prior to the issue of the Crown Construction Certificate, written confirmation that the reticulated water supply is to meet PBP acceptable solution specifications for a SFPP Class 9 development is to be provided by a suitably qualified professional.	To ensure the school is provided with adequate water supply in the event of a bushfire attack.
BF5	Prior to operation	Prior to the operation of the school commencing, gas services (if installed) are to be installed and maintained in accordance with AS/NZS 1596:2014 (SA 2014).	To minimise hazards / risk to the school in the event of a bushfire attack.
BF6	Prior to operation	Prior to the operation of the school commencing, a Bushfire Emergency Management and Evacuation Plan to be completed as part of the broader School Emergency Management Plan required by FL1, FL3, FL6, and HAZB1.	To manage bushfire risk for the proposed school and its occupants.
BF7	Prior to operation	Prior to the operation of the school commencing, an Emergency Planning Committee is established to consult with the school community (including parents of students and staff) to develop and implement an Emergency Procedures Manual. The Emergency Planning Committee may be the same that the one that is	To manage bushfire risk for the proposed school and its occupants.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		required to be established under mitigation measure FL1.	
BF8	Prior to and during operation	Prior to the operation of the school commencing, detailed plans of all emergency assembly areas including 'on-site' and 'off-site' arrangements as stated in AS 3745:2010 are to be clearly displayed. An annual (as a minimum) trial emergency evacuation is to be conducted as part of the school operations.	To manage bushfire risk for the proposed school and its occupants.

6.7 Ecology and Biodiversity

6.7.1 Assessment Guidelines

An assessment of impacts associated with tree removal and the broader activity on biodiversity has been undertaken on the basis of the following:

- Standards Australia, 2007. AS 4373 Pruning of Amenity Trees, Sydney: Standards Australia.
- Standards Australia, 2009. AS 4970 Protection of Trees on Development Sites, Sydney:
- Standards Australia.
- Environmental Planning and Assessment Act 1979.
- Local Government Act 1993.
- Water Management Act 2000.
- Fisheries Management Act 1994.
- Port Stephens Local Environmental Plan 2013.
- Port Stephens Development Control Plan 2014.
- State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&I SEPP).
- Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act 1999).
- Biodiversity Conservation Act 2016.
- Port Stephens Council Comprehensive Koala Plan of Management (CKPoM).
- NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2024) Koala Habitat Information Base: Koala Species Sightings.
- National Koala Strategy (Australian and New Zealand Environment Conservation Council (ANZECC)1998).
- State Environmental Planning Policy (Biodiversity and Conservation) 2021:
  - Chapter 3 "Koala habitat protection 2020".
  - Chapter 4 "Koala habitat protection 2021".
- NSW Koala Strategy 2021-2026.

6.7.2 Assessment

Tree Removal

Tree removal has been assessed in the Arboricultural Impact Assessment (AIA), at **Appendix 34**. The AIA was prepared on the basis of a comprehensive review of relevant plans and reports, a review of a Preliminary Tree Assessment, dated 03 November 2023 (not part of this REF package) and complimented with a subsequent site inspection carried out by the arborists that prepared by AIA on 12 December 2024.

The AIA identified 101 trees on and near to the proposed activity area. Of these 101 trees, the following is required to accommodate the activity:

- 40 trees require removal, of these 26 trees are listed as weeds on the NSW Weedwise website. These trees are recommended for removal as part of the regional weed program. The trees to be removed are classified with the following retention values:
- Four high retention value
    - six moderate retention value
    - four low retention value
    - 26 x very low retention value
- Three trees are required for removal outside the scope of works area (Tree 50.1, 51, and 51.1). These trees are required to be removed to comply with bushfire requirements with the PBP.

Tree 1 is listed as Endangered in NSW and Vulnerable in Australia. This tree will be subject to multiple construction activities and tree protection measures are required to ensure this tree is successfully retained during (and subsequent to) the project life cycle. Three trees (Tree 99, 100, and 101) are offsite and are located on the adjacent neighbouring property (28A Ferodale Road) and require tree protection measures to be implemented during construction. All other trees for retainment are located outside the scope of works area, to the densely vegetated area to the south. The majority of tree removal is of weed species and undesirable species, with the overall impact of the activity on trees being low, subject to implementation of the mitigation measures in Section 6.12.3. Furthermore, to support long-term environmental sustainability the proposal will introduce 107 new trees, ensuring improved biodiversity and the support of native wildlife species to the site.

Flora and Fauna

A Native Vegetation Management Plan (NVMP) (**Appendix 32**) has been prepared which addresses how the proposed activity will revegetate, monitor, and improve the vegetation retained within the entire site after the construction period. The findings of the NVMP were incorporated into the overall assessment in the Flora and Fauna Assessment (FFA) (**Appendix 31**), discussed in the section below.

The assessment of the NVMP and recommendations required to ensure revegetation and improvement of the retained vegetation have been incorporated into mitigation measures, outlined below in **Table 22** and **Appendix 1**.

The FFA was prepared to assess the potential ecological impacts as a result of the proposed activity. It was determined that a Biodiversity Development Assessment Report (BDAR), would not be required as part of the REF package. As a result of the placement of the proposed school buildings and infrastructure, biodiversity impacts are low, and the Biodiversity Offset Scheme (BOS) will not be triggered.

An Ecological Assessment is appropriate in the instance where a BDAR or a Species Impact Statement (SIS) is not required under Section 7.8 of the Biodiversity Conservation Act 2016.

The FFA was carried out through desktop searches, a review of previous biodiversity due diligence reporting, and a review of all relevant vegetation mapping databases. Field surveys were taken between 15 and 17 October 2024 which included the following methods of assessment taking place:

- Flora Survey: A walkthrough of the paddock area was undertaken to survey flora species present within the activity footprint. The area was identified as exotic dominant with native tree and shrub species present as well as a limited number of groundcover species. A walkthrough of the bushland patch was undertaken, which was identified as being vegetation PCT 3995,

associated with the Threatened Ecological Community (TEC) Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions.
The dominant native trees found on site include Swamp Mahogany (Eucalyptus robusta), Smooth-barked Apple (Angophora costata), and Blackbutt (E. pilularis). The dominant shrub layer includes Sweet Pittosporum (Pittosporum undulatum), Sydney Wattle (Acacia longifolia) and Prickly Beard-heath (Leucopogon juniperinus). The dominant native groundcover includes Kidney Weed (Dichondra repens), Blady Grass (Imperata cylindrica) and Right-angle Grass (Entolasia stricta).

- Fauna Survey: The fauna survey included a visual assessment of all hollows, tree canopies, shrubs, and any burrow entries for fauna nests and roosting spots. A night time fauna survey was undertaken to assess the site for potential sightings of squirrel gliders, koala, bats, and other threatened species, however, none of these species were identified.
- Bat Survey: Five species of insectivorous bat were positively recorded during the audiomoth bat survey deployment. Miniopterus australis (Little Bent-winged Bat) and Micronomus norfolkensis (Eastern Coastal Free-tailed Bat), both listed Vulnerable under the Biodiversity Conservation Act 2016, were identified during the dusk survey.

The FFA identified the following ecological considerations:

- The site contains a densely vegetated area in the southwest corner which is identified as remnant native vegetation – PCT 3395 Hunter Coast Paperbark-Swamp Mahogany Forest. This vegetation is also mapped as Biodiversity Values under the BOS.
- There is not likely to be a significant effect on a threatened species, the PCT 3995 TEC due to careful consideration of placement of the infrastructure and the placement of APZ within the property bordering the existing native vegetation.
- Tests of significance were carried out for the following species:
  - Koala
  - Eastern Coastal Free-tailed Bat
  - Little Bent-winged Bat
  - Yellow-bellied Sheathtail-bat
  - Squirrel Glider
  - Grey-headed Flying-fox
  - Greater Broad-nosed Bat
  - Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and Southeast Corner Bioregions TEC
- The Test of Significance, outlined in Appendix B of the FFA, overall concludes that the proposal is unlikely to have a significant impact on any of the species listed above. Therefore, a SIS is not required.
- The site is suitable for the proposed school activity, with impacts to flora and fauna avoided by maintaining and enhancing the native vegetation associated with the southern part of the site.

The construction and operational phases of the project are expected to have minimal impacts to ecological communities on the site, provided the mitigation measures set out in **Table 22** and **Appendix 1** are carried out.

Koala Management

Water Technology have prepared a Koala Management Plan (**Appendix 33**) due to the following considerations:

- The site is located in the Port Stephens LGA, which has been long associated with koala presence, and conservation, with a regional focus on preservation of koala and koala habitat.

- The site is located within the Port Stephens Area of Regional Koala Significance (ARKS) and within a Priority Population for the NSW Koala Strategy 2021-2026.
- Koala sightings in the area have been recorded on Bionet since pre-1960.
- The site contains three categories of koala habitat (**Appendix 2**):
  - Preferred Koala Habitat
  - Preferred Koala Habitat Buffer Over Cleared Land
  - Preferred Koala Habitat Link over Cleared Land

A four-step assessment process was undertaken by the ecologists that prepared by Koala Management Plan, in accordance with the requirements and guidelines set out in the Port Stephens Council Comprehensive Koala Plan of Management (CKPoM). A summary of the assessment process and findings is outlined below in **Table 21**.

Table 21: Summary of assessment method and findings in accordance with the CKPoM

	Assessment Methods	Findings
1. Preliminary Assessment	Includes a review of the Port Stephens Koala Habitat Map and a site visit to ascertain the presence or absence of preferred koala feed tree species. As the site contains koala habitat mapping which is afforded the highest level of protection, or koala feed tree species, the assessment continued to Step 2.	Koala habitat was identified as listed above. A site survey was undertaken on 15-16 October 2024 to ascertain the extent of suitable koala habitat on the site, and to identify any additional preferred koala food trees (Swamp Mahogany Eucalyptus robusta, Parramatta Red Gum Eucalyptus parramattensis and Forest Red Gum Eucalyptus tereticornis) and potentially important koala tree species outside the mapped extent of the preferred koala habitat. The extent of the mapped preferred koala habitat was found to reflect the extent of the native vegetation patch in the southwest corner of the site accurately. No preferred koala food trees were identified outside the extent of the mapped koala habitat; however a number of potentially important koala tree species were identified including include Sydney Peppermint (Eucalyptus piperita) and Blackbutt (Eucalyptus pilularis).
2. Vegetation Mapping	Step 2 of the process included mapping of the vegetation using standardised quadrat or transect methods, and displaying the results on an A3 map. For this survey BAM plots were used as a standardised floristic survey method. The vegetation map shows the distribution of vegetation associations for the site plus a 100m area around the site. In addition to the vegetation mapping, a survey of any signs of koalas using the site as habitat was undertaken. This included a search for koala scats and scratch marks on trees within the vegetation patch and in the paddock.	Vegetation mapping was prepared which shows the distribution of vegetation across the site as well as areas of existing of existing vegetation extending outside the mapped vegetation. The vegetation map is found at **Appendix 2**. The map was produced with a combination of PCT mapping, satellite imagery and ground truthing. The activity footprint was surveyed through a random walkthrough of the area to cover as much of the site as reasonable feasible. Full floristic surveys in the form of BAM plots were undertaken in 3 locations on the site, and eight, 1x1m vegetation survey quadrats were assessed within the activity area. A search for koala scat and scratch marks on trees found no visible signs of koalas using the site.

	Assessment Methods	Findings
3. Koala Habitat Identification	The vegetation map was then compared to the LGA-wide Vegetation Map to identify any discrepancies. Based on the outcome, either step 3a (LGA-wide Vegetation Map is not accurate) or step 3b (LGA-wide Vegetation Map is accurate) is implemented.	The koala habitat map was compared with the available vegetation mapping for the area. The NSW State wide PCT mapping was used alongside satellite imagery. No major discrepancies were found so it was determined that 3b was appropriate; the LGA-wide Vegetation Map is accurate.
4. Assessment of the Proposal	The final step then assesses the appropriateness of the proposal based on information from the previous steps. This includes an assessment of the proposal against the performance criteria for development applications (being most relevant in this instance), and a map showing the proposed activity in relation to the koala habitat map. If an applicant requests provisions a), b) or c) of the criteria be waived, a koala habitat utilisation assessment needs to be undertaken. No provision waiving has been requested for this project, but a brief koala utilisation survey was undertaken using the Spot Assessment Technique (SAT), nonetheless.	The appropriateness of the proposed activity was assessed as part of Step 4. This was assessed against the performance criteria a-h in the CKPoM. A summary is outlined below.

Assessment against the CKPoM Performance Criteria

- No preferred koala habitat will be disturbed by the proposed activity, no native vegetation removal will be undertaken within the activity area.
- The proposed building footprint is in an area mapped as koala habitat buffer and linking area. The vegetation to be removed in the activity area is not identified as koala food species, and the removal of these trees is not likely to have any impact on koala habitat availability.
- The placement of the buildings, and the APZ ensures minimal tree removal is required. The APZ serves as a construction free buffer around the vegetation mapped as preferred koala habitat, further increasing vegetation protection.
- The vegetation in the activity area which is mapped as koala habitat linking area was in generally poor condition with high grazing pressure and weed recruitment across the site. Native flora species are low in this area and no important koala food tree species are proposed for removal.
- No trees listed in Appendix 8 of the CKPoM (Trees species that may be important to koalas) are expected to be impacted by the proposed activity.
- The majority of koala preferred trees are located in the southeastern corner of the site that will be retained, impact in these areas will be avoided as no activity is proposed. Koala movement in the southern portion of the site will not be obstructed.

With the inclusion of the mitigation measures outlined in **Table 22** the impact on the local koala population and habitat is expected to be low, in some instances, positive impacts will occur.

Conclusion

Regarding the above, there is expected to be minimal impacts to trees on site, ecological communities on the site, and any threatened species, including the PCT 3395 Hunter Coast Paperbark-Swamp Mahogany Forest. The Test of Significance's, outlined in Appendix B of the FFA, overall concludes that the proposal is unlikely to have a significant impact on any of the species listed above. Therefore, a SIS is also not required. Relevant mitigation measures in **Table 22** and **Appendix 1** will mitigate any potential impacts that may arise as a result of the proposed activity.

