NSW Department of Education

Review of Environmental Factors

Bungendore High School

Document version: Final Version 5

Date: 11/03/2025

NSW GOVERNMENT

Acknowledgement of Country

The NSW Department of Education acknowledges the Ngunnawal, Ngambri, Ngarigo and Waljumba, the traditional custodians of the land on which the Bungendore High School 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 Urbis Ltd on behalf of the NSW Department of Education (**department**) and assesses the potential environmental impacts which could arise from the construction and operation of a new school in Bungendore at 18 Harp Avenue, Bungendore.

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

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

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

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Abbreviations

Abbreviation	Description
AHIP	Aboriginal Heritage Impact Permit
AHIMS	Aboriginal Heritage Information Management System

Abbreviation	Description
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
CA	Certifying Authority
CM Act	*Coastal Management Act 2016*
CWC	Connecting with Country
COLA	Covered Outdoor Learning Area
CNVMP	Construction Noise and Vibration Management Plan
CWMP	Construction Waste Management Plan
The department	NSW Department of Education
DCCEEW	Department of Climate Change, Energy, the Environment and Water
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
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
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
EFSG	Education Facilities Standards and Guidelines
EWA	Environmental Wind Assessment
FM Act	*Fisheries Management Act 1994*
FERP	Flood Emergency Response Plan
FIRA	Flood Impact Risk Assessment
GBCA	Green Building Council of Australia
GANSW	Government Architect NSW
Ha	Hectares
LEP	Local Environmental Plan
LGA	Local Government Area
LSPS	Local Strategic Planning Statement
MNES	Matters of National Environmental Significance

Abbreviation	Description
NCC	National Construction Code
NorBE	Neutral or Beneficial Effect on Water Quality Assessment Guideline (2022)
NPW Act	*National Parks and Wildlife Act 1974*
NPW Regulation	National Parks and Wildlife Regulation 2009
NPWS	National Parks and Wildlife Service (part of EES)
NSW RFS	NSW Rural Fire Service
NVA	Noise and Vibration Assessment
OEH	(Former) Office of Environment and Heritage
OWMP	Operational Waste Management Plan
PADs	Potential Archaeological Deposits
Planning Systems SEPP	*State Environmental Planning Policy (Planning Systems) 2021*
PCMP	Preliminary Construction Management Plan
PCTMP	Preliminary Construction Traffic Management Plan
PSI	Preliminary Site Investigation
POEO Act	*Protection of the Environment Operations Act 1997*
Proponent	NSW Department of Education
REF	Review of Environmental Factors
QPLEP 2022	*Queanbeyan-Palerang Regional Local Environmental Plan 2022*
QPRC	Queanbeyan-Palerang Regional Council
RF Act	*Rural Fires Act 1997*
Resilience and Hazards SEPP	*State Environmental Planning Policy (Resilience and Hazards) 2021*
Roads Act	*Roads Act 1993*
SCPP DoE	*Stakeholder and community participation plan,* published by the NSW Department of Education October 2024
SCPP DPHI	*Stakeholder and community participation for new health services facilities and schools* published by the Department of Planning, Housing and Infrastructure October 2024
SDRP	School Design Review Panel
SINSW	School Infrastructure NSW
STP	School Transport Plan
SIA	Social Impact Assessment
SELU	Special Education Learning Unit
SEPP	State Environmental Planning Policy
SIS	Species Impact Statement
TI SEPP	*State Environmental Planning Policy (Transport and Infrastructure) 2021*
TfNSW	Transport for NSW
TIA	Transport Impact Assessment
WM Act	*Water Management Act 2000*

Abbreviation	Description
WSUD	Water Sensitive Urban Design

Executive Summary

The Proposal

The proposed activity relates to the construction and operation of a new high school in Bungendore at 18 Harp Avenue, Bungendore (the **site**). The new high school will accommodate 600 students and 68 staff. The school will provide 26 general learning spaces, and three support learning spaces across two learning hub buildings. The learning hubs will be three-storeys in height and will include permanent and support teaching spaces, specialist learning hubs, a library, administrative areas and a staff hub.

Additional core facilities are also proposed including a standalone school hall with covered outdoor learning area (**COLA**), a car park, a kiss and drop zone along Birchfield Drive, sports courts and a sports field. The new school also features a single storey building with associated paddocks in the far western portion of the site designed for livestock management and hands-on agricultural learning.

Specifically, the proposal involves the following:

- Building A, a three-storey learning hub accommodating general learning spaces, a special education learning unit (**SELU**), a physical education centre, a performing arts space, and other core facilities including administrative areas, staff hub, library and end of trip facilities.
- Building B, a part three/part four storey learning hub accommodating general learning spaces, specialist workshops for food, textile, wood and metal workshops, as well as visual arts studios, science labs and staff areas.
- Building C, a standalone school hall with COLA.
- Building D, a single-storey agricultural block comprising an animal storage space, a COLA and internal workshop.
- On-site staff car park with 50 spaces with access via Bridget Avenue.
- Kiss and drop zones and bus bays along Birchfield Drive.
- Open play space including a sports courts and sports field.
- Associated utilities and services including a 1000kv padmount substation.
- Main pedestrian entrance to be located off Birchfield Drive.
- Secondary pedestrian access from Bridget Avenue.
- Public domain/off-site works including the removal of street trees.

The design has been masterplanned to allow for an additional future stage. The second stage does not form part of this proposal.

The site is approximately 4.2 hectares in size and legally referred to as part of Lot 125 in Deposited Plan (**DP**) 1297613 within Queanbeyan-Palerang Local Government Area (**LGA**). It forms part of the North Bungendore Precinct (Elm Grove Estate) in Bungendore and has previously been used for light agricultural purposes.

The site is currently unoccupied, having been cleared of all vegetation by the subdivision developer, Elmslea Land Developments Pty Ltd between mid-2022 and mid-2023, in preparation for future low-density development.

The site has a significant fall in gradient from north to south of approximately 15 metres. A drainage channel/ riparian corridor exists along the western boundary of the site. The site is not bushfire-prone land and is not affected by mainstream flooding but is subject to localised overland flow during significant rainfall events. No Aboriginal Heritage Information Management System (**AHIMs**) sites exist within the proposed new school site and the site does not contain any listed item of European heritage.

Planning Pathway

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

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

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

Consultation

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

Comments received will be carefully considered and responded to. In addition, as outlined in **Section 6** of this REF, non-statutory consultation has been undertaken with a range of community and government stakeholders throughout the design process.

Environmental Impacts

This REF is supported by a series of technical reports that evaluate and propose measures to mitigate any environmental impacts arising from the proposed activity. These reports have identified several potential impacts, all of which can be effectively managed through adoption of the required mitigation measures. The key issues assessed are as follows:

- **Traffic and Access (Construction and Operational)**: The proposed high school will generate 558 vehicle movements during peak periods both in the morning and afternoon. The traffic assessment confirms that the additional vehicle movements will have a negligible impact on the surrounding traffic network. To address traffic and access

requirements, the proposed activity includes the establishment of dedicated bus bays and kiss and drop zones designed to facilitate smooth vehicular flow and safe student drop-off and pickup.

Additionally, the proposed activity includes the construction of two wombat crossings, one on Birchfield Drive and another on Bridget Avenue, to ensure pedestrian safety and promote ease of movement across busy roads. In addition, new footpaths will be constructed along Birchfield Drive, Winyu Rise, and Bridget Avenue, filling critical gaps and enhancing accessibility around the school site. These works are essential to operation of the high school and are integral to mitigating the environmental (traffic and transport) impacts of the proposed activity.

Regarding parking, the provision for staff parking is sufficient to meet demand based on the expected number of school employees. The design includes a staff car park and strategically planned drop-off zones, which have been designed to efficiently manage the flow of vehicles during peak times, minimising congestion and facilitating orderly operations throughout school hours.

During the construction phase of the school, the impact of increased traffic will be managed through a robust Construction Traffic Management Plan (**CTMP**). This plan includes scheduling major deliveries and movements of construction vehicles during off-peak hours to prevent any negative impacts on the local traffic flow. This proactive approach ensures that construction activities will not disrupt the daily lives of local residents and commuters.

- **Noise** (**Construction and Operational**): Construction noise emissions are anticipated to exceed the noise emission criteria at the nearest sensitive receivers, with some periods predicted to surpass the "highly affected" noise level at all receiver locations. Operational noise primarily from school activities and traffic is predicted to comply with relevant noise criteria. However, special events and certain sports activities might elevate noise levels temporarily. To address these potential adverse impacts, mitigation measures have been proposed, as detailed in **Section 7.2** of this REF.
- **Wind:** The assessment of wind impacts for the proposed school identifies potential challenges due to the site's exposure to strong north-westerly winds, influenced by its open location and varied topography. The project plans to mitigate these impacts through strategic site planning and design measures. Mitigation measures include the use of building placement and orientation to naturally shield outdoor spaces and reduce wind speeds across the site. Buildings will be positioned to create windbreaks, particularly in recreational and gathering areas, to enhance comfort for students and staff.

  Additionally, the landscaping strategy incorporates trees and shrubs that can serve as natural wind barriers, further helping to calm wind-prone areas. These measures aim to ensure that the outdoor environment is comfortable for users and that wind impacts are effectively managed throughout the seasons, aligning with overall goals for safety and environmental comfort at the new school.
- **Flood:** The key flooding impacts for the proposed school primarily involve managing overland flow due to the site's modification and increased runoff from the proposed fill, leading to changes in flood levels within the site by +3m to +7m during a 1% AEP event. These impacts are localised and contained, with mitigation measures ensuring no significant flooding on adjacent properties or in surrounding areas.

Mitigation strategies include refining civil and stormwater infrastructure to handle significant rainfall events, enhancing the existing flow paths north of Buildings A and C, and constructing a wall to restrict overflows into lower terraces. Furthermore, the development of a robust Flood Emergency Response Plan (**FERP**) ensures preparedness through predefined staff roles, flood evacuation protocols, and regular updates to the FERP. These combined efforts are designed to maintain safety and minimise disruption during flood events, effectively managing flood risks associated with the project

- **Visual:** The design of the proposed school has addressed visual impacts concerning bulk and scale through thoughtful design and strategic placement of buildings. The school structures are divided into four separate buildings, utilising a stepped design that follows the natural topography to significantly reduce their visual prominence. This approach minimises the perception of bulk and integrates the buildings more harmoniously with the surrounding built environment.

  Mitigation measures include setting buildings back at least 10 meters from Birchfield Drive, which exceeds standard residential setback requirements, helping to lessen visual encroachment. Facades feature varied materials and recessive colours to break up the mass of the buildings and blend them into the natural landscape. A dense landscaped buffer along Birchfield Drive, consisting of native tree planting and layered vegetation, softens the transition between the public domain and private residences, enhancing the area's visual amenity.

  These strategies ensure that the school integrates seamlessly within the developing neighbourhood while maintaining a balanced relationship between the built form and the surrounding residential properties, preserving key views and enhancing the site's overall aesthetic and ecological value.

  Odour: The odour impacts from the proposed school are anticipated to be minimal, largely due to the small scale of animal activities on-site. To manage these impacts, the project includes an Odour Management Plan which mandates regular cleaning of animal enclosures and strategic placement of composting activities away from residential areas. Field odour surveys will be conducted to monitor and adjust these measures, ensuring that odour levels remain within acceptable standards and do not disrupt the school environment or local community.

Other impacts have been considered as detailed in this REF.

Justification and Conclusion

Based on the environmental assessment undertaken as part of this REF, it has been determined that the proposal 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 proposal 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 proposal from the Minister for Planning and Public Spaces under Part 5.1 of the EP&A Act. The proposed 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 report.

1. Introduction

The NSW Department of Education (the **department**) proposes to construct and operate a new high school (the **activity**) located at part 18 Harp Avenue, Bungendore, NSW 2621 (the **site**).

The proposal is consistent with the State Government's plan to rebuild essential services. The 2024-25 budget is delivering record education funding including $1.4 billion for new and upgraded schools in regional NSW. The focus is on ensuring that the growing communities are receiving access to world class public education.

Bungendore's growing population has placed increasing pressure on existing schools, necessitating the establishment of a new permanent high school to accommodate local students. Currently, many students must travel long distances to attend high school in nearby towns, creating logistical challenges for families and limiting access to extracurricular and community-based educational opportunities. A new high school would provide essential infrastructure to support the region's development, ensuring quality education close to home.

This Review of Environmental Factors (**REF**) has been prepared by Urbis Ltd on behalf of the department to determine the environmental impacts of the proposed new Bungendore High School. For the purposes of these works, the department is the proponent and the determining authority under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (**EP&A Act**).

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

The potential environmental impacts have been assessed in the accordance with the *Guidelines for Division 5.1 Assessments* (DPE, June 2022), Guidelines for Division 5.1 assessments - consideration of environmental factors for hospital and school activities Addendum (DPHI, October 2024), EP&A Act, the *Environmental Planning and Assessment Regulation 2021*, 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 Environmental Impact Statement (**EIS**) to be prepared and approval to be sought from the Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act; and
- The potential for the proposal 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.

This REF is supported by a series of technical reports that evaluate and propose measures to mitigate any environmental impacts arising from the proposed activity. These are appended to the REF.

2. Site Analysis

2.1 Site Description

The current street address is part of 18 Harp Avenue, Bungendore, NSW, 2621. The site is approximately 4.2 hectares in size and is legally referred to as part of Lot 125 in DP 1297613 within Queanbeyan-Palerang LGA.

The proposed school site forms part of a larger lot which is the subject of a proposed residential subdivision. The site is located within the North Bungendore Precinct (Elm Grove Estate) in Bungendore. As a result of precinct wide rezonings, the surrounding locality is currently transitioning from a semi-rural area to an urbanised area with new low density residential development. The site is zoned R2 Low Density Residential, with all adjoining land also zoned R2 Low Density Residential.

The site has three frontages:

- Approx 500m southern frontage to Birchfield Drive.
- Approx 500m northern frontage to Bridget Avenue.
- Approx 100m eastern frontage to Winyu Rise.

The site is currently vacant land and has been cleared of all vegetation other than grassland, having been prepared for the purposes of future low density residential development. The site has a fall in gradient from north to south of approximately 15 metres.

A drainage channel/ riparian corridor exists along the western boundary of the site. The site is not bushfire-prone land and is not affected by mainstream flooding but is subject to localised overland flow during significant rainfall events. No AHIMs sites exist within the proposed new school site and the site does not contain any listed item of European heritage.

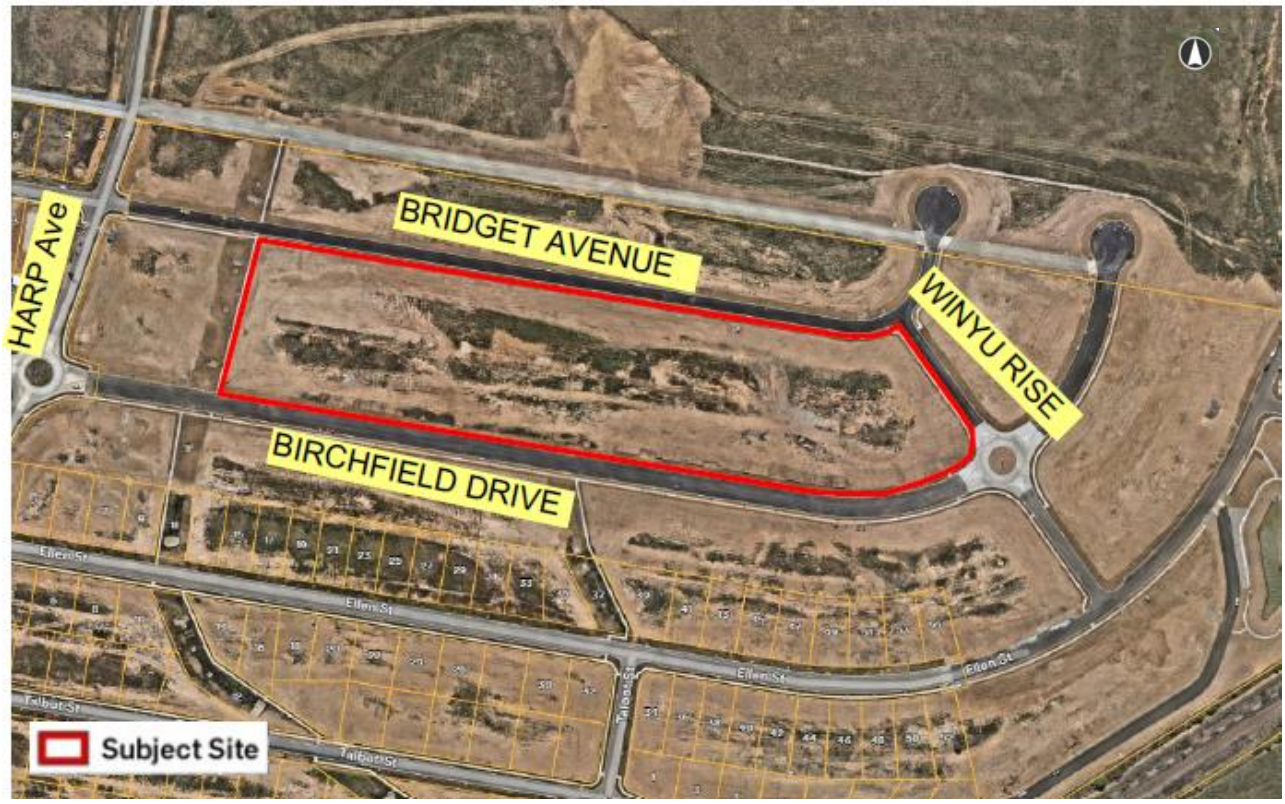
A summary of the site details is provided in **Table 1**. The location and configuration of the site is shown in **Figure 1** and **Figure 2**. Photographs of the existing site condition and surrounding context are provided in **Figure 3**.

Table 1: Site Details

Site characteristics	Description
Site address	18 Harp Avenue, Bungendore NSW 2621
Legal description	Part of Lot 125 in Deposited Plan 1297613
Site area	The site is irregular in shape and has a total approximate area of 4.2 hectares.
Local government area	Queanbeyan-Palerang Regional Council (**QPRC**)
Site ownership	The site is owned by NSW Minister for Education and Early Learning.
Easements	Easement E1: Located at the southwest corner of the site off Birchfield Drive (for Essential

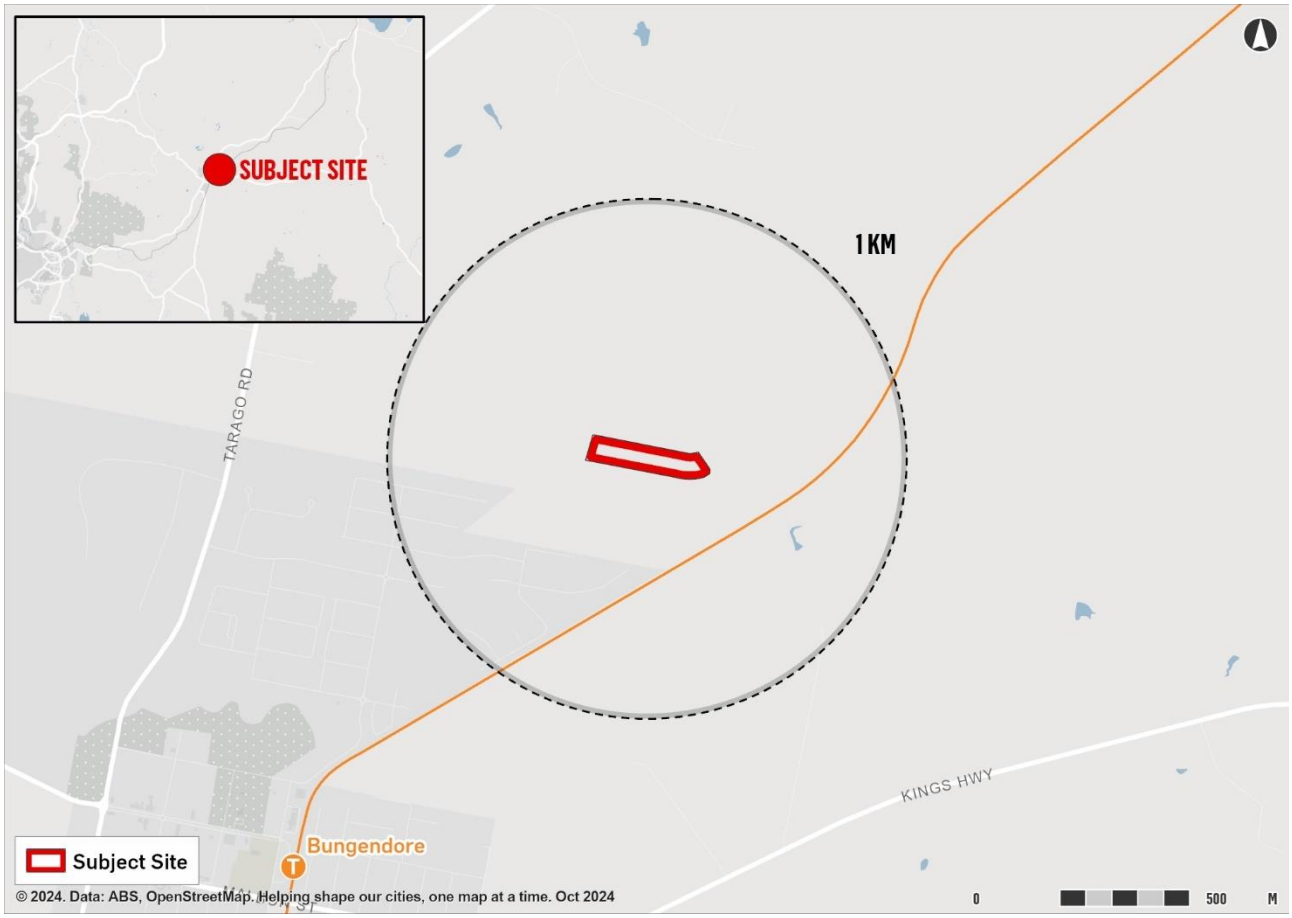
Site characteristics	Description
	Energy padmount substation). Easement E2: Located at the northeast corner of the site off Bridget Avenue (for Essential Energy padmount substation.
Existing use / structures	The site is currently vacant land and does not include any buildings or structures. The site has also been cleared of all vegetation and consists of grassland.
Topography	The site has an undulating terrain with the highest level of RL 748.000 occurring on Bridget Avenue and falling down approximately 18 metres towards Birchfield Drive, 27 metres towards the southwestern corner and 15 metres towards the southeastern corner of the site.
Vehicle / site access	Vehicle access to the site is currently provided from Bridget Avenue and Birchfield Drive. However, the site is not currently accessible by the public as these have been fenced off.

Figure 1 Site Aerial



Source: Urbis, 2024

Figure 2 Locality Plan



Source: Urbis, 2024

Figure 3 Site Photos

Picture 1 Looking west into the site form the site's eastern boundary

Picture 2 Looking north into the site

Picture 3 Looking west across the site from the sites centre

Picture 4 East across the site towards Bungendore

Source: Yerrabingin and Google Maps, 2024

2.2 Locality Context

The site is approximately 2km north of the Bungendore Town Centre and 23km northwest of Queanbeyan. Photographs of the surrounding locality are provided in **Figure 4**. The surrounding locality is currently undergoing a transformation from rural land to residential development following its rezoning in 2020.

The immediately surrounding land is described as follows:

- **North, East and South**: Land to the north, east and south is comprised of existing semi-rural land which is currently being prepared for future low-density residential development. This includes the construction of future road alignments and lot layouts.
- **West:** Land immediately west is currently vacant, however further west are several low-density residential dwellings indicative of the future locality. Outside of the boundary of the Elm Grove Estate subdivision are a number of existing low density residential dwellings.

The site is not in proximity to any licensed premises, sex-service establishments, or potentially hazardous land uses such as petrol stations.

2.3 Public Transport and Active Travel

The site currently has limited access to public transport. A bus stop is located on the southern side of Birchfield Drive, which will be active when the demand is generated for the service. The nearest active bus station is located on the corner of Ashby Drive and McCusker Drive, approximately 900 metres south-west of the site. This bus station is serviced by the 844 and 844x bus routes which provides public transport access to Queanbeyan and Canberra.

However, this bus service is infrequent with certain AM and PM peak services not extending into Bungendore but rather terminating in Queanbeyan. Similarly, the 844 and 844x services only operate every 3 hours. The site is located approximately 2 kilometres north of the Bungendore Train Station which provides access to Canberra and Queanbeyan, as well as the nearby regional town of Tarago.

The pedestrian network around the school site in Elm Grove Estate includes footpaths on one side of all streets, with strategically placed cut-through links to enhance connectivity. However, there are no dedicated crossing facilities within the estate. While most streets in central and southern Bungendore have footpaths on at least one side, connectivity between Elm Grove Estate and other built-up areas is limited due to pathway gaps along Larmer Street, Hyland Drive, and McCusker Drive. Council's *Bungendore Bicycle and Pedestrian Facilities Plan* proposes future footpaths and shared paths to be delivered by Council to improve connectivity in both north-south and east-west directions.

Figure 4 Locality Photographs

Picture 5 Roundabout to the site's south

Picture 6 Ellen Street to the south of the site

Picture 7 View looking south over the existing site

Picture 8 View of Mount Gibraltar and Substation

Source: Urbis, 2024

2.4 Elm Grove Planning Proposal (PP-2021-339) and Stage 2 Subdivision DA (DA.2021.1609)

The proposed school site is located within the Stage 2b of the Elm Grove Subdivision. Stage 2b of the subdivision is expected to provide 137 residential lots. Stage 1 of the subdivision is currently being developed and has delivered 260 new lots capable of supporting residential development. The site was previously zoned RU1 Primary Production and was rezoned to support residential development on 8 May 2020.

Following the finalisation of the Elm Grove Planning Proposal (PP-2021-339) a subdivision application was lodged and approved by QPRC to subdivide Stage 2 into Stage 2a and Stage 2b, each with 123 lots and 137 residential lots, respectively. The subdivision lot layout has lot sizes ranging from 850m^2 to 1,490m^2. The smaller blocks are typically located on the flatter areas generally to the south of the site. The larger lots are generally located on the higher and steeper slopes.

Figure 5 below outlines the proposed residential subdivision plan in relation to the proposed school site shown in red outline.

Figure 5 Plan of Stage 2 of Elm Grove Subdivision

Source: Urbis, 2024

2.5 Site Constraints

Consideration of site constraints has been undertaken through a review of the Section 10.7 (2 & 5) Planning Certificate (No. PL.2024.2186) dated 8 October 2024, mapping under relevant Environmental Planning Instruments, and a review of specialist consultant reports and other desktop assessments. Key site constraints include:

- **Topography**: The site features an undulating terrain, sloping approximately 18 meters towards Birchfield Drive, 27 meters towards the southwestern corner, and 15 meters towards the southeastern corner. The gradient requires careful design to manage grading and minimise excessive cut-and-fill operations. The topography influences building placement and drainage solutions, necessitating innovative design responses to ensure accessibility and integration with the natural terrain.
- **Wind**: Related to topography, the site is in an open area with nearby farmland and low-rise housing, exposed to strong north-westerly winds and shaped by varied topography. The proposed activity will alter the local wind climate, calming some areas while increasing wind in others.

- **Flooding**: The site is not affected by mainstream flooding but is subject to localised overland flow during significant rainfall events. Access to the site may be temporarily cut off in a PMF, with flooding on Bridget Avenue and Birchfield Drive. A preliminary Flood Emergency Response Plan (**FERP**) has been prepared (refer **Appendix 20**) to establish protocols for managing short-duration flood events, ensuring safe shelter-in-place strategies and emergency access planning.
- **Aboriginal Heritage**: An Aboriginal Objects Due Diligence (**AODD**) Assessment has been prepared (refer **Appendix 3**) which found no known Aboriginal objects or places, and previous test excavations yielded no artefacts. Although the site is near a water source, extensive ground disturbance makes archaeological deposits unlikely. No further investigation is required, with standard procedures for unexpected finds during construction.
- **Bushfire**: The site is classified as Bushfire Attack Level-LOW, with no bushfire protection measures required. The nearest classified vegetation (grassland) is over 100 meters north and separated from the site by future residential development and road infrastructure.
- **Biodiversity**: The site has minimal biodiversity value due to prior clearing and development, with no native vegetation or significant habitat for threatened species. A Biodiversity Assessment prepared for the REF confirms the project is not expected to impact threatened flora, fauna, or ecological communities, and no additional biodiversity offset measures are required.
- **Odour**: The new school includes an agricultural block which will accommodate a range of livestock including chicken, sheep and cattle. An odour assessment has been prepared which includes mitigation measures such as regular waste management, enclosed effluent storage, and vegetation screening, to reduce any odour risks associated with livestock.
- **Prominent site and surrounding use**: Future residential uses will be located to the north, south, east and west of the site. Adequate setbacks from the site boundary and thoughtful building layout will minimise visual bulk and impact on the future residences.

A summary of the key site considerations and constraints as per the Planning Certificate is provided in **Table 2.**

Table 2: Review of Section 10.7 Planning Certificate

Affectation	Yes	No
Critical habitat	☐	☒
Conservation area	☐	☒
Item of environmental heritage	☐	☒
Affected by coastal hazards	☐	☒
Proclaimed to be in a mine subsidence district	☐	☒
Affected by a road widening or road realignment	☐	☒

Affectation	Yes	No
Affected by a planning agreement	☐	☒
Affected by a policy that restricts development of land due to the likelihood of landslip	☐	☒
Affected by bushfire, tidal inundation, subsidence, acid sulfate or any other risk	☐	☒
Affected by any acquisition of land provision	☐	☒
Biodiversity certified land or subject to any biobanking agreement or property vegetation plan.	☐	☒
Significantly contaminated	☐	☒
Subject to flood related development controls	☐	☒

2.6 Site Opportunities

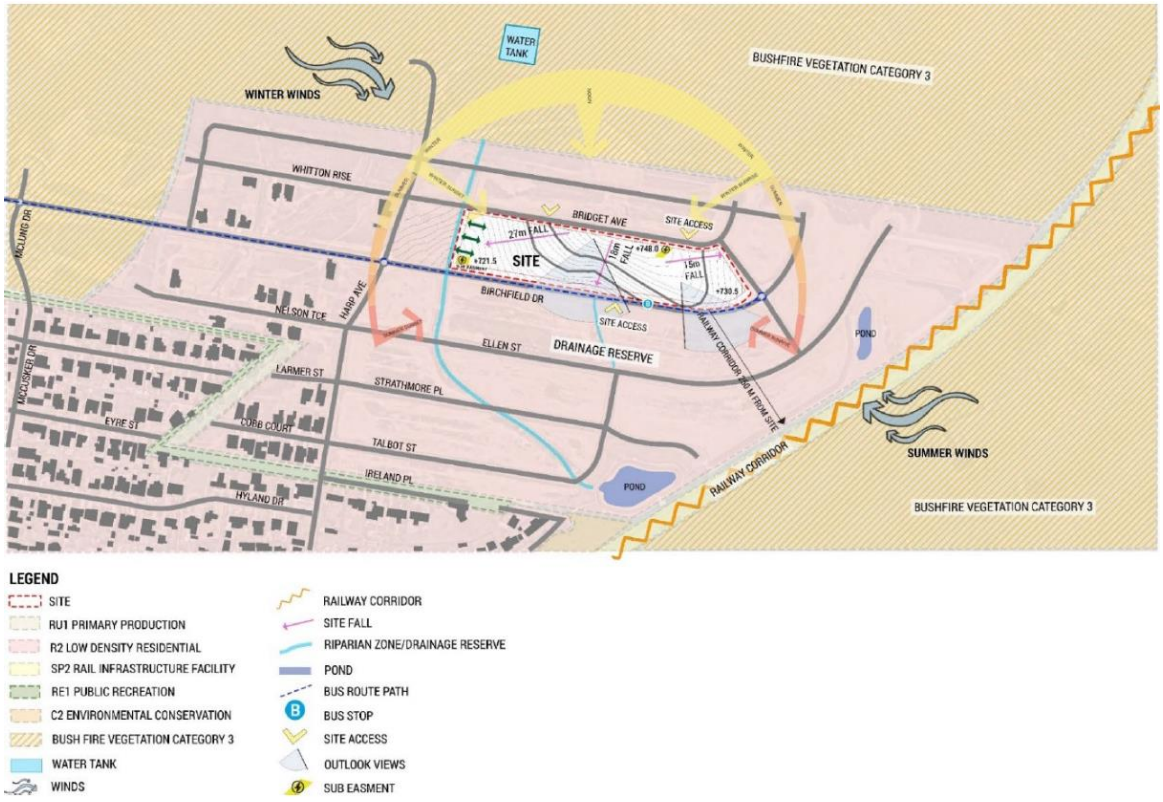
The site offers a range of opportunities including:

- **Strategic Location**: Positioned within the Elm Grove subdivision, the high school will serve Bungendore's growing population, supporting regional education needs and future residential growth as outlined in local and regional planning strategies.
- **Active Transport Connectivity:** The site integrates with the Bungendore Bicycle and Pedestrian Facilities Plan, enhancing safe walking and cycling routes for students and the broader community.
- **Spacious Site Area**: The site is approximately 4.2 hectares, providing flexibility for functional layouts of school buildings, sports facilities, and open play spaces. This allows for optimised use while maintaining significant green and landscaped areas.
- **Sustainability Potential**: The site's size and layout allow for the integration of sustainable design principles, including rainwater harvesting, renewable energy systems (e.g., photovoltaic panels), and water-sensitive urban design (**WSUD**) measures like detention basins.
- **Community Integration and Shared Use**: The proposal includes community-accessible facilities, such as the hall, a sports field to the west of the site and a court to the east, which can be used outside school hours. This fosters a sense of ownership and engagement with the broader community.
- **Futureproofing**: The flexible site layout and modular building designs allow for potential future expansion and staged development to accommodate changing community and educational needs.
- **Connection with Nature and Riparian Zone**: The site adjoins a riparian drainage corridor to the west, providing opportunities for nature-based learning and terraced landscaping that integrates with the natural slope. This design not only enhances environmental sustainability but also fosters a deep cultural connection to the land. The placement of the

agricultural block placement creates a buffer with neighbouring residences and highlights the riparian corridor.

- **Active Recreation Precinct:** The flatter western portion of the site is ideal for sports fields and play courts, creating a green, active zone visible from Birchfield Drive and fostering community engagement.
- **Multi-Access Points**: With frontages on three streets, the site offers multiple access options. Birchfield Drive will serve as the main entrance, with Bridget Avenue providing secondary access. The proximity to Bungendore train station (2km) creates opportunities for public transport connectivity.
- **Optimised Orientation and Sheltering**: The site benefits from an elongated northern aspect. Buildings are sited along the southern boundary to maximise northern light into courtyards and playgrounds while providing shelter from harsh winter winds.
- **Topography-Responsive Design**: The site's natural slope is integrated into the landscape and building design, with terraced courtyards and entry points aligned to natural contours, creating a cohesive indoor-outdoor environment.
- **Distinct School Identity**: The entry plaza on Birchfield Drive, designed with cultural elements and a rock escarpment feature, promotes a strong sense of identity and provides outdoor learning opportunities in geology and botany.
- **Maximising District Views**: The upper levels and courtyard spaces are designed to capture significant views of Mount Gibraltar, and surrounding landscapes, enhancing the school's sense of place and connection with its environment.

Figure 6 Site Analysis



Source: NBRS, 2025

2.7 Land Ownership

The site is legally identified as part of Lot 125 in Deposited Plan 1297613 and is owned by NSW Minister for Education and Early Learning.

2.8 Development Consents

Urbis has reviewed Council's DA tracker and a summary of previous development consents applying to the site is provided in **Table 3.** A request for all development consents applying to the site was also submitted to QPRC under the *Government Information (Public Access) Act 2009* (**GIPA Act**). The GIPA request was responded to on 10 December 2024 and no development other than consents applying to the site were provided.

Table 3: Previous development consents

DA Reference	Development Description	Current Status	Distance from Site	Address
DA.2021.1609	Subdivision of land into 260 Torrens title lots including detention basins, associated roads, infrastructure and landscaping (Elm Grove Estate)	Approved	The Site	175 Tarago Road, Bungendore
DA.2021.1609.A	Request to split subdivision Stage 2B be split into two further stages. Namely Stage 2B-1 (87 lots) and Stage 2B-2 (43 lots)	Approved	The Site	18 Harp Avenue, Bungendore
DA.2021.1609.B	Subdivision of land into 260 Torrens title lots including detention basins, associated roads, infrastructure and landscaping (Elm Grove Estate); Modification: Consolidation of lots (Lot 255 & 256 and Lot 259 & 260)	Approved	The Site	18 Harp Avenue, Bungendore

2.9 Related Applications

Urbis has reviewed Council's DA tracker and confirm that no nearby development consents are expected to have a cumulative impact on the surrounding environment or built form when coupled with the proposed activity.

A temporary high school is being proposed by the department on land owned by NSW Minister for Education and Early Learning at 10 Majara Street, Bungendore. This temporary high school will be the subject of a separate activity approval under Part 5 of the EP&A Act. The temporary high school site is approximately 2.5km from the new Bungendore High School site. The cumulative construction impacts of both developments has been considered to be negligible. To ensure construction traffic impacts are managed, a mitigation measure has been proposed to ensure that construction vehicle access is limited to outside of the primary pick-up and drop-off periods for the

existing Bungendore Public School and Bungendore High School (i.e. 8:35am to 9:05am, and 3:10pm to 3:40pm).

3. Proposed Activity

3.1 Overview

The proposed activity is for the construction and operation of a new high school in Bungendore at part 18 Harp Avenue, Bungendore. The new high school will accommodate 600 students and 68 staff. The school will provide 26 general learning spaces, and three support learning spaces across two buildings. The buildings will be predominantly three-storeys in height and will include permanent and support teaching spaces, specialist learning hubs, a library, administrative areas and a staff hub.

Additional core facilities are also proposed including a standalone school hall with COLA, a car park, a kiss and drop zone along Birchfield Drive, sports courts and a sports field. The new school also features a single storey building with associated paddocks in the far western portion of the site designed for livestock management and hands-on agricultural learning.

Specifically, the proposal involves the following:

- Building A, a three-storey learning hub accommodating general learning spaces, a SELU, a physical education centre, a performing arts space, and other core facilities including administrative areas, staff hub, library and end of trip facilities.
- Building B, a part three/part four storey learning hub accommodating general learning spaces, specialist workshops for food, textile, wood and metal workshops, as well as visual arts studios, science labs and staff areas.
- Building C, a standalone school hall with COLA.
- Building D, a single-storey agricultural block comprising an animal storage space, a COLA and internal workshop.
- On-site staff car park with 50 spaces with access via Bridget Avenue.
- Kiss and drop zones and bus bays along Birchfield Drive.
- Open play space including a sports courts and sports field.
- Associated utilities and services including a 1000kv padmount substation.
- Main pedestrian entrance to be located off Birchfield Drive.
- Secondary pedestrian access from Bridget Avenue.
- Public domain/off-site works including the removal of street trees.

The design has been masterplanned to allow for an additional future stage which would allow for the school to accommodate a total of 1,000 students. The second stage does not form part of this proposal. **Table 4** provides a summary of key aspects of the activity. Renders of the proposed new school are provided from **Figure 7** through **Figure 11.**

Table 4: Summary of the activity

Project Element	Description
Site Area	4.2 hectares
Project Name	Bungendore High School
Project Summary	• Two learning hub buildings with general and support learning spaces, specialist workshops and studios, and other core facilities including amenities, library, staff hub and administrative areas. • Standalone school hall with COLA. • Agricultural block comprising an animal storage space, a COLA and internal workshop. • Open play space including a sports courts and sports field. • Separate car park with 50 spaces with access via Bridget Avenue. • Kiss and drop zones along Birchfield Drive. • Associated utilities and services including substation.
Use	Educational establishment
Student and Staff Numbers	600 students and 68 staff
Car Parking and Bicycle Spaces	Car parking spaces: 50 Bicycle parking spaces: 34
Height	• Building A (learning hub): 13.63 metres, RL 736.00, 3-storeys • Building B (learning hub): 13.63 metres, RL 739.75, 3-storeys (however, with the end-of-trip facility under one bay and the lift core included, it reaches 4-storeys and 18.3 meters (RL 736.000). • Building C (school hall): 10.4 metres, RL 736.00, 1-storey (double height). • Building D (agricultural block): 5.1 metres, RL 729.00, 1-storey.
Gross Floor Area	Total GFA: 7,697m^2 FSR (Approx.): 0.183:1
Open Play Space	15,915m^2 (15.91m^2 per student)
Tree Removal	Nil (on-site)
Trees Planted	309 trees
Landscaped Area	25,864m^2 (62% of site area)
Canopy Cover	8,000m^2 (19% of site area)
Off Site Works	The proposed activity will involve a range of off-site works, summarised below: • Bus bays along Birchfield Drive. • Two wombat crossings, one on Birchfield Drive and one on Bridget Avenue. • Missing footpaths within the immediate vicinity of the school site on Birchfield Drive, Winyu Rise and Bridget

Project Element	Description
	Avenue. • Removal of 13 juvenile street trees to accommodate the infrastructure required along Birchfield Drive,

Figure 7 Render – Proposed Site Plan

Source: NBRS, 2025

Figure 8 Render – Aerial view of school along Birchfield Drive

Source: NBRS, 2025

Figure 9 Render– Main Entrance

Source: NBRS, 2025

Figure 10 Render– Lower terrace view towards Building A + SELU COLA

Source: NBRS, 2025

Figure 11 Render– Agricultural Block (Building D)

Source: NBRS, 2025

3.2 Design Development

3.2.1 Design Guide and Design Quality Principles

The built form of the proposed high school responds effectively to the design quality principles outlined in Schedule 8 of the TI SEPP and the associated Design Guide as follows:

Table 5: Response to Design Quality Principles in Schedule 8 of TI SEPP

Design quality principle	Response
1. Context, Built Form, and Landscape	The design integrates with the surrounding low-density residential area through appropriate building heights, setbacks, and landscaping. The three-storey buildings are appropriately scaled relative to the future low-density residential developments. The use of natural materials and colours complements the local character, while the positioning of the agricultural block engages with the adjacent riparian corridor. The layout of Buildings A and B along the southern boundary maximises northern light to courtyards and play areas. Building heights are proportionate to the site's scale, with taller elements positioned away from sensitive interfaces, and the single-storey hall and agricultural building reducing bulk and scale impacts. The landscape design integrates with the natural topography, creating terraced green spaces and outdoor learning environments. The preserved riparian corridor along the western boundary offers an ecological learning opportunity while enhancing biodiversity. The sports field, agricultural plot, and play courts provide ample recreation areas, fostering student well-being. Soft landscaping with native plant species reduces water use and maintains the site's natural character.

Design quality principle	Response
2. Sustainable, Efficient, and Resilient	Sustainability principles are integral to the design, reducing environmental impacts and supporting long-term efficiency. Passive design strategies include building orientation for optimal natural lighting and ventilation. Photovoltaic (solar) panels contribute to renewable energy generation, and Water-Sensitive Urban Design (**WSUD**) features such as detention basins and rainwater harvesting reduce water consumption and manage stormwater on-site. Sustainable materials and shading devices further minimise the ecological footprint. In addition, the proposal includes the planting of 309 new trees, using large canopy species to increase shade, reduce the heat island effect, and contribute to carbon sequestration
3. Accessible and Inclusive	The campus provides step-free access points from Birchfield Drive and Bridget Avenue, with accessible parking and drop-off zones. Wide footpaths, ramps, and lift access throughout the site ensure inclusivity and universal access.
4. Health and Safety	The design incorporates Crime Prevention Through Environmental Design (**CPTED**) principles, ensuring natural surveillance with clear sightlines across play areas and walkways. Multiple pedestrian access points from Birchfield Drive and Bridget Avenue, combined with dedicated kiss and drop zones and bus bays to support safe arrivals and departures. Traffic calming measures such as wombat crossings, pedestrian refuges, and separate vehicular and service access routes enhance safety around the site.
5. Functional and Comfortable	The school is designed to support modern educational needs with flexible and functional spaces. Buildings A and B provide 26 general learning spaces and 3 support learning spaces, arranged around central courtyards to encourage collaboration and outdoor learning. The hall and COLA are multifunctional, supporting assemblies, performances, and community events. A clearly defined circulation network, including wide paths and covered walkways, ensures easy movement between buildings.
6. Flexible and Adaptable	The modular grid design allows for adaptability, with spaces easily reconfigured to accommodate future needs. The robust material palette ensures long-term durability, while sustainability measures, such as rainwater harvesting and energy generation, support ongoing efficiency and resilience. The masterplan also allows for future expansion, accommodating up to 1,000 students.
7. Visual Appeal	The architecture expresses a strong civic identity while maintaining a connection to the community. Buildings feature articulated facades with a contemporary palette of natural tones and materials, such as timber, brick, and metal finishes, reflecting the local context. Shading devices, window patterns, and covered walkways break up building massing, adding depth and visual interest. The entry plaza is designed as a welcoming space, using landscaping and public seating to enhance its civic character.

This comprehensive response ensures the built form meets the TI SEPP's principles and the Design Guide's requirements, creating a high-quality, functional, and sustainable educational facility.

3.2.2 School Design Review Panel

The project was reviewed by the School Design Review Panel (**SDRP**) on 11 December 2024, as part of the design process. A summary of the feedback received from the SDRP, and the corresponding design responses are outlined below:

Table 6: Response to considerations raised during SDRP

Consideration Raised	Response
1. Connecting with Country	**SDRP Comment:** Continue to engage with Indigenous Knowledge Holders, ensure all elements that engage with Country are high quality and refer to the Connecting with Country Framework and case studies. **Design Response:** The Connecting with Country (**CwC**) Report prepared by Yerrabingin details the findings and design recommendations from a collaborative process aimed at embedding CwC principles into the proposed high school at Bungendore. Yerrabingin embarked on a Country-focused approach that revealed the land surrounding Bungendore and nearby Canberra has been noted as significant to a range of Aboriginal language groups who have occupied and tended to Country close to the development site for thousands of years. A walk on Country was completed on 24 October 2024 and highlighted the proposal's alignment to the CwC framework and commitment to collaborate and ensure that Country is at the forefront of development and design of the new high school. The site borders a riparian drainage corridor to the west, offering opportunities for nature-based learning and terraced landscaping that harmonizes with the natural slope. The design integrates key CwC elements, fostering a deep cultural connection to the land through principles of sustainability, inclusivity, and respect for Country. This includes the use of native planting, water-sensitive urban design, shaded gathering spaces, and pathways that reflect Indigenous storytelling and local heritage. These elements work together to create an environment that respects and celebrates the cultural and ecological significance of the site.
2. Site strategy and landscape	**SDRP Comment:** The site strategy is generally supported, but five key areas need further development and refinement, addressed in turn below: working with the topography, visual dominance of the sports field, more shade and tree canopy, diversity of spaces for students, and a more public entry. **Design Response**: The design respects the site's natural topography, minimising earthworks and integrating with the landscape. Retaining walls are softened with landscaping, and building entrances are aligned with natural levels to ensure seamless access. The cluster of buildings to the south directly responds to the existing environment and topography ensuring the key views at the top of the ridge are protected and utilised. To reduce the visual dominance of the sports field, additional landscaping and tree lines have been incorporated. Shade and tree canopy have been increased across the campus to provide comfortable outdoor spaces. The plan includes diverse areas for students, such as open play zones, quiet study areas, and social spaces, to support various activities. The main entry has been redesigned to be more prominent and welcoming, with a clearly defined pathway, enhanced signage, and a landscaped forecourt. These refinements ensure a functional, appealing, and inclusive school environment.
3.	**SDRP Comment:**

Consideration Raised	Response
Sustainability and Climate change	• Work with Sydney Water and QPRC to develop the riparian area into a green spine – this is an opportunity for teaching and engagement with nature. • 4-star Green Star Rating is not sufficiently ambitious, and the project is encouraged to pursue a stronger approach to sustainability and climate change. • Illustrate how the project will contribute to NSW's Net Zero emissions goal by 2050. Refer to 'NSW, DPIE, Net Zero Plan, Stage 1: 2020-2030' for further information. **Design Response**: <u>Working with Sydney Water and Council on the Riparian Area:</u> The project team is committed to collaborating with Sydney Water and QPRC to transform the riparian corridor into a valuable green spine that enhances biodiversity and offers nature-based learning opportunities. The design now incorporates an outdoor learning area with seating nodes along the riparian edge, providing opportunities for environmental science programs, Indigenous cultural education, and nature-based play. Additionally, a planting palette of native species will support local ecology and improve habitat connectivity. Interpretive signage will further enhance educational engagement, linking the natural environment to the curriculum. <u>Green Star Rating and Sustainability Ambition:</u> In response to the feedback regarding the Green Star rating, the project will now pursue a 4-Star Green Star – Design & As Built v1.3 certification, aligning with best-practice benchmarks for environmental performance for regional schools. Key initiatives include: • Increased on-site renewable energy generation, with an expanded photovoltaic solar panel system. • Enhanced water efficiency measures, including additional rainwater harvesting for irrigation and toilet flushing. • High-performance building envelopes with increased insulation and passive solar design to reduce energy use. • Waste reduction strategies, including 90% construction waste diversion from landfill. For further details, refer to the ESD Report provided at **Appendix 18**. <u>Contribution to NSW's Net Zero Emissions Goal by 2050:</u> The project is aligned with the NSW Net Zero Plan Stage 1: 2020–2030 and will contribute to the state's 2050 net zero emissions target through: • A large-scale PV solar system will supply on-site renewable energy, reducing reliance on the grid. • Use of high-efficiency HVAC and LED lighting systems controlled by a Building Management System to optimise performance. • Preference for low-embodied carbon materials such as recycled concrete, steel with high recycled content, and responsibly sourced timber. • Provision of end-of-trip cycling facilities to reduce transport emissions. • Opportunities for additional tree planting on-site to offset embodied carbon and contribute to local carbon sequestration.

Consideration Raised	Response
	• The refined design approach will deliver a sustainable, climate-responsive educational facility that fosters student engagement with nature while contributing meaningfully to NSW's broader environmental and net zero targets. For further details, refer to Net Zero Statement provided at **Appendix 24**.

For a more detailed response to comments from the SDRP, refer to the Architectural and Landscape Design Report provided at **Appendix 6**.

3.2.3 Connecting with Country

The Connecting with Country (**CwC**) Report prepared by Yerrabingin details the findings and design recommendations from a collaborative process aimed at embedding CwC principles into the proposed high school at Bungendore. Key activities included a "How Might We" session to align project goals, a site visit on 24 October 2024 with First Nations community members, and a final design workshop.

The design reflects a commitment to cultural values, environmental stewardship, and inclusive education by incorporating cultural, ecological, and educational elements. Recommendations from this process have been integrated into the project, as summarised in **Table 7.**

Table 7: Response to considerations raised during Connecting with Country process

Consideration Raised	Response
Cultural Integration and Identity	The design incorporates Ngunnawal, Ngambri and Ngarigo cultural values and narratives throughout the site. Consultation with Ngunnawal, Ngambri and Ngarigo knowledge holders informed the integration of local stories, art, and motifs into the built form and landscape. For example, shaded entry canopies, outdoor classrooms, and gathering spaces reflect the connection to Ngunnawal, Ngambri and Ngarigo cosmology, including Sky Country and seasonal cycles. These elements provide opportunities for cultural education and connection, ensuring the school serves as a place for learning and storytelling that honours the custodianship of Country.
Ecological and Landscape Design	The project incorporates the natural features of the site, including the native Wallaby Grass which has been used by First Nations peoples in the area for thousands of years. WSUD elements manage stormwater, improve water quality, and highlight water's cultural and ecological significance under the principle of "Water is Our Healer." Retained and newly planted endemic vegetation enhances biodiversity and fosters habitats for "Non-Human Kin," such as birds and insects, creating opportunities for students and staff to engage directly with the natural environment.
Sustainability and Legacy	The design aims to leave a legacy of environmental sustainability and cultural stewardship. Sustainability measures include the minimisation of engineered water channels, significant additional tree plantings and strategies to mitigate the urban heat island effect. The use of renewable materials and technologies supports long-term environmental resilience, reflecting Ngunnawal, Ngambri and Ngarigo philosophies of care and custodianship. Outdoor classrooms and sensory gardens provide immersive learning opportunities that teach students about sustainable practices and the interdependence of humans and the environment.

Consideration Raised	Response
Outdoor Learning and Connection	Outdoor spaces are integral to the design, enabling students to learn directly from the land. Sensory gardens, kitchen gardens, and outdoor classrooms are placed strategically to foster a deep connection with Country. These spaces are designed to facilitate passive and active learning opportunities, emphasising the ecological relationships between flora, fauna, and the seasonal changes of Country. Students are encouraged to explore the cultural uses of plants and develop an understanding of natural systems.
Community and Cultural Collaboration	The design has been shaped through a collaborative process, including "Walk on Country" sessions and workshops with Ngunnawal, Ngambri and Ngarigo community members, ensuring the school reflects the values and significance of the land. Community spaces, such as the hall and landscaped areas, provide opportunities for ongoing cultural engagement and education. This collaboration ensures the project is respectful of Aboriginal cultural heritage while fostering a strong sense of identity and belonging for all users.
Built Form Response	The built form is carefully integrated into the landscape, responding to the site's topography and natural features. Building alignments and materials are informed by Ngunnawal, Ngambri and Ngarigo cultural principles, creating a harmonious connection between the built and natural environments. Facade treatments use colours and materials inspired by the local and regional landscape context, blending the buildings into the landscape. Biomimicry and sustainable design practices further enhance the eco-centric approach.

By embedding the principles of CWC the project achieves a design that respects Ngunnawal, Ngambri and Ngarigo cultural heritage, fosters environmental stewardship, and creates an inclusive, sustainable learning environment. It stands as a benchmark for culturally responsive and ecologically integrated educational design.

3.2.4 Sustainability

The proposed activity incorporates a range of ESD measures to align with sustainability principles and meet relevant environmental performance targets. Key measures include:

- A photovoltaic (solar) array is proposed to reduce reliance on grid electricity, contributing to a reduction in carbon emissions and long-term operational costs.
- The installation of rainwater harvesting systems will support irrigation and potentially non-potable uses, reducing mains water consumption.
- Provision of end-of-trip facilities for staff and bicycle parking for staff and students.
- The use of durable, low-maintenance materials minimises the environmental footprint associated with the construction and operation of the school.
- Landscaping and rainwater harvesting to support WSUD and limit stormwater pollutants leaving the site.
- Passive design principles have been incorporated in the design, including high-performance building envelope, effective shading and building orientation, and natural ventilation openings to support comfortable and low-energy indoor environment quality.

- Native and endemic species are prioritised to reduce irrigation needs, enhance biodiversity, and create shaded areas that mitigate the urban heat island effect.

These measures demonstrate a holistic approach to environmental sustainability by addressing energy, water, and ecological impacts.

The project targets a 4-Star Green Star rating under the Green Star Design & As-Built v1.3 framework, as required by the Education Facilities Standards and Guidelines (**EFSG**) for regional projects. The project's energy performance targets include:

- 20% reduction in energy consumption compared to a reference building (Green Star Credit 15E Pathway).
- 10% improvement over NCC 2022 Section J requirements through passive design strategies such as enhanced insulation, high-performance glazing, and efficient mechanical systems.
- 100% electric building services with rooftop solar PV.

The Green Star framework ensures that sustainability considerations are embedded throughout the design, construction, and operational phases of the school.

As a key mitigation measure, a School Transport Plan (**STP**) will be required to be prepared for the new school which aligns with ESD principles by promoting sustainable transport options to reduce the carbon footprint of the school community.

3.2.5 Climate Change

The proposed high school incorporates several measures to address climate change risks through sustainable design, energy efficiency, and climate resilience strategies. A Climate Change Risk and Adaptation Assessment has been undertaken by JHA (refer **Appendix 12**), resulting in a Climate Adaptation Risk Register and a Climate Resilience Plan. These identify high and extreme climate risks and propose adaptation responses, such as passive design strategies and building materials that can withstand local climate extremes.

The school will operate entirely on electricity, eliminating fossil fuel use in mechanical and hydraulic systems, with the exception of bottled gas for science labs and partial use in the VET kitchen. This approach supports future electrification and contributes to net-zero emissions goals. Additionally, rooftop solar will reduce operational emissions.

The project incorporates rainwater harvesting for toilet flushing and landscape irrigation, and water-efficient fixtures, minimising potable water use and building resilience to droughts. The buildings are oriented east-west with high-performance envelopes and shading devices to reduce heat gain and maintain indoor comfort without excessive air conditioning use. Natural ventilation openings support low-energy cooling.

The site is positioned towards the top of a hill, which significantly reduces the direct risk of flooding. However, flood modelling conducted identified potential impacts on overland water flow due to changes in site topography. To mitigate this, detailed stormwater management strategies have been incorporated, including improved drainage and detention systems to control water flow across the site. Additionally, a riparian drainage reserve to the west of the site serves as a natural water management feature, directing excess runoff towards a designated detention basin to the southeast of the site.

The project aligns with NSW Net Zero Plan (Stage 1: 2020–2030) and School Infrastructure NSW (**SINSW**) sustainability targets, aiming for net-zero emissions in operations by 2030. It also meets Sustainable Buildings SEPP requirements, including the commitment to a fossil fuel-free operation by 2035.

The school will plant 309 new trees, using large canopy species to increase shade, reduce the heat island effect, and contribute to carbon sequestration. The site integrates stormwater detention basins and bio-retention areas, which manage overland flows, reduce flood risks, and support local biodiversity.

In summary, the proposal demonstrates a comprehensive approach to managing climate change risks through adaptation measures, sustainable building practices, and contributions to broader state and national emissions reduction targets.

3.3 Site Planning and Layout

The site planning and layout of the new Bungendore High School responds to the site's surrounding context and natural and built constraints. The school is positioned across a 4.2-hectare site with three frontages along Birchfield Drive (south), Bridget Avenue (north), and Winyu Rise (east). The location and orientation of the proposed buildings have been carefully designed to respond to the site's natural topography, orientation and the local climate, minimising earthworks and maximising sustainability outcomes.

The proposed buildings have been positioned in the southern portion of the site, which reduces the extent of cut and fill required for construction. The site's east-west orientation was a key factor in its selection, providing significant advantages for maximising solar access to classrooms and promoting energy efficiency. The main entrance and kiss and drop zone are located along Birchfield Drive, with secondary pedestrian access from Bridget Avenue and vehicle access to the onsite car park (50 spaces) via Winyu Rise. The layout prioritises efficient circulation, with covered walkways connecting all buildings and outdoor learning areas.

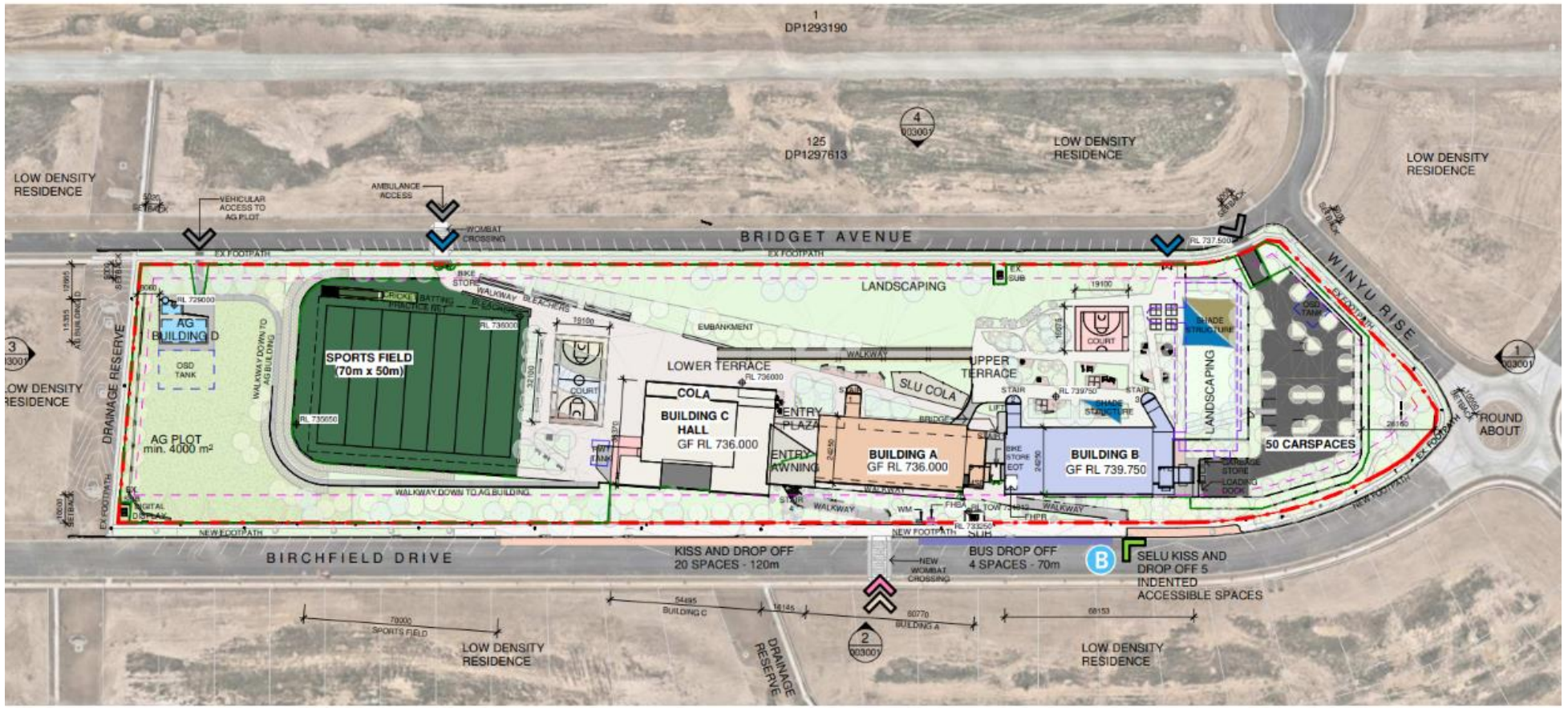
In response to wind impacts, the design incorporates vertical barriers, landscaping, and sheltered seating in key outdoor spaces. The layout of buildings helps deflect wind flow, while the planned future expansion of Building B will further reduce wind acceleration through narrow passages, improving conditions across the site.

The school is proposed to consist of four buildings. Building A (learning hub) and Building B (learning hub), both three storeys, house general and support learning spaces, staff areas, and a library. These buildings are positioned along the southern boundary to shelter the site from winter winds while benefiting from optimal northern solar access for classrooms. Building C (school hall with COLA) is centrally located, serving as a multipurpose space for assemblies and community events. Building D (agricultural block) is placed on the western edge, near the riparian corridor, supporting hands-on learning and agricultural studies.

The site includes a sports field, multi-purpose courts, and outdoor learning spaces. It is proposed to plant 309 new trees to provide shade and enhance biodiversity. The masterplan also allows for future expansion to accommodate up to 1,000 students, ensuring flexibility for long-term community needs.

Further details on the rationale for site selection are provided in **Section 4.**

Figure 12 Proposed Site Plan



Source: NBRS, 2025

3.3.1 Learning Hubs

The proposed activity includes the construction of two buildings (Buildings A and B), known as learning hubs. The internal layouts of the teaching spaces are designed in accordance with the EFSG, ensuring they meet the operational requirements of the school and maintain consistency across the department's portfolio. Each learning hub will provide flexible learning spaces for students and staff, with the following key facilities:

- **Building A,** a three-storey learning hub accommodating general learning spaces, a SELU, a physical education centre, a performing arts space, and other core facilities including administrative areas, staff hub, library and end of trip facilities.
- **Building B**, a part three/part four storey learning hub accommodating general learning spaces, specialist workshops for food, textile, wood and metal workshops, as well as visual arts studios, science labs and staff areas.