6.7.3 Mitigation Measures

Table 22: Mitigation Measures for Ecology and Biodiversity

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
ARB1	General	All trees to be retained as outlined in the Arboricultural Impact Assessment (**Appendix 34**), are to be retained and protected in accordance with the instructions for each tree. These instructions are to be included within the approved CEMP for the site. All trees to be protected are to be clearly identified and all TPZs surveyed. Particularly the Wallangarra White Gum (Threatened species) and trees within PCT 3995 - Hunter Coast Paperbark – Swamp Mahogany Forest part fit with the Threatened Ecological Community (TEC) to be preserved. Provide NO GO areas to clearly delineate the area of bushland to be protected.	To manage and ensure trees are managed in accordance with the Arboricultural Impact Assessment.
ARB2	Prior to construction	Prior to any works commencing on site, as per the requirements of AS4970-2009 Protection of Trees on Development Sites, a suitably qualified and experienced Project Arborist (PA) (minimum Consulting Arborist AQF Level 5) must be appointed by the principal contractor at the start of the project.	To comply with AS4970-2009.
ARB3	Prior to construction	During construction works, the Principal Contractor is required to ensure that all tree protection zones (TPZs) that are close to construction activities are established and maintained in accordance with the standard protection measures and ongoing advice from the Project Arborist (PA).	To ensure trees are protected accordingly.
ARB4	Prior to construction and during construction	Prior to works commencing on site and during construction, The PA is required to conduct inspections as per the schedule below, and provide evidence that this has been completed: • Pre-clearing inspection to positively ID all trees listed for removal. • Inspection of all tree protection as per the requirements of this report. • Inspection of TPZ prior to removal of Tree	To ensure trees are correctly identified and protection measures are implemented.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		Protection upon completion of works. • Final report certifying that all protection measures have been completed throughout the life of the project.	
ARB5	During construction	The PA must approve any access and works that are to occur inside any TPZ prior to the works occurring. All works inside the TPZ of a retained tree must be supervised by the PA.	To ensure that all compounding effects over the course of the project can be properly assessed.
ARB6	During construction	Any additional encroachment to retaining trees that becomes necessary as the site works progress must be reviewed by the project arborist and confirmed as being acceptable to the determining authority before being carried out.	To ensure that any additional are assessed accordingly.
ARB7	Prior to construction	Approved tree removal and pruning are to be carried out before the installation of tree protection measures.	To ensure safe removal and pruning.
ARB8	Prior to construction	Activities generally excluded from the TPZ include but are not limited to— • machine excavation including trenching; • excavation for silt fencing; • cultivation; • storage; • preparation of chemicals, including preparation of cement products; • parking of vehicles and plant; • refuelling; • dumping of waste; • wash down and cleaning of equipment; • placement of fill; • lighting of fires; • soil level changes; • Stockpiling of materials; • Backfilling; • temporary or permanent installation of utilities and signs, and • physical damage to the tree. Construction measures on site must ensure that spoil and excavations are kept away from TPZs and that wind-blown materials like cement do not harm trees. Contaminants stored properly with spill measures. These measures are to be incorporated into the approved CEMP for the site.	To ensure protection and survival of retained trees,
ARB9	Prior to	Protective fencing (for tree protection) is to be	To restrict

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
	construction	erected before any machinery or materials are brought onto the site and before the commencement of works including demolition. The fence must be 1800mm high chain wire mesh fixed to Galvanised steel posts, enclosing an area to prevent damage as defined in the Tree Protection Plan. Once erected, protective fencing must not be removed or altered without approval by the project arborist. Fence posts and supports should have a diameter greater than 20mm and be located clear of roots. Existing perimeter fencing and other structures may be suitable as part of the protective fencing.	access to the TPZ.
ARB10	Prior to construction	Tree protection signage must be attached to tree protection zones before works begin. Signs are to be displayed prominently and repeated at 10m intervals or closer when the fence changes direction. Signs must include information about the tree protection zone, access restrictions, developer's contact details, and Site Arborist information. Signs identifying the TPZ should be placed around the edge of the TPZ and be visible from within the development site.	To inform all visitors to the site of TPZ locations.
ARB11	Prior to construction	When tree protection fencing cannot be installed or requires temporary removal, other tree protection measures should be used, including those set out below: • Trunk and branch protection • Ground protection • Root protection during works within the TPZ • Installing underground services within the TPZ • Scaffolding • Mulching • Watering • Weed removal These alternative measures are to be reviewed and approved by the PA before they are installed on site.	To ensure protection and survival of retained trees.
ARB12	Prior to construction	Trunk and branch protection: Where necessary, install protection to the trunk and branches of trees. The materials and positioning of protection are to be specified by the PA. A minimum height of 2m is recommended. It is recommended not attach temporary powerlines, stays, guys and the like to the tree, or to drive nails into the trunks or branches.	To ensure protection of tree trunks and branches.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
ARB13	Prior to construction	Ground protection: If temporary access for machinery is required within the TPZ ground protection measures will be required. Measures may include a permeable membrane such as geotextile fabric beneath a layer of mulch or crushed rock below rumble boards. These measures may be applied to root zones beyond the TPZ. These measures are to be approved by the project arborist on site before they are installed.	To prevent root damage and soil compaction within the TPZ.
ARB14	Prior to construction	Root protection during works within the TPZ: All excavation inside the TPZ is to be carried out under the supervision of the PA to identify roots critical to tree stability. Relocation or redesign of works may be required, depending on actual location of roots. Where the project arborist identifies roots to be pruned within or at the outer edge of the TPZ, they should be pruned with a final cut to undamaged wood. Pruning cuts should be made with sharp tools such as secateurs, pruners, handsaws or chainsaws. It is not acceptable for large roots within the TPZ to be 'pruned' with machinery such as backhoes or excavators. Where roots within the TPZ are exposed by excavation, temporary root protection should be installed to prevent them drying out. This may include jute mesh or hessian sheeting as multiple layers over exposed roots and excavated soil profile, extending to the full depth of the root zone. Root protection sheeting should be pegged in place and kept moist during the period that the root zone is exposed. Approval from the PA is required if other excavation works in proximity to trees, including landscape works such as paving, irrigation occurs.	To prevent adverse impacts to root systems.
ARB15	Prior to construction	Installing underground services in the TPZ: All services are to be routed outside the TPZ. If underground services must be routed within the TPZ, they are to be installed by directional drilling or in manually excavated trenches. The directional drilling bore should be at least 600 mm deep. The PA must assess the likely impacts of boring and bore pits on retained trees and approve the procedure before the works occur. For manual excavation of trenches the project arborist must advise on roots to be retained and must monitor the works. Manual excavation may include the use of pneumatic and hydraulic tools.	To ensure servicing does not intercept any TPZ.
ARB16	Prior to construction	Scaffolding: Where scaffolding is required, it is to be erected outside the TPZ. Where it is essential for scaffolding to be erected within the TPZ, branch removal should be minimized. This can be achieved by designing scaffolding to avoid	To ensure scaffolding does not impact any TPZ.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		branches or tying back branches. Where pruning is unavoidable it must be specified by the project arborist in accordance with AS 4373. Ground below the scaffolding should be protected by boarding (e.g. scaffold board or plywood sheeting. Where access is required, a board walk, or other surface material should be installed to minimize soil compaction. Boarding should be placed over a layer of mulch and impervious sheeting to prevent soil contamination. The boarding should be left in place until the scaffolding is removed. Any scaffolding procedures within the TPZ are to be approved by the PA prior to their installation on site. All scaffolding works are to be monitored by the PA on site as required.	
ARB17	Prior to construction	Mulching: The area within the TPZ should be mulched prior to works commencing and in perpetuity, the mulch must be maintained to a depth of 50–100 mm using leaf or forest mulch. Where the existing landscape within the TPZ is to remain unaltered (e.g. garden beds or turf) mulch may not be required.	To preserve moisture and improve soil conditions.
ARB18	Prior to construction	Watering: Soil moisture levels should be regularly monitored by the project arborist. Temporary irrigation or watering may be required within the TPZ. An above-ground irrigation system should be installed and maintained by a competent individual.	To regulate soil moisture levels.
ARB19	Prior to construction	Weed removal: All weeds are to be removed by hand without soil disturbance or should be controlled with appropriate use of herbicide.	To correctly remove weeds.
NVM1	During operation	As part of the ongoing operation of the school, maintenance requirements which involve the regular removal of non-native flora species using manual techniques should be undertaken to prevent exotic flora from establishing within the management zones.	To prevent exotic flora from establishing within management zones.
NVM2	During operation	As part of the ongoing operation of the school maintenance requirements which involve the regular monitoring of the establishing vegetation through monthly inspections throughout the duration of the five-year NVMP.	To meet the objective of the NVMP.
NVM3	During operation	Weed removal to be conducted by hand around the protected vegetation found on site by professional bush regenerators.	To remove weeds correctly.
NVM4	During operation	Weed removal for vines, woody weeds, and herbaceous is to be carried out in accordance with the management practices set out in Section 4.1 of the NVMP (**Appendix 28**).	To remove weeds correctly.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
NVM5	During operation	Any adoption of broad acre herbicide application that is required as a treatment (i.e. backspray), is to be undertaken during the school holidays to prevent students walking over herbicide before it has the opportunity to dry.	To damage to herbicide or to student health.
NVM6	During operation	All proper Personal Protective Equipment is to be worn by the qualified user and the herbicide manual recommendations for preparing the herbicide such as the correct quantities and ventilation should be followed.	To ensure safety to the qualified user.
NVM7	During operation	Selective manual chemical application may be appropriate for the vines and larger saplings where manual removal of weeds in the early stage of growth has proven to be complicated. Chemical use is to be used minimally and only for selective individual plants, to avoid the chemical absorbing into the soil and into the TEC mapped on site.	To prevent unnecessary chemical use on site.
NVM8	During operation	Prior to the operation of the school commencing on site, the APZ is to be established by the removal of shrub layer at the bases of trees, creating a canopy gap of a minimum of 2m and removing the lower branches up to 3m from the ground, while maintaining a consistent mowing regime as part of the management of the APZ in perpetuity.	To prevent bushfire damage and allow safe access to bushfire if required.
NVM9	During operation	Prior to the operation of the school commencing on site, the Outer Protection Zone (OPZ) is to be established. This OPZ requires vegetation management such as removing shrubs growing directly underneath canopy trees and the removal of lower branches up to 3m from the ground.	To minimise the potential for fire outbreak.
NVM10	During operation	Within the APZ located to the boundary of the biodiversity zone, a 2m canopy gap between the treetops and large vegetation patches is required.	To mitigate the risk of bushfire impacting koala habitat.
NVM11	During operation	Understorey vegetation such as grasses are to be controlled through regular mowing.	To control understory vegetation.
NVM12	During operation	Revegetation is to occur along the school fence line on Abundance Road and planted 10-20m apart. It is recommended that additional trees are planted of koala preferred species in accordance with the NVMP at Appendix at **Appendix 32**.	To increase koala habitat.
NVM13	During operation	All plants should be sourced from local native plant nurseries, where practical and feasible.	To support local species.
NVM14	During operation	Where specified plants (in the landscape plans) are not available, seed is to be collected from the local area such as the mapped PCT zone in accordance with seed collection guidelines by qualified ecologists and propagated on site before transplanting into prepared areas.	To support local species

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		Substitution with similar native species may occur where there will be a lengthy delay in obtaining those species.	
NVM15	During operation	All plants are to be sourced as either tube stock (groundcover plants) or minimum 10cm (4 inch) pot-sized for the shrubs and small trees.	To support plant vitality.
NVM16	During operation	An area surrounding the planting site is to be completely removed of all exotic plants and mulched to a depth of 10cm. To prevent unnecessary plant mortality, mulch should not be placed around the stems of any plants. Jute matting can be placed over the dense paddock grasses, but any other weeds taller than 10cm may need to be removed for maximum efficiency.	To prevent plant mortality.
NVM17	During operation	All plants are to be watered at the time of the planting. Follow up watering is only required if a dry period is experienced after the initial planting.	To ensure plants are hydrated.
NVM18	During operation	Installation of individual tree guards surrounding the shrubs and small trees is required to protect the vegetation from kangaroos and rabbits. They must be tall enough so the kangaroos will not be able to reach over the top. Wire meshing that is bent inwardly may be suitable for this.	To protect fauna on site.
NVM19	During operation	During monthly inspections, if there is a high mortality within the revegetation works, follow up planting is to be conducted in the second year to maintain adequate vegetation coverage of the Vegetation Regeneration Zone (VRZ). Species selection should be determined based on the success of the initial planting; as well as including those species growing successfully in the adjoining TEC zone.	To prevent plant mortality.
NVM20	During operation	If there is any historical waste on site, care is to be taken with the use of the correct PPE such as gloves and steel-capped boots. Rubbish removal is to be carried out by a suitably qualified professional.	To ensure any waste found is disposed of safely.
NVM21	During construction	Construction fencing is required to protect the Wallangarra White Gum (Eucalyptus scoparia) (Tree 1 to be retained). A qualified arborist is to be present when working around this tree and setting up the protective fencing to ensure it is undertaken correctly and making sure the root zone is also being protected.	To protect Tree 1.
NVM22	During operation	During the ongoing management of the vegetated buffer, a photo monitoring system is to be established to assess the condition of vegetation post activity works. Note: indications of degradation may include increased weed establishment.	To document the revegetation on site.
NVM23	During operation	Photographs showing before and after images to illustrate the extent of the rehabilitation work are	To document the

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		to be taken after the completion of the rehabilitation works then annually to document changes in vegetation condition and structure.	revegetation on site.
NVM24	During operation	A final NVMP is to be prepared by a suitably qualified ecologist for the department at the end of the five-year period of the operation of the school. This report is to list: • The number and species of all plants planted in the revegetation process; • The extent of weed management required, and treatments applied; • Photographs taken annually from the reference points to document the changes in the condition and structure of the rehabilitation works; and • Any issues associated with the rehabilitation works that may affect the future survival of the vegetation	To meet the objective of the NVMP.
KOA1	During construction (specifically, during tree removal)	A suitably qualified ecologist must be on site during any tree removal operations to ensure koalas are not present within trees proposed for removal. All trees removed during the construction works stage should be checked for koala presence prior to felling No trees with koala present should be cleared. If a koala is present on a tree proposed for removal, it is the responsibility of the ecologist to: • Ensure the koala is safely removed from the tree and relocated to the vegetation patch on site (or other suitable location), or • Wait until the koala moves itself i.e. leave the tree alone and continue to work as far away from the tree as reasonably possible so as not to disturb or cause distress to the koala. Commence works to remove the tree if the ecologist confirms the koala has safely moved on from the tree.	To protect koala habitat.
KOA2	General	The implementation of the native vegetation management practices as described in the NVMP (Water Technology 2025 - **Appendix 32**) is required as part of the ongoing operations of the activity	To help control and manage weeds in the bushland on site and help restore koala habitat on site.
KOA3	During construction	Preferred koala food tree species should be integrated into the landscape scheme (in detailed design) where possible. The seedlings should be propagated from local seed stock. Note that all fire management strategies (fire breaks, access etc.) need to be adhered to	To enhance the habitat value on site.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		when revegetating.	
KOA4	During construction	Prior to the operation of the school, consultation with Council is required regarding the installation of koala warning signs along the adjacent roads warning incoming traffic about koala presence in the area and for any approvals (if required) for the signs to be installed.	To prevent koala road strike.
KOA5	During construction	Koala movement across the site should be minimally compromised by avoiding the installation of fences and other restricting structures in any of the koala habitat zones.	To support koala conservation through movement.
KOA6	During operation	Education about koala conservation is to be included in the school program, e.g. koala habitat restoration, revegetation using preferred koala feed tree species, what to do if an injured koala is encountered, responsible dog ownership, and dangers of traffic to koalas.	To educate students and staff on koala protection and conservation.
KOA7	During operation	The school is to participate in Port Stephens Council's existing koala education program or koala habitat and population monitoring program (as feasible and relevant).	To support koala protection.
KOA8	During operation	The school is to provide written information to adjacent property owners regarding risks of dog attacks on koalas and guidance on how this can be avoided. No dogs should be permitted on site during and after construction operations, unless otherwise permitted under the Companion Animals Act 1988.	To support koala protection.
KOA9	During operation	The likelihood of high intensity fires (e.g. canopy fires) occurring within koala habitat is to be minimised through vegetation management as covered within the NVMP (Water Technology, 2025).	To support koala protection.
KOA10	During operation	High frequency of hazard reduction burns within koala habitat is to be avoided.	To support koala protection.
ECO1	Prior to construction	Use AS 4454 leaf mulch with 90% recycled content for tree protection fencing. Chip trees marked for removal and use mulch 100mm deep. Avoid soil, weeds, sticks, and stones. Comply with AS 4454 (1999) and AS 4419 (1998).	To ensure compliance with relevant Australian Standards.
ECO2	Prior to construction	All trees and shrubs for hollows and nests are to be inspected prior to construction. If fauna (excluding koalas, as addressed in KOA1) is discovered an ecologist may be required to remove and relocate any fauna if the tree or vegetation is to be removed.	To confirm if any fauna resides in trees or shrubs.
ECO3	Prior to 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	To inform contractors and staff adequately.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		undertaken.	
ECO4	During construction	All trees to be retained on site are to be protected from harm. Avoid tying ropes, cables, or similar items to trees. No staff members. No plant, machinery, or materials can enter the tree protection fencing.	To protect the TPZ.
ECO5	During construction	Do not fill or compact soil above tree roots enclosed by protection fencing during construction near trees. Guidelines must be followed to prevent soil compaction in these areas. Protection includes using elevated planks attached to scaffolding to prevent ground compression.	To prevent soil compaction.
ECO6	During construction	Trenching is not allowed in TPZs or tree protection fencing. Approval needed for trenching, must be done by hand with arborist supervision.	To protect the TPZ.
ECO7	During construction	Contractors are to maintain plants are watered. Apply water at an appropriate rate suitable for the plant species during periods of little or no rainfall.	To regulate soil and plant water levels.
ECO8	During construction	Basic hygiene protocols are to be implemented for construction personnel and machinery on site to reduce the potential for invasion by plant pathogens including Phytopthora cinnamomi, the fungus myrtle rust Uredo rangelli and amphibian chytrid fungus.	To reduce the potential for invasion by plant pathogens.
ECO9	During construction	Any fauna that migrates to the construction site is to be relocated by a trained professional, to the nearest available habitat (out of the construction area).	To protect fauna on site.
ECO10	During construction	Works are generally to be carried out in daylight and no unnecessary vehicular movements (including lights) are to be performed at night.	To protect fauna during nighttime hours.
ECO11	During construction	All lighting is to face away from bushland area and vegetation clusters. The lights can attract predatory species.	To prevent predatory species on site.
ECO12	During construction	Weed infestations are to be controlled in accordance with the NVMP in **Appendix 32** to prevent rabbit harbour on site.	To prevent unwanted species on site.
ECO13	During operation	Weed management control is to be undertaken on site in accordance with the FFA in **Appendix 31** and using qualified bush regenerators.	To manage weeds on site.
ECO14	During operation	Prevent security lighting and sporting lighting from facing towards bushland and accompanying habitat.	To protect bushland and habitat on site.
ECO15	During operation	Pest management control is to be undertaken by qualified pest control experts.	To manage pests on site.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
ECO16	During operation	Implement the NVMP (Water Tech 2024a) in **Appendix 32.**	To ensure consistency with the NVMP.

6.8 Surface Water and Groundwater

6.8.1 Assessment Guidelines

The civil design and potential impacts of the activity on surface and groundwater have been informed by the following:

- Australian Rainfall & Runoff 2019.
- Austroads: Guide to Pavement Technology.
- AS1428.1 Design for Access & Mobility.
- AS3500.3 Plumbing and Drainage: Stormwater Drainage.
- Port Stephens Council Development Control Plan 2014.
- Port Stephens Council 0074 Stormwater Drainage (Design) Development Design Specification 2022.
- Port Stephens Council 0043 Subsurface Drainage (Design) Development Design Specification 2022.
- Port Stephens Council Water Sensitive Development Strategy Guidelines 2011.
- NSW MUSIC Modelling Guidelines 2015 AS 3500.3-1990 National Plumbing and Drainage Code - Stormwater drainage.
- Managing Urban Stormwater: Soils and Construction, “The Blue Book” – 4th edition 2004.
- Concrete Pipe Selection and Installation - Concrete Pipe Association 1990.

6.8.2 Assessment

Stormwater Drainage and Surface Water Management

Stormwater drainage for the site has been designed for use of site facilities in all weather conditions up to a 1% AEP storm event. All new roof stormwater will be collected in roof gutters and downpipes and conveyed to rainwater tanks which overflow to the in-ground pipe system. Surface stormwater will be collected in pits. The in-ground stormwater will be connected to water quality controls. Overland flow paths have been designed to convey the 1% AEP stormwater flows with a velocity x depth of less than 0.4m2/s and are directed away from buildings.

On-site detention (OSD) modelling has been conducted by the stormwater consultant using DRAINS and MUSIC, which identifies that the OSD tanks can manage stormwater flow from the site to pre-development site flow rates. The northern carpark will discharge stormwater to the existing pit on Ferodale Road, the OSD tank under Block B will discharge via a new stormwater line along Abundance Road to the existing pit in Ferodale Road, and the OSD tank in Block D will discharge to the existing swale on Abundance Road.

Stormwater quality treatment is required to comply with Council’s requirements in the PSDCP. In order to meet those requirements, the civil design includes a series of pollution control devices to remove contamination from stormwater runoff to the required level prior to discharge. These devices include litter screens in all pits and an end of line treatment device to remove nitrogen and phosphorus contaminants, prior to discharge to Council’s stormwater system. Further, the

hydraulic design includes roof water capture and re-use, with approximately 100m3 of rainwater storage on site. This forms part of the overall stormwater quality treatment strategy.

The impact of construction related erosion and sediment flow will be reduced with the implementation of the erosion and sediment control plans in the civil drawings at **Appendix 8**.

Drinking Water Catchment

Stormwater detention has been designed by the stormwater consultant to ensure no increase in peak discharge from the site. As noted above, rainwater re-use combined with stormwater filters will be used to achieve a neutral or beneficial impact on stormwater quality. Erosion and sediment control measures will be implemented during construction to prevent contamination of the downstream stormwater system.

Groundwater

Geotechnical investigations have identified that groundwater was observed at depths of between 5m to 9m on the site in select boreholes. Refer to the Supplementary Geotechnical Investigation Report at **Appendix 12**. Site preparation will involve topsoil stripping and ground levelling, with some general ground fill placed over the site between 0-1 meters. Encountering groundwater will depend on the completion of the detailed design and foundation type proposed for the building structures. If shallow foundations are used, groundwater will unlikely be intercepted. Deeper foundations such as piles may result in groundwater being intercepted. A cautionary mitigation measure is included to address the impact of intercepting groundwater, in the event groundwater is encountered during site works.

Conclusion

Subject to implementation of the mitigation measures outlined below, the proposed activity will not result in any adverse impact on surface water or groundwater. Measures incorporated into the civil and stormwater design will ensure a satisfactory outcome in terms of the broader drinking water catchment within which the site is located.

6.8.3 Mitigation Measures

Table 23: Mitigation Measures for Surface and Groundwater Management

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
SWGW1	During construction	If the water table is unexpectedly intercepted during construction works, all works are to cease immediately. The contractor will be required to liaise with the department, as well as the relevant water authority, to ensure: • Dewatering measures are known and if required, a dewatering plan/groundwater management plan is prepared and implemented during site works before works recommence on site; • All relevant approvals for dewatering are obtained prior to the continuation of works; and • A suitably qualified geotechnical engineer is to be engaged to advise on any further measures to be implemented to ensure no adverse impact to the quality or quantity of groundwater.	To ensure groundwater impacts are minimised, if groundwater is unexpectedly encountered on the site during works.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
SWGW2	During construction – erosion and sediment control	Erosion and sediment control measures, in accordance with Council's requirements, and the plan in the FIRA at **Appendix 8** as well as the Soil Management Plan approved under Mitigation Measure CON2, are to be implemented during construction works.	To ensure protection of downstream drainage lines, assets, ecosystems or existing hydrological systems from silt, waste and sediment from the site.
SWGW3	Prior to and during construction	Prior to construction commencing on site, the mitigation measures outlined in the Supplementary Geotechnical Investigation Report at **Appendix 13** are to be adopted, as required as part of the approval for the CEMP.	To ensure the geotechnical constraints of the site are managed and the proposed buildings built to the relevant soil and groundwater characteristics .

6.9 Odour and Air Quality

6.9.1 Assessment Guidelines

The assessment of potential odour and air quality impacts for the activity has been undertaken based on:

- Environmental Planning and Assessment Act 1979
- Protection of the Environment Operations Act 1997
- NSW EPA Technical Framework: Assessment and management of odour from stationary sources in NSW (NSW EPA, 2006a)
- NSW EPA Technical Framework: Assessment and management of odour from stationary sources in NSW (NSW EPA, 2006b)
- National Environmental Protection Council National Environmental Protection (Air Toxics) Measure 2011 Amendment (NEPC, 2011)

6.9.2 Assessment

Odour and Volatile Organic Compounds (VOC)

As the site is located directly adjacent to a petrol station, an Odour and Volatile Organic Compound Assessment has been undertaken to assess the potential impact on the proposed school. While this is not a potential impact from the activity on the surrounding environment, it is an important consideration on the suitability of the site for the proposed school in terms of amenity during operations.

The key objective of the investigations to inform the Odour and Volatile Organic Compound Assessment were to assess human health and aesthetic concerns relating to VOC and odours

associated with the adjoining service station that may adversely impact future sensitive receptors at the site.

The adjoining service station was identified as a potential emission source of VOC and odour during previous investigations, with associated contaminants of potential concern:

- Air phase petroleum hydrocarbons, generally considered to be VOC
- Petroleum-type odours.

The potential exposure pathways through which receivers on the site could be exposed to VOC and odours would be through inhalation. On-site data was collected as part of the Odour and Volatile Organic Compound Assessment to inform the investigation and particularly to confirm if the linkage status between the source of contamination and the sensitive receivers was complete or incomplete (i.e., unlikely to be a risk if incomplete).

SAC were developed based on relevant guidelines and codes of practice. Methodology associated with the assessment included a site inspection, odour survey (characterised based on the NSW EPA odour intensity scale) and VOC monitoring whereby data was collected from appropriate sampling locations.

Ambient air samples were transported for analysis, including:

- Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX).
- Volatile organic compounds (VOCs).
- Total Petroleum Hydrocarbons (TPH).

The outcomes of the site visit, field survey and analysis of samples are summarised below:

- Odours:
    - Of the sixteen locations surveyed, 13 had an odour intensity of 0 (non-detectable).
    - No petroleum odours relating to the service station were identified.
    - Three locations had a detectable odour with an odour intensity scale of 1 (very weak) which were all related to the current site use as a horse pasture / paddock. The odour characters were described as horse manure and vegetation.
    - Given the above, it was concluded that the odours are unlikely to present any adverse impact for the operation of the school.
- VOCs:
    - All analytes assessed were reported with concentrations below adopted SAC.
    - Some minor detentions of specified analytes were identified at all locations (refer Section 7.3 of the VOC Assessment), however, none of them are associated with service station contamination and detections at the low concentrations identified indicates *“the risk to site receptors from the service station is very low”*.
    - With regard to the above, to close out this matter, further analysis was undertaken to confirm *“the ambient air measurements of VOC at the school suggest that the measured concentrations are consistent with background concentrations”*.

Air Quality Impacts During Construction

During construction, there are likely to be temporary impacts by way of dust generated from site activities. Such impacts can be adequately managed in accordance with standard mitigation measures (i.e., wetting down stockpiles) that can be incorporated into the CEMP. A mitigation measure has been imposed to this effect.

Conclusion

Based on the Odour and Volatile Organic Compound Assessment, impact from VOC and odour from the adjacent petrol station are not expected to be significant, as such no mitigation measures are required.

6.9.3 Mitigation Measures

Table 24: Mitigation Measures for Odour and Air Quality

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
AQ1	During construction	Prior to construction commencing on site, a CEMP is to be prepared. The CEMP for the project (as per CON1) is to include (but not be limited to) air quality and dust control measures.	To minimise the impact of dust generation on air quality in the locality during construction works.

6.10 Aboriginal Heritage

6.10.1 Assessment Guidelines

The assessment of the activity with respect to Aboriginal Heritage has been undertaken in accordance with:

- Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010b) (the Code)
- National Parks and Wildlife Act 1974
- State Environmental Planning Policy (Transport and Infrastructure) 2021
- State Environmental Planning Policy (Industry and Employment) 2021
- Environmental Planning and Assessment Regulation 2021
- Port Stephens Local Environmental Plan 2013

6.10.2 Assessment

This section outlines the findings of the Aboriginal Cultural Heritage Assessment (ACHA) Report prepared, at **Appendix 29**.