To enhance site connectivity and accessibility, the learning hubs are linked by elevated walkways, promoting permeability and ease of movement throughout the campus. Detailed plans, elevations, and sections of the learning hubs are provided within the Architectural Plans prepared by NBRS in **Appendix 5.**

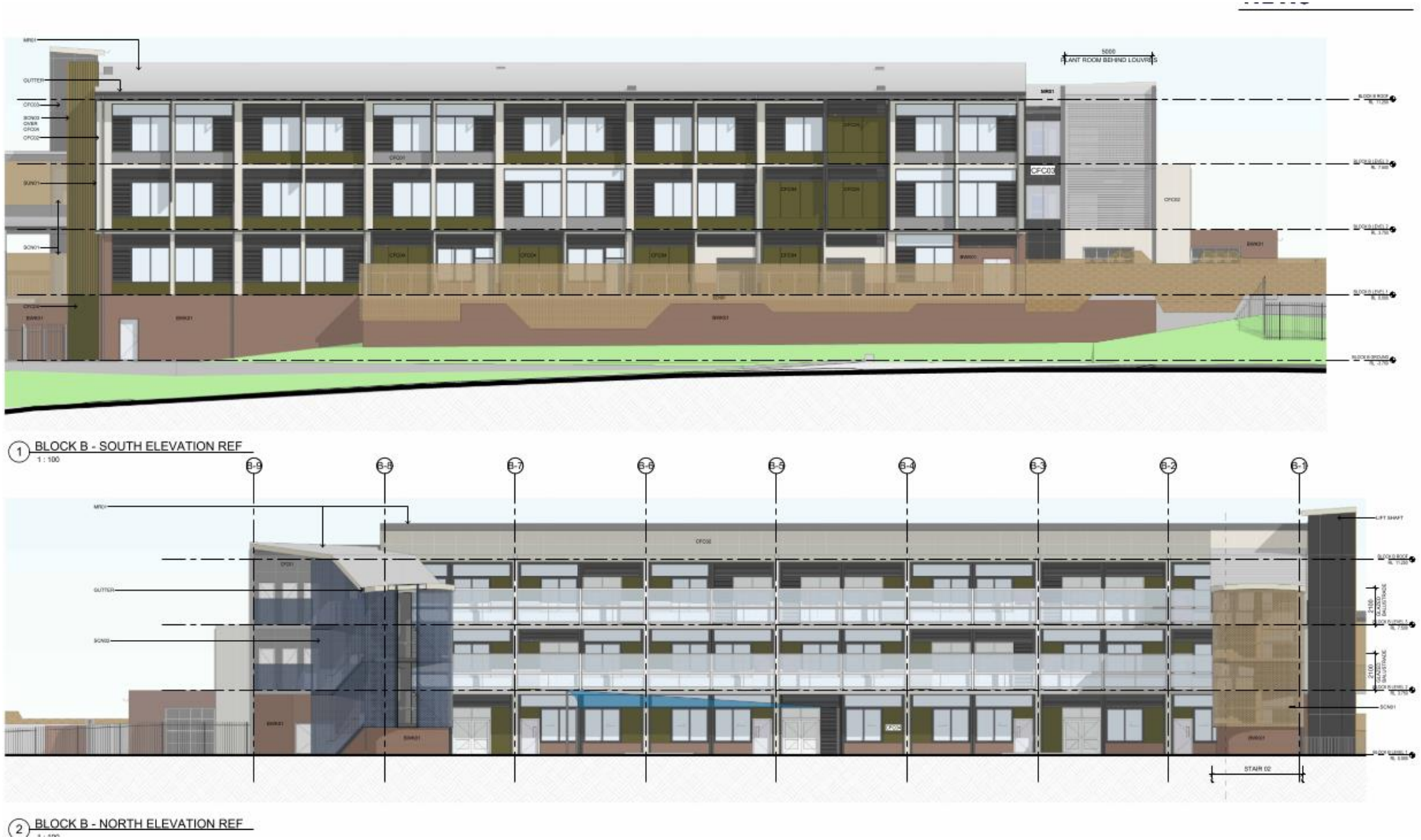
The external design of the learning hubs reflects the local built and natural context. The façade materials and colour palette were selected to integrate harmoniously with the bushland setting while ensuring the buildings retain a distinct and modern appearance. Core materials include brickwork in varied tones, CFC cladding, and metal sheet roofing. These high-quality materials, combined with locally responsive colours, help to soften the visual impact of the buildings.

The buildings are set back a minimum of 10.1 metres from the southern site boundary and approximately 33.5 metres from the nearest residential lot on the opposing side of Birchfield Drive, ensuring an appropriate buffer between the school and its surroundings. Extracts of the proposed elevations can be found in **Figure 13** to Figure 15 3D Elevation of Building B **Figure 15.**

Figure 13 Building A (Learning Hub) Elevations

Source: NBRS 2025

Figure 14 Building B (Learning Hub) Elevations



Source: NBRS 2025

Figure 15 3D Elevation of Building B from Birchfield Drive

Source: NBRS 2025

3.3.2 School Hall

The proposed Building C, known as the school hall, is situated in the south-eastern corner of the site, fronting Birchfield Drive. This single-storey (double-height) building features a double-height void designed to house the internal multi-sport court. Building C is a multifunctional facility accommodating a variety of uses, including indoor sports, a stage for performances and assemblies, a school canteen, several amenities and storage rooms.

The external design of Building C aligns with the aesthetic of the learning hubs, utilising a palette of locally responsive colours and materials to integrate with the surrounding environment. This approach ensures visual cohesion across the campus while maintaining a distinct and functional design for the hall. **Figure 16** provides an excerpt of the school hall elevations.

Figure 16 Building C (School Hall) Elevations

Source: NBRS 2025

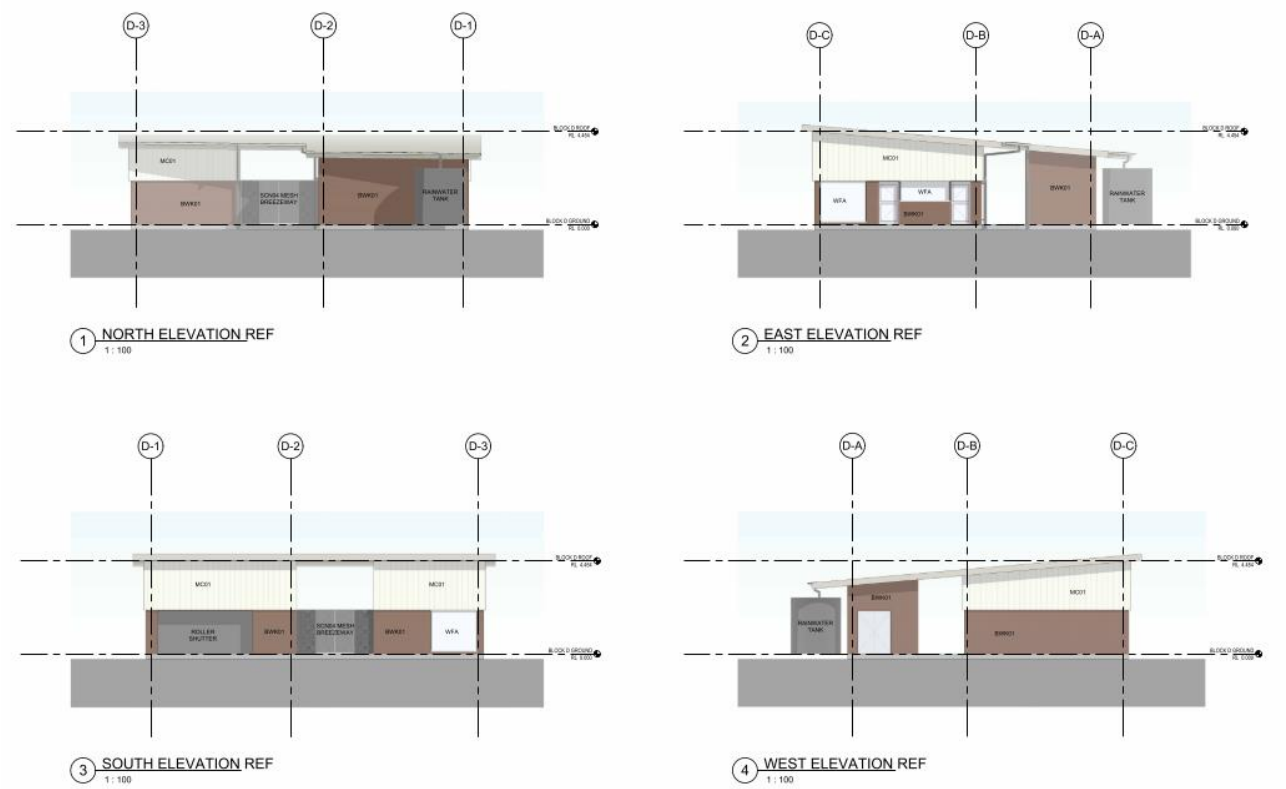
3.3.3 Agricultural Block

The proposed Building D, known as the agricultural block, is located on the western boundary of the site, to provide appropriate distance between the learning hubs and the proposed agricultural learning practices. The agricultural block will be comprised of a single today building including an agricultural shed workshop, covered outdoor area, animal and plant spaces, along with generic amenities and storage. The agricultural block is located adjacent to an area of open space which will be used for agricultural educational practices such as farming and livestock. The agricultural block is expected to house (not simultaneously):

- Poultry: Up to 40 birds, including a mix of pure-bred birds, layers, broilers and chicks housed in pens.
- Sheep: A maximum of 15 sheep including breeding ewes, a ram, and lambs, with access to a lambing shed and paddocks.
- Cattle: Seasonal housing of up to three steers and two poddy calves annually (maximum of three cattle at any time).

The activities proposed at the agricultural block will indicatively comprise of sheering, general animal care and health practices, and cow hoofing. **Figure 17** provides an excerpt of the agricultural block elevations.

Figure 17 Building D (Agricultural Block) Elevations



Picture 9 Agricultural Block Elevations

Picture 10 Agricultural Block Render

Source: NBRS 2025

3.3.4 Landscaping and Tree Removal

The landscape masterplan for the site has been developed with consideration of the CwC process, the local and regional landscape context, and the future built environment. The design incorporates the principles of CwC by retaining existing landscape features where possible and ensuring equitable access throughout the site. An extract of the landscape master plan is provided at

Figure 18**.**

A key feature of the landscape strategy is the entry precinct and plaza at the school's primary entrance on Birchfield Drive. This area includes an Acknowledgment of Country and features plantings of locally endemic species to reflect the cultural and environmental context of the site. The plaza also provides seating, shaded areas, and pathways to support pedestrian movement and create a functional space for the school community.

The landscaping will deliver a total canopy cover of 19%, consisting of 100% new plantings. The site does not currently contain any existing vegetation, except for grass species. Centrally located outdoor play spaces, including the field and games courts, have been designed with clear sightlines to facilitate effective supervision. Outdoor play areas will account for 25% of the total site, providing significant open space for recreational and learning activities.

The planting selection for this project is based on the dry sclerophyll forests (shrubby sub-formation), and the tablelands' dry tussock grassland, as well as recommendations from the CwC process. This species selection has been distributed across the site to adapt to shade, wind and sunlight. Their growth habits, colours, and textures have also been considered to create a visually pleasing and cohesive landscape as well as responding to some of the CwC themes. The use of locally endemic species supports biodiversity by providing habitat for local fauna and reducing ecological impacts. Further details on the proposed landscape design are provided in the Landscape Plans in **Appendix 23**.

The site itself is completely cleared of trees. However, as part of the proposed works along Birchfield Drive, the removal of 13 juvenile street trees is necessary to accommodate essential infrastructure, including the new bus drop-off area, kiss and drop zone, accessible parking bays, and a widened footpath. These modifications are required to meet accessibility standards, improve pedestrian flow, and enhance the overall functionality of the streetscape. Please refer to the Arboricultural Risk Assessment at **Appendix 12** for further details.

To maintain and enhance the landscape character, significant new plantings have been incorporated along the school frontage. These plantings will contribute to the overall streetscape quality, providing shade, greenery, and a cohesive visual connection between the school and its surroundings.

Figure 18 Landscape Masterplan

Source: NBRS, 2025

3.3.5 School Signage

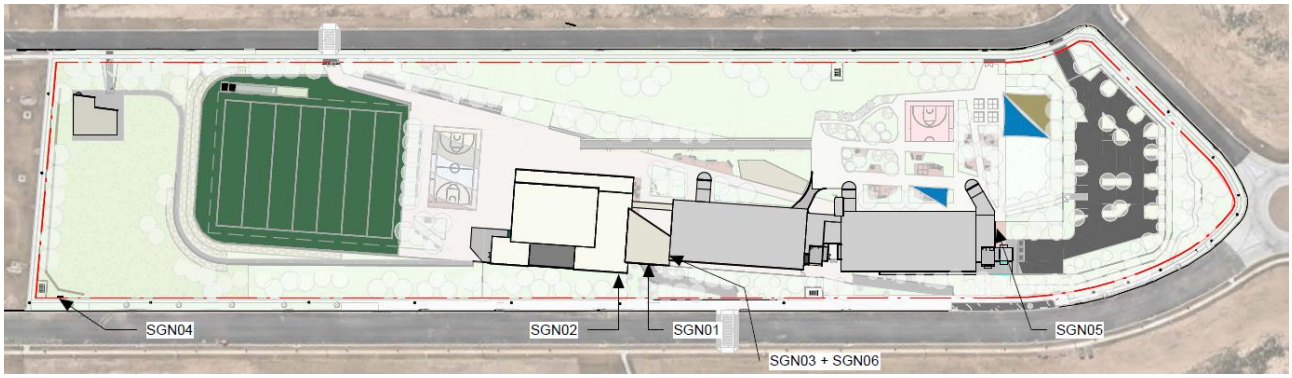
The proposed activity will involve the erection of a range of school signage throughout the school site, as displayed in the signage site plan at

Figure 19. The school signage will comprise of:

- Entry plaza above awning signage
- CwC sign feature within the entry plaza
- Directional signage
- Main entry digital electronic school sign
- Public domain signage (kiss and drop, school parking hours)
- Vehicle entry and exit signs
- Secondary school entry signage
- Building signage.
- Department of Education signage and EFSG signage for every room.

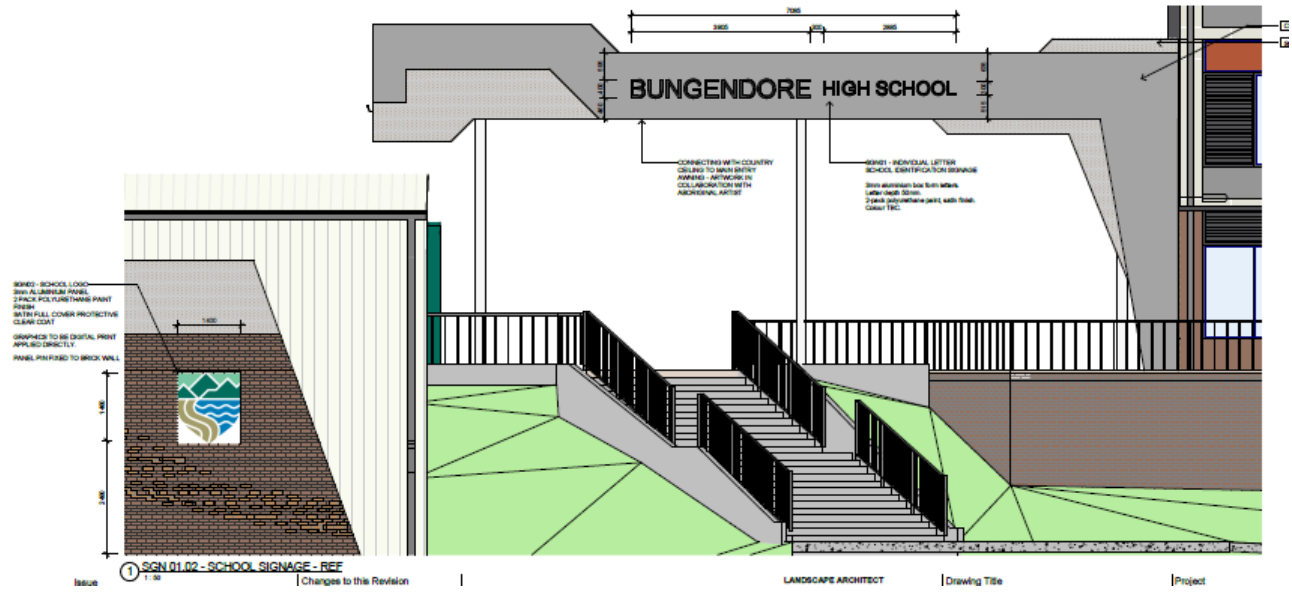
Figure 20 shows the locations of the proposed school signage throughout the site.

Figure 19 Signage Site Plan

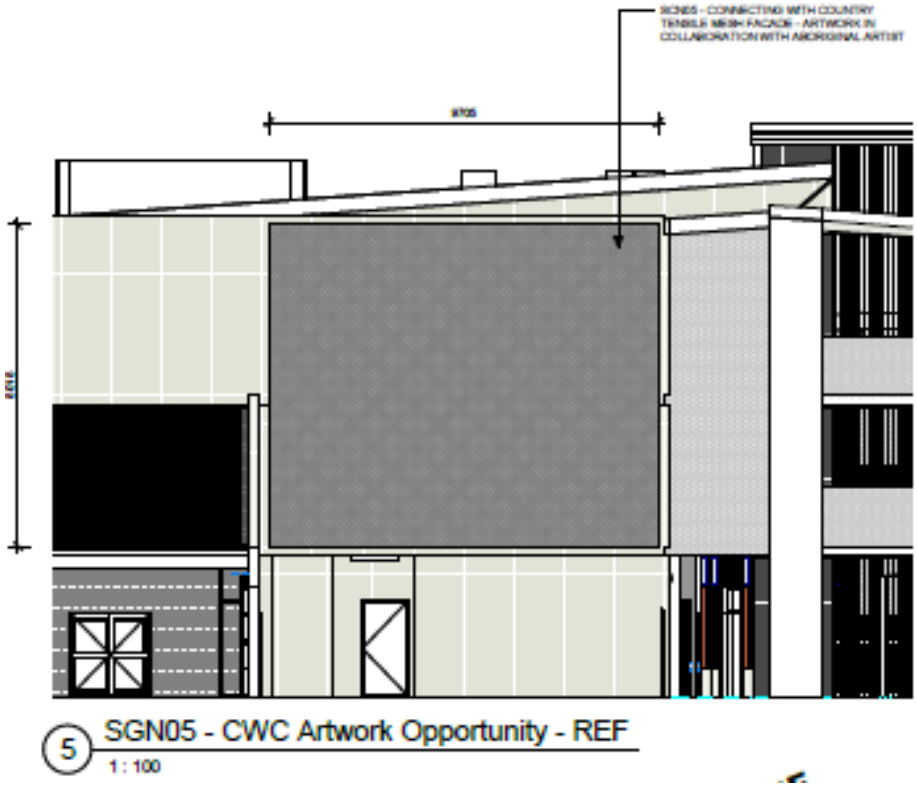


Source: NBRS, 2025

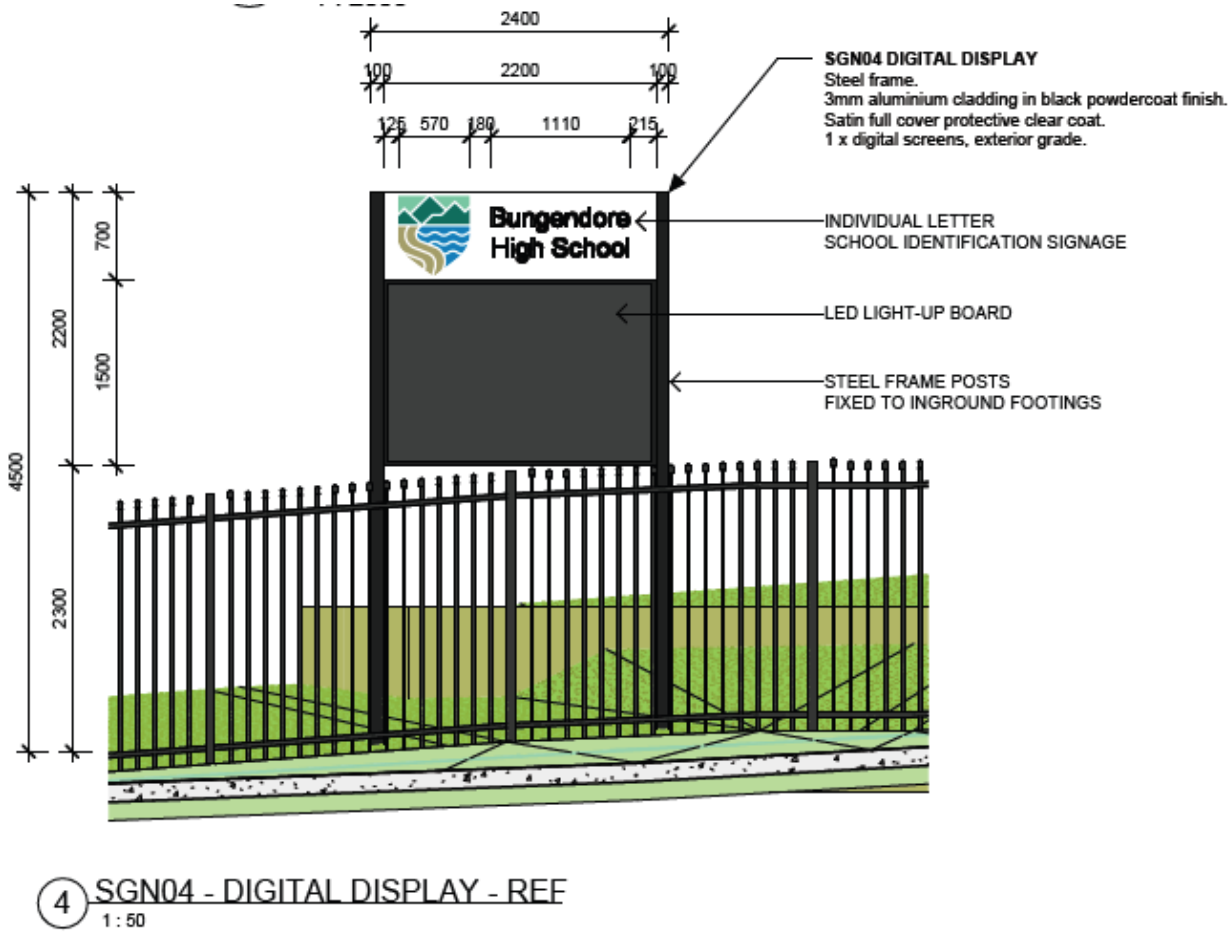
Figure 20 Signage Locations



Picture 11 Signage at the main pedestrian entrance



Picture 12 CwC Signage opportunity



Source: NBRS 2025

3.3.6 Access and Parking

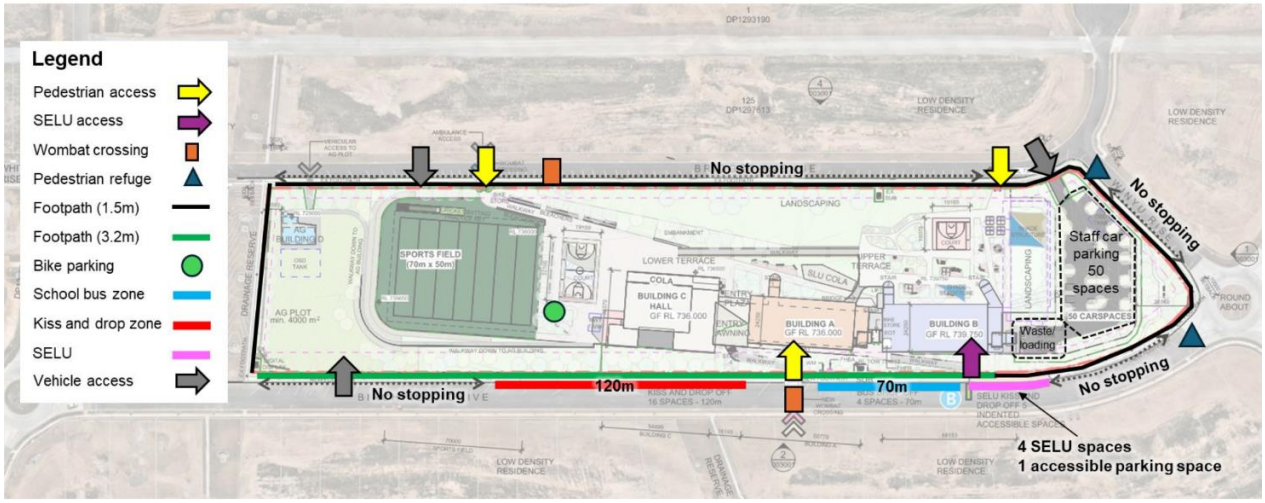
Pedestrian Access

As shown in **Figure 21** the proposed activity includes several pedestrian entries, located on the Birchfield Drive and Bridget Avenue frontages. The primary pedestrian entry will be located on Birchfield Drive and will provide a strong street presence and arrival plaza. Secondary pedestrian entries are located on Bridget Avenue to ensure site permeability and access. The pedestrian entries have been adequately separated from the vehicular entries to minimise vehicle and pedestrian conflicts.

Access to the SELU from Birchfield Drive is designed to ensure safe and convenient entry for students with additional learning needs. A dedicated kiss and drop zone is provided with four indented kiss and ride spaces, allowing vehicles to pull in without disrupting traffic flow. A level walkway connects this area directly to the SELU teaching space on the south side of Building A, ensuring seamless accessibility. A nearby wombat crossing with a raised speed hump enhances pedestrian safety and supports controlled vehicle movement in the area.

A range of off-site works are also proposed to ensure safe pedestrian access into the site, including the establishment of footpaths, and two new pedestrian (wombat) crossings, with one located on Birchfield Drive and Bridget Avenue, respectively.

Figure 21 Access Plan



Source: Stantec 2025

The proposed activity also includes bicycle parking located the east of the site to accommodate 34 bicycle parking spaces (30 student and four staff). Entry to the bicycle parking area will be provided through the secondary pedestrian entrance located on Bridget Avenue.

End-of-trip facilities are located within Building A, adjacent to the staff and administration area. These facilities include showers and lockers to support staff who choose active transport options like cycling.

Vehicle Access and Parking

A private vehicle entrance will be provided from Bridget Avenue to access the proposed car park. The car park will provide 50 car parking spaces for staff, including accessible spaces located

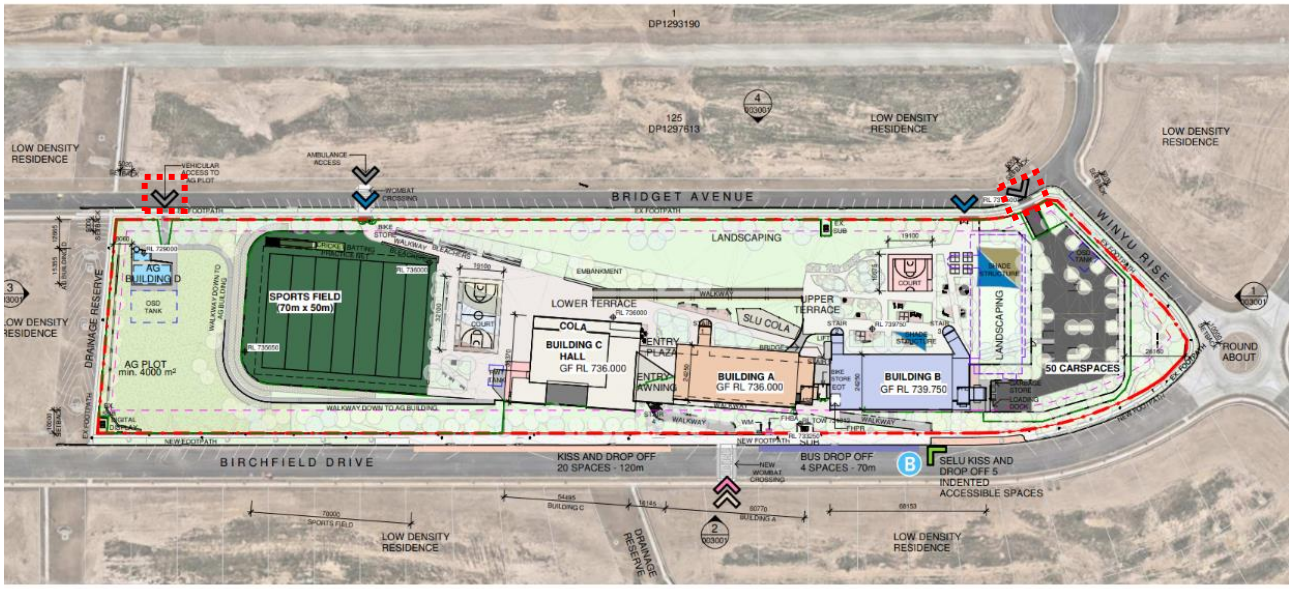
nearest to Building B. The car park will include a range of landscaped parking bays to ensure that the urban heat island effect is reduced, and a high level of amenity is achieved on the site. The car park will include a loading dock on the southern frontage to provide deliveries to Building B, which hosts the school's metalworking and woodworking facilities.

Waste vehicle access to the car park is designed to ensure safe and efficient manoeuvring within the site. Waste collection will occur within a designated servicing area located within the staff car park, accessed via Bridget Avenue. The waste vehicle will enter the site through this access point, navigate to the dedicated waste collection area, and exit without reversing onto the street.

Swept path analysis confirms that the waste vehicle can manoeuvre safely within the car park, demonstrating adequate turning space for entry, collection, and exit. The assessment also ensures that waste trucks can navigate roundabouts at the intersections of Birchfield Drive with Winyu Rise and Harp Avenue without obstruction. To minimise disruption to school operations, waste collection will take place outside peak school hours.

A secondary vehicular entrance is proposed to provide access for equipment and material deliveries to Building D which contains the school's agricultural block. This entrance also provides access for emergency vehicles. This secondary vehicular entrance and loading dock is located on the Bridget Avenue frontage, west of the primary vehicular entrance.

Figure 22 Vehicle Entrances



Source: NBRS, 2025

Figure 23 Staff Car Park

Source: NBRS, 2025

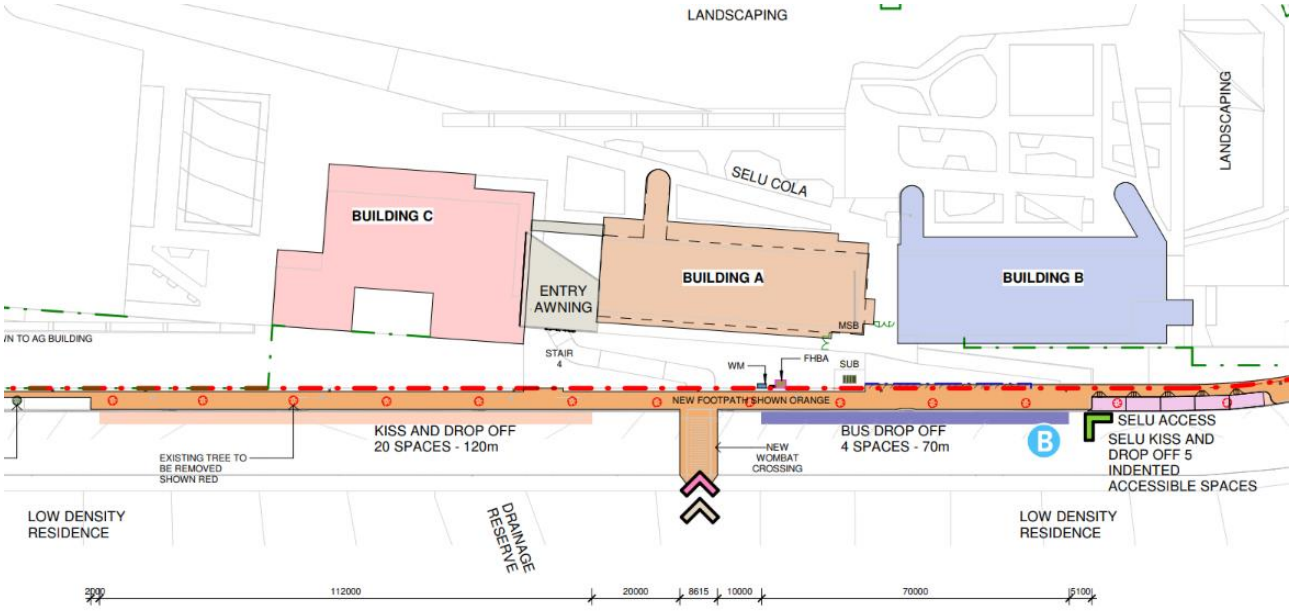
Bus Parking and Kiss and Drop

The proposed activity includes the establishment of a school bus drop-off zone and kiss and drop zones along the Birchfield Drive frontage to support safe and efficient student arrivals and departures.

The proposed bus parking area will accommodate four bus bays across a total length of 70 metres, positioned east of the wombat crossing. The bus zone is located downstream of the wombat crossing, ensuring that students using the crossing are not exposed to the forward motion of buses departing the zone, thereby enhancing student safety. Each bus bay is designed to service up to four buses within a 20-minute period, enabling efficient turnover. School bus services are expected to operate in conjunction with other public schools in the Queanbeyan region, with approximately 40% of total bus capacity allocated for Bungendore High School students.

The new school will include two kiss and drop zones on Birchfield Drive along the site's southern boundary ensuring safe and efficient student drop-off and pick-up. A primary kiss and drop zone with 20 spaces is positioned near the main school entry. The total length of the kiss and drop zone is 120 meters to accommodate private vehicle use, reducing congestion and queuing during peak times. An additional indented kiss-and-drop zone with four spaces, located further east, will provide dedicated access for the SELU.

Figure 24 Proposed Bus Parking and Kiss and Drop Zones



Source: NBRS 2025

3.4 Construction Activities

The proposed construction hours will be as follows:

- 7:00am to 6:00pm, Monday to Friday
- 8:00am to 1:00pm, Saturday
- No work on Sundays and Public Holidays

It is expected that up to 200 construction workers would be on site during peak construction activities. Construction worker parking is to be provided on site where possible. Public parking is available on surrounding local streets such as Birchfield Drive and Bridget Avenue for any parking spillover. This will not have a significant impact on availability of parking for local residents because of the proposed low-density residential nature of the land uses on Birchfield Drive and Bridget Avenue within vicinity of the site.

Generally, construction vehicles will originate from a wide variety of locations throughout the Queanbeyan Region. However, all construction vehicles will be restricted to the State and Regional Road network where practicable. It is expected that vehicles will approach the site from the surrounding major roads, such as Tarago Road, Kings Highway and Bungendore Road, to reach the relevant access point on Birchfield Drive.