The following matters are noted regarding the existing site environment:

- A search of the Heritage NSW Aboriginal Heritage Information Management Systems (AHIMS) database identified 106 Aboriginal archaeological sites within a 7.5km search area around the site.
- None of these sites were identified as being located within the study area, the closest site is located approximately 2km south of the study area.
- The study area, located within the Medowie region, indicates that Aboriginal artefacts and shell middens are more likely to be located within proximity to water sources.
- The ACHA was supported with a number of archaeological surveys of the study area, conducted on 31 May 2024, 22 July 2024, and 15 October 2024.
- The surveys did not identify any surface artefacts sites or any other Aboriginal site types.
- The survey identified that the study area has been subject to some disturbance, one area of moderate archaeological potential was identified in the western portion of the site. Evidence of oyster shell was noted in this area as it has remained relatively undisturbed with some original vegetation remaining. However, it was located nearby the opening of a rabbit warren indicating it may have been brought onto the site. It was not possible to determine whether this was cultural or not.

- Regardless, the area of moderate archaeological potential is located in the western portion of lands that will not be impacted by the proposed activity. Unlike the majority of the site that has undergone moderate to high levels of disturbance, the western portion is heavily vegetated and less disturbed.
- The ACHA concluded that the predicted impacts are restricted to areas of low archaeological potential, and the potential for the activity to impact Aboriginal sites is considered low.

The ACHA highlights that the site holds high cultural significance for the Worimi community, who have been the traditional custodians of the land for at least 20,000 years. The Worimi territory extends from north of the Hunter River to Forster near Cape Hawke, and along the coastline encompassing Port Stephens and stretching inland close to Gresford, and as far south as Maitland. The significance of the land is due to the local area being utilised as a travel route from Fern Bay to Karuah. The local region of Medowie is a place of high significance, especially due to the proximity to Moffat's Swamp. This area and community today is represented and protected by the Worimi Local Aboriginal Land Council (LALC).

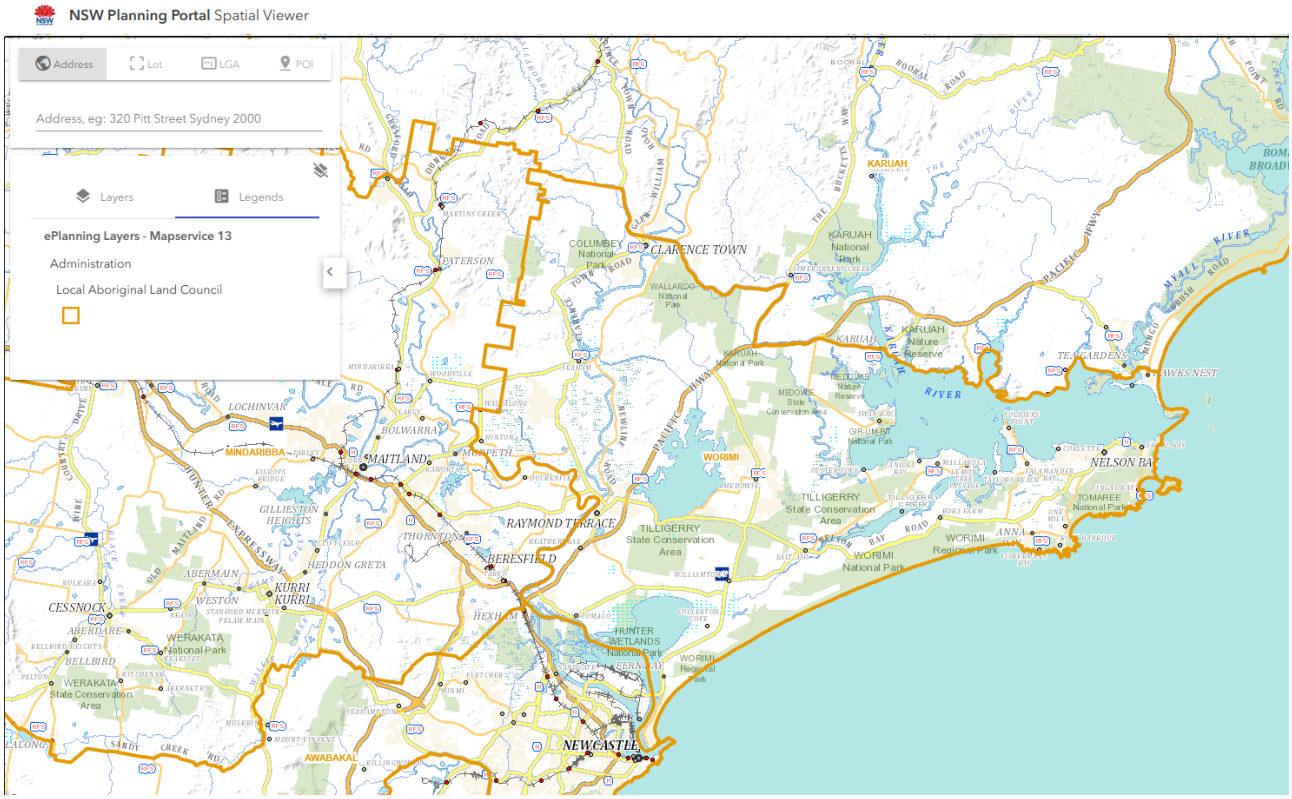


Figure 29: Area of the Worimi Territory protected by the Worimi LALC (Source: NSW Planning Portal Viewer)

The ACHA was prepared in consultation with the Aboriginal community, providing detailed consultation log with any interested Registered Aboriginal Parties (RAPs). Comment and feedback provided by RAPs regarding the cultural values of the study area have been considered and incorporated into the overall assessment of the ACHA.

Figure 30: Aboriginal Heritage – areas of archaeological potential (Source: Biosis)

Conclusion

The ACHA concluded that *"due to the layout of the proposed works, the area of moderate archaeological potential will not be impacted by the development with works proposed to completely avoid this area. As a result, the predicted physical impacts is restricted to areas of low archaeological potential and the potential for these works to impact Aboriginal sites is considered low".*

Avoidance of impact to archaeological and cultural heritage sites through the design of the proposed activity is the primary mitigation and management strategy. The relevant mitigation measures offer further protection in the instance that unexpected Aboriginal objects are identified during works, and education for all site workers and contractors to prevent unintentional harm to Aboriginal sites located within the study area and surrounds.

6.10.3 Mitigation Measures

Table 25: Mitigation Measures for Aboriginal Heritage

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
AH1	During construction works	If any unexpected finds, human remains, Aboriginal objects or places are identified or unearthed during the construction works, works must cease. The Department of Climate Change, Energy, the Environment and Water (Heritage NSW) and the project archaeologist must be notified to make an assessment on the	To ensure protection of Aboriginal places and objects under the NSW National Parks

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		find and advise on any subsequent management that may be required before construction recommences on site	and Wildlife Act 1974.
AH2	During construction	A Stop Works Procedure is to be approved prior to the issue of the Crown Construction Certificate and implemented on site as part of the construction works in the instance that any suspected human remains are discovered during construction works. Any such discovery will result in: a) If suspected human remains are discovered, all works must be stopped, the remains must be left in place and protected from harm or damage. b) Once discovered, NSW Police must be notified immediately. c) If the remains are found to be likely Aboriginal in origin, the remains are to be reported to relevant Aboriginal parties and Heritage NSW. d) If the find is likely to be non-Aboriginal in origin and more than 100 years in age, the Heritage Council of NSW are to be notified of the find under s.146 of the Heritage Act 1977.	To protect any discovered human remains.
AH3	Prior to construction	Prior to any site works, a heritage induction for all site workers and contractors should be undertaken. The heritage induction should provide: a) Relevant legislation b) Locations of identified Aboriginal heritage sites, and areas of archaeological sensitivity within proximity to the study area. c) Basic identification skills for Aboriginal artefacts, non-Aboriginal artefacts, and human remains. d) Procedure to follow in the event of an unexpected heritage item find during construction works.	To prevent any unintentional harm to any unexpected Aboriginal objects.

6.11 Non-Aboriginal Heritage

6.11.1 Assessment Guidelines

The assessment of the activity with respect to non-Aboriginal Heritage has been undertaken in accordance with:

- Heritage Act 1977.
- The Burra Charter: the Australia ICOMOS charter for places of cultural significance.
- Port Stephens Local Environmental Plan 2013 (Clause 5.10 and Schedule 5).

- Port Stephens Development Control Plan 2014.
- Design In Context, Heritage NSW.
- Assessing Heritage Significance, Department of Planning and Environment NSW.
- Guidelines for preparing a Statement of Heritage Impact, Department of Planning and Environment NSW.
- State Agency Heritage Guide - Management of Heritage Assets by NSW Government Agencies, Heritage NSW.

6.11.2 Assessment

As identified in **Section 2.1.2** and **Appendix 30** of this REF, the site does not contain any heritage items and is not within the vicinity of any such items or conservation areas. Relevant mapping (PSLEP) does not identify any potential archaeological items of significance on or near the site.

6.11.3 Mitigation Measures

Table 26: Mitigation Measures for Non-Aboriginal Heritage and Archaeology

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
NAH1	During construction	If any unexpected archaeological relics are uncovered during the work, then: (a) all works must cease immediately in that area and notice is to be given to Heritage NSW and the Department of Education heritage team: (b) depending on the possible significance of the relics, an archaeological assessment and management strategy may be required before further works can continue in that area as determined in consultation with Heritage NSW; and (c) works may only recommence with the written approval of the Department of Education heritage team.	To ensure an appropriate unexpected finds protocol is established for implementation during construction works.

6.12 Waste Management

6.12.1 Assessment Guidelines

The assessment of how waste will be managed during construction and operation has been undertaken based on the following:

- Port Stephens Development Control Plan 2014
- 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.
- Port Stephens Waste Management Strategy 2021-2031
- NSW Waste and Sustainable Materials Strategy 2041

- NSW Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012.
- NSW Better Practice Guide for Resource Recovery in Residential Developments 2019

6.12.2 Assessment

The general approach to waste management, to minimise the impact on the environment, during both the construction and operational phases of the activity, is to focus on re-use and recycling where feasible, and minimisation of waste disposal to landfill. Removal of hazardous waste (such as asbestos containing materials) will need to be undertaken in accordance with WorkCover Authority and Environment Protection Authority (EPA) requirements.

Demolition and Construction Waste

Most waste will be generated during the demolition phase, including demolition of existing buildings (dwelling and sheds), tree removal and limited excavation. Estimated demolition and excavation waste quantities are provided in a Construction and Demolition Waste Management Plan (CDWMP) (**Appendix 24**). Up to 81% of demolition waste will be diverted from landfill.

For details regarding disposal of hazardous materials (i.e., asbestos containing materials), refer to **Section 6.3** of this REF.

Some waste will be generated during the construction phase. Estimated construction waste quantities are also identified in the CDWMP, noting up to 96% of demolition waste will be diverted from landfill.

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.

Mitigation measures are included in **Appendix 1** to ensure waste disposal is minimised during demolition, but particularly, during construction works. The contractor will need to ensure that demolition and construction are undertaken in accordance with these measures, and the broader CDVMP.

Operational Waste

Operational waste generation rates have been estimated for a 640-student capacity school, which are shown in **Table 27,** including the types and numbers of bins required to manage the predicted waste volumes. This information is derived from the Operational Waste Management Plan (OWMP) (**Appendix 25**). The OWMP has been prepared in accordance with Council's waste policies.

Table 27: 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	640	20	12,800	15	9,600

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)
Total			12,800		9,600
Bins and collections		General waste bin size (L)	1,100	Recycling bin size (L)	1,100
		General waste bins per day	1.7	Recycling bins per day	1.2
		General waste collections per week	3	Recycling collections per week	3
		Total general waste bins required for collection	4	Total recycling bins required for collection	3

As set out in **Section 2.2.3.6** of this REF, adequate provision has been made in the bin holding area adjacent to the loading bay for the required waste storage and bin quantities set out in the OWMP. The figure below identifies the location of the waste area, outlined in green.

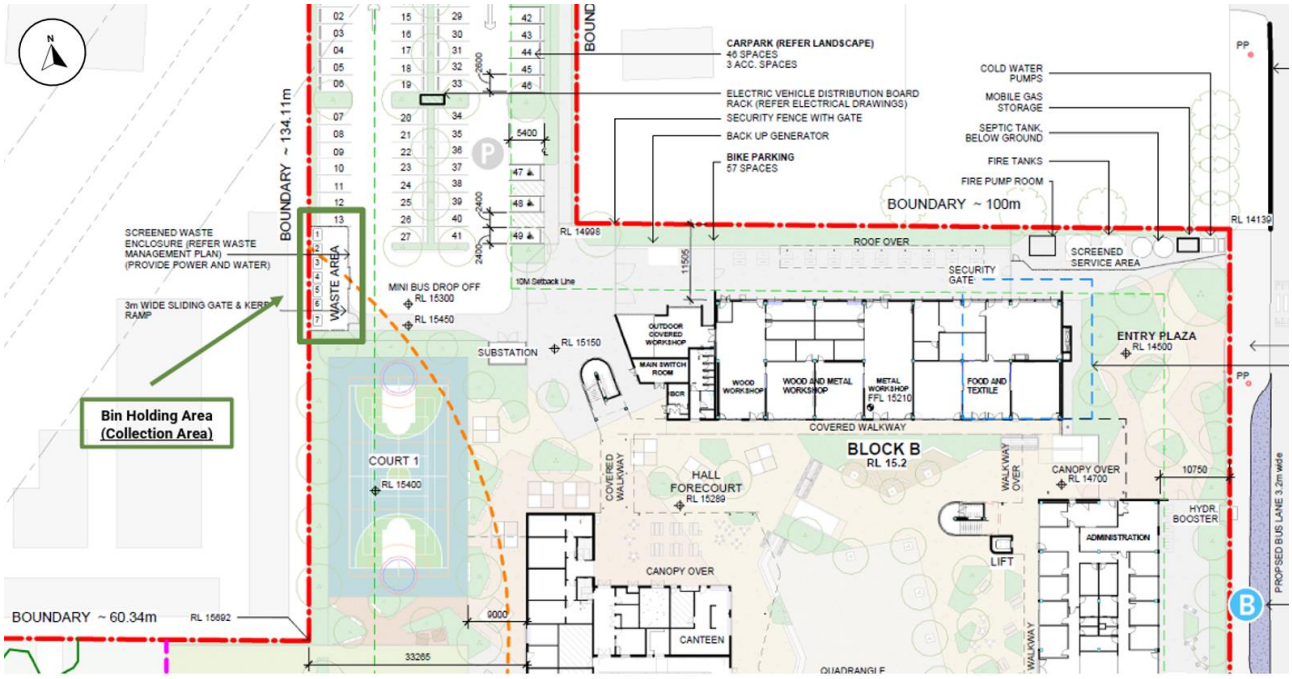


Figure 31: Extract of Ground Floor Plan - Waste Area outlined in Green (Source: NBRS)

General waste management procedures during operation of the school are summarised below:

- The groundskeeper, waste collection staff and cleaners will be the only personnel with access to the bin holding area. All transportation of waste and recycling will be co-ordinated with the groundskeeper or cleaners.
- All waste and recycling receptables/bins will be suitably labelled and in convenient locations. Students, staff and visitors will be responsible for placing waste in the correct receptable.
- Special waste collection bins and/or areas will be established throughout the school as required, including in washrooms, printing and photocopying rooms, bulky and special waste and liquid waste. ‘Problem’ waste items will not be disposed of in general waste. The school

will be responsible for making arrangements for disposal with an appropriate contractor. This could include removal of toner cartridges, liquid waste, batteries, lightbulbs etc.