The current approximate construction program milestones of the proposal are provided in the below table. A detailed construction program for the proposal will be developed by the Main Works Contractor.

For further details, refer to the Preliminary Construction Management Plan (**PCMP**) and Preliminary Traffic Construction Management Plan (**PCTMP**) provided at **Appendix 28** and **Appendix 29** respectively.

Table 8: Construction Program

Milestone	Start	Finish
Construction contract award	June 2025	June 2025
Site Establishment works	July 2025	August 2025
Civil and bulk excavation works	September 2025	February 2026
Main Construction works	October 2025	November 2026
Site Demobilisation	November 2026	December 2026

3.5 Earthworks

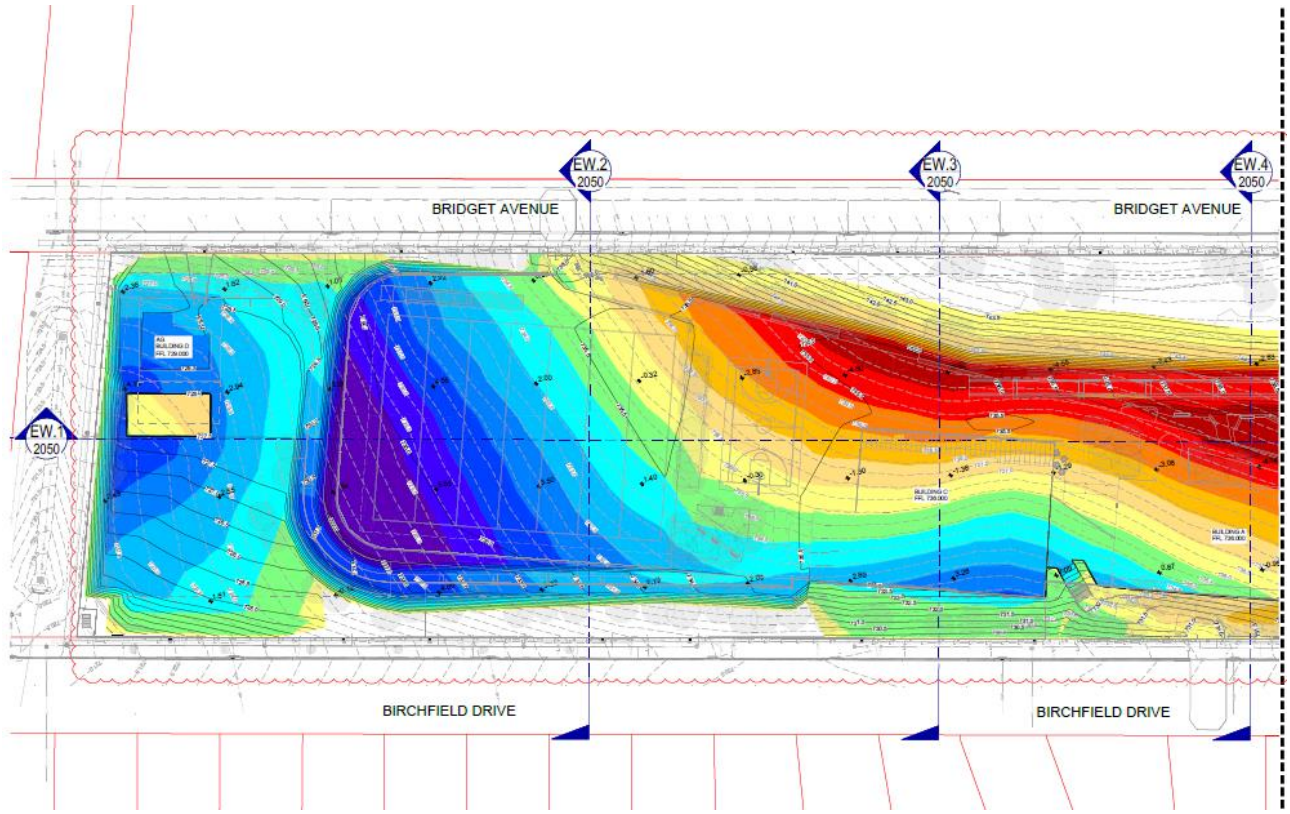
Due to the site's undulating nature, experiencing a significant fall in gradient from north to south, bulk earthworks are required to accommodate the proposed new school. Extracts of the cut and fill plans are provided at

Figure 25 and **Figure 26** and a summary of the proposed cut and fill quantities are provided in **Table 9**.

Table 9: Cut and Fill Quantities

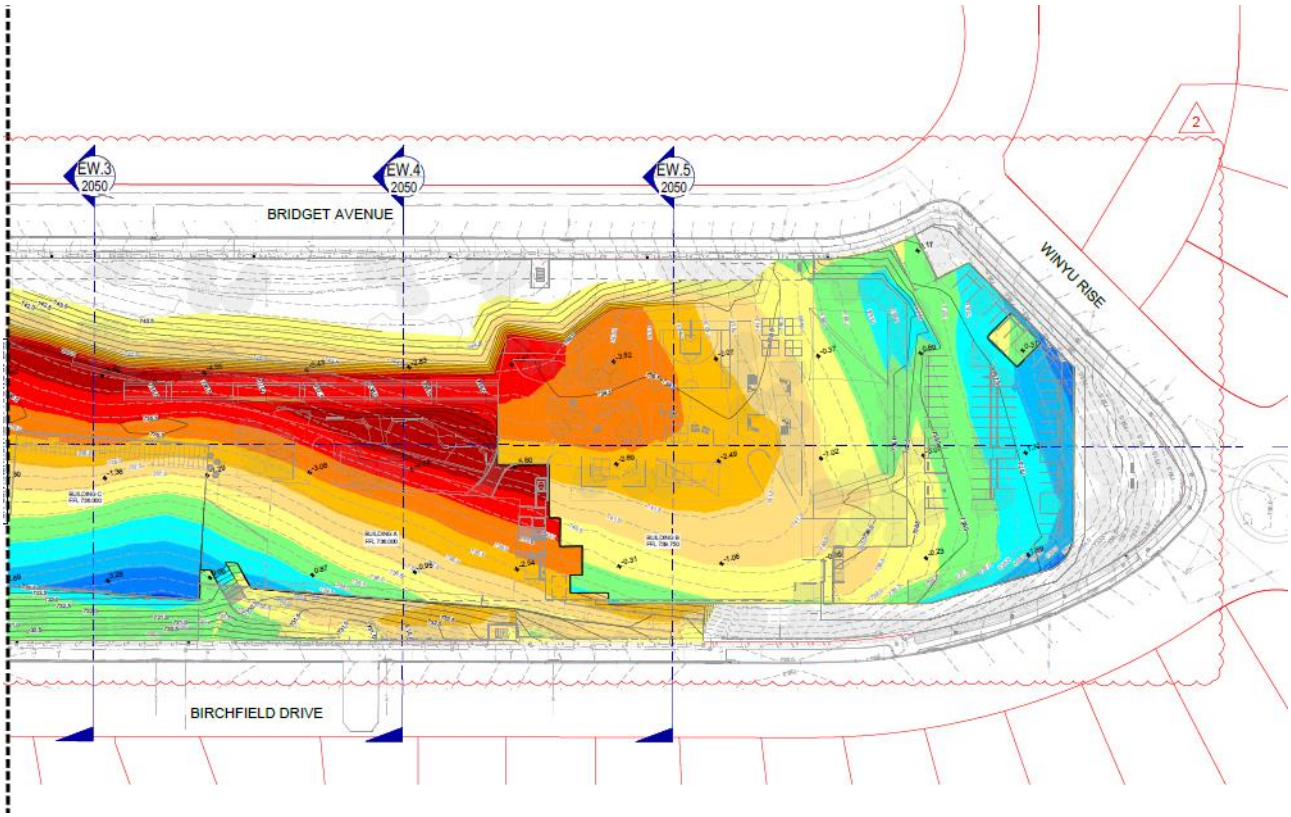
Earthwork Type	Volume required (m^3)
Cut	40,387m^3
Fill	40,550m^3
Total	Net fill 172m^3

Figure 25 Cut and Fill Plan (western portion of site)



Source: enstruct 2025

Figure 26 Cut and Fill Plan (eastern portion of site)



Source: enstruct 2025

3.6 Utilities and Services

The following utility connection works are proposed, and will be subject to the necessary approvals:

- Water connection to an existing 100mm authority owned diameter pipe along Birchfield Drive.
- Gravity sewer mains serving all buildings up to 150mm in diameter.
- A new 1000kVA kiosk substation located adjacent to Building A, supplying power to all facilities except the agriculture block. LV supply from local feeder pillar to support the small agriculture building.
- Integrated connectivity for NBN and Telstra services which will require new conduits and connections to be provided.

3.7 Waste Management

Operational Waste

The waste storage area as well as the loading dock for waste collection service is proposed to be located at the southwest corner of the school car park, outside Building B, in the south east section of the site. The concrete sealed waste storage area is sized as approximately 3 metres x 10 metres to accommodate the bins and containers for the various waste streams. Separate agricultural waste bins are proposed to be stored near the agricultural plot as appropriate.

The proposed operational waste management procedures will involve the private collection of waste and recycling bins per an agreed schedule which is yet to be finalised. The proposed collections will be undertaken in accordance with the department's contracts with a private waste collection service.

It has been assumed that general waste and recycling will be collected three times weekly, approximately every two days. On collection days, a private waste collection vehicle will enter the site from Bridget Avenue and park in the loading bay adjacent to Building B. Once the waste is collected, the private waste collection vehicle will exit the site onto Bridget Avenue in a forward direction.

An inground 1,000 litre grease arrestor will be installed outside the south side of Building B, adjacent to the kitchen. The grease arrestor will prevent fats, oils and greasers from entering the sewer. It will be pumped by an appropriate hauler.

For further information, refer to the Operational Waste Management Plan (**OWMP**) provided at **Appendix 27**.

Construction Waste

The project will prioritise waste reduction, reuse, and recycling, ensuring compliance with NSW EPA regulations. Waste will be sorted on-site, with materials like concrete, timber, and metals recycled where possible. Excavated materials will be assessed for reuse, while hazardous waste will be strictly managed. Regular inspections, staff training, and record-keeping will support compliance, with periodic reviews ensuring best practices are maintained throughout construction.

For further information, refer to the Construction Waste Management Plan **(CWMP)** provided at **Appendix 14.**

3.8 Operation

The new school will accommodate 600 students and 68 staff. The school is not proposed to be used for community use outside of school hours. The anticipated school hours are outlined in **Table 10**.

Table 10: School Hours of Operation

Activity	Hours of Operation
School Hours	8:00am – 4:00pm, Monday – Friday
Recess and Lunch	Staggered throughout the school day.
Administration	8:00am – 4:00pm
Waste Collection	Proposed outside of school hours Monday to Friday

In time for the 2026 school year, the existing high school will further expand onto the 10 Majara Street site as a temporary solution while the permanent school is built. A separate REF will be submitted and exhibited for the temporary school expansion.

Out of school hours care (**OOSH**) is not proposed under this REF and any future OOSH uses will be carried out using the following exempt development provision in the TI SEPP once the site becomes an operating school.

> *Section 3.39 (i) the use of existing facilities or buildings for the physical, social, cultural or intellectual development or welfare of the community, whether or not it is a commercial use of the establishment*

4. Proposal Need and Alternatives

4.1 Proposal Need

The proposal to provide a new high school is consistent with the State Government's plan to rebuild public education in regional NSW. The 2024-2025 budget is aiming to deliver record education funding including $1.4 billion for new and upgraded schools in regional NSW. The focus is on ensuring that the growing communities are receiving access to world class public education.

Bungendore's growing population has placed increasing pressure on existing schools in the area, necessitating the establishment of a new permanent high school to accommodate local students. Currently, many students must travel long distances to attend high school in nearby towns, creating logistical challenges for families and limiting access to extracurricular and community-based educational opportunities. A new high school would provide essential infrastructure to support the region's development, ensuring quality education close to home.

4.2 Alternatives

The proposed activity has been developed following a consideration of options and alternatives to address the need identified above. A summary of the options considered is provided in **Table 11**.

Table 11: Assessment of Options and Alternatives

Option	Discussion	Preferred Option
Option 1: Do Nothing	If the project was not to proceed, the following consequences are likely to occur: • A significant shortfall of secondary school infrastructure within the locality required to support the enrolment needs of the growing population of Bungendore. • A "Do nothing" approach would result in the failure of the department to provide secondary education services within the nominated catchment, which is not an option. As part of the NSW plan to rebuild essential services, the 2024-2025 Budget seeks to deliver $1.4 billion for new and upgraded schools in regional NSW.	Option 1 is **not preferred** as it would result in a significant shortfall of secondary educational establishments and not achieve the intended outcomes of the NSW plan to rebuilding essential services, including the development of schools in regional NSW.
Option 2: Alternative Design	The project team has evaluated several design options for the delivery of the new school at this site. The initial option served as a foundation for developing the final masterplan, with minimal changes to the site's spatial layouts. However, as the understanding of surrounding infrastructure proposals and on-site conditions (such as topography) improved, certain design elements were re-evaluated.	Option 2 is **not preferred** as the alternative design option explored, including building layout and site access, did not optimise site access and internal arrangements to provide teaching spaces and outdoor play areas with sufficient space and high amenity. The initial option also did not efficiently integrate with the required off-site works.
Option 3: Alternative Sites	The department initially considered a site closer to the train station and the existing primary school. A decision was made not to pursue this option follwoing community feedback. The department recognises that ongoing community feedback to the former site may result in delays to the opening of a permanent high school in Bungendore, directly impacting students and staff. In response, the department conducted a comprehensive review of available sites, assessing their suitability based on a range of key factors essential for a school's successful development.	Option 3 is **not preferred** as the current school site provides the greatest opportunity to balance operational efficiency and high amenity learning due to the site's orientation. The location of the current school site outside of the Bungendore Town Centre also responds to the concerns raised by the community regarding the previous site and reduces amenity impacts during construction and provides accessible education for Bungendore's growing northern fringe. The current site at Birchfield Drive

Option	Discussion	Preferred Option
	Following this evaluation, the department determined that the chosen site best meets the requirements for constructing a permanent high school while ensuring a convenient location for families within Bungendore and surrounding areas. To expedite the delivery of a new high school for the Bungendore community, the department committed to conducting due diligence to explore alternative site options. This review concluded that the site at Birchfield Drive (the subject site) is the most viable and suitable location for the new permanent high school.	was selected after reviewing multiple factors, including accessibility, topography, and future expansion potential.
Option 4: Proposed activity as described in this report	Ultimately, the proposed activity as described in this report was informed by the shortcomings and opportunities identified in the options above. This ensured that the identified need for the high school within Bungendore was met and achieved with negligible environmental impacts. The final concept design significantly improved solar access and cross ventilation and reduced the extent of earthworks. Minor adjustments to the locations and orientations of Buildings A, B, and C also helped to manage level transitions between the street and southern boundary and the building bench levels. The design team explored different building orientations and layouts to manage the site's long, narrow shape and significant slope, opting for a terraced layout with split-level buildings to maximise natural light and shield from winter winds. Various configurations for traffic access and outdoor facilities were also assessed, with Birchfield Drive chosen for bus and drop-off zones and the western portion selected for sports fields due to its flatter terrain. The design was masterplanned to allow for future expansion to accommodate up to 1,000 students, ensuring flexibility and long-term viability (under separate authority approval).	Option 4 is the **preferred option** as it will ensure that the ambitions of the NSW government are achieved, a high level of amenity is achieved, and that connections to necessary infrastructure are readily achieved.

5. Statutory and Strategic Framework

5.1 Permissibility and Planning Approval Pathway

The TI SEPP aims to facilitate the effective delivery of infrastructure and educational establishments across the state and provides that various developments for the purposes of a government school are permitted without consent. The proposed activity is development permitted without consent as outlined at **Table 12**.

Table 12: Description of Proposed Activities under the TI SEPP

Division and Section within TI SEPP	Description of Works
Division 5 Electricity **Section 2.44 Development permitted without consent—general**	The proposed activity involves the installation of a new 1000kVA kiosk substation by or on behalf of a public authority without consent on any land.
Section 3.37A – New government schools— **Development permitted without consent**	The proposed activity involves the development of a new government school on behalf of a public authority, on land zoned R2 Low Density Residential, which is a prescribed zone under the TI SEPP. The site does not contain an existing or approved school. The proposed activity involves the construction of buildings with a maximum height of four storeys in height which complies with the provisions of the TI SEPP. The Design Quality Principles set out in Schedule 8 of the TI SEPP and the Design Principles set out in the Design Guide for Schools have been considered as set out in **Section 3.2.1** of this REF.

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.

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 7** and have been assessed as a less than significant impact and can therefore proceed under an REF assessment.

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

The *Guidelines for Division 5.1 Assessments* (DPE June 2022) and the *Guidelines for Division 5.1 assessments Consideration of environmental factors for health services facilities and schools Addendum* (DPHI, October 2024) provide a list of environmental factors that must be taken into account for an environmental assessment of the activity under Division 5.1 of the EP&A Act. These factors are considered in detail at **Section 7**.

5.2 Environmental Protection and Biodiversity Conservation Act 1999

The provisions of the EPBC Act do not apply to the proposed activity as it is not development that takes place on or affects Commonwealth land or waters. Further, it is not development carried out by a Commonwealth agency or development on Commonwealth land, nor does the proposed activity affect any matters of national significance. An assessment against the EPBC Act checklist is provided at **Table 13**.

Table 13: 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

5.3 Other Approvals and Legislation

Table 14 identifies any additional approvals that may be required for the proposed activity. **Table 15** identifies the SEPPs that are applicable to the proposed activity.

Table 14: Consideration of State legislation and other approvals

Legislation	Relevant?	Approval Required?	Applicability
National Parks and Wildlife Act 1974	No	No	Previous Aboriginal archaeology investigations have been undertaken at the site as part of the Elm Grove Stage 2A and 2B Residential Subdivision. A number of Potential Archaeological Deposits (**PADs**) were identified during these investigations which have been subsequently removed by AHIP 4760 and AHIP 4962. The AODD which accompanies the REF at **Appendix 3** confirms that the entire ground surface area has been subject to disturbance in accordance

Legislation	Relevant?	Approval Required?	Applicability
			with the recommendations of past Aboriginal archaeology investigations. Therefore, the AODD determines that no further investigations are required for the subject area, nor will an Aboriginal Heritage Impact Permit (**AHIP**) be required.
Rural Fires Act 1997	No	No	The site is not bushfire prone land, and no approvals or licences are required for the activity in relation to the RF Act.
Water Management Act 2000	No	No	Although a drainage channel runs along the western boundary of the site, the site is not within 40 metres of a natural watercourse and therefore does not require a Controlled Activity Approval. Additionally, as a public authority, the Department of Education is exempt from this requirement. There are no dams within the site, and dewatering is not necessary.
Biodiversity Conservation Act 2016	No	No	An SIS or BDAR is only required for Part 5 projects where the activity is likely to significantly affect the environment if it is likely to significantly affect threatened species. As the site has been subject to previous disturbance to accommodate the approved subdivision, no biodiversity values remain on the site and an approval under the BC Act is not required.
Pesticides Act 1999	No	No	The proposal will not require the use of large quantities of dangerous pesticides and therefore approval under the Pesticides Act is not required.
Heritage Act 1977	No	No	The site does not include any heritage items and is not located within a heritage conservation area. The Heritage Act is not relevant as the proposed activity does not materially affect any local or State heritage items.
Fisheries Management Act 1994	No	No	The FM Act applies in relation to all waters that are within the limits of the State and needs to be addressed for development in proximity to or which could have impact on any aquatic flora and fauna. The FM Act is not relevant as the proposed activity will not impact aquatic flora or fauna.
Contaminated Lands Management Act 1997	No	No	This REF is supported by a Preliminary Site Investigation (**PSI**) at **Appendix 30** which confirms that the site is suitable for the proposed activity and use in its current state. Therefore, no approval is required under the CLM Act. Furthermore, the Section 10.7 Planning Certificate does not indicate that the site is significantly contaminated or that any approvals under the CLM Act are required.
Protection of the Environment Operations Act 1997	No	No	The proposed activity will not result in significant air, noise, water or waste pollution and therefore an approval under the POEO Act is not required. The proposed activity relates to the construction of a new high school and therefore a licence under Sections 47, 48, 49 or 122 of the POEO Act is not required. A

Legislation	Relevant?	Approval Required?	Applicability
			detailed Construction Management Plan will be developed and implemented during construction to mitigate impacts.
Roads Act 1993	Yes	Yes	The proposed activity involves the construction of wombat crossings on Bridget Avenue and Birchfield Drive, along with the construction of a car park entrance on Bridget Avenue. In addition, the proposed activity will require openings to roads to connect into existing utility services. Accordingly, approval will be required under Section 138 of the Roads Act for these works.
Local Government Act 1993	Yes	Yes	An approval under Section 68 of the LG Act will be required as the proposed activity includes the carrying out of sewerage work and stormwater drainage work that connects to Council's systems.
Mine Subsidence Compensation Act 1961	No	No	The site is not located within a mine subsidence district and therefore this Act does not apply.
Crown Land Management Act 2016	No	No	The proposed activity is located on land currently owned by the Minister for Education and Early Learning. As the land is currently not owned by Council, the CLM Act is not relevant.
Coastal Management Act 2016	No	No	The CM Act is not relevant as the site is not within a coastal zone or coastal area.
Heritage Act 1977	No	No	The Heritage Act is not relevant as the proposed works do not materially affect any local or State heritage items.
Environmental Planning and Assessment Regulation 2021 (Section 171A)	No	No	The proposed activity is not located within a regulated catchment.

Table 15: Consideration of relevant SEPPs

Legislation	Relevant?	Applicability
State Environmental Planning Policy (Planning Systems) 2021	No	Although the Planning Systems SEPP allows new educational establishments to be classified as State Significant Development (**SSD**) if their Estimated Development Cost (**EDC**) exceeds $20 million, the proposed activity is being carried out under Section 3.37A of the TI SEPP as development without consent.
State Environmental Planning Policy (Sustainable	Yes	The provisions of Chapter 3 of the Sustainable Buildings SEPP apply to the proposed activity as it involves the erection of a new building with an EDC greater than $5 million. This REF is accompanied by a Net Zero Statement

Legislation	Relevant?	Applicability
Buildings) 2022		and ESD Report which outline the strategies to resolve operational and construction emissions as well as committing to Net Zero operational emissions by 2050. An Embodied Emissions Report also accompanies the REF.
State Environmental Planning Policy (Resilience and Hazards) 2021	Yes	The PSI which accompanies this REF has confirmed that further investigation or remediation is not required, and the site is considered suitable for the proposed activity.
State Environmental Planning Policy (Industry and Employment) 2021	No	The proposed school signage is ancillary to the proposed activity for the construction of a school. An assessment against the relevant signage provisions of the IE SEPP is provided in **Table 16**.

Table 16 below provides an assessment of the proposed new signage against the relevant design criteria provided in Schedule 5 of the Industry and Employment SEPP.

Table 16: Industry and Employment SEPP Schedule 5 assessment

Criteria	Complies	Proposal
Character of the area		
Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?	Yes	The proposed signage for the school is compatible with the existing and desired future character of the area. A new individual letter school signage is proposed in the main entry awning, creating a strong school identity. A secondary school entry signage is proposed to be digital electronic LED sign. The signage is designed to be clear, functional, and integrated within the architectural and landscape elements of the school, ensuring minimal visual intrusion. The entry signage, wayfinding elements, and identification signs are appropriately scaled to maintain a cohesive streetscape presence while respecting the low-density residential and educational setting. The materials and colour palette align with the school's architectural theme, reinforcing a contemporary and contextually responsive design.
Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	Yes	The signage is commensurate with signage locations and dimensions for other school signage within the area. The scale and location of the signage is consistent with the scale of similar schools in the area.
Special areas		
Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas,	Yes	The proposed signage does not detract from the amenity or visual quality of any environmentally sensitive areas, natural or other conservation areas, open space area, waterways or rural landscapes. The proposed signage will not adversely impede the

Criteria	Complies	Proposal
natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?		visibility of other signage within the surrounding area. An 'Acknowledge of Country' sign will be incorporated into a co-designed art piece.
Views and vistas		
Does the proposal obscure or compromise important views? ***Does the proposal dominate the skyline and reduce the quality of vistas?*** ***Does the proposal respect the viewing rights of other advertisers?***	Yes	Signage will be placed at the school's entrances and on the exterior facades of its buildings. The main school sign, featuring individual lettering, will be positioned on the upper level of the building's external façade without extending above the structure. Additionally, the digital electronic sign will be set back from Birchfield Drive, ensuring it does not dominate the skyline or obstruct any views
Streetscape, setting or landscape		
Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape? ***Does the proposal contribute to the visual interest of the streetscape, setting or landscape?*** ***Does the proposal reduce clutter by rationalising and simplifying existing advertising?*** ***Does the proposal screen unsightliness?*** ***Does the proposal protrude above buildings, structures or tree canopies in the area or locality?*** ***Does the proposal require ongoing vegetation management?***	Yes	The proposed signage is compatible with the scale of the proposed streetscape and setting. The proposed signage will incorporate quality materials and finishes and provide a coherent and integrated colour scheme based on the logo and colours of the school. The proposal will appropriately reflect the future design and character of the school and will not present visual clutter. The proposed signage will not protrude above any buildings or tree canopies or require ongoing vegetation management.
Site and building		

Criteria	Complies	Proposal
Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located? ***Does the proposal respect important features of the site or building, or both?*** ***Does the proposal show innovation and imagination in its relationship to the site or building, or both?***	Yes	The signage will be appropriately scaled and designed for its intended purpose, occupying only a small portion of the buildings' external façades. It will remain below the roofline and will not be a dominant visual feature. Strategically positioned at school entrances and on building elevations, the signage will clearly identify the school and the names of the buildings on-site.
Associated devices and logos with advertisements and advertising structures		
Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?	Yes	A secondary school entry signage is proposed to be digital electronic LED sign. The signage will display the school's name and logo. Illumination devices are integrated into the design of the signage.
Illumination		
Would illumination result in unacceptable glare? ***Would illumination result in unacceptable glare?*** ***Would illumination detract from the amenity of any residence or other form of accommodation?*** ***Can the intensity of the illumination be adjusted, if necessary?*** ***Is the illumination subject to a curfew?***	Yes	The illuminated signage is not anticipated to have any negative impacts in terms of glare
Safety		

Criteria	Complies	Proposal
Would the proposal reduce the safety for any public road? ***Would the proposal reduce the safety for pedestrians or bicyclists?*** ***Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?***	Yes	The proposed signage will not distract motorists. The signage will not be in motorist line of sight while driving. No safety implications for pedestrians or vehicular users are envisaged.

As demonstrated above, the proposed signage is consistent with the relevant matters contained in the applicable SEPPs.

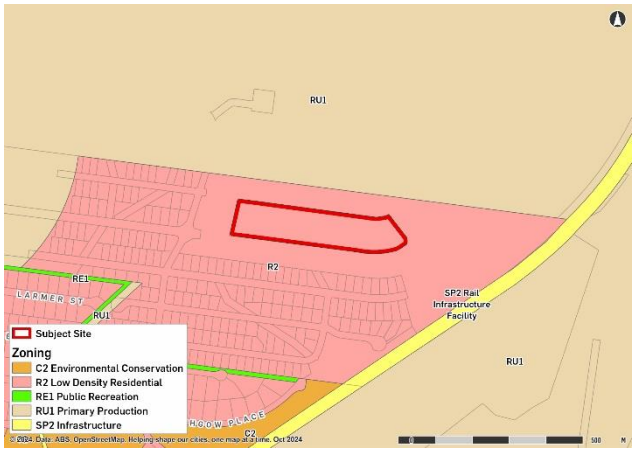
Table 17: Queanbeyan-Palerang Regional Local Environmental Plan 2022

Clause	Provision	Compliance
Clause 2.3 Land Use Zoning	The site is zoned R2 Low Density Residential under the *Queanbeyan-Palerang Regional Local Environmental Plan 2022* (**QPLEP 2022**)	The proposed activity is defined as an educational establishment which is prohibited within the R2 Low Density Residential zone under the QPLEP 2022. However, Section 3.37A of the TI SEPP provides that new government schools are permitted without consent in a prescribed zone regardless of the provisions of the QPLEP 2022. The R2 Low Density Residential is a prescribed zone in accordance with Section 3.34 of the TI SEPP. Therefore, the proposed activity for the purposes of a new educational establishment is permissible without consent. While the TI SEPP removes the requirement to seek consent under the provisions of the QPLEP 2022, the proposal is consistent with the relevant objectives of the R2 zone as follows: • The proposed activity enhances the provision of educational establishments within the locality; a land use which provides services to meet the day-to-day needs of residents. • The proposed activity will support the general well-being of the community by

Clause	Provision	Compliance
		enabling the construction of an educational establishment whilst being compatible with the amenity of the low-density residential environment.
Clause 4.3 Height of Buildings	The site is subject to a maximum building height of 8.5 metres.	The proposed school will have the following building heights: • Building A (learning hub): 13.63 metres, RL 736.00, 3-storeys • Building B (learning hub): 13.63 metres, RL 739.75, 3-storeys (however, with the end-of-trip facility under one bay and the lift core included, it reaches 4-storeys and 18.3 meters (RL 736.000). • Building C (school hall): 10.4 metres, RL 736.00, 1-storey (double height). • Building D (agricultural block): 5.1 metres, RL 729.00, 1-storey. Notwithstanding, Section 3.37A(2) of the TI SEPP permits development without consent to exceed the maximum height where the proposal is four storeys or less. As the proposed activity is limited to a maximum of four storeys, it complies with the relevant height control under the SEPP.
Clause 4.4 Floor space ratio	The site is not subject to a floor space ratio control.	N/A
Clause 5.21 Flood planning	The site is not located on flood prone land according to Council's online mapping service.	N/A
Clause 7.1 Earthworks	The proposed activity will involve significant earthworks to ensure the site is capable of accommodating the proposed educational establishment.	The proposed bulk earthworks are outlined within the Civil Engineering Design Report and Plans submitted with this REF at **Appendix 10**. The proposed mitigation measures outlined in the REF will ensure that the environmental impacts of the bulk earthworks are adequately managed. Refer to **Section 3.5** for further details.

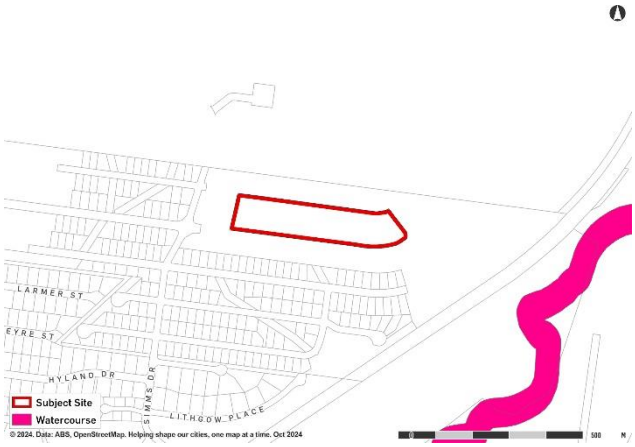
Clause	Provision	Compliance
Clause 7.4 Riparian land and watercourses	Development located within a watercourse or within 40 metres of a watercourse is subject to Clause 7.4	Although a drainage channel runs along the western boundary of the site, the channel is not considered a natural watercourse and is not identified on the Riparian Lands and Watercourses Map in the QLEP 2022. The site is also not within 40 metres from an identified watercourse. Therefore, this provision does not apply.

Figure 27 QPLEP 2022 Maps



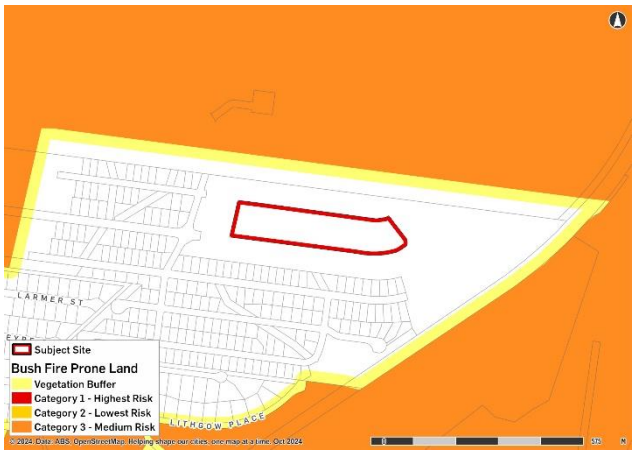
Picture 13 Land Zoning Map

Picture 14 Height of Buildings Map



Picture 15 Watercourse Map

Picture 16 Lot Size Map



Picture 17 Bushfire Prone Land Map

Source: Urbis, 2024

5.4 Palerang Development Control Plan 2015

The site is subject to the provisions of the Palerang Development Control Plan 2015 (**PDCP 2015**). Key relevant sections of the PDCP 2015 have been assessed in **Table 18** below. Refer to the relevant technical report where further detail is required.