- Cleaners will circulate the campus between 7am and 10pm to empty waste receptables as required.
- A private waste contractors will service the school's general and recycling waste disposal.
- ON waste collection day(s), the collection vehicle will enter the site from Ferodale Street and park in the loading bay. Once the bins are serviced, the collection vehicle will exit the site onto Ferodale Street in a forward direction.

All staff responsible for managing waste systems at the school will be required to be informed of the responsibilities set out in the OWMP. Section 6 of the OWMP includes a table with details of roles and responsibilities.

Mitigation measures are outlined below in **Table 28** with respect to waste education, waste signage and pollution prevention are adequately implemented to minimise the impact of waste on the environment. Bin washing mitigation measures are also included to ensure adequate amenity through reducing odours from waste receptables within the school grounds.

6.12.3 Mitigation Measures

Table 28: Mitigation Measures for Waste Management

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
WAS1	During construction	The contractor is to implement the Construction and Demolition Waste Management Plan prepared by Elephant's Foot Consulting at **Appendix 24**. This will include, all monitoring, reporting, safety, signage, recycling measures, site specific operational measures and other general requirements set out in Section 7 of the report.	To ensure effectiveness of waste mitigation measures during all site works.
WAS2	During operation	The school is to implement the Operational Waste Management Plan (OWMP) prepared by Elephant's Foot Consulting at **Appendix 25**. An updated OWMP may be prepared by the school during operations, if deemed necessary, with approval of the department.	To ensure waste is appropriately managed during operations.
WAS3	Prior to and during operation	All stakeholders responsible for managing waste on the site, as set out in Section 7 of the OWMP, are to be subject to an induction regarding respective roles and responsibilities. The induction is to occur prior to operation of the school, and then prior to each new staff member commencing at the school that will have a role in waste management.	To ensure waste is appropriately managed during operations and key roles and responsibilities are known prior to operation of the school and prior to the commencement of any new staff (with waste responsibilities

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
			.)
WAS4	During operation - education	Educational material encouraging correct separation of general waste and recycling must be provided to all staff members and contractors. This should include the correct disposal process for bulky waste such as desks, chairs, large, discarded items, and other materials including electronic and chemical wastes. School management must ensure that information is provided in multiple languages to support correct behaviours, and to minimise the possibility of contamination in communal bins.	To ensure all personnel are aware of their waste management responsibilities .
WAS5	During operation - education	Education and communication must be provided consistently on a regular basis to encourage behaviour change and account for transient building personnel such as new students and staff, or cleaning staff. Information should include: • Descriptions of items accepted in the general waste and recycling streams (refer to Council guidance); • How to dispose of bulky waste and any other items that are not general waste or recycling; • Staff and students obligations to health and safety as well as building management; and • How to prevent cross contamination among waste streams.	To ensure all personnel are aware of their waste management responsibilities .
WAS6	During operation - signage	Waste signage within the school grounds is to include: • Clear and correctly labelled bins, • Instructions for separating and disposing of waste items. Different languages should be considered, • Locations of, and directions to, the waste storage areas with directional signs, arrows, or lines, • The identification of all hazards or potential dangers associated with the waste facilities, and • Emergency contact information should there be issues with the waste systems or services in the building. School management is responsible for waste room signage including safety signage. Appropriate signage must be prominently displayed on doors, walls and above all bins, clearly stating what type of waste or recyclables is to be placed in each bin. All signage should conform to the relevant Australian Standards.	To ensure waste receptacles and management areas are clearly marked.
WAS7	During operation – pollution prevention	School management shall be responsible for the following to minimise dispersion of site litter and prevent stormwater pollution to avoid impact to	To prevent litter generation

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		the environment and local amenity: • Promoting adequate waste disposal into the bins • Securing all bin rooms (whilst affording access to staff/contractors) • Prevent overfilling of bins, keep all bin lids closed and bungs leak-free • Taking action to prevent dumping or unauthorised use of waste areas • Require collection contractor/s to clean up any spillage when clearing bins	and spread.
WAS8	During operation – bin washing	The bins are to be cleaned by the contractor to the school and/or cleaners periodically to ensure hygiene and minimise odour. Bin washing can occur within the bin rooms, using the room clean down facilities (i.e., tap connection and drain). Alternatively, a specialist bin washing contractor can be engaged to clean the bins to an agreed schedule. The specialist bin contractor is to collect the bins from the bin holding area and clean the bins with their specialised vehicle. It is recommended that a dustpan and a broom is provided in this room for staff and cleaners to clean up unexpected spillages when using bins	To ensure bins are washed to prevent odour and hygiene impacts.

6.13 Social Impact

6.13.1 Assessment Guidelines

This section of the REF has been prepared based on the Crime Prevention Through Environmental Design (CPTED) principles which aim to ensure spaces are designed to reduce crime and increase public safety. The Social Impact Assessment (SIA) has been driven by the following key state and local policies and strategies:

- Design Guide for Schools (Government Architect NSW, 2018).
- Environmental Design in Schools (Government Architect NSW, 2018).
- Local Strategic Planning Statement (Port Stephens Council, 2020).
- NSW Budget: Rebuilding Public Education (Schools Infrastructure NSW, 2024).
- Our Plan for NSW Public Education, Government (NSW Department of Education, 2024).
- Rural and Remote Education Strategy (NSW Department of Education, 2021).
- Stakeholder and Community Participation Plan (NSW Department of Education, 2024).

6.13.2 Assessment

Crime Prevention Through Environmental Design

The design of Medowie High School employs several strategies to prevent crime through environmental design as follows:

Table 29: CPTED Response

CPTED Principle	Design Response
Territorial reinforcement	Territorial reinforcement is enabled through perimeter fencing, signage and landscaping. Specific gates will allow for student staff and visitor access at specific times throughout the day. The entry courtyard fencing will allow for the plaza to be shut down out of school hours whilst remaining a well supervised semi-public area during operational hours. The carpark fencing provides controlled access into the site and signage notifying people approaching the carpark of entry controls and conditions. The perimeter of the site beyond the proposed school is proposed to be fenced and signposted to prevent unauthorized access and deter activities within the unoccupied portion of the site. The style of fencing including materiality, height and balusters is designed to maximise the effort required for unauthorized entry into the site. Careful design of site services and landscape elements ensures no opportunity for footholds to climb over the perimeter fence.
Access Control	Access control is designed into perimeter gates and doors ensuring free movement of students into and out of the school at arrival and departure times, and controlled access out of hours and during operation. The administration area is place adjacent to the main arrival space to allow entry only after signing in or vetting through the office staff for any visitors to the site. Swipe card controls allow access for certain staff members to certain areas of the buildings once within the site. Carpark access control is also included in the design.
Surveillance	All teaching and learning spaces have good passive surveillance of either the internal gathering space or the rear setbacks to deter inappropriate behaviour. The circulation paths around the school are open and overlook learning spaces and outdoor gathering areas to ensure activation and passive surveillance across the site. The stairs are also open and activate / overlook adjoining areas. Within the buildings, glazed walls allow for passive surveillance between teaching spaces increasing accountability of both staff and students. The design of student amenities includes good passive surveillance of circulation and common areas and employs the department's amenities strategy to ensure minimization of bullying, self-harm and general student safety. The administration block which is staffed during hours of operation overlooks the entry plaza and will monitor comings and goings to ensure perceived safety and accountability of people entering the school via the plaza. CCTV will also be included for surveillance of areas of high importance or where passive surveillance is limited, such as the bike store area.
Space / Activity Management	Materials are selected for robustness and ability to withstand damage, particularly at ground floor and adjoining circulation areas. Community use of the facilities out of school hours will increase sense of community ownership and guardianship of the school and activate the school out of hours. The design accommodates for out of hours use of the gymnasium, external amenities and canteen areas for community groups as well as potential out of hours use by these groups of the on-site carpark.

Jobs Creation (Construction and Operation)

The proposed activity will create the following jobs during construction:

- 60 employees on site from September to December 2025.
- 120 employees on site from January to March 2026.
- 220 employees on site from April to September 2026.
- 40 employees on site from September to December 2026.

The proposed activity will create the following jobs during operation:

- 26 full time equivalent (FTE) school staff.
- Three support learning staff.
- Groundskeepers/cleaning staff/school caretaker to be determined.

Social Impact

This section outlines the findings of the SIA to evaluate the social impacts of the activity, and any residual measures required to mitigate those social impacts.

The SIA has been informed by the outcomes of early stakeholder engagement for the project, as well as the technical studies prepared to inform environmental assessment of the activity.

Section 3 of the SIA provides a detailed analysis of the strategic policy context for the site, with respect to key social drivers for the site and proposed activity.

Section 4 of the SIA provides an overview of the existing social conditions and trends (without the project) and provides a benchmark by which the social impacts of the activity can be assessed. The social locality for the project includes the primary social locality (PSL) (most likely to be impacted by the works and operational changes in the locality), as well as the secondary social locality (proposed school catchment). The most likely impacted communities in both of these localities include future students and parents, residents of both localities, the Council and local businesses and workers in the primary locality.

The primary social locality and secondary social locality are outlined below in **Figure 32** and **Figure 32**, respectively.

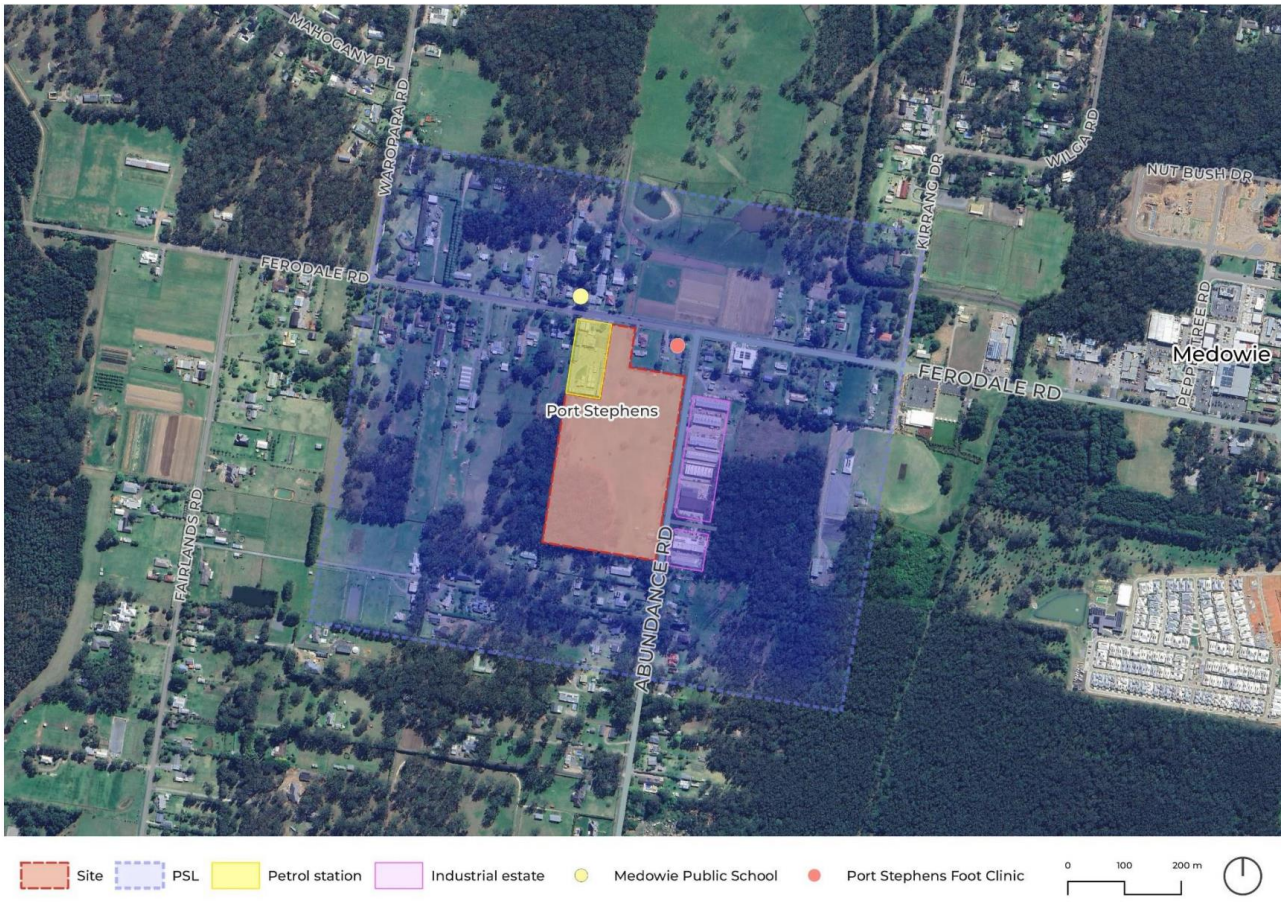


Figure 32: Primary social locality (Source: Ethos Urban)