Table 18: Palerang Development Control Plan 2015

Provision	Assessment	Complies? (Yes/No)
• **Part B General Provisions**		
B5 Crime Prevention Through Environmental Design	The project incorporates CPTED principles to ensure safety, security, and a welcoming environment for students, staff, and the community. Key measures include: • Passive Surveillance: Open circulation paths and well-positioned windows provide clear sightlines across learning and gathering areas, enhancing visibility and reducing potential hiding spots. • Clear Access and Wayfinding: The main entry plaza and pathways are designed for easy navigation, minimising confusion and directing visitors through designated routes. • Terraced Courtyards: The site layout, with terraced levels and open play areas, allows for natural observation points from classrooms and staff hubs. • Lighting and Visibility: Adequate lighting will be installed along pathways, entry points, and parking areas to ensure visibility and deter criminal behaviour. • Secure Boundaries: The site includes defined boundaries with controlled access points to prevent unauthorised entry. CCTV cameras will be installed across various locations throughout the school site. • Community Integration: The design promotes shared use of certain facilities, encouraging positive community engagement and reducing isolation outside of school hours. These CPTED strategies are intended to create a safe, secure, and inclusive learning environment while balancing accessibility and openness for the community.	• Yes.
B9 Flood Planning B9.1 General 1) Consideration will be given	The proposed activity is not located on flood prone land according to Council's online mapping service. However, a portion of Tarago	• Yes.

Provision	Assessment	Complies? (Yes/No)
to development on land below the flood planning level, but only if it is not located within a floodway or high hazard area as stated in the Floodplain Development Manual 2) Any portion of any building that may be subject to the effects of flood waters is to be built from flood compatible materials (see Appendix B for suggested materials) 3) All services associated with the development are to be adequately flood proofed 4) No on-site sewage management system shall be located within a flood planning area	Road / Molonglo Street in the Bungendore Town Centre may be cut off by floodwaters in a flood event. Accordingly, a FERP (refer **Appendix 20**) has been prepared to assess the potential impact of flooding on evacuation from the site. The FERP provides mitigation measures to ensure that school occupants are aware of evacuation and flooding event procedures. A Flood Impact and Risk Assessment (**FIRA**) has also been prepared (refer **Appendix 19)** which confirms that proposed activity is not considered at significant risk from flooding and will not produce a significant impact on external areas to the site or the environment and surrounding communities	
B10 Heritage – European (non-Indigenous), Aboriginal (Indigenous) and Natural	The site is not identified as an item of environmental heritage (European). However, the site has been subject to a range of previous Aboriginal archaeological investigations. The AODD provided at **Appendix 3** did not identify any PADs within the Bungendore High School site. While previous investigations have noted archaeological potential in areas surrounding the site, test excavations conducted within the subject area did not reveal any Aboriginal objects. The site has also undergone significant ground disturbance, further reducing the likelihood of subsurface archaeological deposits. As a range of site establishment works have already been undertaken at the site, the proposed activity is not expected to result in any Aboriginal archaeological impacts and no further investigations are required.	• Yes.
B12 Landscaping 1) Landscape design should consider usability, privacy and opportunities for social and recreational activities. Neighbours' amenity should also be respected. 2) Development on a site is to be located to retain as many of the significant existing trees as practicable.	The proposed site landscaping and layout are designed to enhance usability and privacy for school occupants while minimising impacts on neighbouring properties. This includes extensive planting along the southern boundary, where school buildings interface with residential areas, to create a natural buffer. Additional boundary planting is planned to further protect privacy and integrate the school into its surroundings. The planting schedule prioritises locally endemic species, ensuring ecological sustainability and a connection to the region's natural landscape.	• Yes

Provision	Assessment	Complies? (Yes/No)
• **Part C Development Specific Provisions – Not applicable to the proposed activity as the DCP does not include specific provisions for educational establishments.**		
• **Part D Area Specific Provisions – Not applicable to the proposed activity as the site is not located within any of the specific areas.**		

5.5 Strategic Plans

Table 19 considers strategic plans that are relevant to the proposed activity.

Table 19: Consideration of applicable Strategic Plans

Strategic Plan	Assessment
South East and Tablelands Regional Plan	The South East and Tablelands Regional Plan (**Region Plan**) provides the overarching strategic plan for growth and change within the South East and Tablelands Region. This region includes the Queanbeyan- Palerang Regional Council. It is a 20-year plan with a 40-year vision that seeks to guide the development of regional land use plans, development proposals and infrastructure investment with the region. The Region Plan includes the following matters of relevance to the proposed development: ***Direction 21: Increase access to health and education services*** Schools are essential local infrastructure. The proposal will deliver a vital piece of educational infrastructure in Bungendore that will service the growing community and neighbouring towns. ***Objective 22: Build socially inclusive, safe and healthy communities*** The proposal will integrate with the surrounding pedestrian network to ensure that the future community is inclusive, safe and healthy. The central location of the school within the Elm Grove subdivision encourages active transport and ensures equitable access to the site.
Queanbeyan-Palerang Local Strategic Planning Statement	The Queanbeyan-Palerang Local Strategic Planning Statement 2020 (**LSPS**) identifies that the population of the Queanbeyan-Palerang LGA is anticipated to increase by 30% by 2036. The LSPS states that expected growth in the LGA is expected to place further stress on community infrastructure which includes school sites and the ability to provide additional school capacity is particularly challenging. The LSPS identifies that Council seeks to work with the department to identify school sites and has a role to deliver and seek to advocate on behalf of the community. Additionally, the provision of a high school addresses Local Planning Priority 11 which seeks to ensure that infrastructure is available for future growth.
Bungendore Structure Plan 2018-2048	The Bungendore Structure Plan 2018-2048 (**Structure Plan**) has been prepared to guide the growth of Bungendore in an efficient and coordinated manner. The key drivers for growth within Bungendore are directly related to the proximity to Canberra and the economic, employment, and population growth it generates. The Elm Grove subdivision precinct is identified as supporting short-medium term residential population growth, characterised by

Strategic Plan	Assessment
	low-density residential development. The Structure Plan identifies the NSW state government commitment to the development of the Bungendore High School; however no recommended sites were identified within the Structure Plan. Instead, the Structure Plan identifies the demand for the Bungendore High School created by the future residential growth within Bungendore.

6. Consultation

6.1 Early Stakeholder Engagement

Table 20 provides a summary of early stakeholder (non-statutory) consultation undertaken to inform project development and preparation of the REF.

Table 20: Summary of Early Stakeholder Engagement

Stakeholder	Engagement	Response
QPRC	**20 September 2024**: SINSW presented the proposed high school masterplan to QPRC.	The Council expressed its support for the proposal and identified key areas for further development, including solar panel integration, material selection, visual impact, ESD considerations, public realm enhancements, and acoustic elements.
	11 November 2024: Through urban planners Urbis, SINSW presented a scoping report and preliminary architectural drawings to QPRC.	Council reaffirmed its support for the proposed high school at Birchfield Drive site and committed to working collaboratively with SINSW. Council expressed interest in reviewing the landscape concept and the CWC strategy.
	20 November 2024: SINSW held a workshop with Council and Councillors.	Councillors requested community consultation on the concept plan and expressed support for the new site location.
SINSW Transport	**7 November 2024:** Stantec presented the Rapid Transport Assessment (**RTA**) to the SINSW Transport team for review. **28 November 2024:** A consultation meeting was held to discuss key transport elements, including the kiss and drop zones, parking, mode share, bus routes, and timetables. **2 December 2024:** A follow-up meeting was conducted before the Technical Working Group (**TWG**) meeting.	Stantec and the project team incorporated feedback into ongoing design development, informing the Transport Impact Assessment (**TIA**) and PCTMP.
Transport for NSW (**TfNSW**)	**2 December 2024:** The project team met with TfNSW representatives and QPRC traffic engineers to review design elements. Key topics included: • Accessibility provisions • Mode share evolution	TfNSW provided positive feedback and suggestions, which have been incorporated into ongoing design documentation.

Stakeholder	Engagement	Response
	• Wombat crossings • Footpath connections • Car parking ratios • Roundabout provisions • Bus stop locations • Timing for surrounding road deliveries.	
Government Architect NSW (**GANSW**)	**11 December 2024:** The project team, led by architects NBRS, attended an SDRP session with GANSW. **19 December 2024:** GANSW provided a summary of advice and recommendations.	A formal response to the GANSW feedback is included in **Section 3.2.2** of this REF**.**
Aboriginal stakeholders	Yerrabingin prepared the CWC Report, detailing findings and design recommendations. The consultation process included: • A "How Might We" session to align project goals • A site visit with First Nations community members (24 October 2024) • A final design workshop and feedback session (22 November 2024)**.**	Feedback from the CWC process has been incorporated into the project design. Refer to **Section 3.2.3** of this REF for further details.
Community Engagement	**12 December 2024:** A community information session was held at Bungendore High School (temporary site). Attendees included parents, school staff, and community members.	Key themes discussed: • Permanent school location • Shading and sunlight impacts • Future expansion options • Transport and accessibility • Planning pathways and project timeline • Location and size of amenities.
Bungendore High School	**16 October 2024:** The masterplan was presented to the Bungendore High School Principal. **4 December 2024:** The concept design was reviewed with the High School Principal.	Consultation remains ongoing, and initial feedback has been positive.

Stakeholder	Engagement	Response
QPRC (Sewer & Water)	**3 October 2024:** The hydraulic consultant liaised with QPRC and applied for a water pressure and flow assessment. **9 December 2024:** The official statement on available pressure and flow was received.	The findings have informed fire services and hydraulic design. Further discussions with QPRC representatives addressed sewer connection and trade waste discharge requirements, which have now been integrated into the hydraulic services concept design.

6.2 Statutory Consultation

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

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

Comments received will be carefully considered and responded to.

7. Environmental Impact Assessment

7.1 Traffic, Access and Parking

A TIA and a PCTMP have been prepared and are included in this REF, located in **Appendix 33** and **Appendix 29** respectively.

7.1.1 Construction Traffic

The PCTMP has been prepared to address the traffic and transport impacts during the construction stage of the proposed activity. The report also outlines the proposed mitigation measures for the development to minimise any adverse impacts, where required.

Methodology

The PCTMP is based upon the following assumptions and methods:

- Construction work hours:
    - Monday to Friday (other than public holidays): 7am to 5pm
    - Saturday: 8am to 1pm
    - Sunday / public holidays: No work
- Limited construction worker vehicles can be accommodated on site.
- Public parking is available on surrounding local streets such as Birchfield Drive and Bridget Avenue.
- The largest standard construction vehicles regularly accessing the site would include 12.5-metre heavy rigid vehicles. It is likely that a limited number of larger special-purpose vehicles (e.g. floats for plant and equipment, large mobile cranes) will be required, however, these would be subject to a separate oversize and over-mass application process, with an analysis of the specific vehicle access and manoeuvring requirements.
- Up to 10 heavy vehicles (20 vehicle movements) are expected per day.
- Construction vehicles will access the site via an entry point from Birchfield Drive.

Assessment

The PCTMP has confirmed that the proposed activity will have negligible construction traffic impacts for the following reasons:

- Given the site's location nearby to a range of regional and State roads, and the low quantity of heavy vehicle truck movements per day associated with construction of the proposed activity, the impacts of heavy vehicle movements on the local road network is limited. Heavy vehicles are expected to approach the site from the surrounding major roads, such as Tarago Road, Kings Highway and Bungendore Road, to reach the relevant access point on Birchfield Drive.
- During the construction period, pedestrian and cyclist movements are to be maintained as much as possible. Where works require the closure of an existing pedestrian route, a suitable alternative is to be provided. Class A hoarding/ ATF fencing would be provided

between pedestrian paths and any work site. Where overhead works are occurring, B-Class hoarding will be provided where pedestrian movement is being maintained. It is not expected that cyclist or pedestrian routes would be majorly impacted by the proposed construction works.

- Given the infrequent heavy vehicle movements associated with the construction works, the overall impact on existing public transport services on Malbon Street / Kings Highway (State Controlled Road running east/west through Bungendore township) is expected to be negligible.
- The existing Bungendore Public School and temporary high school are located at the intersection of Majara Street and Malbon Street, where heavy vehicle traffic may pose a safety risk for students walking or cycling to and from school. To mitigate potential conflicts, heavy vehicle movements related to the construction of Bungendore High School will be restricted during peak school pick-up and drop-off periods. Specifically, construction vehicles will be prohibited from accessing Malbon Street between 8:35am and 9:05am, as well as between 3:10pm and 3:40pm. This measure ensures student safety while minimising disruptions to traffic flow in the area.
- No adverse effects are expected from the movement of heavy vehicles through adjacent council areas.

Overall, the traffic associated with the construction of the proposed activity is expected to have a negligible impact on the surrounding environment and community.

Mitigation Measures

The following mitigation measures are to be implemented to ensure pedestrian and vehicle safety during the school's construction.

#	Issue	Mitigation measure	Timing	Significance after mitigation
CT1	Limited construction worker parking accommodated on site	Construction workers are to be guided to where appropriate parking is available around the site on induction and be encouraged to use public transport services. Appropriate arrangements are to be made for any equipment / tool storage and drop-off requirements. The Principal Contractor is required to outline a schedule of worker start and finish times and demonstrate that this does not have any significant impact on local traffic activity. It is also required that the Principal Contractor implement measures to reduce worker car travel, such as shuttle buses from key transport nodes or designated remote pick-up points as necessary.	Construction	Not significant

#	Issue	Mitigation measure	Timing	Significance after mitigation
CT2	Addition of construction related vehicles to the local transport network	Construction vehicles are to follow specified routes in the PCTMP. The Principal Contractor will be required to provide Traffic Guidance Schemes for the proposed works. Construction vehicle access is to be limited to occur outside of the pick-up and drop-off periods for the existing Bungendore Public School and Bungendore High School ie 8:35am to 9:05am, and 3:10pm to 3:40pm.	Construction	Not significant
CT3	Obstructions to pedestrian and cyclist movements	Where pedestrian or cyclist routes are affected, accredited traffic controllers will be provided to manage the impact and minimise conflict between vehicles and pedestrians or cyclists.	Construction	Not significant
CT4	Potential safety concerns associated with construction vehicle traffic	Prior to construction commencing, the Contractor is to prepare a detailed Construction Traffic Management Plan to the satisfaction of Council and DoE	Pre-Construction	Not significant

7.1.2 Operational Traffic Management

Methodology

The TIA evaluates the transport and traffic implications of the proposed Bungendore High School. The assessment examines walking, cycling, public transport, private vehicle access, and road network impacts while proposing mitigation measures to support safe and efficient transport integration with the surrounding environment.

The TIA follows the guidelines set out in:

- *T&I SEPP*
- *NSW Government's Future Transport Strategy 2061*
- *QPRC Integrated Transport Strategy*
- *Bungendore Bicycle and Pedestrian Facilities Plan*

The assessment was conducted using the following methods:

- Analysing the current transport network, including pedestrian, cycling, public transport, and road infrastructure, to establish a baseline for comparison.
- Estimating future travel demand based on projected student enrolment (600 students at opening), staff numbers (68), and catchment demographics. This includes assessing walking, cycling, bus, and private vehicle mode shares.

- Using standardised traffic generation rates and local development control plans to forecast vehicle trips generated by the school. This includes evaluating peak-hour travel demand, mode share assumptions, and vehicle occupancy rates.
- Modelling how additional school-related traffic will affect surrounding intersections and road capacity, referencing previous traffic studies such as the *North Bungendore Planning Proposal – Traffic Impact Assessment*.
- Assessing the alignment of existing public and school bus services with the proposed school schedule, including discussions with TfNSW Bus Planning Team to adjust service routes and schedules.
- Evaluating on-site and street parking provisions for staff, students, and visitors, including the kiss and drop zone and school bus zone layout to minimise congestion and ensure efficient operations.
- Reviewing pedestrian and cycling infrastructure, including proposed footpaths, crossings, and bicycle storage, to support safe and sustainable school travel.
- Identifying infrastructure upgrades, traffic management strategies, and sustainable transport initiatives to reduce the school's impact on the transport network, including improved pedestrian crossings, bus stop enhancements, and parking management.

Existing Environment

The school site is located within a developing residential precinct. The site has frontages to Birchfield Drive (south), Bridget Avenue (north), and Winyu Rise (east), and is part of a larger subdivision currently undergoing urban development.

There are no existing vehicular access points to the site, and pedestrian infrastructure is partially developed, with footpaths present only on Bridget Avenue. The existing transport network lacks dedicated pedestrian crossings and cycling infrastructure, necessitating enhancements to support safe and sustainable school access.

The school is surrounded by local and regional roads that will facilitate access for vehicles, buses, cyclists, and pedestrians:

- **Birchfield Drive** (Local Collector Road): Runs east-west along the southern site boundary. It provides one lane in each direction and will serve as the primary student drop-off, pick-up, and bus access point.
- **Bridget Avenue** (Local Access Road): Runs east-west along the northern site boundary and will provide vehicular access to the staff car park and emergency vehicle entry.
- **Winyu Rise** (Local Access Road): Runs north-south along the eastern site boundary, providing local residential access with limited transport demand.
- **Tarago Road** (Regional Arterial Road): Located west of the site, it serves as a major connection between Bungendore, Kings Highway, and Goulburn.
- **Kings Highway** (State Arterial Road): A major east-west corridor passing through Bungendore Town Centre, connecting to Queanbeyan, Canberra (west), and Braidwood (east).

- **Bungendore Road** (Regional Sub-Arterial Road): Connects Bungendore to Bywong and Gundaroo, providing one lane per direction with speed limits varying from 50 km/h to 100 km/h.

Traffic volumes on local roads are currently low but anticipated residential growth and the new high school will increase demand, requiring mitigation strategies.

The existing pedestrian network is partially developed, with footpaths along Bridget Avenue but none on Birchfield Drive. This gap limits safe pedestrian movement between the school site and surrounding residential areas. The Bungendore Bicycle and Pedestrian Facilities Plan identifies future pathway upgrades to improve north-south and east-west connectivity within the broader locality.

To enhance safe pedestrian movement, the proposed activity will:

- Construct a 3.2m-wide footpath along Birchfield Drive, linking the school to the wider pedestrian network.
- Install wombat crossings at Birchfield Drive and Bridget Avenue, prioritising safe crossings for students and staff.
- Improve permeability by integrating pedestrian cut-through links with the local street network.

The existing cycling infrastructure is fragmented, with the nearest shared path located 1.5 km southwest of the site. The *Bungendore Bicycle and Pedestrian Facilities Plan* proposes cycling links between McMahon Drive and Larmer Street, but these are yet to be completed.

The school will promote cycling access by:

- Providing secure bicycle storage for at least 34 bicycles.
- Encouraging active travel through student and staff engagement programs.

The nearest active bus stop is approximately 1.2km south of the site, located at the corner of McCusker Drive and Ashby Drive. This stop is serviced by two bus routes:

- Route 844: Provides three daily services between Queanbeyan and Bungendore, operating once in the morning and twice in the afternoon.
- Route 844X: An express service between Canberra CBD and Bungendore via Queanbeyan, also running three times daily.

While these bus services provide regional connectivity, they do not currently extend directly to the school site.

To improve bus access, the TfNSW Bus Planning Team has committed to:

- Aligning bus schedules with school hours.
- Extending existing bus routes to directly serve the school.
- Introducing a new school bus service for Sutton, Gundaroo, and Wamboin.

A dedicated 70-metre-long bus zone will be provided on Birchfield Drive as part of the proposed activity, accommodating four standard buses safely.

Cycling and pedestrian infrastructure in the area is still developing, with limited existing cycling facilities near the site. The nearest shared path is located approximately 1.5km southwest, with

additional connections further south near Bungendore Town Centre. The *Bungendore Bicycle and Pedestrian Facilities Plan* outlines several proposed cycling and walking links, including:

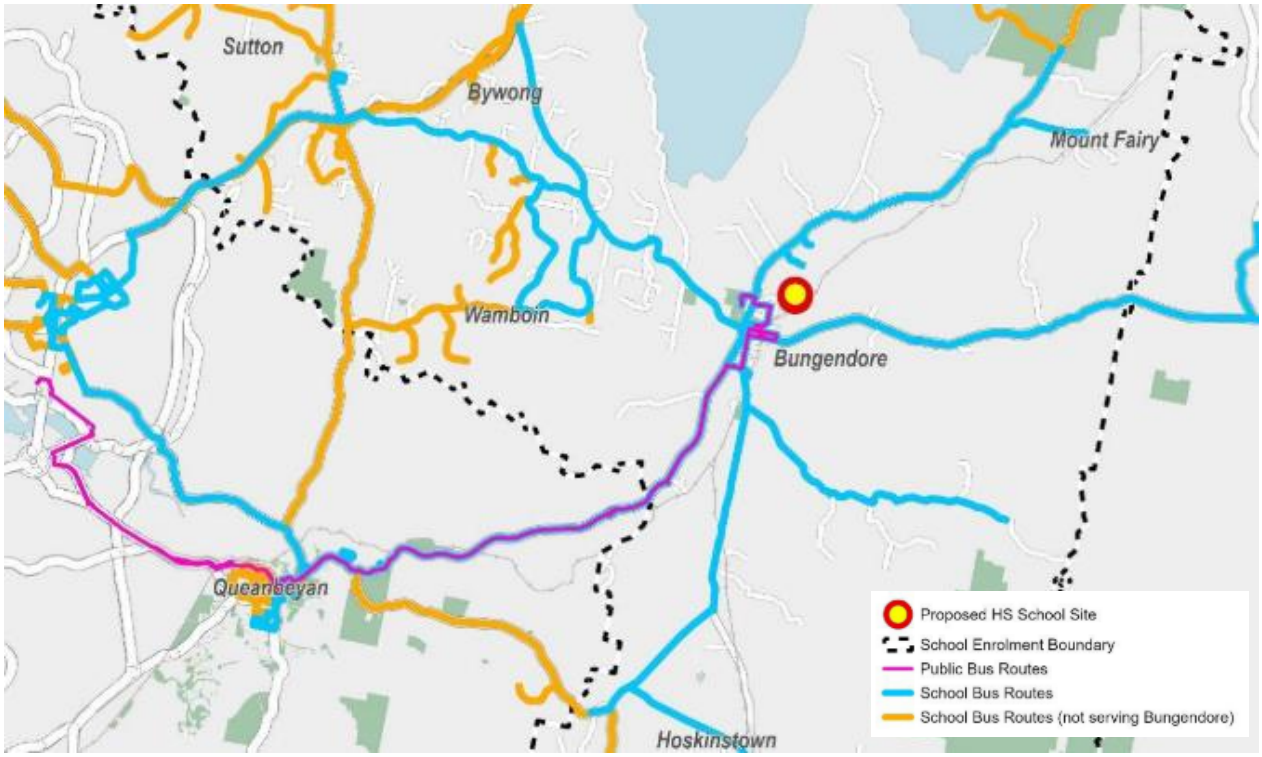
- A north-south shared path along an existing drainage easement, connecting McMahon Drive and Larmer Street (west of the site) to improve connectivity between residential areas and key destinations.
- Additional cycling links within Bungendore Town Centre, designed to support future growth and enhance accessibility for cyclists.

These enhancements will integrate the school into the broader transport network, supporting safe and sustainable travel for students, staff, and the wider community.

Figure 28 Regional Road Network

Source: Stantec, 2025

Figure 29 Public Transport Network



Source: Stantec 2025

Travel Demand

The TIA considers local travel demand catchments to determine projected transport patterns. The catchment analysis identifies residential areas in Bungendore, Wamboin, Bywong, and Sutton as key locations from which students will commute. The majority of students will reside within a 2.5-kilometre radius of the school, with many expected to travel from the Bungendore town centre, Elm Grove Estate, and nearby subdivisions. A smaller proportion of students will come from rural properties and outlying areas, necessitating bus services.

Students attending Bungendore High School are expected to come primarily from nearby residential areas within Bungendore, Bywong, and Gundaroo. The majority will travel from:

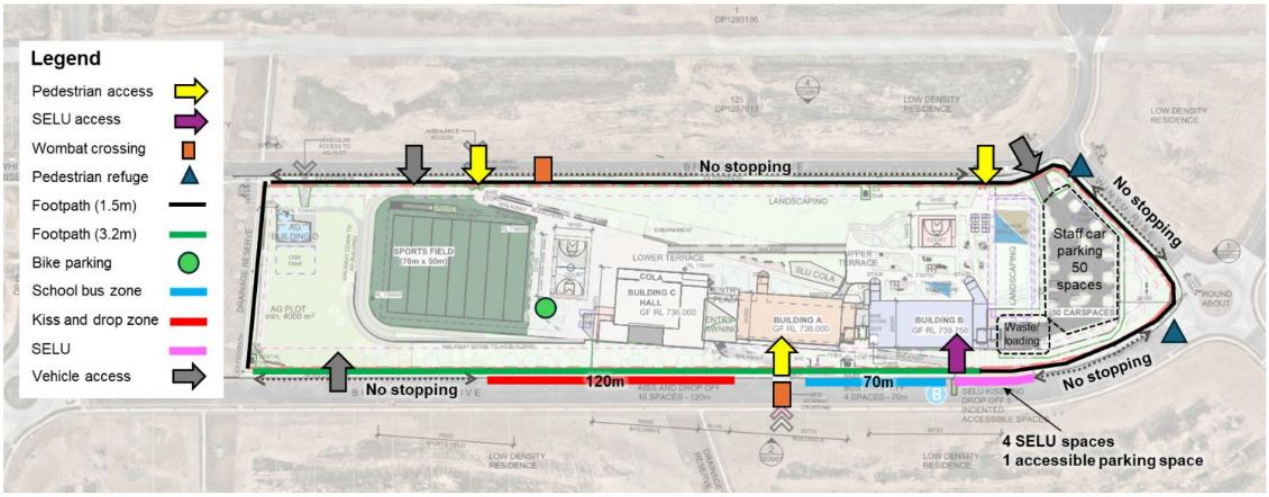
- Eastern Catchment: Residential areas within Bungendore, including new developments in the North Bungendore Precinct, with most students walking, cycling, or being driven to school.
- Northern and Western Catchments: Rural and semi-rural areas such as Bywong and Wamboin, where students will primarily rely on school bus services or private vehicles for transport.
- Southern Catchment: Areas including Gundaroo and Sutton, with students expected to travel via dedicated school bus routes or private vehicles, given the greater distance from the school.

Based on the anticipated student travel patterns, the following works are required and included as part of the proposed activity:

- Construct 3.2m shared paths on Birchfield Drive.
- Install a wombat crossing on Birchfield Drive and Bridget Avenue.

- Build indented bus bays to support efficient traffic flow.
- Install dedicated kiss and drop zones along Birchfield Drive.
- Install school zone speed limits and signage.

Figure 30 Site Access Arrangements



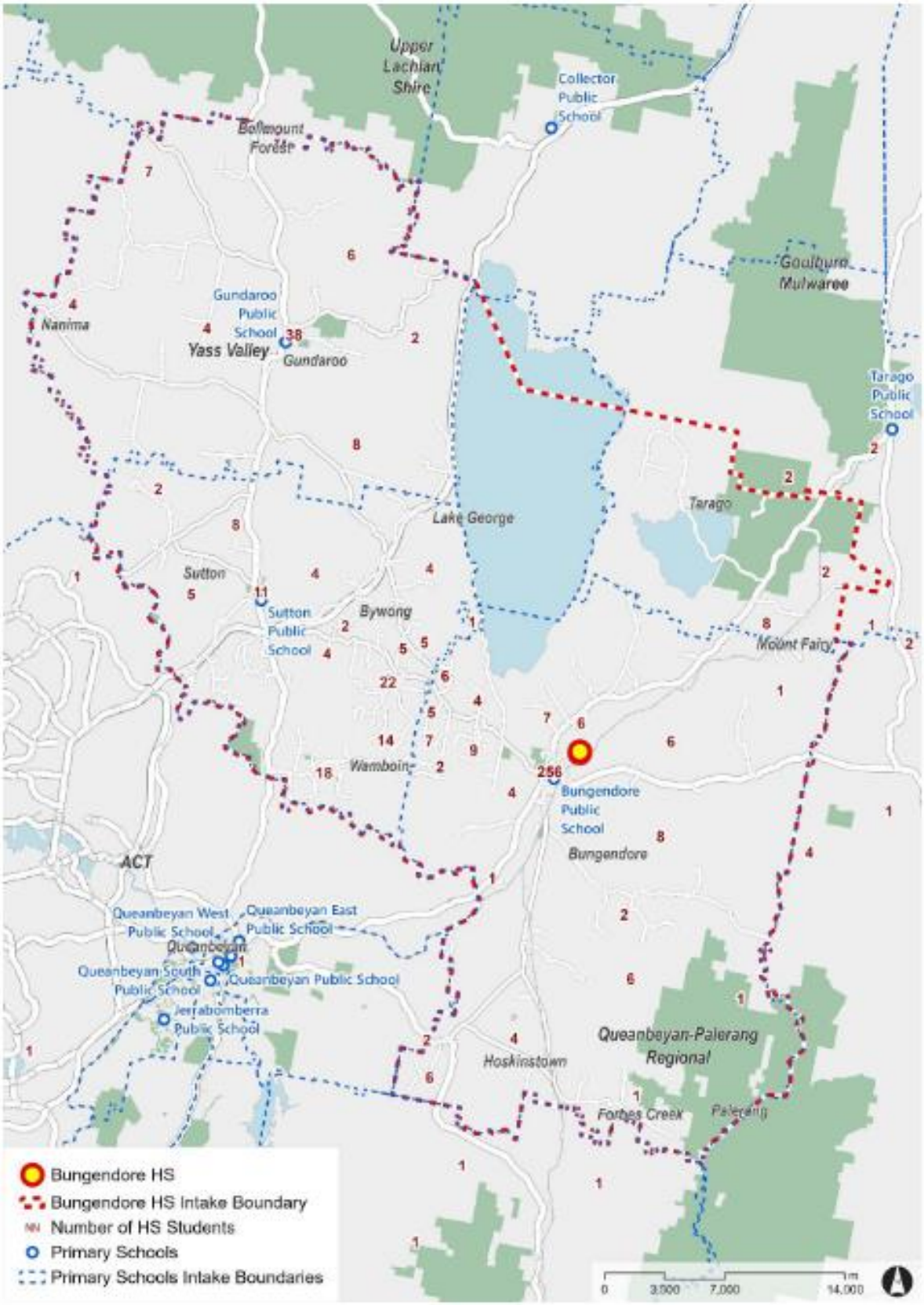
Source: Stantec 2025

Bus coverage within the enrolment boundary is limited and will need to be expanded to meet the mode share targets for the school. TfNSW has expressed support for changes to school bus service timings to better accommodate Bungendore High School students, including extending existing routes within Bungendore and aligning schedules of feeder services from outer areas like Gundaroo and Sutton. Discussions are ongoing to implement a new direct bus service for these regions, ensuring that students have reliable access to the school while reducing dependency on private vehicles. Additional measures, such as promoting bus use and improving active transport links, are also being considered to further enhance public transport accessibility.

Footpath and active transport infrastructure is limited in the vicinity of the proposed school site. The proposed school is delivering 3.2m footpaths along the school frontages Birchfield Drive as well as safe crossing connections with the nearby bus stops to improve walkability to and from the school and surrounding bus stops.

These measures address connectivity, safety, and infrastructure needs, ensuring students can travel efficiently while promoting sustainable transport modes.

Figure 31 Forecasted locations of school students



Source: Stantec 2025

Mode Share Targets

To ensure a balanced transport network, the TIA establishes mode share targets aimed at reducing private vehicle dependency. The base case assumes 64% of students will travel by private vehicle, 29% by bus, 6 percent by walking, and only 1% by cycling. A moderate case, incorporating improvements to public transport accessibility, pedestrian infrastructure, and cycling pathways, reduces private vehicle use to 50%, with corresponding increases in bus (40%), walking (8%), and cycling (3%). A reach case, with additional investments in dedicated school bus services, new cycling infrastructure, and enhanced walking connections, projects a further decline in private vehicle usage to 35%, with bus use rising to 50%, walking to 10%, and cycling to 5%.

For staff, 85% are expected to drive, with 10% carpooling and 5% walking or cycling. Due to the lack of direct and efficient public transport services to Bungendore from the wider region, bus usage among staff is expected to be negligible.

The mode share scenarios are defined as follows:

- Baseline mode share: Reflects the travel patterns of students at 2027 school opening year without any major interventions in place.
- Moderate target mode share: Implementation of transport infrastructure recommendations to enable a shift towards public transport (bus travel), walking and cycling. This scenario factors in:
    - Extension of existing public and school buses within Bungendore to arrive/depart near the school
    - Alignment of schedule timings of feeder school bus routes in outer regions to connect with bus routes serving Bungendore
    - Provision of a direct bus service
    - Promotion of bus services
    - Implementation of key active transport pathway links.
- Reach target mode share: Sustainable mode share is maximised, minimising the dependence on kiss and drop zone and reducing overall road network congestion during school pick-up and drop-off periods. This scenario factors in:
    - Continued promotion of bus services
    - Inclusion of active transport encouragement programs and carpool programs
    - Implementation of a new school bus route servicing areas with high population density and lacking direct bus service to Bungendore (such as Gundaroo and Sutton).

Private Vehicle Demand

Based on a moderate target mode share for private vehicle at 50%, 300 out of a total of 600 students are expected to travel to school by private vehicle, resulting in a demand of 250 cars. Note that a student vehicle occupancy rate of 1.2 is considered adequate for accounting for siblings and moderate carpooling. A summary of the impact of the school development traffic on the surrounding Bungendore road network is provided in **Table 21**.

Table 21: Trips associated with Bungendore High School development

Element	Trips associated with Bungendore High School development
High school student population	600 students
High school staff population	68 staff
School drop off period	8am-9am
School pick up period	3pm-4pm
Student travel – car mode share AM (moderate target)	50%
Student travel – car mode share PM (moderate target)	50%
Student travel – vehicle occupancy (students/veh)	1.2
Staff travel - car mode share	85%
Student trips – AM	250 vehicles
Student trips – PM	250 vehicles
Staff trips – AM	58 vehicles
Staff trips – PM	58 vehicles
Total school related trips – AM	**308 vehicles**
Total school related trips – PM	**308 vehicles**

Road Network and Traffic Impact Assessment

The proposed school relies on several roads for access, including Birchfield Drive (local collector road), Bridget Avenue (local access road), Tarago Road (regional arterial road), and Kings Highway (state arterial road). To assess potential congestion and delay impacts, the modelling undertaken for the *North Bungendore Planning Proposal TIA* was utilised. This modelling incorporated projected traffic volumes for 2027, accounting for background traffic growth from residential developments and the expected school-generated trips.

The proposed high school replaces a portion of residential trips included in the study and adds additional vehicle trips to the network in line with the results shown in the TIA. For the purpose of this assessment, 40 dwellings were assumed to be removed from the assessment in lieu of the school site. This equates to a removal of 28 vehicle trips in the peak hours.

The development trips associated with the high school do not contribute to the network peak period traffic generation because the timing for the school trips does not align with the PM peak period of 5pm to 6pm or AM peak of 7am to 8am. 558 total vehicle movements are added to the network between 3pm and 4pm, and 558 total movements are added to the network between 8am and 9am.

Moderate mode share

The analysis shows that the addition of the vehicle trips associated with the school (moderate mode share) to the shoulder-peak residential development trips results in a total vehicle movement that is 12% higher than the vehicle volumes that were modelled in the *North Bungendore Planning*

Proposal TIA. The addition of 12% of vehicle movements is not considered to have a significant impact on the network, given that the modelled results for the intersections, particularly those close to the proposed Bungendore High School site, show an exceptionally high performance in terms of average delay and length of queue.

The modelling results indicate that, even with a 12% increase in total vehicle trips, all intersections in the study area will continue operating at acceptable Levels of Service (LoS A or B). At the McCusker Drive and Larmer Street intersection, delays are projected to increase from 4.9 seconds to 6.1 seconds, maintaining LoS A. At the McCusker Drive and Ashby Drive intersection, average delays will rise from 5.2 seconds to 7.3 seconds, resulting in LoS B. The Tarago Road and Birchfield Drive intersection will experience the greatest impact, with delays increasing from 6.1 seconds to 8.5 seconds, still within LoS B.

The results of this analysis are shown in **Table 22**.

Table 22: Network trips with Bungendore High School calculation – moderate mode share

Element	Network trips
Total school related trips AM (in and out of the area)	558
Total school related trips PM (in and out of the area)	558
Number of trips associated with residential development (AM) (with removed 40 dwellings)	693
Number of trips associated with residential development (PM) (with removed 40 dwellings)	693
Shoulder peak number of trips associated with the residential development (with applied reduction factor) (AM)	247
Shoulder peak number of trips associated with the residential development (with applied reduction factor) (PM)	247
Addition of trips associated with residential development + school development trips (AM)	805
Addition of trips associated with residential development + school development trips (PM)	805

Reach mode share

The reach mode share assumes a greater reliance on school buses, as supported by TfNSW, leading to fewer private vehicle trips. In this scenario, the total vehicle movements in the area remain below the volumes previously modelled, meaning the school-related traffic does not worsen network conditions.

These results confirm that the road network has sufficient capacity to accommodate the school's traffic demand while maintaining efficient operations.

Parking and Access Arrangements

As per the staff target mode share, there is a demand for 58 parking spaces to cater for high school staff. The school will provide 50 on-site staff parking spaces, located at the eastern end of the site with access from Bridget Avenue. The additional 8 parking spaces are proposed to be captured in the surrounding street network. Given that the proposed surrounding land uses is predominantly low-density residential homes, there will be ample space for 8 additional staff to

park. Council did not object to this off-street parking provision when discussed in the TWG. A dedicated visitor parking zone will be provided near the main reception area.

The kiss and drop zone on Birchfield Drive has been designed to maximise throughput and minimise queuing impacts. The 120-metre-long drop-off area will accommodate 20 vehicles at a time, with an estimated one-minute dwell time per vehicle, ensuring a turnover rate of approximately 60 vehicles every 10 minutes. Traffic flow modelling confirms that the kiss and drop zone will operate within acceptable queuing limits, provided that peak arrivals are staggered. In addition, four accessible spaces are planned near the SELU access, providing convenient drop-off and pick-up for individuals with mobility needs. To further optimise efficiency, wombat crossings will be installed to facilitate safe pedestrian movement while maintaining continuous vehicle flow.

A dedicated 70-metre school bus zone will be provided on Birchfield Drive, accommodating four standard buses simultaneously. Bus movements have been modelled to ensure minimal disruption to general traffic, with buses entering from Tarago Road and exiting onto Birchfield Drive in a coordinated manner. TfNSW has committed to aligning bus timetables with school bell times and introducing new services from Wamboin, Gundaroo, and Sutton to improve accessibility.

Based on feedback from the TWG and observations at Jerrabomberra High School, a longer kiss-and-drop zone of 120 metres has been provided to cater to high private vehicle dependence and queueing. This configuration aims to improve traffic flow and ensure safety for all users, effectively accommodating the needs of the school community.

The kiss and drop zone is designed to efficiently manage peak student pick-ups and drop-offs, while the staff parking provision adequately meets demand without impacting surrounding streets. These measures collectively minimise disruptions and facilitate the school's seamless integration into the community.

Mitigation Measures

The following mitigation measures are to be implemented to ensure pedestrian and vehicle safety during the school's construction and operation.

#	Reason	Mitigation measure	Timing	Significance after mitigation
TT 1	To provide a prioritised pedestrian crossing and ensure safe walking access for students. The provision of a raised threshold further acts as a traffic calming intervention in slowing down vehicle speeds.	Provide two wombat crossings, one on Birchfield Drive and one on Bridget Avenue	Pre-Operation	Not significant
TT 2	To ensure safer crossing for pedestrians with formalised waiting space at the refuge island, for east-west crossing movements	Provide formalised refuge crossings with barrier kerb	Pre-Operation	Not significant
TT 3	To ensure walking and cycling access for students to the school site in all directions.	Provide missing footpaths within the immediate vicinity of the school site on Birchfield Drive, Winyu Rise and	Pre-Operation	Not significant

#	Reason	Mitigation measure	Timing	Significance after mitigation
		Bridget Avenue. • School frontage: 3.2m wide footpath as per Walking Space Guide Type 3 Footpath (Local footpath – High activity). • Non-school frontage: 1.5m wide footpath.		
TT 4	To provide student and staff bicycle parking spaces based on forecasted demand as per mode share targets.	Provide secure sheltered bicycle storage areas (up to a total of 34 bicycle parking spaces) close to the school gates on Birchfield Drive (main entrance) and Bridget Avenue.	Pre-Operation	Not significant
TT 5	To provide bus zone requirements based on forecasted demand as per mode share targets, ensuring efficiency of drop-off / pick-up operation.	Provide a bus zone along Birchfield Drive (on the school side) for four standard 12.5m buses and coaches for excursions, with a total length of 70m. The location of the proposed bus zone is downstream of the wombat crossing. Arrival of buses to be staggered to manage bus demand during the peak hours.	Pre-Operation	Not significant
TT 6	The placement of bus stops in proximity to school site reduces walk distances and promote bus usage. Coordination with bus schedules to align with school bell times.	Continue conversations with TfNSW Bus Planning Team to better align existing school bus services with adjusted school bell times. This includes a proposed route connecting from Gundaroo, Sutton and Wamboin.	All stages	Not significant
TT 7	Kiss and drop zone length (120m) is based on advice from QPRC to provide additional capacity in alignment with observations made at Jerrabomberra High School.	Provide kiss and drop zone (120 metres) and accessible kiss and drop (4 spaces) along school frontage on Birchfield Drive.	Construction	Not significant
TT	To reduce overspill of staff	Provide staff parking	Construction	Not

#	Reason	Mitigation measure	Timing	Significance after mitigation
8	parking onto surrounding residential streets.	within the school site (50 spaces). No on-site parking is to be provided for students.		significant
TT 9	To promote accessibility and inclusion, and in alignment with advice from QPRC.	Provide one accessible parking space on Birchfield Drive for use by parents/ guardians/ visitors to the school.	Pre-operation	Not significant
TT 10	To address operational and safety concerns at the school site.	Within the first 12 months of operation, appoint a School Travel Coordinator and establish a School Transport Committee.	Within 12 months of the of operation	Not significant
TT 11	To inform the community on the travel choices available for the school site, as well as pick-up and drop-off procedures.	Develop and distribute the Travel Access Guide to the school community prior to the school opening.	Operation	Not significant
TT 12	To address ongoing operational and safety concerns at the school site.	A School Transport Plan must be prepared to the satisfaction of the DoE Transport Planning Team.	Operation	Not significant
TT 13	To address ongoing operational and safety concerns at the school site.	The School Transport Plan is to be reviewed on an annual basis for the first two years and updated (if required) to the satisfaction of the DoE Transport Planning team to ensure active and sustainable travel measures are implemented	Operation	Not significant
TT 14	To ensure safe operations of roads around the site.	Prior to the commencement of operation, all required School Zone signage, speed management signage and associated pavement markings must be installed, inspected by TfNSW and handed over to TfNSW.	Operation	Not significant

7.2 Noise and Vibration

The Noise and Vibration Assessment (**NVA**) has been conducted in accordance with NSW EPA guidelines and is included in **Appendix 25**. The report evaluates the potential noise and vibration impacts associated with the proposed activity, covering both the construction and operational phases of the proposed activity.

Methodology

The noise and vibration assessment methodology for the proposed school includes the following key steps:

- Identification of Noise Sensitive Receivers: Key residential receivers surrounding the site were identified, with their proximity to construction and operational activities noted.
- Establishing Noise and Vibration Criteria: Criteria were developed based on relevant guidelines, including the NSW Noise Policy for Industry (**NFPI**), Interim Construction Noise Guideline (**ICNG**), and Assessing Vibration: A Technical Guideline.
- Baseline Noise Monitoring: Long-term unattended and short-term attended monitoring were conducted at representative locations to establish ambient and background noise levels.
- Construction Noise: Modelling using Sound PLAN 9 software to include construction noise sources identified in the NVA, surrounding buildings, ground terrain and absorption, and the receivers identified in the NVA.
- Noise Prediction and Assessment:
    - Noise level predictions were made using typical construction equipment and activity sound power levels, accounting for distance attenuation, shielding, and reflections.
    - Scenarios for operational noise, including building services and traffic, were modelled to ensure compliance with criteria.
- Vibration Assessment: Potential vibration impacts were evaluated for construction equipment, with recommendations for detailed site-specific assessments during project execution.
- Mitigation Measures: A Construction Noise and Vibration Management Plan (**CNVMP**) will be prepared to outline measures such as scheduling, use of quieter equipment, and community consultation to minimise impacts.

Existing Environment

The existing acoustic environment at the site is currently impacted by the surrounding development of the residential subdivision. Further, the existing acoustic environment is unlikely to be representative of the future developed locality. As such, ARUP have utilised guidance from the NPFI to determine a Rating Background Level that is representative of the future acoustic environment.

As the site is zoned R2 Low Density Residential, the NFPI categorises the site as being located within a suburban area. Measurement of ambient noise undertaken by SLR in 2020 for a Rail Noise Assessment for the Elm Grove Estate also indicated a typical background daytime noise

level of 45 dB(A), which corresponds to a suburban classification. Therefore, the following rating background noise levels will be used to assess the proposed activity.

Table 23: Rating Background Noise Levels

Rating Background Level, (dB(A) L90)		
Day (7am to 6pm)	**Evening (6pm to 10pm)**	**Night (10pm to 7am)**
45	40	35

Assessment

Construction Noise and Vibration

Noise during construction will be generated by machinery and equipment such as excavators, trucks, and compactors. Activities with the highest noise levels include earthworks, concrete pouring, and material deliveries.

Based on modelling, noise levels at the nearest sensitive receivers, such as the residential property at 64 Birchfield Drive, are predicted to exceed NMLs during excavation and earthworks, especially if mitigation measures are not implemented. Predicted noise levels during standard construction hours range from 40 to 53 dB(A) at the closest residences, which only marginally exceeds the NML of 51 dB(A). Exceedances are most likely during high-intensity phases, such as excavation and earthworks. It should however be noted that currently there are no dwellings immediately surrounding the site, and few are likely to be constructed prior to construction of the school commencing.

Vibration will primarily result from activities such as compaction, piling, and heavy vehicle movements. These activities may impact both building structures and human comfort. Structures within 50 meters of heavy equipment may experience vibration above human comfort levels, while sensitive heritage structures or poorly maintained buildings could require additional monitoring. Vibration levels are expected to remain below the structural damage threshold for residential buildings (5 mm/s) and are not expected to exceed the human comfort threshold of 0.3 mm/s for nearby properties.

Construction noise and vibration impacts are expected to be manageable with proper mitigation measures in place. Noise levels may exceed thresholds at times, but scheduling, equipment selection, and engagement with the community will minimise disruptions. Vibration impacts are not anticipated to cause structural damage but may require monitoring to address human comfort concerns. The preparation of a CNVMP will be critical to ensuring compliance and minimising impacts throughout the construction phase.

Operational Noise

The main sources of operational noise associated the proposed activity is expected to be generated from mechanical plant, use of the car park, and the operation of the proposed school (specifically, classroom noise and noise from outdoor play areas).

The assessment of operational noise associated with the proposed activity is informed by the background noise data modelling and identification of noise sensitive receivers outlined above.

Staff car park

The primary noise sources from the car park include vehicle movements, engine starts, and door closures. Noise levels were assessed using worst-case assumptions, considering up to three vehicle movements within a 15-minute period. The predicted noise levels at the nearest sensitive receivers range from 40 dB(A) to 44 dB(A), which is below the 50 dB(A) noise criterion for residential areas. The car park will primarily operate during daytime hours, reducing the likelihood of noise-related disturbances in the evening. Additional controls, such as gated access and speed limits, will help minimise noise emissions. Given that the car park is designed for staff use, it is not expected to generate significant late-night noise. Therefore, compliance with noise criteria is anticipated under normal operational conditions.

Noise from Workshops

The school's workshops, particularly the metal and wood workshops, have the potential to generate significant noise, particularly if outdoor areas are utilised for extended operation of workshop activities. The covered outdoor workshop space is expected to be used occasionally for certain projects. Given its proximity to learning areas and external residential receivers, noise control measures will be necessary.

Noise emissions from workshop activities will vary based on usage, with metalwork and woodworking machinery producing higher levels of noise compared to other learning activities. While strict compliance with outdoor learning space noise criteria is not mandated for this space, mitigation measures such as acoustic louvres, noise screens, and internal sound absorption treatments will be implemented to control emissions. Additionally, operational restrictions may be required to limit noisy activities in the outdoor workshop space during sensitive times.

Noise from Hall

The school hall was assessed for noise breakout from internal activities such as sports, assemblies, and music performances. Under typical worst-case conditions, internal noise levels of up to 75 dB(A) were modelled. The predicted noise levels at nearby residences comply with the 50 dB(A) daytime criterion, except for future potential residences to the north, where a 1 dB(A) exceedance is predicted during evening hours if bifold doors remain open.

To mitigate noise impacts, it is recommended that bifold doors remain closed during late-night events to maintain compliance with nighttime noise limits. The assessment also considered possible after-hours usage of the hall for community events, concluding that compliance will be maintained provided that external openings remain closed during high-noise activities.

Outdoor Play Areas

Outdoor play areas include a mix of passive courtyards and active sports areas such as the quadrangle, sports courts, and open play spaces. The quadrangle is expected to accommodate up to 600 students at recess and lunch, with 300 engaged in active play and 300 in passive play. The predicted noise levels range from 44 dB(A) to 55 dB(A) at nearby receivers, all of which comply with the 55 dB(A) criterion for school playgrounds.

The strategic placement of buildings as noise buffers has been incorporated into the site design to minimise transmission of noise to residential areas. Given that outdoor play is intermittent and limited to school hours, the overall impact on surrounding properties is expected to be minimal. Additional noise reduction is provided by landscaping and the orientation of buildings, which serve to shield nearby residences from peak noise periods.

Table 24 below predicts the noise intrusion levels from the proposed activity to nearby residential receivers.

Table 24: Predicted play area noise levels from the proposed activity

Residential Receiver	Predicted Noise Level dB(A)	Play Noise Screening Target dB(A)	Complies
Residential (west)	50	55	Yes
Residential (south)	52	55	Yes
Residential (north)	55	55	Yes
Residential (east)	44	55	Yes

Plant Equipment and Services

As the detailed design for plant, services, and equipment is yet to be finalised, a comprehensive assessment of noise impacts from mechanical plant has not been conducted at this stage. However, noise emissions can be effectively managed and controlled through the implementation of appropriate mitigation measures during and after the design process. The adoption of these measures will ensure that noise emissions from mechanical plant remain effectively managed and fully compliant with relevant guidelines once the design is finalised and operational.

Traffic Noise Generation

Traffic noise impacts were assessed based on the predicted vehicle trips during peak AM hours along Birchfield Drive. The increased traffic volumes are expected to cause a perceptible noise increase of more than 2 dB(A), which exceeds the screening criterion used to evaluate traffic noise impacts. However, overall road noise levels will still remain within the 55 dB(A) LAeq(1hr) criterion set by the NSW Road Noise Policy.

To mitigate impacts, a combination of speed management, road design optimisation, and promotion of school bus use will be employed. The assessment concludes that while there will be an increase in traffic-related noise, no additional noise mitigation measures such as noise barriers or property treatments are required since all predicted levels remain within the acceptable range.

Mitigation Measures

The following mitigation measures are to be implemented to manage noise and vibration impacts during construction and operation.

#	Impact	Mitigation measure	Timing	Significance after mitigation
NV1	To achieve internal and external building services noise and vibration	Appropriate equipment selection and noise mitigation design.	Design	Not significant

#	Impact	Mitigation measure	Timing	Significance after mitigation
	criteria.			
NV2	To minimise disruption to nearby residential receivers.	Outside School Hours Care activities between 6am and 7am should take place indoors, with windows and doors closed. Acoustic louvres to be installed within Hall and Covered Outdoor workshop areas where required to achieve environmental noise emission criteria. Implement feasible and reasonable mitigation measures for traffic generation in alignment with the NSW Road Noise Policy. Restrict usage of Public Address to daytime hours only (7am to 6pm). Use directional speakers and set volume levels to the minimum required to ensure clarity and audibility. Where practicable, all loading dock activities, waste removal and noisy cleaning activities should take place between 7am and 10pm.	Operation	Not significant
NV3	To control noise intrusion into sensitive spaces throughout the school.	Façade glazing and lightweight elements and doors to be designed to control noise break-in to sensitive areas. Natural ventilation to incorporate acoustic louvres where noise break-in is required to be controlled (e.g. Hall). Install acoustically absorptive finishes to underside of outdoor learning areas to control reverberation build up and mitigate noise intrusion.	Design	Not significant
NV4	To manage noise and vibration impacts during construction.	Contractor to develop a detailed CNVMP once specific details of proposed construction activities and staging are known.	Pre-construction / construction	Not significant

7.3 Contamination and Hazardous Materials

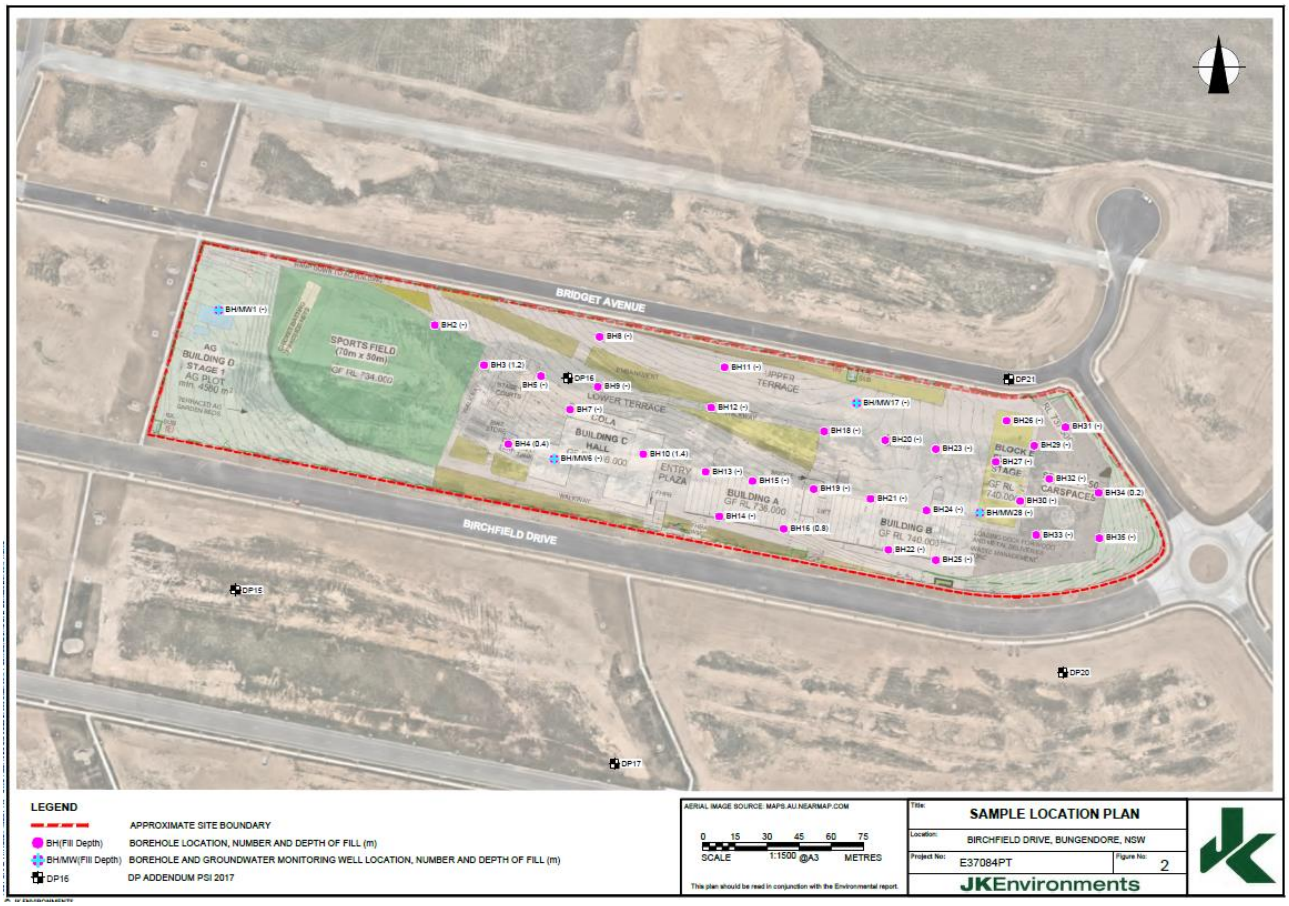
A PSI has been prepared and is included in **Appendix 30**. The PSI assesses and quantifies any soil and groundwater contamination at the site and confirms that the site can be made suitable to accommodate the proposed high school, provided that the proposed mitigation measures are implemented.

Methodology

The methodology adopted by JK Environments to complete this PSI included the following:

- Review of previous contamination investigations undertaken at the site, including a gap analysis of further work to be completed in this PSI.
- Completion of an intrusive investigation program comprising:
  - Advancement of 35 boreholes and collection of representative soil samples.
  - Visual inspection of groundwater seepage in all boreholes.
  - Installation of one groundwater monitoring well and completion of a groundwater monitoring event.
- Laboratory analysis of selected samples for a range of contaminants of potential concern (**CoPC**).
- Review of site information, including background and site history information from various sources.
- Comparison of collected data against EPA published and / or relevant endorsed criteria to confirm land use suitability.
- Preparation of a PSI report in accordance with the relevant guidelines.

Figure 32 DSI Sample Locations



Source: JK Environments, 2025

Assessment

The PSI concluded the following:

- The boreholes generally encountered natural soils from the surface of the site underlain by sandstone, siltstone, and mudstone bedrock. Fill material was encountered in four locations only and extended to depths of approximately 0.2m below ground level (BGL) to 1.4m BGL. The fill contained inclusions of ironstone and quartz gravels, ash and root fibres. A selection of soil samples was analysed for the CoPC identified in the Conceptual Site Model. Elevated concentrations of the CoPC were not encountered above the adopted assessment criteria.
- With the exception of BH2, sandstone, siltstone or mudstone bedrock was encountered beneath the natural soils in all boreholes and extended to the maximum termination depth of the environmental investigation at 7.75mBGL. Neither odours nor staining were recorded in the bedrock during fieldwork.
- Based on the results of the waste classification assessment, and at the time of reporting, the fill material at the site is given a preliminary classification of General Solid Waste (non-putrescible). Additional testing should be undertaken during development works to confirm the waste classification, prior to any off-site disposal of waste.
- Groundwater seepage was not encountered in the boreholes during drilling. All boreholes remained dry on completion of drilling and a short time after.

Based on the findings of the PSI, it was considered that the site is suitable for the proposed high school use and no further contamination investigations, or remediation are required.

Mitigation Measures

Subject to the implementation of the measures outlined in the PSI, JK Environments confirm that the site can be made suitable for the proposed activity. The following mitigation measures are to be implemented to manage risk from potential contamination and hazardous materials.

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
CH1	To compensate for the low sampling density completed for the PSI.	A robust unexpected finds protocol is to be prepared by a suitably qualified environmental consultant and that this protocol be implemented during the development/construction phase of the project.	Pre-construction	Not significant
CH2	To determine waste classification	Additional testing should be undertaken during development works to confirm the waste classification, prior to any off-site disposal of waste.	Construction	Not significant

7.4 Flooding

A FIRA has been prepared and is included at **Appendix 19**. The FIRA outlines the existing hydrological context of the site and provides an assessment into the likely impacts of the proposed activity in post-development conditions. Design solutions and operation procedures required to mitigate flood risk have also been identified where required.

Methodology

The FIRA confirmed that the site and its immediate surrounding area are not affected by mainstream flooding (i.e. located outside the PMF flood extent of mainstream flooding) but will be subject to overland flow. In order to assess the site's potential flood risk, TUFLOW software was utilised to model the existing and proposed flood characteristics of the site and surrounding area. Since the site is not included in the Bungendore Floodplain Risk Management Study model, a new hydraulic model was prepared. The methodology applied is consistent with the latest NSW flood modelling guidelines and Australian Rainfall and Runoff 2019 guidelines.

The TUFLOW model was updated with 2019 LiDAR data to display the ultimate developed scenario of the locality. Additionally, the TUFLOW model was updated to include topographical survey data of the wider site lot collected by Colliers in 2024.

When combined, a site-specific flood model has been developed to provide additional detail of the site following construction of the new high school.

Existing Environment

The site is not identified as flood prone land based on Council's available flood mapping. A bioswale and stormwater drainage system are located to the west of the site. A range of bioswales and retention basins are located throughout the Elm Grove estate to manage the rate of stormwater runoff throughout the precinct.

Assessment

The proposed floor levels have been assessed against the relevant flood level criteria. The flood impact assessment displays that there are some local changes in the flood level within the site due to the modification of the ground level.

While there are areas in the west of the site which are no longer flood affected in the post-development scenario due to the rerouting of the overland flow path, there are increases in the flood level of approximately +3m to +7m as a result of the proposed fill. These impacts are wholly contained within the site and do not result in significant flooding during the 1% AEP or PMF events.

Flood afflux in the post-development scenario is not considered significant, with negligible depths of 15mm on the sports field and a maximum depth of 54mm in the agricultural plot in the 1% AEP event.

Offsite, there are marginal increases in 1% AEP flood level on the western end of Birchfield Drive, to the south and southwest of the site. The increases are generally 15mm greater than existing, with a maximum increase of 30mm in the area south of the agricultural block walkway. This localised increase is not considered significant as it does not affect adjacent properties, and it is contained within the kerb and gutter system. Further, the results show that the estimated 1% AEP flood hazard at this area remained unchanged (H1) in post development conditions

Potential impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the locality and, community through recommended measures, as outlined in the following section.

Flood Emergency Response Plan

A preliminary FERP has been produced and is submitted at **Appendix 20** of this REF.

The FERP outlines strategies to manage flood risks. The site is designed with all buildings elevated above the PMF level, ensuring no above-floor inundation, though access may be temporarily restricted during extreme events. The plan includes pre-emptive school closure based on flood warnings and a shelter-in-place strategy for flash floods, with students and staff remaining indoors on elevated floors.

Flood warnings from the Bureau of Meteorology and NSW SES will guide response actions, supported by communication systems such as PA announcements and SMS alerts. Designated staff roles and responsibilities, regular drills, and a maintained Flood Emergency Kit ensure preparedness. Long-term measures, including periodic plan reviews and community education, support safety and compliance with flood risk management guidelines. The FERP prioritises the safety of students and staff while mitigating operational disruptions during flood events.

Mitigation Measures

The following mitigation measures are to be implemented to manage risk from flooding.

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
F1	To ensure excess runoff during significant rainfall events are directed away from building openings	Refinement of civil and stormwater considerations to increase capacity of the existing flow path north of Buildings A and C, and implementation of a wall around the edge of the upper terrace to restrict overflows into the lower terrace.	Pre-construction	Not significant
F2	To determine the most appropriate response strategy for the school. See TTW's Preliminary Flood Emergency Response Plan for the school, dated 11th February 2025.	Preparation of a FERP to determine the time to inundation and recession, isolation time (if any), staff roles and responsibilities, etc.	Pre-operation	Not significant
F3	To provide emergency response guidance in the event of a flood event and further reduce flood risks associated with the activity.	This FERP is based on the Concept Design information for the proposed site, and must be reviewed following the detailed design stage, and updated prior to the site becoming	Pre-operation	Not significant

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
		operational.		
F3	To ensure all staff and students are aware of the flood risks present onsite and the flood protocols and procedures via signage.	Install flood evacuation signage in accordance with the FERP.	Pre-operation	Not significant
F4	To ensure that supplies within the kit are sufficient and in working condition.	A Flood Emergency Kit must be prepared.	Pre-operation	Not significant
F5	To ensure all staff are aware of their specific roles and associated flood response actions.	Staff must be delegated responsibilities as per the FERP.	Operation	Not significant
F6	To ensure that information is up to date and procedures are updated regularly.	The FERP must be reviewed and updated regularly.	Operation	Not significant
F7	To ensure all staff workers and students are familiar with the sound of the alert and their subsequent flood response actions.	Flood drills are to be held by staff annually.	Operation	Not significant

7.5 Integrated Water Management

Existing Environment

The proposed school site is vacant land and slopes from a high point of approximately RL 748m at Bridget Avenue and low points of approximately RL 730m and RL 720m in the south-eastern and south-western boundaries respectively.

A survey investigation undertaken by Colliers in 2024 identified that there are existing Council-owned and managed stormwater assets along Birchfield Drive, Bridget Avenue, Winyu Rise and within the existing drainage reserve. In addition, there are two separate pit and pipe networks through the centre of the site which discharge into the existing Council-owned stormwater assets.

Assessment

A Civil Engineering Design Report has been prepared (refer to **Appendix 10**) which sets out the proposed drainage design for the site, reuse and detention facilities, water quality measures and the nominated discharge points.

The proposed stormwater design can be separated into two categories; roof stormwater and surface stormwater. The key elements of the stormwater design are summarised below:

- All stormwater from the roof will be collected through the use of gutters and downpipes and directed to the inground pipe system. Surface stormwater will be collected in pits. The in-ground stormwater will be connected to water quality controls.