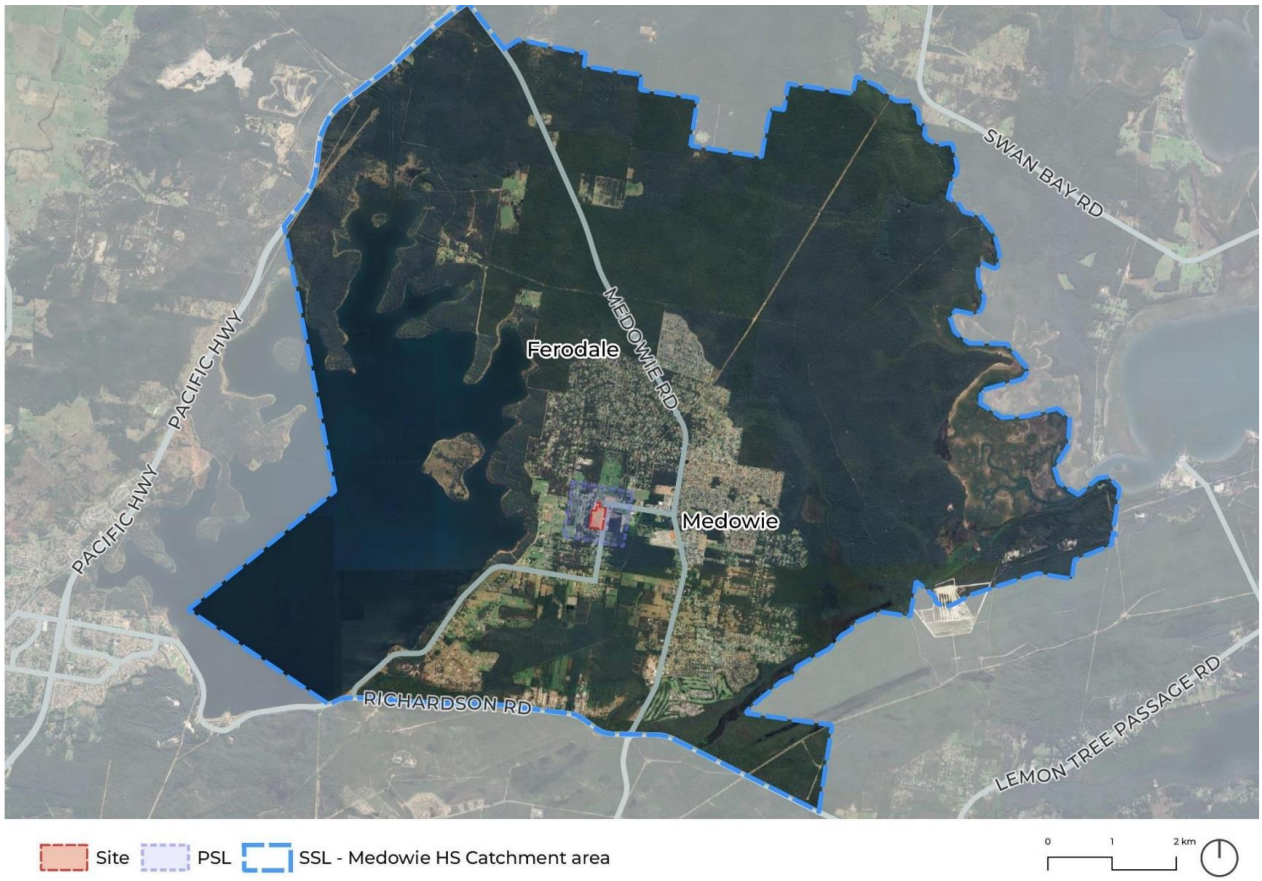


Figure 33: Secondary social locality (Source: Ethos Urban)

The demographic profile of the school catchment area can be summarised as follows:

- Age structure – a younger population than the regional NSW baseline median.
- Population change – steady population growth, noting annual population growth in the catchment is projected to be 2%, more than double than the baseline for the rest of NSW.
- Median income – significantly higher than the regional NSW baseline.
- Cultural diversity – population predominantly born in Australia. Notably, the proportion of people who identify as Aboriginal or Torres Strait Islander in the catchment is 7%, the same as the baseline of regional NSW.
- Household composition – characterised by a high proportion of couple families with children (significantly higher than the baseline regional NSW comparison).
- Tenure type – most homes are owned with a mortgage, with renting as the least common tenure type in the catchment, much lower than the baseline of regional NSW.
- High school level – low rates of high school completion (50.8%) – relatively comparable with the regional NSW baseline.

Section 5 of the SIA provides an overview of community and stakeholder participation to inform the SIA. A number of engagement sessions were held with a good turnout of key stakeholders. The community information session in November 2024 was particularly well attended, with more than 80 members of the community (school and broader) in attendance. These sessions, combined with the outcomes of a community survey, identified a number of concerns regarding the proposed activity. These include adequate transport provision for the school (including kiss and ride drop off zone capacity and parking concerns), traffic congestion, pedestrian (including disability) access to and from the site and shade provision for students. Other infrastructure related enquiries were noted regarding ensuring the site is appropriately fenced, local employment opportunities during construction and concerns around capacity of existing drainage and sewer systems.

Taking into consideration all of the above, the following potential social impacts were identified by Ethos Urban, as summarised in the table below.

Table 30: SIA Evaluation Summary

Consideration	Social factor	Impacted community	Impact	Project response	Residual impact after project response
Improved access to secondary education for future students and their families – potential increase in completion of rates to year 12.	Accessibility	Parents and students in the catchment	Positive – very high	Use of expandable school model plans for the growth of the school to future proof for additional facilities when required.	Positive (very high) residual impact – less likelihood of future overcrowding due to future proofing for growth
Provision of new community infrastructure which can be used by the surrounding community	Community, health and wellbeing	Residents of the catchment and Council	Positive - high	• Promote the availability of shared-use and the SINSW Share my school program • Support the development of community programming to foster community cohesion.	Positive (very high) - Medowie HS will support community cohesion outcomes though diverse social uses, including public use of sports facilities, grounds, and teaching and learning spaces.
Development of education infrastructure which priorities active and public transport use will increase walkability and reduce private vehicle use for school dropoffs and pickups. Creating a more walkable and public transport-oriented neighbourhood by providing key education infrastructure near to where people live will benefit surrounding residents.	Access, health and wellbeing	Future students at the school Future parents of the school	Positive - high	• Implement school programs to encourage the use of public and active transport • Implement the School Transport Plan • Consider providing shading at school bus stop shelters to reduce risk of urban heat impacts on students.	Positive – high - Moderate use of private vehicles for school drop-off and pick-ups. This will reduce additional traffic generation associated with the operation of a high school facility and improve health and wellbeing outcome amongst students using active transport.
Economic opportunities during	Livelihoods	Construction, teaching and	Positive - high	The project will see a total of up	Positive – high - The proposal

Consideration	Social factor	Impacted community	Impact	Project response	Residual impact after project response
construction and operation – jobs creation and flow on impact to businesses in the Medowie town centre.		other support function workers in the catchment Businesses in the catchment		to 240 construction workers on the site at any one time. This will draw local business to the town centre.	will support employment during construction and operations. Livelihood benefits will be concentrated within the Port Stephens Region, to support the local community.
Disruption associated with the construction of the new high school facilities will likely impact the daily routines and wellbeing of neighbouring residents, businesses and visitors to Port Stephens Foot Clinic.	Way of life, access, health and wellbeing, surroundings	Residents of the primary social locality	Negative - medium	CEMP to minimise impacts and include notification and complaints management procedures for the community. Noise and vibration management plan to address recommendation of acoustic expert.	Negative – low - Minimal construction related disruption to the daily routine of residents surrounding the site. Construction will not prevent residents from accessing the road network and have minimal effect on wellbeing and enjoyment of the surroundings.
Increased demand on the road network across the surrounding locality during school drop-off and pick-ups at future kiss and ride – potential congestion (potentially worsened with nearby location and operation of the primary school).	Way of life, accessibility	Residents of the primary social locality Future parents of students Businesses and workers on Abundance Rd	Negative - high	Implementation of the School Transport Plan to minimise private car dependency to reduce potential for congestion Staggering of start and finish (and bell) times	Negative – medium - Minimal impact on surrounding road network during school drop-off and pick-up periods. Traffic generated by the future school with be supported by the surrounding road network.
Location of school infrastructure in close proximity to petrol station and is in a	Health and wellbeing	Future students at the school	Negative - medium	Fencing between the school and petrol station to	Negative – low - Minimal concern about the health and

Consideration	Social factor	Impacted community	Impact	Project response	Residual impact after project response
bushfire zone and flood zone and with a sewer system under stress.		Future parents of the school		create a buffer. Design response to site constraints including compliance with Planning for Bushfire Management. Mitigation measures (such as preparation of an emergency management evacuation plan) will assist further, as well as a FERP for flood evacuation. Slow release to the Hunter Water sewer system.	wellbeing of future students amongst parents due to school design interventions demonstration of negligible bushfire and flood risks or health risks associated with the future High School's proximity to a petrol station. The school will also not contribute to sewer issues currently impacting residents across the surrounding locality heavy rain or flood events

Conclusion

As can be seen above, the proposed design adequately responds to principles of CPTED. No further mitigation measures are required in this regard with the exception of the operational measure to ensure implementation of CCTV surveillance as outlined in the Architectural and Landscape Design Report.

With regard to social impacts, there will be some positive and some negative impacts resulting from the activity, on both the primary social locality and the secondary social locality. Negative impacts have either been reduced through the design process or can be further reduced through adequate mitigation strategies. This includes preparation of the requisite environmental plans to manage construction and implementation of operational plans such as the STP, and evacuation plans to manage bushfire and flooding risk. Other mitigation measures such as staggering of school start and finish times between the proposed high school and the existing Medowie Public School will further assist in alleviating concern around traffic and parking congestion in the area. Implementation of these mitigation measures will ensure all potential negative social impacts are minor, or at worst, medium (for traffic only). The positive impacts are rated as high or very high and will see considerable benefits for both identified localities. Provision of the school will improve access to education, potentially see an increase in Year 12 completion rates, will provide a "whole of school" experience for students (due to co-location with Medowie Public School), result in enhanced employment opportunities in both construction and operation and the off-site enhancements will improve overall safety and accessibility for students and those within the PSL.

While mitigation measures are recommended in the SIA (as identified below):

- the extent and nature of potential negative impacts are generally low and will not have a significant impact on the locality, community and/or the environment. The mitigation measures will ensure that there is minimal impact on the communities
- the extent and nature of anticipated positive impacts associated with the delivery of a new high school and key social infrastructure are high, as detailed by this assessment.

6.13.3 Mitigation Measures

Table 31: Mitigation Measures for Social Impact

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
SI1	During operation	The Expandable School Model plan is to be used for the growth of a school based on projected figures and enrolments.	This allows for the provision of additional facilities when required.
SI2	During operation	School Management are to ensure that promotion of the availability of shared-use and the Department of Education's Share our Space program is undertaken in the community.	To provide community members access to quality outdoor facilities during school holidays.
SI3	During operation	Support the development of community programming such as a monthly school market to foster community use of the proposed school grounds.	To foster community cohesion.
SI4	During operation	The School Transport Plan is to be implemented in accordance with TR6.	To encourage the use of public and active transport.
SI5	During operation	If required, shading is to be provided at school bus stop shelters.	To reduce risk of urban heat impacts on students.
SI6	Prior to and during construction	Future preparation of a Construction and Environmental Management Plan (CEMP) (as per CON1) should contain measures to effectively communicate and engage with the surrounding community to minimise disruption, including notification requirements for periods of high impact, key contacts for enquiries and a complaints management process.	To manage the impacts of construction on the local community.
SI7	During operation	Staggering of school start and finish times between Medowie Public School and the proposed High School, as required under TR1.	To manage the flow of people and traffic to and from the immediate locality during peak school drop off and pick up times.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
SI8	During operation	Provide CCTV for surveillance of areas of high importance or where there is limited passive surveillance such as the bike store, which will remain locked between arrival and departure times.	To ensure safety through technical/mechanical surveillance.

6.14 Other Considerations

Table 32: Assessment of other environmental issues

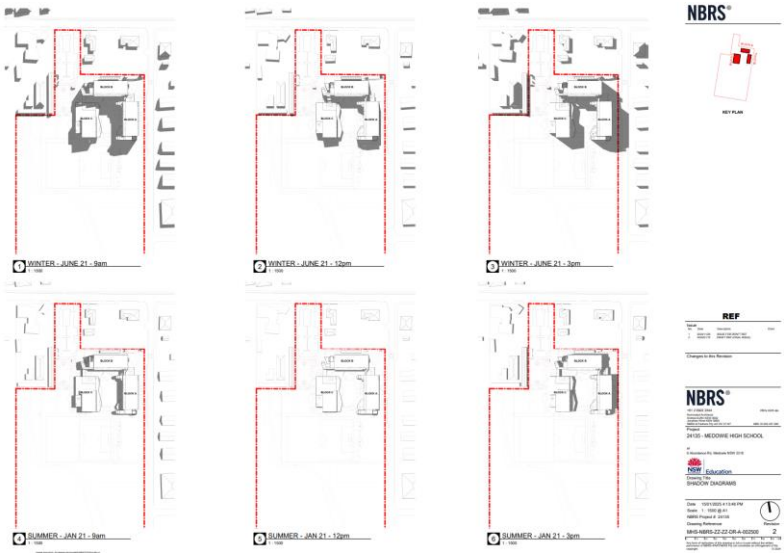
Issue	Consideration	Mitigation Measures?
Visual Amenity / Impact	A visual analysis is included in the Section 7 of the Architectural and Landscape Design Report (**Appendix 5**) which concluded that the activity has been thoughtfully sited and designed to ensure there are no adverse visual impacts on adjoining properties or on the existing streetscapes (to Ferodale and Abundance Roads). The governing design principle for siting buildings was to address the streetscape and minimise impact towards neighbouring properties. Setbacks of 10.750 m and 11.505m are proposed to Abundance Road and the adjoining 28 Ferodale Road respectively. These setbacks allow for generous landscape design and tree planting along the northern and eastern boundaries to reduce the impact of the scale of buildings on the surrounding properties. The massing of buildings is separated into three individual teaching buildings surrounding a central courtyard, open play spaces, entry plaza, and landscaped spaces between. The school is largely separated from any built form to the south, with the majority of surrounding uses to the east, north, and west being non-residential/habitual in nature. The height of buildings ranges up to three storeys, the siting of the school buildings is closest to the light industrial uses across Abundance Road to the east, which is zoned E4 General Industrial under the PSLEP. It is noted that there are no maximum building heights in the surrounding areas or zones, which also includes RU2 Rural Landscape to the west, and R5 Large Lot Residential to the south and east, as per the land use zoning pursuant to the PSLEP. The proposed height and scale are considered entirely appropriate. When looking north from Abundance Road, the proposed school does not have any greater impact than the existing industrial buildings to the east. As a result of the non-habitual 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. 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.	N/A – no mitigation measures are required to address visual amenity.

Issue	Consideration	Mitigation Measures?

Figure 34: View F – Abundance Road – South end of the site looking north (Source: NBRS)

Figure 35: View A – Ferodale Road – looking east (Source: NBRS)

Issue	Consideration	Mitigation Measures?
Privacy	The design of the proposed New High School for Medowie has been designed with consideration to privacy. Learning spaces are oriented to provide views over the central courtyard and open play space areas. Landscaped buffers have been included along boundaries, particularly to the area that abuts the residential property (28 Ferodale Road) to the northeast. Tree and shrub planting is proposed to provide both visual and acoustic buffers. Surrounding properties are generally not residential in nature (with the exception of 28 Ferodale Road), therefore, there is limited potential for privacy issues to arise to surrounding uses. No privacy impacts are proposed and therefore, no mitigation measures are required.	N/A – no mitigation measures are required as there will be no privacy impacts.
Overshadowing	The design of the buildings has been carefully planned to minimise overshadowing on neighbouring properties, with particular regard to the residential property located to the north of the site (28 Ferodale Road). Other adjacent properties are non-residential/habitual in nature, to the northeast of the site is the petrol station, further east of 28 Ferodale Road is the Port Stephens Foot Clinic, along the eastern boundary of Abundance Road are a number of light industrial uses, with those closest to the proposed buildings being a motorcycle dealer, and an auto repair unit. The school's location to the northern portion of the lands adjacent to these uses, prevents any potential impact of overshadowing to any residential properties to the south of the wider site. Overshadowing has been minimised by ensuring that setbacks from boundaries reduce any potential impact of overshadowing. Buildings are not located in the far northern portion of the site, with the proposed car park being located in this location adjacent to the residential property. This further mitigates any potential overshadowing to 28 Ferodale Road. Overshadowing plans (**Figure 36** and **Appendix 6**) show that no off-site overshadowing occurs except for at 3:00pm during the Winter Solstice, where some minor overshadowing will fall over Abundance Road. This does not, however, reach any of the industrial buildings. The overshadowing plans also show that the central courtyard and open play space areas for the school will receive sunlight at 12:00pm during the Winter Solstice, with partial overshadowing occurring at 9:00am and 3:00pm. During the Summer Solstice, the buildings siting does allow for some protection from sunlight between 9:00am and 3:00pm, along the edges of buildings. Nevertheless, covered areas are provided to minimise harsh direct sunlight during the summer months as required. The overshadowing plans both complies with EP&A guidelines and ensures that solar access is maintained for both the new school and any adjacent neighbouring properties. No impacts are proposed; therefore, no mitigation measures are required.	N/A – no mitigation measures are required as there will be no adverse overshadowing .

Issue	Consideration	Mitigation Measures?
	 **Figure 36: Mid-winter overshadowing plans (Source: NBRS)**	

Soils and Geology	This section summarises the findings of the Geotechnical Investigation **(Appendix 12)**. The primary geotechnical investigations include:
	• **Land Disturbance and Earthworks:** The site will require some topsoil stripping and ground levelling to accommodate the proposed structures.
	• **Site Soils:** The site is underlain by Pt (Post), part of Tomago Coal measures Group and Permian aged. The 'PT' is referred to as shale, mudstone, sandstone, tuff, and coal. Subsurface materials encountered during the investigation include:
	  ○ Unit 1 – Topsoil: Silty clay, brown, black with rootlets
	  ○ Unit 2 – Residual: Silty clay, stiff to very stiff, with sand and trace ironstone gravels.
	  ○ Unit 3 – Silty/Sandy clay: Hard, with extremely weathered siltstone vertical bands,
	  ○ Unti 4 – Mudstone
	• **Erosion Control:** A soil and water management plan (as part of the CEMP) is to be prepared prior to construction, and implemented during construction, to prevent erosion and generation of sediment. Refer to Mitigation Measure CON2 in **Section 6.3.3** of this REF.
	• **Acid Sulfate Soils:** investigations were carried out as part of the DSI (**Appendix 11**) to ensure that the proposed activity does not disturb, expose or drain acid sulfate soils and cause impact to nearby waterbodies.
	  ○ The probability of acid sulfate soil risk at the site is low. A review of the Acid Sulfate Soils (ASS) the site to be located upon Class 5 acid sulfate soils risk management zone, meaning that "development consent is required for the carrying out of works within 500m of adjacent Class 1, 2, 3 or 4 land that is below 5m AHD and by which the
		Refer to mitigation measure GEO1-GEO5 in **Table 33** and **Appendix 1**.

Issue	Consideration	Mitigation Measures?
	water table is likely to be lowered below 1m AHD on adjacent Class 1, 2, 3 or 4 land". The site is situated approximately 250 m north northwest from a Class 3 land where PASS may be found beyond 1 meter below the natural ground surface. ○ Testing was carried out by ADE, and the screening results indicated that ASS are not considered likely at the site. An ASS Management Plan was not required. • **Salinity Considerations**: The site is mapped as being in a non-saline area with a salinity value of 500-1500mg/L. A Salinity Management Plan is not required.	
Wind	The proposed buildings do not exceed three storeys, and the surrounding area does not comprise of tall buildings or a high-density environment. The site is not in a location that is anticipated to experience high winds or wind tunnelling. Therefore, there is not considered to be any adverse wind impacts experienced internally within the site or any wind impact on the surrounding environment. Design features such as canopies and awnings, and the provision of tree planting throughout the school will ensure there is a good level of pedestrian level amenity within the outdoor spaces of the site.	N/A – no mitigation measures are required as there will be no adverse impacts on the wind environment around the site.
Aviation	The site is mapped in an Obstacle Limitation Surface (OLS) area, and a bird strike area, under the PSDCP. Cl. 7.8 The site is in an OLS area mapped as 'Refer structures higher than 15m'. The PSDCP refers to Cl. 7.4 Airspace Operations of the PSLEP. The maximum building height of the proposed activity is as follows: • Block A: Maximum building height of 13.875m • Block B: Maximum building height of 14.575m • Block C: Maximum building height of 11.475m Therefore, the OLS will not be penetrated, the activity will meet the objectives of Cl. 7.4 of the PSLEP, and no impact to the OLS and airspace operations will occur.	Refer to mitigation measure OLS1 in **Table 33** and **Appendix 1**.
Services and Utilities	The site must be confirmed to be adequately service prior to operation. Details of such are to be submitted to the Crown Certifier prior to operation. Relevant approvals from respective utility and service providers will be required. The Hydraulic and Fire Services Report prepared by DSC (**Appendix 18**), and the Electrical and ICT Services Report prepared by Arup (**Appendix 16**), outline the required services and utilities for the proposed activity. Initial engagement with the relevant utility providers has occurred, and there appears to be adequate connections that can be made, with sufficient capacity for the activity. There are some environmental impact considerations, however, by incorporating recommendations and mitigation measures outlined by DSC and Arup, no impact is proposed. Environmental considerations include: • Trenching for underground water and drainage services could disturb soil and vegetation. • Noise from construction activities may temporarily affect surrounding areas. • Visual impact from above-ground installations such as fire	Refer to mitigation measures SER1 – SER23 overleaf in **Table 33** and **Appendix 1**.

Issue	Consideration	Mitigation Measures?
	hydrant booster assembly, water meters, fire water storage tanks and services plant rooms. • Potential disturbance during trenching for new water connections to the authority water mains and road opening. • Erosion control measures prevent soil displacement caused by construction activities, protecting nearby ecosystems, water bodies, and infrastructure. • Re-vegetation and restoring plant cover on disturbed soil after construction to stabilise the ground and promote ecological recovery. The recommendations outlined in both reports are included as mitigation measures at **Appendix 1** and overleaf in Table 25.	
Ecologically Sustainable Development	The proposed measures in the Ecologically Sustainable Development (ESD) report prepared by Arup (**Appendix 22**), and the Net Zero Statement prepared by Arup (Appendix 23) reflect a comprehensive approach to environmental responsibility, addressing key principles and aligning with regulatory standards. The project will achieve the following sustainability targets: • Green Star minimum rating of 4 stars in accordance with the Green Building Council of Australia 'Best Practice' performance measures. • Exceedance with the Deemed-to-Satisfy (DTS) requirements of the National Construction Code (NCC)2022 Section J; targeting a 10% reduction in energy consumption in comparison to a minimum NCC 2022 DTS compliant building. • Designed to minimise the use of fossil fuels upon occupation as part of the goal of achieving net zero emissions in NSW by 2050. The ESD Report also outlines a Climate Resilience Plan, to provide an overview of the climate change risk assessment undertaken for the proposed activity. The sustainability strategy includes holistic design and operational initiatives, to encourage best practice design towards energy, water, and waste reduction; as well as providing improved indoor environmental quality and a positive impact on nature and the community. The New High School for Medowie has been designed to minimise the use of fossil fuels upon occupation. The extent and nature of potential impacts are low and will not have significant impact on the environment. Any potential impacts can be appropriately mitigated and managed.	Refer to mitigation measures ESD1 – ESD8 and NZ1 – NZ2 overleaf in **Table 34** and **Appendix 1**.
Accessibility and BCA	The activity has included the preparation of an Access Report (**Appendix 20**) and BCA Design Compliance Report (**Appendix 19**) by MBC Group. There are matters to be resolved during detailed design phases to ensure that the activity complies with all relevant Building Code of Australia, Access, and National Construction Code standards. Relevant performance solutions may be required in order to issue a Crown Certificate.	Refer to mitigation measures BCA1 and AC1 overleaf in **Table 33** and **Appendix 1**.
Hazards (Electric and Magnetic Fields)	As outlined earlier in this REF, there is an existing 132kV transmission line traversing the northwestern corner of the site. There is an existing easement which covers the transmission line (J892295). Due to the easement, during concept design development of the activity, a number of works had to be carefully	Refer to mitigation measures EMF1 overleaf in **Table 33**

Issue	Consideration	Mitigation Measures?
	sited and designed outside of the easement. The following design features ensure compliance with Ausgrid requirements and ensure that no impacts to the easement will arise: • The proposed building fences in the easement are 2.1 meters which complies with Ausgrid recommendations of a maximum of 2.5 meters. • No road building is proposed in the easement. • No utility services are proposed in the easement. • Trees, shrubs and plants will be clear of the vehicle access with a height no greater than 4 meters in height. • The car park can operate within the easement area as it will not accommodate vehicles greater than 4 meters in height. No impacts are expected; however, a general mitigation measure has been included for any works proposed in the easement prior to construction. To assess the impact of the exposure to the transmission line, Zero Sequencing Earthing carried out an Electric and Magnetic Fields (EMF) Assessment (**Appendix 16**). The assessment calculated electric field strength (EFL) and magnetic flux density (MFD) to be computed at 1m and 2m above surface level, relevant to human exposure. Ensuring there is no exposure to EFL, and electric magnetic fields (EMF) is important for the use of the site as a school, as exposure in high levels can affect the functioning of the human nervous system. The EMF Assessment was carried out in accordance with the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines, which outlines that for occupational exposure (whole working day) the recommended limit of electric field strength exposure is 10 kV/m, with public exposure recommended at a limit of 5 kV/m. Note: (kV/m: electric field strength is measured in kilovolts per meter). For occupations exposure, the recommended limit of magnetic flux density is 1,000 microreslas (μT), for public exposure, the recommended limit is 200 μT. Note: (μT: Magnetic fields are measured in microteslas). The transmission line has been calculated at having a line to ground voltage of 76,200 V with a maximum feeder capacity of 168 MW. Using computer modelling, Zero Sequencing Earthing were able to calculate the maximum field strength at 1m and 2m above surface beneath the line (which is the typical exposure height for humans). The calculated maximum electric field strength of 19V/m is significantly less than the ICNIRP limit of 5kV/m (for an exposure period of 24 hours). The calculated magnetic flux density of 1.2 μT is significantly less thant the ICNIRP limits of 200 μT (for an exposure period of 24 hours). Safety compliance with the ICNIRP guidelines will be achieved. Zero Earthing Sequence conclude that there will be no impact from the transmission line traversing the proposed activity, therefore, no mitigation measures arise.	and **Appendix 1**.

6.14.1 Mitigation Measures

Table 33: Mitigation Measures for Other Considerations outlined in Section 6.14

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
GEO1	During construction	Shallow foundations and bored pile foundations are to be used, where feasible, as techniques to reduce noise and vibration impact on surrounding areas.	To decrease the generation of significant noise and vibration.
GEO2	During construction	After selection of the foundation system, a settlement analysis is to be undertaken to confirm that the total and differential settlements are within the specified tolerance, outlined in the Geotechnical Investigation at **Appendix 12**.	To determine if total and differential settlements are within the design tolerance.
GEO3	Prior to construction	The design must consider applied loading and settlement, with the pile foundation likely the most suitable foundation option for the site.	To ensure the foundations for the site are most suitable.
GEO4	During construction	All loose/soft soil within the footprint of proposed structures to be removed, including grubbing out of tree roots, if present. These layers may be backfilled with suitably engineered fill layers to the designed subgrade level. Any fill unsuitable for re-use, deleterious/surplus material (if present) such as timber, concrete, rubble, should be identified and disposed off-site.	To comply with AS3798-2007 “Guidelines on Earthworks for Commercial and Residential Developments”.
GEO5	During construction	Prior to the issue of the Crown Construction Certificate, written validation of the foundation to be completed by an experienced geotechnical engineer is to be submitted to the Certifier.	To identify locations of soft or unsuitable material and remediate prior to backfilling and construction of foundation.
OLS1	Prior to construction	If cranes or other construction measures or machinery are required to be used during construction which involve intrusion into the prescribed airspace for Williamtown Airport, the appropriate controlled activity approval is to be obtained through the relevant approval (aviation) authority prior to works commencing on site.	To protect the operations of Williamtown Airport airspace.
SER1	Prior to construction	Prior to the issue of the Crown Construction Certificate, written confirmation with the relevant utility providers to confirm connection points and design approvals for services is required. All requisite utility approvals are to be obtained prior to the commencement of the relevant	To ensure the school can be adequately serviced.