- In-ground pipes shall convey stormwater to cater for the minor 20% AEP and major 1% AEP storm events as per EFSG. Where pipe capacity is exceeded, overland flow paths will convey the anticipated flows in the 1% AEP storm event.
- Construction of two on-site detention (**OSD**) systems located in the east and west of the site with a volume of 112m^3 and 430m^3 respectively. A DRAINS model was used to determine the necessary size of the OSD tanks to ensure that the discharge from the site does not exceed re-development flows. The OSD tanks will marginally decrease the flowrate when compared to the pre-development scenario during the 20% AEP and 1% AEP events.
- If the piped in-ground stormwater system fails due to blockage or obstruction, stormwater flows will be required to be conveyed as overland flow which will be directed away from the buildings towards the site boundary.
- The proposed stormwater quality management system will include a range of mechanical pollutant removal devices such as litter screens in all pits and an end of line treatment device to remove nitrogen and phosphorous contaminants. A mechanical stormwater treatment system has been proposed as it is able to achieve the required pollutant reductions, is easily maintained, and does not require open areas or post a risk to the safety of school occupants.

Through proposing the above measures, stormwater will be adequately managed at the site and minimise any environmental impacts.

Mitigation Measures

The following mitigation measures are to be implemented to manage stormwater, run off and sediment control.

#	Reason for mitigation measures	Mitigation measure	Timing	Significance after mitigation
SW1	To avoid polluting the water and/or blocking the stormwater network. To prevent sediment from leaving the site with stormwater runoff. To prevent the depositing of material onto the public roadway. To prevent sediment discharged from the site from entering the stormwater inlet structure and contaminating the water course.	Implementation of Erosion and Sediment Control measures as described in Section 4 of the Civil Engineering Design Report and on the Erosion and Sediment Control Plan in Appendix A. Erosion and sediment controls are to be maintained until the site is fully stabilised to prevent pollution of the receiving environment.	Design and Construction	Not significant
SW2	To ensure the development is not worsening flow conditions in downstream receiving stormwater networks and waterways.	Implementation of Stormwater Quantity Controls as described in Section 3, 3.1 and 3.2 of the Civil Engineering	Design, Construction and Operation	Not significant

#	Reason for mitigation measures	Mitigation measure	Timing	Significance after mitigation
		Design Report through the provision of two OSD tanks.		
SW3	To ensure that stormwater discharge is of adequate quality to protect downstream receiving stormwater networks and waterways, in accordance with Council's requirements.	Provision of stormwater quality treatment measures as part of the WSUD as described in Section 3.5, 3.6 and 3.7 of the Civil Engineering Design Report and shown on the stormwater drawings in Appendix A	Design, Construction and Operation	Not significant

7.6 Aboriginal Heritage

An AODD Assessment has been prepared and is included at **Appendix 3**. The AODD was undertaken to determine whether any Aboriginal objects or Aboriginal places are likely to be harmed by the proposed activity of the subject area. The AODD was undertaken in accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW, 2010) (**Due Diligence Code**) and included the following:

- Searches of the Australian Heritage Database, AHIMS and State Heritage Inventory.
- Review of previous archaeological assessments relevant to the subject area.
- Landscape analysis.
- Analysis of historical land use and its impact on the subject area.
- Visual inspection of the subject area.

Assessment

The AODD conducted an in-depth assessment against the provisions within Section 8 of the Due Diligence Code. A summary of each to the assessment criteria is provided below:

- The physical works will include the construction of a series of multistorey buildings, sports courts, an agricultural block, and car park which will disturb the ground surface.
- A 2021 report by Past Traces Archaeology indicates that the area surrounding the present subject area has the potential to retain archaeological remains; however, the present subject area itself is considered unlikely to contain such remains. Test excavation undertaken across the site did not result in the identification of Aboriginal objects.
- The subject area is located within 200 metres of natural water which are considered as sensitive landscape features indicative of past Aboriginal land use. The Due Diligence Code specifies that this step only applies if the proposed activity is on land that is not disturbed (or, implicitly, does not include any relevant landscape features) and does not contain known Aboriginal objects. As there are no known Aboriginal objects or Aboriginal places within the subject area and high level of ground disturbance, Step 3 of the Due Diligence process does not apply for assessment of the present subject area.

- A visual inspection of the site was conducted, which further confirmed the assessment that Aboriginal objects are unlikely to be present.

In accordance with the due diligence process described in the Due Diligence Code and outlined in the AODD, the above assessment has determined that no further investigation is required for the subject area. The AODD recommends that the development proceed with caution, subject to unexpected archaeological finds and human remains procedures being implemented.

Mitigation Measures

The following mitigation measures are to be implemented to manage potential impacts to aboriginal cultural heritage:

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
A1	To ensure record keeping.	The AODD report should be kept as evidence of the Due Diligence Process having been applied to the subject area.	Throughout life of the project	Not significant
A2	To manage the event that an unexpected Aboriginal archaeological find is uncovered.	Should any archaeological deposits be uncovered during any site works, the following steps must be followed: 1. All works within the vicinity of the find must immediately stop and the location cordoned off with signage installed to stop any accidental impact to the finds. The find must not be moved 'out of the way' without assessment. 2. The site supervisor or another nominated site representative must contact either the project archaeologist (if relevant) or Heritage NSW (Enviroline 131 555) to contact a suitably qualified archaeologist. 3. The nominated archaeologist must assess the find and its potential extent. 4. If impacts to the identified site extent are required, an Aboriginal Cultural Heritage Assessment Report and an AHIP application process must be undertaken. 5. Works in the vicinity of the find can recommence only after an AHIP is granted from Heritage NSW.	During construction	Not significant
A3	To address the unlikely discovery of human remains.	If any suspected human remains are discovered during any activity, you must: 1. Immediately cease all work at that location and not further move or disturb the remains.	Construction	Not significant

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
		2. Notify the NSW Police and Heritage NSW Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location. 3. Not recommence work at that location unless authorised in writing by Heritage NSW.		

7.7 Visual Amenity

Considering the site's interface with nearby residential properties and location on a site with topographical constraints, the proposed activity has been designed to minimise its visual appearance and limit the opportunity for privacy impacts; on adjoining properties and site occupants.

Visual Impact

The proposal demonstrates a well-thought-out approach to minimising visual impact, effectively balancing integration with the surrounding urban and natural landscapes. The design leverages setbacks, massing, and landscaping to reduce the perceived bulk of the development from Birchfield Drive while preserving key natural views and enhancing the area's overall visual character.

The proposed school has been designed with careful consideration of its visual impact on future dwellings along Birchfield Drive. The assessment evaluated sightlines, setbacks, and façade treatments to ensure the school integrates well with the emerging residential context while minimising its dominance in the streetscape. Buildings A and B, positioned along the northern side of Birchfield Drive, have been set back at least 10 meters, exceeding standard residential setback requirements to reduce visual encroachment on future homes. The design carefully orients key building elements to direct views away from private open spaces, ensuring that any overlooking is limited to the street-facing front yards rather than more sensitive areas of the residences.

The three-storey buildings are positioned along the streetscape with setbacks that ensure visual harmony with nearby residential areas. Articulated facades, neutral colours reflective of the natural surroundings, and extensive landscaping work together to reduce the visual scale of the structures. By dividing the school buildings and the school hall into four separate buildings, the design minimises the perception of bulk and allows for better integration with the surrounding built environment. The stepped design follows the natural topography, further reducing the development's visual prominence.

To further reduce the school's perceived height and bulk, the façade treatment incorporates varied materials and recessive colours, breaking up the mass of the buildings. The hall building, which has the potential for higher noise levels and activity, has been designed with no windows on its southern elevation, eliminating direct views into future dwellings. Additionally, a dense landscaped buffer along Birchfield Drive has been incorporated, featuring native tree planting and layered vegetation to soften the transition between the public domain and private residences. These design strategies ensure that the school integrates seamlessly within the developing

neighbourhood while maintaining a balanced relationship between built form and surrounding residential properties.

The positioning of the buildings in the lower areas of the site further mitigates the height and bulk impact on the streetscape. The design prioritises the preservation of views southeast towards Mount Gibraltar, with generous setbacks and native landscaping enhancing these vistas. The native plantings along the site's edges and within its grounds create a smooth visual transition from the urban streetscape to the adjacent natural environment. These measures not only soften the overall visual impact but also enrich the site's ecological and aesthetic value.

View locations from the southwestern corner of the site looking east along Birchfield Drive and looking south along Winyu Rise are shown in **Figure 33**. Currently there are no houses on the surrounding blocks., indicative houses have been modelled on the opposite side of the road to provide context. The visual impact assessment demonstrates the proposed high school development is in keeping with the surrounding context as there will be landscaping around the southern perimeter of the site.

Figure 33 Visual Impact

Source: NBRS Architects, 2025

Privacy and Overlooking

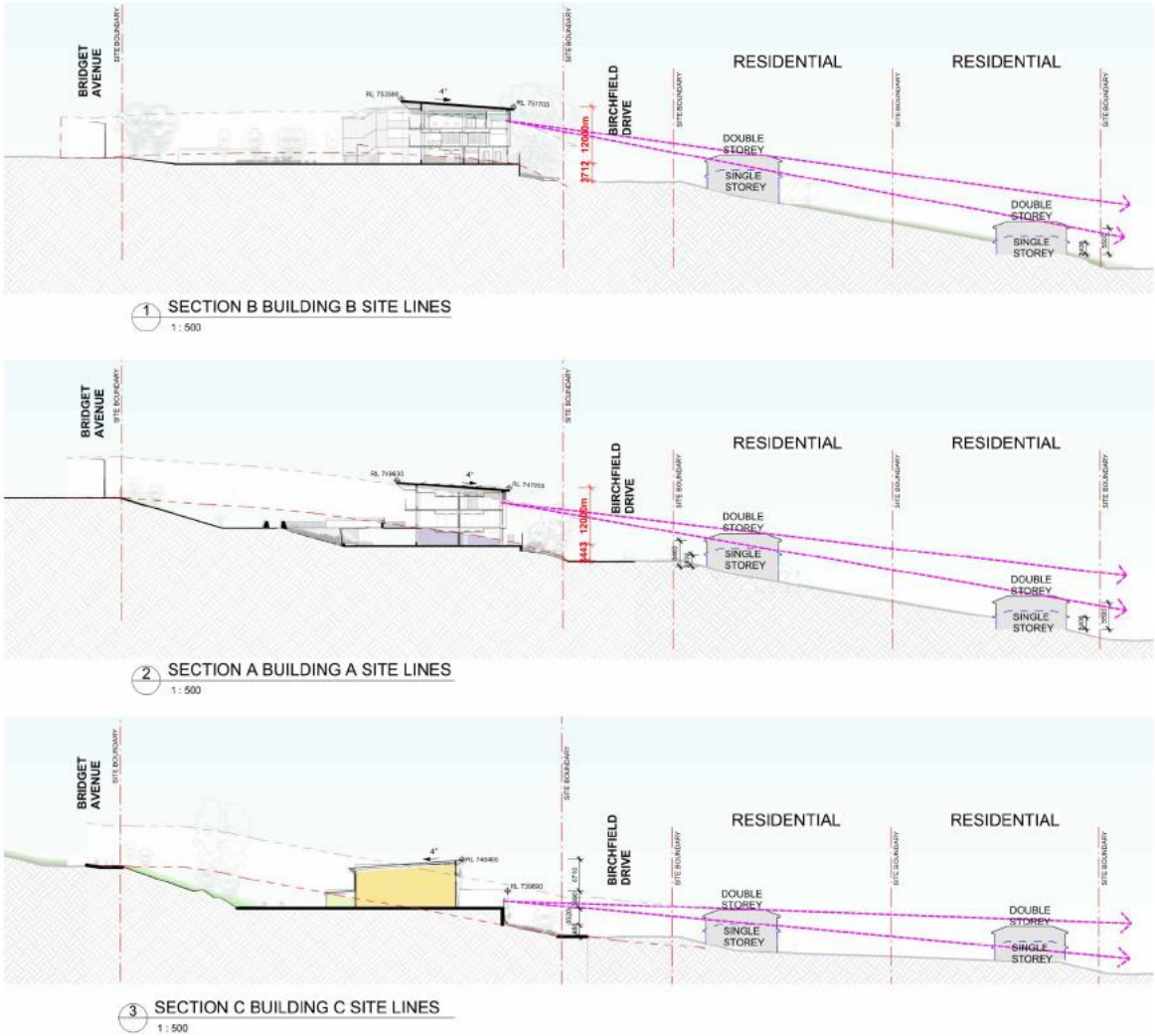
The design effectively addresses privacy and overlooking concerns through careful site planning, building orientation, and landscaping. Generous setbacks from neighbouring properties and streets reduce the potential for overlooking while maintaining privacy for both the school and adjacent residential areas. Buildings are oriented to focus views inward, toward internal courtyards and play areas rather than toward neighbouring properties. The topography assists with view lines across the top of future residential dwellings to the south

Low-density residential dwellings are proposed along Winyu Rise, Bridget Avenue, and Birchfield Drive. Due to the area's topography and the massing of the buildings, visual privacy will not be a concern for properties upslope on the northern side of Bridget Avenue.

The sectional diagrams provided by NBRS (refer **Figure 34**) illustrate sightlines from key sightlines, including the upper levels of Buildings A, B, and C, and confirm that visual privacy for private open spaces will be maintained.

Properties on Winyu Rise will face the on-grade car parking facility, ensuring they are not subject to overlooking. The single-storey agricultural facility, located adjacent to the drainage reserve and downslope from future low-density residential dwellings on the northern side of Bridget Avenue, will also have no overlooking impact. Additionally, a row of trees along the western boundary enhances privacy.

Figure 34 Visual Privacy – Sections



Source: NBRS Architects, 2025

The hall building, with no fenestration on its southern elevation, eliminates any potential overlooking of future residential dwellings on the southern side of Birchfield Drive.

Buildings A and B, situated on the northern side of Birchfield Drive and upslope from future low-density residential zoning to the south, have been set back a minimum of 10 meters. This setback ensures that any overlooking concerns are limited to front yards only.

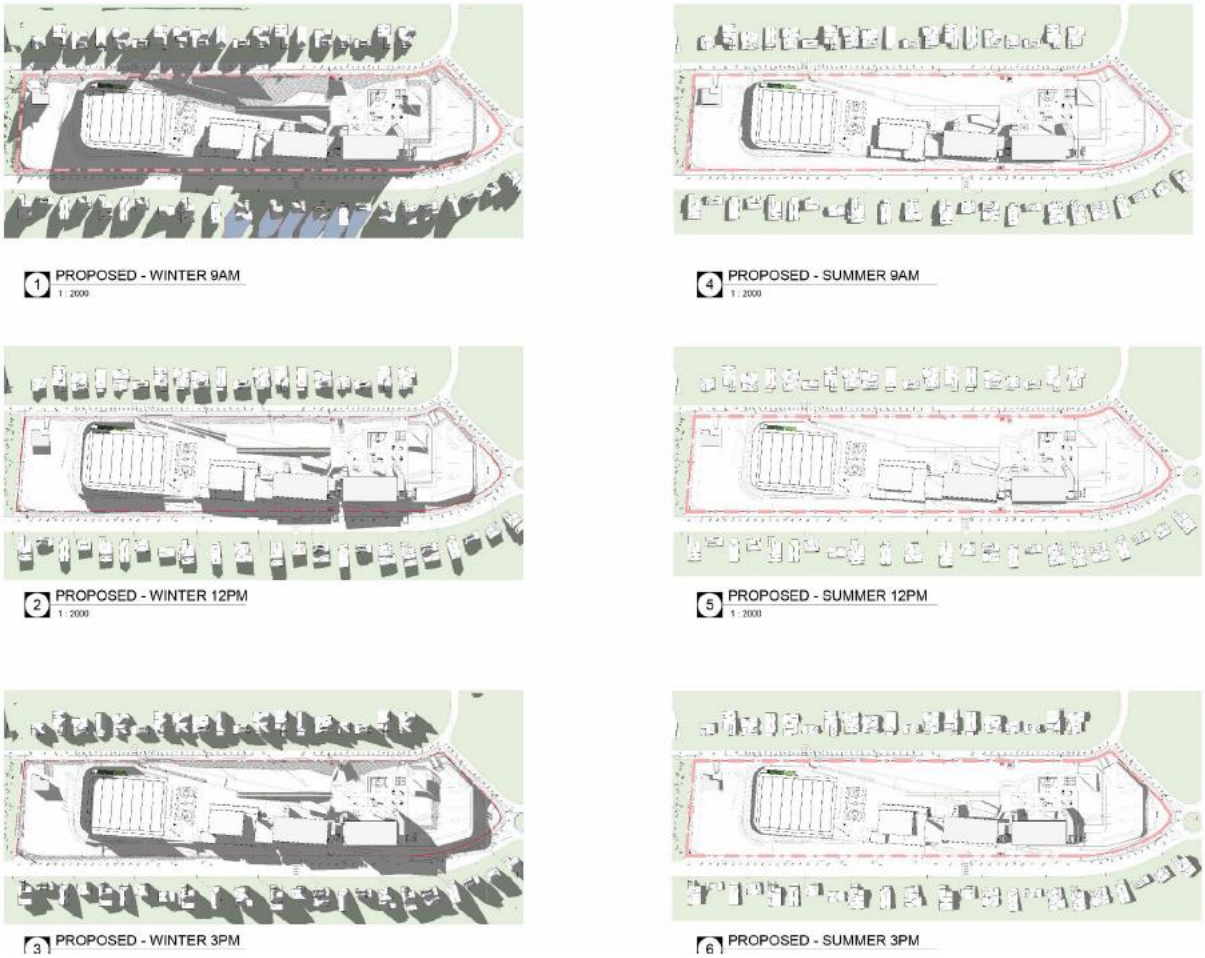
The inclusion of trees and native plantings along the boundaries provides natural screening, enhancing privacy and softening the transition between the school and its surroundings. Additionally, the articulated facades and strategic window placements limit sightlines into nearby properties, balancing natural light and ventilation with privacy considerations. These measures ensure the development integrates harmoniously with the surrounding environment while respecting the privacy of its neighbours.

Overshadowing

The proposal has been designed to minimise overshadowing impacts. The placement and orientation of the three-story buildings, combined with generous setbacks, ensure that shadows primarily fall within the site boundaries or on the road. Shadow diagrams provided in **Figure 35** indicate that future neighbouring properties to the south will experience minor overshadowing in the morning, limited to the front setback, but will retain full access to natural sunlight during the midday and afternoon hours.

Within the school site, key outdoor areas such as play spaces, sports courts, and assembly zones are positioned to maximise sunlight during peak usage times. The design ensures these spaces remain functional and comfortable throughout the day, fostering a positive environment for learning and recreation. By carefully considering building massing, height, and orientation, the proposal effectively balances the operational needs of the school while preserving sunlight access for both the site and its surrounding context.

Figure 35 Shadow Diagrams – Mid Winter



Source: NBRS Architects, 2025

7.8 Social Impact

The primary purpose of this Social Impact Assessment (**SIA**) is to bring about a more sustainable result from the project that minimises any potential negative impacts and enhances positive impacts. The department recognises the benefits of a SIA and the contribution it makes to school projects, including:

- improving projects i.e. better schools/educational outcomes
- positively influencing planning, construction, operation and completion of projects
- reducing negative impacts
- enhancing project acceptance and local ownership

This SIA considers community sentiment, policy context and a high-level identification of potential impacts and key mitigation measures to avoid or minimise potential impacts from the proposal.

Planning for a new Bungendore High School was announced in August 2020. The original location for the new high school was at 10 Majara Street, Bungendore, adjacent the existing primary school and temporary high school. In 2021 an SSD application was lodged, accompanied by a SIA.

There were concerns from the local community over the planning process, site location, a lack of transparency regarding site selection, and potential impacts to social infrastructure and town amenities.

The proposed high school at Majara Street underwent a lengthy planning application process. As a result of the drawn-out SSD application and community sentiment, the SSD was withdrawn and an alternative location was selected, being 18 Harp Avenue, Bungendore.

Policy context

A review of relevant state and local policies was undertaken to understand the strategic context of the proposed development and any potential impacts (positive and negative). This included:

Regional

- *DPHI, South East and Tablelands Regional Plan 2041 (2022)*

Local

- *Queanbeyan-Palerang Regional Council, Community Strategic Plan 2042 (2022)*
- *Queanbeyan-Palerang Regional Council, Towards 2040 Local Strategic Planning Statement (2020)*
- *Queanbeyan-Palerang Regional Council, Sports Facilities Strategic Plan (2024)*
- *Queanbeyan-Palerang Regional Council, Bungendore Structure Plan 2048 (2020)*

The key social themes from the policy review are summarised in **Table 25** below.

Table 25: Key social themes from policy review

Theme	Summary of Findings
Protecting Aboriginal culture and natural landscapes	The Queanbeyan-Palerang region is located on the land of the Ngambri, Ngarigu, Ngunnawal and Walbunja Aboriginal people. The South East and Tablelands Regional Plan 2041 (**Regional Plan**) recognises the importance of how people care and connect to Country, community and place. Council's LSPS identifies a key planning priority to work closely with all Aboriginal communities to ensure Indigenous heritage values are recognised and protected in all development decisions. Consultation as part of the Community Strategic Plan (**CSP**) identified that the community highly value the area's natural landscape and bushland settings and want to ensure it is protected and preserved.
Increasing access to education facilities	The Regional Plan identifies that many people travel to the ACT for the purpose of health, education, and employment. As a result, communities near the ACT-NSW border are experiencing increased demand for schools and enrolment places. To address this, the Regional Plan states that the NSW Government will continue to monitor population and development trends across the region to meet education needs in government schools. Over the next 10 years, the Bungendore Structure Plan 2048 anticipates an additional 3,568 people will be living in the town, which will increase demand for key social infrastructure, including schools, open space and recreation facilities. By 2040, the LSPS envisions that families in Bungendore will have the choice to send their child to a primary or secondary school within the town. To enable this, a new secondary school will be needed in the town.

Theme	Summary of Findings
Accessing sports and recreation facilities	There is a reasonably strong focus on sport and recreation in strategies and plans prepared by Council. For example, one of the planning priorities in the LSPS is 'We have an active and healthy lifestyle', with the associated outcome emphasising the provision of recreation facilities.
Maintaining the rural character and lifestyle of Bungendore	The Bungendore Structure Plan 2048 identifies Bungendore as a rural town with strong visual links to its surrounding natural landscapes. During consultation for the CSP, respondents identified the beautiful natural environment (14.8%), local people and spirit (9.9%) and location and convenience (9.8%) as being the characteristics people loved about living in the region. This sentiment is embedded in the LSPS vision for Bungendore. Preserving the rural character and lifestyle of Bungendore is therefore a key priority for the community. This is also reflected by the Regional Plan's key objective to 'preserve the heritage and character of the region's towns and villages'.

Community profile

A community profile has been developed for Bungendore suburb based on demographic data from the Australian Bureau of Statistics (2021) Census of Population and Housing from Profile id. The demographic characteristics of the Queanbeyan-Palerang Regional LGA and Regional NSW have been used, where relevant, to provide a comparison.

In 2021, it is estimated that there were 4,745 people living in Bungendore. Key characteristics of this community include:

Greater proportion of primary school aged children
A larger percentage of primary school aged children (5 to 11 years) lived in Bungendore (11.7%) compared to the LGA (9.1%) and Regional NSW (8.6%). This may indicate increased demand for a high school in the near future.

Parents and homeowner's dominant
In Bungendore, parents and homebuilders (35 to 49 years) are the dominant age category, comprising 22.6% of the population. This is a larger proportion than in the LGA (21.3%) and Regional NSW (17.5%), reflecting a prominent family nature of the town.

Lower proportion of ATSI residents

In Bungendore, 2.4% of residents identified as Aboriginal and/or Torres Strait Islander (ATSI), which is a lower proportion than in the LGA (3.5%) and Regional NSW (6.6%).

Increasing rate of school completion

Bungendore has a higher proportion of people who have completed Year 12 or equivalent (64.0%) compared to the LGA (61.9%) and Regional NSW (43.0%).

High socio-economic advantage

According to data from the Socio-Economic Indexes for Areas (SEIFA), Bungendore experiences relatively high levels of socio-economic advantage, as it ranks in the 97th percentile of the Index of Relative Socio-Economic Disadvantage.

Relatively healthy community

Bungendore has a relatively healthy community with 60.5% of residents self-reporting as having no long-term health conditions, a higher proportion compared to the LGA (59.4%) and Regional NSW (53.6%). The most common long term health conditions in Bungendore are mental health conditions (10.1%), asthma (8.6%) and arthritis (7.8%).

Less need for assistance with day to day activities

In 2021, 136 Bungendore residents (3.5%) reported needing assistance with their day to day lives due to disability and 354 carers (12% of the population aged over 15) were providing unpaid assistance to a person with a disability, long term illness or old age. A lower proportion compared to the LGA (4.4% and 12.2% respectively) and Regional NSW (6.8% and 13.1% respectively).

Future Bungendore population

By 2041, Bungendore's population is expected to comprise 6,664 people, reflecting a total increase of 54.2%. The age groups with the largest predicted increase in persons by 2031 are parents and homebuilders (35 to 49 years), who are expected to account for 23.4% of total persons in 2031.

Social Locality

A proposal's social locality defines the area or areas in which individuals and communities will be primarily impacted by a proposal in varying ways. The social localities identified for the proposal:

- **Immediate social locality: the area immediately surrounding the proposal site**. This primarily includes residents living in the Elm subdivision. There is potential for individuals and groups within this locality to experience localised impacts from the proposal such as noise, odour, changes to traffic, and visual amenity.
- **Local social locality**: the Bungendore township (inclusive of the immediate social locality). This includes the Bungendore township community including residents, business owners and workers.
- **Surrounding social locality**: Bungendore High School catchment. This area, inclusive of the local social locality, includes the existing and future Bungendore High School community, including students, families and carers who will experience impacts from the provision of a new high school.

It is recognised that impacts of the proposal may be experienced beyond the above localities. Importantly, any impacts of the proposal to Aboriginal culture and heritage may be experienced by any Ngunawal and Ngarigo people, the traditional custodians of the land, who reside within and beyond the above localities.

Social impact scoping

The social impact scoping aims to assist in identifying any potential social impacts arising from the construction and operation of the project. This preliminary social impact scoping has been prepared following SINSW's Social Impact Assessment Guidance (2.0) and Social Impact Assessment Guideline for State Significant Projects (DPHI, 2023) (the **SIA Guideline**).

In line with the SIA Guideline, social impacts are the consequences that people experience when a new project brings change. 'People' can be individuals, households, groups, communities, businesses or organisations. Impacts can be categorised as: way of life; community; accessibility; decision making systems; culture; livelihoods; surroundings; health and wellbeing.

Assessment approach

This section provides an overview of potential impacts, mitigation measures (for negative impacts) and enhancement measures (for positive impacts), residual impact ratings and additional recommendations as a consequence of the proposal.

Table 26 Summary of potential social impacts

Potential Impact	Impact category	Impacted communities	Mitigation / enhancement measures	Likely residual impact rating	Recommendations
Provision of a permanent high school that meets the needs of a growing population. The provision of a new public high school in an area which has experiencing population growth will benefit the current and future community. High school education is an essential service which should be accessible to all eligible adolescents.	▪ Way of Life ▪ Accessibility	▪ High-school aged people and families in Bungendore and the broader school catchment	▪ Provision of a new permanent high school in an area that currently only has a temporary public high school. ▪ The use of the Expandable School Model plans for the growth of a school, based on projected figures and enrolments.	Very high positive impact (almost certain / major)	▪ No further recommendations identified at this stage.
Provision of purpose-built, quality teaching and learning spaces and amenities The proposal will deliver a range of high quality, purpose-built teaching and learning spaces and	▪ Way of Life ▪ Accessibility	▪ Future Bungendore High School students and teachers	▪ Learning and teaching spaces designed in accordance with relevant standards (including the EFSG). ▪ The design incorporates ample natural light, cross-ventilation, and shading elements, ensuring a comfortable and energy-efficient environment. The modular grid system allows	High positive impact (almost certain / moderate)	▪ No further recommendations identified at this stage.

Potential Impact	Impact category	Impacted communities	Mitigation / enhancement measures	Likely residual impact rating	Recommendations
amenities that will support educational outcomes.			spaces to be adaptable for future expansion, and the learning hubs have been designed as multi-use spaces, supporting different teaching methods and community uses over time. ▪ The landscaped areas within the school, including courtyards and terraced gardens, offer a mix of passive and active recreational spaces that support student well-being. These spaces enhance biodiversity, create a calming atmosphere, and provide opportunities for outdoor learning. ▪ Incorporation of a purpose-built agricultural plot and amenities to support agricultural courses and education, in alignment with local industries.		
Potential for shared community use of school spaces and facilities.	▪ Way of Life ▪ Community ▪ Health and Wellbeing	▪ Bungendore residents, community groups and organisations	The proposed Bungendore High School contains several spaces which could be used by the community if future shared use	Medium positive impact (possible / moderate)	▪ Following the opening of Bungendore High School, investigate opportunities for the school to participate in

Potential Impact	Impact category	Impacted communities	Mitigation / enhancement measures	Likely residual impact rating	Recommendations
The proposal will deliver a range of new school facilities. Potential future shared use arrangements would benefit the Bungendore community by providing access to these facilities for afterhours extra-curricular programs and activities (e.g. sporting activities, music rehearsal spaces).	▪ Accessibility		arrangements are executed by the department. This includes: ▪ Learning and teaching spaces ▪ A school hall ▪ A sports field ▪ Outdoor sports courts. The department has several existing initiatives to support community use of school facilities. This includes: ▪ Shared use licences – allows for community groups to enter into longer term agreements to hire school facilities ▪ Community use – allows for individuals and community groups to hire school facilities for one-off events or periods of less than 12 months ▪ Share Our Space program – allows for community members to access outdoor facilities such as playgrounds, multipurpose		The department's shared use initiatives.

Potential Impact	Impact category	Impacted communities	Mitigation / enhancement measures	Likely residual impact rating	Recommendations
			courts and ovals during school holidays.		
Supporting social cohesion and sense of belonging in the school community. The proposal will support the development of social cohesion and sense of belonging within the student cohort through the provision of spaces for recreation and social connection	▪ Community	▪ Future Bungendore High School students, staff and families	▪ The design fosters a strong sense of place by integrating built form with the natural landscape and community identity. Inspired by the local environment, the architecture reflects the surrounding hills, woodlands, and geological formations through material selection and façade articulation. The layout enhances connectivity, welcoming students and staff into a cohesive and engaging learning environment. ▪ The school incorporates Connecting with Country principles, embedding Aboriginal knowledge and stories into the built environment through artworks, murals, and native planting. Patterned pavements, wayfinding elements, and interpretive signage reinforce cultural identity. The entry plaza is designed as an inviting communal space, featuring	High positive impact (likely / moderate)	▪ Investigate opportunities for the school to provide activities and programs before, during and/or after-school that encourage students to meet and connect. This could include sport, recreational or other special interest programs and activities.

Potential Impact	Impact category	Impacted communities	Mitigation / enhancement measures	Likely residual impact rating	Recommendations
			landscaping, seating, and sculptural elements that enhance the school's character while fostering interaction. ▪ Beyond classrooms, students have access to diverse outdoor spaces for relaxation, socialisation, and play. The school offers 15,496m2 of open play space, including a mix of active and passive recreation zones. Sports fields and multi-purpose courts support structured activities, while natural play areas, shaded seating nooks, and Indigenous gardens provide quiet and reflective spaces. Shaded COLA accommodate group gatherings, informal learning, and collaborative projects, creating flexible spaces for student engagement. ▪ The design includes collaborative workspaces, breakout lounges, and outdoor staff areas, encouraging interaction and		

Potential Impact	Impact category	Impacted communities	Mitigation / enhancement measures	Likely residual impact rating	Recommendations
			professional exchange. The placement of staff rooms and administration spaces facilitates casual encounters and seamless engagement with students, promoting an open and connected school culture.		
Recognition and celebration of Aboriginal culture and Country. The proposal incorporates Connecting with Country principles. This is expected to support Aboriginal students' cultural identity, foster greater awareness of Aboriginal culture and heritage among students and the broader school community.	▪ Community ▪ Culture	▪ Future Bungendore High School students ▪ Local Aboriginal community members and stakeholder groups ▪ Bungendore residents	The Connecting with Country Report prepared by Yerrabingin includes recommendations for the proposal. Specific design measures incorporated in the proposal include: ▪ The site borders a riparian drainage corridor to the west, offering opportunities for nature-based learning and terraced landscaping that harmonises with the natural slope. ▪ The design integrates key CwC elements, fostering a deep cultural connection to the land through principles of sustainability, inclusivity, and respect for Country. This includes the use of native planting, water-sensitive urban	High positive impact (likely / moderate)	▪ Investigate opportunities to promote regular education and knowledge sharing programs in partnership with the local Aboriginal community.