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		construction work.	
SER2	During construction	The approved noise and vibration management plan is to be implemented during all construction activities.	To limit disturbance during trenching, substation installation, and generator placement.
SER3	During construction and operation	Any generator used during construction or operation is to comply with noise and operational requirements as set out in the Arup Acoustic Specification (**Appendix 28**).	To ensure no adverse noise impacts occur.
SER4	During construction	Any trenching areas during site works are to be minimised, where feasible, by careful planning of services routes.	To prevent disturbance to soil and vegetation.
SER5	During construction	Excavated soil is to be reused for backfilling where possible.	To reduce waste.
SER6	During construction	Exposed soil is to be stabilised immediately after trenching by applying mulch, planting native vegetation, or using erosion control mats.	To prevent soil erosion.
SER7	During construction	Silt barriers and sediment control measures are to be implemented during all site works to prevent runoff into nearby water bodies.	To prevent soil erosion.
SER8	During construction	All noisy construction related activities are to be restricted to standard working hours to reduce disturbance to nearby residents.	To prevent noise impacts to surrounding uses.
SER9	During construction and operation	Noise barriers or acoustic screens near sensitive areas are to be utilised on the site during construction activities.	To prevent noise impacts to surrounding uses.
SER10	During construction and operation	All equipment is to be well-maintained and fitted with noise-dampening devices, such as mufflers or silencers (where required).	To prevent noise impacts to surrounding uses.
SER11	During construction and operation	Nearby residents and businesses are to be notified about high-noise activities and expected duration prior to any such activities taking place.	To prevent noise impacts to surrounding residents and businesses.
SER12	Prior to construction	A Construction Traffic Management Plan is to be prepared prior to demolition/construction and implemented during all site works, including details of alternate routes, detour signs, and detailed layouts of the construction site.	To reduce traffic disturbance during trenching for new water connections.
SER13	During construction	Clear and visible warning signs, cones, and barriers are to be installed during site works to guide drivers and pedestrians safely through or	To ensure safety during trenching for

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		around the construction area. Reflective materials should be used by construction staff used for nighttime visibility.	new water connections.
SER14	During construction	Trained personnel are to be employed to direct traffic during active construction hours, especially in high-risk zones.	To ensure safety during trenching for new water connections.
SER15	During construction	Construction works are to be scheduled in phases to limit the road sections affected at any given time.	To maintain partial road functionality during trenching.
SER16	During construction	Local communities and commuters are to be notified about road closures or delays via public announcements, social media, and signage well in advance.	To ensure the community are well informed.
SER17	During construction	Safe pedestrian crossings, maintenance of emergency access routes, and creation of buffer zones for workers are to be established.	To create access points and safety zones during trenching.
SER18	During construction	Biodegradable mats are to be used to stabilize exposed soil on slopes and embankments.	To protect nearby waterbodies and support vegetation growth.
SER19	During construction	Vegetated strips between construction areas and water bodies are to be established to filter runoff.	To filter water runoff from eroded materials.
SER20	During construction	Drainage channels or culverts are to be established during site works to manage water flow and direct it away from vulnerable areas.	To protect nearby waterbodies.
SER21	During construction	Local, native plant species are to be used for re-vegetation where possible.	To ensure better adaptability, biodiversity retention, and minimal maintenance needs.
SER22	During construction	Reapply stripped topsoil over disturbed areas.	To provide nutrients essential for plant growth.
SER23	During construction	Re-vegetation efforts on the site should be aligned with favourable growing seasons.	To maximise survival rates.
ESD1	Prior to construction	Finalise and demonstrate all Green Star strategy targeted credits, through the award of a Green Star Design Review certification.	To enhance sustainability of the project and minimise

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
			impact on the locality, community, and/or the environment.
ESD2	Prior to construction	If any departures arise from the sustainability strategy outlined in the ESD Report prepared by Arup, a review of the strategy is required. Any revised strategy is to be prepared by a suitably qualified ESD consultant and submitted to DoE for approval.	To ensure the activity still meets the ESD initiatives and targets.
ESD3	Prior to construction – detailed design	Prior to the issue of the Crown Construction Certificate, a services and maintainability review is to be undertaken in consultation with a suitably qualified ESD Consultant. The review is to ensure that the activity still complies with a minimum 4-star Green Star rating as the detailed design evolves. Written confirmation of compliance with the Green Star Rating required for the project is required to be submitted to Certifier.	To ensure the activity is designed for optimum management and operations.
ESD4	Prior to construction	The Contractor is responsible for adopting responsible construction practices, including the development of a project-specific best-practice Construction Environmental Management Plan (CEMP).	To reduce impacts and promote opportunities for improved environmental and social outcomes.
ESD5	Prior to construction	The Contractor is responsible for implementation of the Demolition, and Construction Waste Management Plan prepared for the activity.	To manage demolition and construction waste in a safe manner.
ESD6	Prior to operation	The Contractor is responsible for implementation of the Operational Waste Management Plan prepared for the activity.	To manage operational waste in a safe manner.
ESD7	Prior to construction	The Contractor is responsible to demonstrate policies that promote diversity and reduce physical and mental health impacts.	To promote diversity and reduce physical and mental health impacts.
ESD8	Prior to construction	Prior to the issue of the Crown Construction Certificate, the Contractor is responsible for the preparation of a NABERS Embodied Emissions Material Form, in accordance with State Environment Planning Policy (Sustainable Building SEPP) 2022.	To reduce carbon emissions released throughout the entire process of construction.
NZ1	Prior to construction	Prior to the issue of the Crown Construction Certificate, the annual emissions estimate of Bunsen burners and kitchen cooktops required	To quantify the percentage of

Mitigation Number/Name	Aspect/Section	Mitigation Measure	Reason for Mitigation Measure
		for the activity is to be quantified by a suitably qualified professional. This is to be submitted to the project Certifier.	the activity's operational greenhouse gas emissions.
NZ2	Prior to construction	Prior to the issue of the Crown Construction Certificate, confirmation in writing by a suitably qualified professional is required to confirm the future expansion capabilities of PV to a 99kWp system.	To encourage greater renewable energy production on site.
BCA1	Prior to construction	All building work is to be designed and undertaken in accordance with the National Construction Code Series, Building Code of Australia, Volume 1 and 2, as relevant.	To ensure the activity complies with relevant BCA standards and guidelines.
AC1	Prior to construction	All building work is to be designed and undertaken in accordance with the Building Code of Australia 2022 Volume 1, the Disability (Access to Premises - Buildings) Amendment Standards 2010 and 2020 (Premises Standards), relevant Australian Standards (AS), and the intent of the Disability Discrimination Act 1992 (DDA).	To ensure the activity complies with relevant access standards and guidelines.
EMF1	Prior to construction	Before the commencement of any construction works, written approval is required from Ausgrid for any activities in the easement.	To ensure the electricity easement will not be affected.

6.15 Cumulative Impact

6.15.1 Assessment

Gyde has undertaken a detailed review of Council's DA tracker, the DPHI major projects register, and the Sydney and Regional Planning Panels register.

We note no major projects were identified within close proximity of the site. The DAs in the vicinity of the site either included smaller scale projects or developments that have been constructed and are operational (i.e., industrial and indoor recreation at 17 Abundance Road, and an emergency services facility at 30 Ferodale Road). The more substantial applications, such as the SSDA for the Catherine McCauley Catholic College (SSD-8989), are well separated from the site so as to not cause any cumulative impact. Moreover, the Catherine McAuley Catholic College school is now operational. Therefore, consideration of cumulative traffic impacts on the broader road network in Medowie has been part of the traffic modelling and assessment undertaken by WSP.

There may be broader development occurring in Medowie into the future, in alignment with strategic plans for the town (and Precinct K). It is too early at this stage to anticipate what that growth would look like and any cumulative impacts (particularly traffic) for the surrounding locality.

All cumulative traffic impacts between the proposed high school and the existing primary school have been considered in the TAIA.

6.15.2 Mitigation Measures

No mitigation measures are required as there will generally be no cumulative impact resulting from the activity. The only exception is the operational traffic impact from the proposed activity and the nearby primary school. Measures already identified earlier in this section such as staggering of bell times will adequately ameliorate any potential cumulative traffic impact.

6.16 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.

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 34** and where mitigation measures have been proposed in response to the factor, these have been identified.

Table 34: 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 regarding flood and bushfire resilience of the design and operations. Long-term, the proposed activity will have a beneficial impact for the community by providing modern and fit-for-purpose secondary school facilities that have been designed to be resilient to impacts from flood, bushfire and climate change. Students will be able to attend high school in Medowie without having to transport to transition easily from primary school to secondary school due to the proximity of the school site to Medowie Public School.	Refer to the transport mitigation measures set out in **Table 14;** TR1-TR14 Refer to the noise and vibration mitigation measures set out in **Table 15**; AC1-AC8 A CEMP will be required as identified in mitigation measures CON1, ARB1, SWGW3, AQ1, and SI6
Any transformation of a locality?	The proposed activity includes the construction of new school on a largely vacant site. There will be short term impacts during construction which will be subject to suitable mitigation measures. The proposed activity will change the locality, but in a positive way, through provision of new educational options for secondary school attendees. The design of the buildings and landscape outcome will ensure a positive visual outcome when viewed from the site's two street frontages. Significant vegetation on the site will be retained so as to not impact the biodiversity value of the site.	There are no mitigation measures as no visual impact is expected. Biodiversity mitigation measures are set out in **Table 22**: Mitigation Measures for Ecology; ARB1-ARB19 NVM1-NVM24 KOA1-KOA10 ECO1-ECO16
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 activity is unlikely to affect any threatened species, populations or ecological communities. Mitigation measures have been identified to minimise any indirect or potential impacts arising from sediment,	Refer to the mitigation measures set out in **Table 22**: Mitigation Measures for Ecology;

Environmental Factor	Consideration	Mitigation Measure Reference

	dust and vegetation removal.
	Where protected flora and fauna has been identified on site, provisions have been made to ensure protection of any native species is a priority.
	• The site is subject to 'Preferred Koala Habitat' and 'Preferred Koala Habitat Buffer Over Other Vegetation' affectations. There are several koala feed tree species present on the site, including Swamp Mahogany (Eucalyptus robusta), Forest Red Gum (Eucalyptus tereticornis), and Scribbly Gum (Eucalyptus signata).
	  ○ A Koala Management Plan prepared by Water Technology ensures no environmental impact occurs to the koala species.
	• Tree 1 is a Wallangarra White Gum (Eucalyptus scoparia) and is listed as vulnerable under the *Environmental Protection and Biodiversity Conservation Act 1999* and Endangered under the NSW *Biodiversity Conservation Act 2016.*
	  ○ Protection of this tree is of high priority; protection measures are outlined in the Arboricultural Impact Assessment (**Appendix 34**).
	• The densely vegetated area in the southwest corner is identified as remnant native vegetation (PCT 3995 – Hunter Coast Paperbark-Swamp Mahogany Forest). This vegetation is also mapped as Biodiversity Values under the BOS.
	  ○ Retention of this densely vegetated area is proposed as it is outside the scope of works area.
		ARB1-ARB19
		NVM1-NVM24
		KOA1-KOA10
		ECO1-ECO16

Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality?	There will be a short-term impact on the aesthetic qualities of the site during the construction work. Mitigation measures have been identified to address construction noise, vibration 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.	Refer to the transport mitigation measures set out in **Table 14;** TR1-TR14 Refer to the noise and vibration mitigation measures set out in **Table 15**; AC1-AC8 Refer to the stormwater management mitigation measures set out in **Table 23**; SWGW1-SWGW3 Refer to the waste mitigation measures set out

Environmental Factor	Consideration	Mitigation Measure Reference
		in **Table 28**; WAS1-WAS8 A CEMP will be required as identified in mitigation measures CON1, ARB1, SWGW3, AQ1, and SI6
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?	There will be no impact on Non-Aboriginal or Aboriginal heritage items (built, landscape or archaeological) noting the site does not comprise any and is not in proximity to any other such items. The site is also not within any conservation areas. With regard to the design, as detailed in this REF and accompanying landscape and architectural documentation, the proposed buildings and landscape have been designed to *connect with Country*. 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.	Refer to the mitigation measures set out in **Table 25**; NAH1 and **Table 26**; AH1-AH3
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 Biodiversity Conservation Act 2016. As the activity is unlikely to have a significant impact on any of the protected species, a Species Impact Statement under the BC Act is not required. Mitigation measures have been identified in the ecological reporting to mitigate any indirect impacts.	Refer to the mitigation measures set out in **Table 22**: Mitigation Measures for Ecology; KOA1-KOA10 ECO1-ECO16
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.	Refer to the mitigation measures set out in **Table 22**: Mitigation Measures for Ecology; ARB1-ARB19 NVM1-NVM24 KOA1-KOA10 ECO1-ECO16
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 have a	Refer to the mitigation measures set out in **Table**

Environmental Factor	Consideration	Mitigation Measure Reference
	positive social and economic benefit on the locality, and environment, as outlined in the SIA prepared by Ethos Urban.	**31**; SI1-SI8
Any degradation of the quality of the environment?	Appropriate mitigation measures have been recommended to ensure that the activity will not reduce the quality of the natural environment, including ecology, landscape, stormwater management, noise and waste management.	Refer to the mitigation measures set out in **Table 22**: Mitigation Measures for Ecology; ARB1-ARB19 NVM1-NVM24 KOA1-KOA10 ECO1-ECO16 Refer to the mitigation measures set out in **Table 23**; SWGW1-SWGW3 Refer to the waste mitigation measures set out in **Table 28**; WAS1-WAS8 Refer to the noise and vibration mitigation measures set out in **Table 15**; AC1-AC8
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 mitigating flood and bushfire risks. The flood and bushfire design and management response for the activity has been developed having regard to the risk profile of the site and surrounds (including access roads) and following feedback from the SES (for flooding), the RFS (for bushfire) and Council.	Refer to the flooding mitigation measures set out in **Table 18**; FL1-FL8 Refer to the bushfire mitigation measures as set out in **Table 20**; BF1-BF8
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.	Refer to the mitigation measures set out in **Table 23**; SWGW1-SWGW3

Environmental Factor	Consideration	Mitigation Measure Reference
Any environmental problems associated with the disposal of waste?	Construction and operational waste management plans have been prepared which set out all management practices required to reduce, minimise or avoid adverse impacts arising from the disposal of waste. In addition, a Hazmat Report has set out waste management procedures for the removal of hazardous materials. All outcomes and recommendations of these reports have been captured in the mitigation measures for the activity.	Refer to the waste mitigation measures set out in **Table 28**; WAS1-WAS8
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.	Refer to the mitigation measures set out in **Table 33**; ESD1-ESD8 and NZ1-NZ2 in **Table 33.**
Any cumulative environmental effects with other existing or likely future activities?	As set out in **Section 6.15** of this REF, there will be no cumulative environmental effects of the activity with any other existing or likely future activities. There are not likely to be any cumulative impacts with the exception of cumulative traffic effects on the local road network due to the close proximity of the site to the existing Medowie Public School. However, the TAIA prepared by WSP, and Section 6.1 of this REF outlines measures that will ensure that this impact is managed appropriately to ease congestion on the surrounding road network.	N/A
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 4.5** 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 activity to construct the New High School for Medowie 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 and importantly, direct feedback from the community that the school location adjacent to Medowie Public School, is appropriate.
- 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.

As identified in this REF, the site is environmentally constrained, particularly, in terms of ecology, bushfire risk and flooding. The design has been informed by consultation with key stakeholders, site inspections and best practice measures to minimise risk to the school community and impacts of the activity on the environment.

As evidenced in this REF, 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 environmental impacts of the proposal are not likely to be significant, on an individual or cumulative basis. Therefore, it is not necessary for an EIS to be prepared and approval to be sought for the proposal 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 REF at **Appendix 1**.