Potential Impact	Impact category	Impacted communities	Mitigation / enhancement measures	Likely residual impact rating	Recommendations
			design, shaded gathering spaces, and pathways that reflect Indigenous storytelling and local heritage. These elements work together to create an environment that respects and celebrates the cultural and ecological significance of the site.		
Provision of infrastructure to support the use of active and public transport access to the school Proposed infrastructure upgrades will support transport access to the school (public and active), providing health and wellbeing benefits for students, families and staff.	▪ Accessibility ▪ Health and wellbeing	▪ Future Bungendore High School students, families and staff	Key enhancement measures are included below, and are outlined in full in the REF: ▪ Provision of two wombat crossings, (Birchfield Drive and Bridget Avenue). ▪ Provision of missing footpaths within the immediate vicinity of the school site on Birchfield Drive, Winyu Rise and Bridget Avenue. ▪ Provision of a secure sheltered bicycle storage areas (up to a total of 34 bicycle parking spaces) close to the school gates on Birchfield Drive (main entrance) and Bridget Avenue.	Medium positive impact (possible / moderate)	▪ Continue consultation with TfNSW Bus Planning Team to align school bus services with the high school location, catchment and bell times.

Potential Impact	Impact category	Impacted communities	Mitigation / enhancement measures	Likely residual impact rating	Recommendations
			▪ Provision of a bus zone along Birchfield Drive (on the school side) for four standard 12.5m buses and coaches for excursions, with a total length of 70m.		
Amenity impacts on surrounding residents during construction of the new school The construction of the new school will result in temporary amenity impacts (noise, dust and traffic) on surrounding residents.	▪ Way of life ▪ Health and wellbeing ▪ Surroundings	▪ Surrounding residents in the North Bungendore Precinct (Elm Grove Estate)	▪ Heavy vehicles to approach the site from the surrounding major roads, such as Tarago Road, Kings Highway and Bungendore Road, to reach the relevant access point on Birchfield Drive. ▪ Construction vehicle access is to be limited to occur outside of the pick-up and drop-off periods for the existing Bungendore Public School and temporary Bungendore High School i.e. 8:35am to 9:05am, and 3:10pm to 3:40pm. This will help to reduce traffic on the road network during the peak. ▪ A CNVMP will be prepared by the construction contractor, as identified by the NVIA.	Low negative impact (unlikely / minor)	▪ Prepare a comprehensive Construction Management Plan (**CMP**) prior to the construction certificate. ▪ The CMP should include identification and consideration of surrounding development and timetabling to avoid cumulative impacts; a plan to manage community and stakeholder engagement; and a complaints management procedure.

Potential Impact	Impact category	Impacted communities	Mitigation / enhancement measures	Likely residual impact rating	Recommendations
			▪ Construction workers are to be guided to where appropriate parking is available around the site on induction and be encouraged to use public transport services. Appropriate arrangements are to be made for any equipment / tool storage and drop-off requirements.		
Perceived or actual traffic impacts during operation. Additional traffic generated by the school could potentially change traffic flow in the local road network.	▪ Accessibility ▪ Way of life	▪ Surrounding residents in the North Bungendore Precinct (Elm Grove Estate)	▪ Provision of a longer kiss-and-drop zone of 120 metres to cater to high private vehicle dependence and queueing and to improve traffic flow and ensure safety for all users, effectively accommodating the needs of the school community. ▪ Preparation and implementation of a School Transport Plan which will be implemented prior to operation to the satisfaction of the department's Transport Planning Team. ▪ No provision of on-site parking for students, which will help to reduce traffic on the road	Low negative impact (unlikely / minor)	▪ During operation, undertake traffic monitoring to identify any significant impacts to the local road network. ▪ Develop and distribute the Travel Access Guide to the school community prior to the school opening.

Potential Impact	Impact category	Impacted communities	Mitigation / enhancement measures	Likely residual impact rating	Recommendations
			network and encourage public transport use.		
Potential odour impacts on surrounding and school users from the agricultural plot. Potential odour impacts from livestock activities, animal waste, effluent disposal and composting associated with the agricultural plot.	▪ Health and Wellbeing	▪ Future Bungendore High School students and staff ▪ Surrounding residents in the North Bungendore Precinct (Elm Grove Estate)	▪ Separation distances have been applied between the site boundaries where the livestock is housed to surrounding planned residential properties. ▪ Implementation of an Odour Management Plan which ensures regular cleaning of bedding and manure. The frequency of cleaning and changeover of animal bedding would be based on the type and quantity of animals being housed. ▪ Location of the composting activities on the eastern portion of the agricultural parcel, near the vegetable beds.	Low negative – nil (unlikely / minor)	▪ During operation, undertake odour emission monitoring once the school site is operational to ensure compliance with criteria from the EPA's 'The Approved Methods 2022' framework is maintained.
Wind impacts from topography and exposed location. Future students and staff comfort and wellbeing may be impacted by south	▪ Health and Wellbeing ▪ Surroundings	▪ Future Bungendore High School students, staff and families	▪ Inclusion of vertical barriers (screens, booths, landscaping, etc) to sufficient height and density around the seating areas based on the desired area of protection/size of seating area.	Medium negative (possible / moderate)	▪ During operation, continue to monitor the comfort of students onsite. Identify suitable areas for students to use at break times during poor weather conditions.

Potential Impact	Impact category	Impacted communities	Mitigation / enhancement measures	Likely residual impact rating	Recommendations
east and north west winds.					
Potential risk of flooding impacting safety of school users. Future student and staff of the proposed new high school may be at risk of environmental emergencies such as flooding.	▪ Surroundings	▪ Future Bungendore High School students and staff	▪ Preparation of a FERP to reduce the risk of flooding to people on site during a flood event. ▪ Refinement of civil and stormwater considerations to increase capacity of the existing flow path north of Buildings A and C, and implementation of a wall around the edge of the upper terrace to restrict overflows into the lower terrace.	Low negative – nil (unlikely / minor)	▪ During operation, deliver training to staff and students to ensure they are familiar with emergency procedures during flooding events.

Mitigation Measures

The following mitigation measures are to be implemented to address potential social impacts.

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
SI1	To benefit the Bungendore community by providing access to facilities for afterhours use.	Following the opening of Bungendore High School, investigate opportunities for the school to participate in the department's shared use initiatives.	Operation	Not significant
SI2	To support the development of social cohesion and sense of belonging within the student cohort through the provision of spaces for recreation and social connection.	Investigate opportunities for the school to provide activities and programs before, during and/or after-school that encourage students to meet and connect. This could include sport, recreational or other special interest programs and activities.	Operation	Not significant
SI3	To foster greater awareness of Aboriginal culture.	Investigate opportunities to promote regular education and knowledge sharing programs in partnership with the local Aboriginal community.	Operation	Not significant
SI4	To address traffic impacts during school operations.	During operation, undertake traffic monitoring to identify any significant impacts to the local road network.	Operation	Not significant
SI5	To improve amenity for students.	During operation, continue to monitor the comfort of students onsite. Identify suitable areas for students to use at break times during poor weather conditions.	Operation	Not significant
SI6	To mitigate against flood risk.	During operation, deliver training to staff and students to ensure they are familiar with emergency procedures during flooding events.	Operation	Not significant

7.9 Odour Impacts

An Odour Impact Assessment (**OIA**) has been prepared (refer **Appendix 26**) to assess the odour impact of certain proposed activities at the school. These potentially odorous activities would involve the following:

- Livestock activities:
  - Poultry: Up to 40 birds, including a mix of pure-bred birds, layers, broilers and chicks housed in pens.
  - Sheep: A maximum of 15 sheep including breeding ewes, a ram, and lambs, with access to a lambing shed and 4-5 paddocks.
  - Cattle: Seasonal housing of up to three steers and two poddy calves annually (maximum of three cattle at any time).
- Animal waste management: Collection and handling of liquid and solid waste from poultry pens and sheep/calf pens.
- Effluent disposal: Proper handling and treatment of liquid waste.
- Composting.

The odour emissions associated with these activities have been assessed in accordance with the EPAs “The Approved Methods 2022” framework. Given the site’s location and the residential zoning at its surrounds, the odour criterion of 3 OU is deemed suitable for assessing potential odour impacts. This standard would apply to all surrounding residential areas to ensure the protection of community amenity.

Assessment

The OIA has completed a screening assessment to determine the extent of environmental impacts associated with the proposed odorous activities. The results of this assessment are summarised below:

- Separation distances would apply from the agricultural block or any other areas where animals are housed or group in a more intensive manner for extended periods, rather than the general agricultural Plot.
  - The calculated separation distances to mitigate odour impacts from cattle are approximately 25 metres to the northwest, southwest, and southeast, and 17 metres to the northeast. Given a required 7 metres front setback for the surrounding planned dwellings, neither of these separation distances extend into the planned residential areas.
  - The required separation distance to mitigate odour impacts from sheep is approximately 24 metres, which also falls within the buffer between the site boundaries and the nearest future dwellings. As with the cattle, given the limited scale of sheep operations and the conservative nature of the separation distance calculations, significant odour impacts are not expected.
- Odour from chickens is considered negligible, and no specific mitigation measures are recommended.

- Sheep and cattle pens may pose a moderate odour risk if used for extended periods; however, this assessment is based on assumptions typically associated with large-scale feedlots. Given the smaller scale of operations at the site, the actual odour levels from these pens are expected to be considerably lower.
- Additional potential odour sources include animal waste, the effluent management system, and composting operations. To address these, several mitigation measures have been proposed to effectively manage and minimise any potential odour nuisance.

As outlined in the assessment, the distance between the nearest waste facility and the site ensures that all planned residential receptors remain outside the required separation zone. As a result, the facility is not expected to cause significant incremental odour impacts on the planned residential areas. Therefore, the OIA focuses exclusively on potential odour emissions from activities within the site itself.

Based on the above assessment, the extent and nature of potential impacts are low and will not likely have significant impact on the locality, community and the environment. Potential impacts can be appropriately mitigated or managed to ensure that there is minimal impact on the locality, community and/or the environment.

Mitigation Measures

The following mitigation measures are to be implemented to address potential negative odour impacts.

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
O1	To minimise the potential for odour generation and maintain a high standard of hygiene.	An Odour Management Plan is to be prepared which ensures regular cleaning of bedding and manure. The frequency of cleaning and changeover of animal bedding would be based on the type and quantity of animals being housed.	Operation	Not significant
O2	To reduce odour potential from the tank.	Investigate building an enclosed effluent storage tank within the Site.	Pre-Construction	Not significant
O3	To reduce odour potential to surrounding residential areas and to utilize the composted materials in the vegetable beds.	Locate the composting activities on the eastern portion of the AG parcel, near the vegetable beds.	Construction	Not significant

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
O4	To confirm the absence of odour and ensure the effectiveness of odour control measures.	Undertake field odour surveys during operational phases with the main objectives being: • The extent of the odour plume, • The intensity of the odour, and The characteristics of the detected odours.	Operation	Not significant

7.10 Wind

An Environmental Wind Assessment (**EWA**) has been prepared (refer **Appendix 17**) to assess the impact of the proposed activity on the pedestrian level wind conditions and to ensure a high level of amenity for school occupants and the surrounding locality.

Existing Environment

The EWA is based upon a review of the prevailing wind environment and site characteristics. The existing wind environment is characterised by moderately strong north-west and south-east winds. Due to the sites sloping topography from the north to the south, and the location of the proposed school buildings along the site's southern boundary, the school is expected to receive highest winds from a south-east direction. These winds are anticipated to be uninterrupted due to the flat farmlands and low-rise residential accommodation expected to the site's south.

Assessment

The EWA has assessed the potential wind impacts against the criteria wind controls established by Lawson (1990). These wind controls are generally adopted across the industry as best practice. The results of this assessment are provided below:

South-East Winds:

- Winds accelerate due to rising topography and impact the south-east corner of Building B, passing around the building and along the southern perimeter.
- Pressure-driven flow affects the main entry between Buildings A and C, impacting the east façade and north-east corner of Building C, while the Lower Terrace in front of Building A remains well-protected.
- Future expansion is expected to improve wind conditions, particularly for the Upper Terrace, by providing additional shielding.

North-West Winds

- Winds decelerate slightly due to dropping topography but still impact the site, aligning with the buildings and sliding along the north facades.

- Accelerated flow is expected at the western corners of Building C and the north-east corner of Building B at ground level, with pressure-driven flow through the main entry between Building A and C.
- The eastern end of the Lower Terrace will be calmer due to its sunken position, while the Upper Terrace will be exposed to north-west winds, especially where the northern landscaping/embankment is lower. Future expansion will provide additional calm areas.

Ultimately, the wind consultant confirmed that all areas around the development would be expected to meet the pedestrian safety criteria. The extent and nature of potential impacts are low and will not have a significant impact on the locality, community and the environment. Potential impacts can be appropriately mitigated or managed to ensure that there is minimal impact on the locality, community and/or the environment.

Mitigation Measures

The following mitigation measures are to be implemented to address potential negative impacts.

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
W1	To ensure seating areas are suitable for their intended use based on the local wind conditions.	Include vertical barriers (screens, booths, landscaping, etc) to sufficient height and density around the seating areas based on the desired area of protection/size of seating area. Recommended height is typically to standing height (~1.5-2 m) for a small, seated area. Locate seating areas away from corners and/or include options to switch to the other aspect of the corner for seating depending on the prevalent wind direction.	Construction	Not significant

7.11 Biodiversity

A Biodiversity Assessment has been prepared (refer **Appendix 7**) to assess the likely biodiversity impacts of the proposed activity. The report has been prepared using the following reports and mapping:

- NSW Department of Climate Change, Energy, Environment and Water (**DCCEEW**) NSW BioNet Atlas database for records of threatened species listed under the BC Act (NSW DCCEEW 2024b).

- NSW DCCEEW Threatened biodiversity profile search online database for threatened ecological communities listed under the BC Act (NSW DCCEEW 2024b).
- Commonwealth Department of Climate Change, Energy, the Environment and Water (Clth DCCEEW) Protected Matters Online Search Tool for MNES listed under the EPBC Act and predicted to occur in the locality (Clth DCCEEW 2024).
- State Vegetation Type Map (DPE 2023).
- Aerial photographs and satellite imagery of the study area.

Existing Environment

The site has previously been approved for development and clearing and significant earth works have been undertaken in the area. These works have included the importation of fill material, contouring of the site, and additional engineering works. The site exists as a cleared area of land with re-established predominantly exotic grassland. The re-established predominantly exotic grassland would provide foraging habitat for common bird species typical of peri-urban environments.

Land cleared for residential development surrounds the site, limiting habitat connectivity for flora and fauna other than mobile common species. The site lacks suitable breeding habitat for native fauna due to previous vegetation and soil disturbance, and lack of connectivity to larger expanses of vegetation.The site does not contain any defined watercourses, waterbodies or key fish habitat. A drainage reserve is located adjacent to the western edge of the site. This drains to the south to a large artificial detention basin.

No native plant community types (**PCTs**) are present at the site. Small patches of grassy woodlands and native grasslands are mapped in the locality on the State Vegetation Type Map, however the site and surrounds are not mapped as native vegetation. Recently planted juvenile street trees are present adjacent to the road verge.

Assessment

The site is in poor condition with low biodiversity values due to previous broad scale clearing, lack of intact native vegetation, and dominance of exotic grass species. There are no natural watercourses on the site, and clearing the non-native vegetation would have negligible impact on native fauna habitats.

The proposal is unlikely to affect threatened flora, fauna, or ecological communities. The surrounding land is highly modified and cleared for subdivision, and construction is unlikely to cause sedimentation, pollution, contaminated runoff, or erosion, though potential indirect impacts such as erosion, sedimentation, and introduction of contaminants from imported mulch are noted.

The clearing of non-native vegetation and juvenile planted street trees would remove negligible habitat resources for native fauna species. Mitigation measures are outlined below to manage these risks. The Landscape Plans (**Appendix 23**), include indigenous and native plantings to improve habitat values for fauna, such as native birds.

The proposed activity will not have a significant effect on the environment, as per Section 5.7 of the EP&A Act, and will not significantly impact threatened biota under the BC Act, FM Act, or EPBC Act, thus not requiring a BDAR or SIS, nor referral to the Commonwealth Minister for the Environment. The potential impacts are low and manageable, ensuring minimal impact on the locality, community, and environment.

Mitigation Measures

The following mitigation measures are to be implemented to address potential biodiversity impacts.

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
B1	Manage the risk of indirect impacts from sedimentation, erosion and contamination.	An Erosion and Sediment Control Plan must be implemented in accordance with the Landcom/Department of Housing Managing Urban Stormwater, Soils and Construction Guidelines (Blue Book).	Pre-Construction	Not significant
B2	Manage the risk of indirect impacts from sedimentation, erosion and contamination.	Any imported mulch must comply with the Resource Recovery Order under Part 9, Clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014 and the Mulch Order 2016 recognised by the NSW Environment Protection Authority as being “fit for purpose” with respect to the works under the REF. Mulch must not include physical or chemical contaminants or introduce weeds, disease or pests.	Construction	Not significant
B3	To improve biodiversity values of the proposal site.	Any street trees removed should be replaced with advanced trees, at least at a 1:1 ratio, and preferably locally endemic native species. Advanced trees are to be planted to increase canopy cover and provide shade/reduce urban heat affects.	Construction Pre-operation	Not significant

7.12 Tree Removal

An Arboricultural Risk Assessment has been prepared and is included at **Appendix 12** to assess impacts to trees and to provide tree protection measures.

Existing Environment

The site is a highly modified parcel of land with re-established predominantly exotic grassland. Numerous juvenile trees have been planted along Birchfield Drive and Bridget Avenue when these roads were constructed. These planting are all less than 3 metres in height so do not meet the definition of a tree as described under AS4970-2009.

13 of these plantings along Birchfield Drive and Bridget Avenue adjacent to the school frontage will require removal as part of the proposed activity. These plantings require removal to allow for site access and works along Birchfield Drive including kiss and drop zones and bus bays. However, some will be retained and those plantings along Birchfield Drive and Bridget Avenue to the west of the drainage reserve will also be retained and protected.

Assessment

Although the retained plantings do not meet the definition of a tree as per AS4970-2009, it is important to effectively protect and manage them to ensure they grow into mature trees. Maintaining the long-term health and vigour of retained trees on development sites requires an understanding of how susceptible trees are to direct and indirect impacts. In general, the following should be noted:

- Older trees are generally more at risk than younger trees and less able to withstand changes to landscape and soil conditions or pruning.
- The root system of most mature trees spread beyond the canopy dripline with most roots typically found in the top 100cm of the soil profile.
- Alteration to the soil levels within the tree protection zone (**TPZ**) will normally result in damage or death to root systems resulting in a decline in the condition of the tree.
- Compaction of the soil profile through the operation of vehicles and machinery within the TPZ destroys the natural soil structure and porosity resulting in decreased aeration and loss of water absorption resulting in root death.
- Spillage of chemicals, fuels or cement within the TPZ will cause root death leading to a decline in the condition of the tree.

Tree protection measures need to be in place to ensure that those juvenile trees recommended for retention are incorporated into the general landscape and continue to provide ecological services once development of the site is completed. Any street planting removals will be amply compensated with landscape plantings within the project area during the landscaping phase.

Following the mitigation measures outlined below will ensure the extent and nature of potential impacts associated with the proposed activity will not have a significant impact on the locality, community and/or the environment.

Mitigation Measures

The following mitigation measures are to be implemented to ensure that trees/plantings are protected during works.

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
TR1	To ensure trees are protected during construction phase.	Installation of tree protection fencing to exclude construction from the TPZ of retained trees. TPZ fencing will be installed as per Section 3.1.1.	Construction	Not significant
TR2	Protection of retained trees during tree removal and site clean-up.	Stump and root material from a tree elected for removal that is growing in close association with a tree nominated for retention are to be cut to ground level or by other means deemed appropriate. Tree removals are to be undertaken by a suitably qualified and experienced arborist.	Construction	Not significant
TR3	Protect roots within TPZ by preventing root damage during unavoidable excavation.	Any unavoidable excavation within the demarked TPZ will be undertaken by hydro excavation. Any exposed roots >20 mm in diameter will be assessed by the appointed consulting arborist to determine if they require pruning	Construction	Not significant

7.13 Soils and Geology

A Geotechnical Investigation has been prepared by JK Geotechnics (refer **Appendix 21**) to provide an assessment of the existing subsurface ground conditions and other geological conditions at the site and assess the potential impacts on surface and groundwater resources as a result of the proposed activity.

Methodology

The methodology undertaken for the Geotechnical Investigation at the Bungendore High School site involved a combination of fieldwork, laboratory testing, and analysis to assess subsurface conditions and inform design recommendations.

Fieldwork included drilling 35 boreholes to depths of 1.85 metres to 21.5 metres, using spiral auger drilling and rotary diamond coring techniques. Borehole locations and elevations were recorded using differential GPS. Groundwater levels were observed during and after drilling, with standpipe piezometers installed in select boreholes for long-term monitoring.

Subsurface conditions were analysed based on borehole logs, with soil and rock samples tested in NATA-accredited laboratories. Tests included moisture content, Atterberg limits, linear shrinkage, shrink-swell index, California Bearing Ratio, and Point Load Strength Index. Soil aggression testing assessed pH, chloride, and sulfate content, along with electrical resistivity to evaluate material durability.

Findings were compiled into recommendations on excavation, groundwater management, retention, earthworks, footings, slabs, and pavements, ensuring the site's suitability for school construction while addressing geotechnical challenges.

Assessment

The key findings and recommendations of the Geotechnical Investigation is summarised below:

- The site consists of residual silty clay over weathered sandstone and mudstone bedrock, with bedrock encountered at shallow depths ranging from 0.7 metres to 3.5 metres.
- Groundwater was not encountered during or after drilling, though localised seepage may occur at the soil/rock interface, particularly after rainfall.
- Excavation will require specialised equipment, including rock saws and hydraulic impact hammers, due to the presence of medium to high-strength bedrock in some areas.
- The residual silty clays exhibit moderate to high shrink-swell reactivity, requiring foundation designs that accommodate potential ground movement.
- Earthworks will involve significant cut and fill, with up to 6.5 metres of excavation and up to 8 metres of fill, necessitating careful compaction and stabilisation measures.
- Retaining walls and engineered slopes will be required to manage the site's topography and prevent erosion or instability.
- Pavements should be designed for low CBR values, with stabilisation or select subgrade materials recommended to improve long-term performance.
- Footings should be uniformly founded in weathered bedrock where possible, with allowable bearing pressures of up to 1,000kPa for sandstone or mudstone of at least very low strength.
- Bored piers and deep footings may be necessary in some areas to ensure stability and limit differential settlement.
- Stormwater management measures, including bio-retention systems, will be essential to prevent erosion and maintain site stability.
- No significant groundwater-related constraints were identified, but excavation and drainage designs should account for possible localised seepage.

The above recommendations will be incorporated into the detailed design. Based on this assessment and the geotechnical conditions encountered during the site investigation, there are not considered to be any significant or unusual geotechnical concerns that would preclude the construction of the proposed activity.

7.14 Salinity

A Preliminary Salinity Assessment has been prepared (refer **Appendix 31**) to assess the broad scale dryland salinity conditions at the site in the context of the proposed activity. The assessment objectives were to:

- Assess the current site conditions via a site walkover inspection.
- Assess the soil and groundwater salinity conditions via implementation of a sampling and analysis program.

- Provide salinity management recommendations, and if/where required, a Salinity Management Plan (**SMP**).

The investigation identified the following salinity conditions:

- The soils and bedrock were classed as very strongly acidic to mildly alkaline in relation to plant growth.
- The soils and bedrock were classed as non-saline.
- The soils and bedrock were non-sodic to sodic.
- The soils were generally non-aggressive to mildly aggressive towards buried concrete and the bedrock was generally non-aggressive towards buried concrete.
- The soils and bedrock were generally non-aggressive towards buried steel.

The site is not located in an area covered by the Salinity Potential Map. However, it has been observed that the proposed activity involves certain risks associated with salinity as defined in the Salinity Code of Practice. These activities include extensive irrigation, significant soil or groundwater infiltration, and considerable reshaping of the landscape.

Given these factors, JKE believes that salinity poses a low risk at this site in the context of the proposed activities, and a detailed SMP is not necessary. Nonetheless, it is recommended for the project engineers to take into account the soil's aggressivity characteristics during the design phase of the proposed activity. Additionally, it is recommended to incorporate general salinity mitigation measures where applicable.

Mitigation Measures

The following mitigation measures are to be implemented to address potential salinity.

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
SA1	To ensure salinity conditions are considered during the design and construction.	Soil aggressivity characteristics detailed through this report be appropriately considered by the project engineers during the design of the proposed activity.	Pre-construction	Not significant

7.15 Waste Generation

Operational Waste

An OWMP has been prepared (refer **Appendix 27**) to promote responsible source separation, ensure adequate waste provisions and robust procedures, and to outline compliance with all relevant regulatory requirements during the operational phase of the school.

The estimated total waste generated by the school during operations is outlined in **Table 27** below.

Table 27: Operational Waste Generation Rates

Waste Stream	Litres / Week
General Waste	2200
Comingled Recycling	1800
Paper and Cardboard	1600
Organics	450
Agricultural Waste	500

Based on the expected generation and collection frequency, the number of bins required are outlined in **Table 28.**

Table 28: Required Bins

Waste Stream	Bins Required
General Waste	2 x 1100L
Recycling	2 x 1100L
Paper and Cardboard	2 x 1100L
Organics	2 x 240L
Agricultural Waste	2 x 240L

The waste storage area for the school is located within the staff car park, accessed via Bridget Avenue. The OWMP confirms that the proposed waste storage areas and bin capacity are of sufficient size and type to accommodate the estimates waste generated by the proposed activity. Waste is proposed to be collected by a private contractor entering the site from Bridget Avenue with the specified locations and the nominated path of access for users and collection vehicles outlined in the OWMP

Bulky and problem waste, such as e-Waste, will be stored in a shared location. This waste will be collected by private waste contractor as necessary to maintain the availability of the storage space.

Ultimately, the proposed operational waste management procedures and allocated space will ensure the suitable disposal of waste generated by the proposed activity.

Mitigation Measures

The following mitigation measures are to be implemented to address potential waste impacts during operations.

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
OW 1	To manage waste impacts and ensure compliance with waste management system	The wastes generated will be properly assessed, classified and managed in accordance with the EPA's guidelines to ensure proper treatment, transport and disposal.	Operation	Not significant
OW 2	To manage waste impacts and ensure compliance with waste management system	The collection and storage of waste and removal by a licensed contractor.	Operation	Not significant
OW 3	To manage waste impacts and ensure compliance with waste management system	Garbage is to be stored and collected on a regular basis. Sufficient space is to be provided for the storage of garbage and recycling.	Operation	Not significant
OW 4	To manage waste impacts and ensure compliance with waste management system	The waste bins and storage areas should have adequate signage in place	Operation	Not significant
OW 5	To manage waste impacts and ensure compliance with waste management system	Waste collection areas have been identified on the school compound.	Operation	Not significant
OW 6	To manage waste impacts and ensure compliance with waste management system	Driveways and loading docks have been designed in accordance with the relevant authority requirements to allow the safe passage of a laden garbage collection vehicle in all seasons.	Operation	Not significant
OW 7	To manage waste impacts and ensure compliance with waste management system	Appropriate training is to be provided to the school management, staff, students, cleaners and contractors, annually as a minimum and as part of new employee inductions. Training should be documented and the outcomes discussed, and issues addressed.	Pre-Operation	Not significant

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
OW 8	To manage waste impacts and ensure compliance with waste management system	The OWMP will be reviewed, revised and updated every 12 months or as required depending on changes at the school and formalised.	Operation	Not significant
OW 9	To manage waste impacts and ensure compliance with waste management system	Actual volumes of waste and recycling collected are to be obtained and recorded to enable waste volume evaluation by the school.	Operation	Not significant
OW 10	To manage waste impacts and ensure compliance with waste management system	Achieve, acknowledge and comply with waste targets set for the school. Undertake reasonable processes to reach the waste targets determined for the school.	Operation	Not significant

Construction Waste

A CWMP has been prepared (refer **Appendix 14**) to encourage responsible waste separation, establish sufficient waste management provisions and procedures, and ensure compliance with all applicable regulatory requirements during the construction phase of the school.

Given there are no existing structures on the site, no demolition waste is anticipated. The estimated total construction waste volumes are outlined in **Table 29**.

Table 29 Construction Waste Volumes

Type of Material	Estimated waste volume (m^3)		
	Reuse	Recycling	Landfill Disposal
Concrete, Brick, Block Work, Render, Tiles		160m^3	
Metals		120m^3	
Timbre Off-Cuts		140m^3	
Cardboard		50m^3	
Plasterboard		160m^3	
Containers, Plastics, Plastic Packaging		170m^3	
Pallets and Reels	80 units		
Liquid Waste			50m^3

Type of Material	Estimated waste volume (m^3)		
General Waste			100m^3
Sub total		800m^3	150m^3
Total		950m^3	

Waste and recycling materials will be stored in bins provided by the appointed waste contractor(s). These bins will be appropriately coloured and signed to indicate what materials are to be deposited into them and located, to maximise the recovery of reusable/recyclable materials.

The frequency of waste removal from site will be determined by the volume of materials deposited into the dedicated skip bins. Skip bins will be monitored on a daily basis by the Site Manager to ensure they do not overflow. All waste collection for construction works will be conducted between approved hours as per Council requirements (typically between 7am and 6pm Monday to Friday, and between 8am and 1pm on Saturdays). All waste generated on site will be transported to an approved and appropriately licensed resource recovery facility and/or landfill site.

Mitigation Measures

The following mitigation measures are to be implemented to address potential waste impacts during construction.

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
CW 1	To manage waste impacts during construction	The CWMP must be implemented for the duration of construction works.	Construction	Not significant
CW 2	To manage waste impacts and ensure compliance with waste management system	Relevant waste management details will be indicated on a site plan for all workers, including the location of the main skip bin. Staff and subcontractors will undergo site induction and ongoing toolbox talks that will detail waste minimisation and reuse management measures, including the requirements of the waste management hierarchy. Waste minimisation training will include energy consumption awareness that promotes energy conservation methods including minimising energy use by switching off equipment when not in use.	Pre-Construction Construction	Not significant
CW 3	To maximise reuse and recycling of waste material	The NSW Governments Waste Management Hierarchy of ‘avoid-reduce-reuse-recycle-disposal’ will be followed as the framework of waste management throughout the	Pre-Construction Construction	Not significant

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
		project. The reuse/and or recycling of waste materials generate on site shall be maximised as far as practical, to minimise the need for treatment or disposal of those materials off site.		
CW 4	To manage asbestos safely if required.	Asbestos will be managed in accordance with a site Asbestos Removal Control Plan or Asbestos Management Plan if required. Asbestos waste is to be managed as per the POEO (2014) Part 7 Transportation and Management of Asbestos Waste.	Construction	Not significant
CW 5	To manage waste impacts and ensure compliance with waste management system	Waste material generate on-site will be transported and disposed of at an approved waste disposal facility in accordance with relevant requirements.	Pre-Construction Construction	Not significant
CW 6	To manage waste impacts and ensure compliance with waste management system	A waste register will be developed and maintained, detailing types of waste collected, amounts, date/time, and details of disposal.	Construction	Not significant
CW 7	To manage waste impacts and ensure compliance with waste management system	A S143 notice under the POEO Act will be completed should the offsite (on private property) lawful disposal of waste material deemed necessary.	Construction	Not significant
CW 8	To manage waste impacts and ensure compliance with waste management system	The relevant licences of waste facilities utilised for the disposal of project waste will be obtained to ensure they are legally able to accept the waste.	Pre-Construction Construction	Not significant
CW 9	To manage waste impacts and ensure compliance with waste management system	Disposal of waste streams identified in Sections 3.5 to 3.7 of the CWMP is to be conducted by a licensed waste contractor. Waste is to be taken to a waste facility lawfully able to receive it. Waste is to be tracked and recorded.	Construction	Not significant

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
CW 10	To manage waste impacts and ensure compliance with waste management system	Stockpiles of waste material designated for offsite disposal is to be stockpiled more than 2 metres from drainage lines and retained vegetation or alternatively placed within separate skip bins for the different waste streams.	Construction	Not significant
CW 11	To manage waste impacts and ensure compliance with waste management system	Regular visual inspections will be conducted to ensure that work sites are kept tidy and to identify opportunities for reuse and recycling.	Construction	Not significant
CW 12	To manage waste impacts and ensure compliance with waste management system	The CWMP is to be updated once the recycling/disposal contractors has been established.	Pre-Construction Construction	Not significant

7.16 Construction Impacts

A PCMP has been developed by Colliers and is provided at **Appendix 28**. The PCMP serves as a document to guide the construction phase of the project, ensuring that environmental, safety, and community impacts are effectively managed,

Assessment

A summary of the potential impacts during the construction phase of the project is provided below:

- **Noise and Vibration**: Noise from machinery, vehicles, and construction activities may disturb nearby residents and sensitive areas, particularly during peak activity periods. Vibration caused by excavation and heavy equipment could impact adjacent properties if not carefully managed.
- **Air Quality and Dust**: Dust generated from excavation, material handling, and vehicular movement on unsealed surfaces could degrade air quality. Diesel emissions from machinery and vehicles may also contribute to temporary air pollution.
- **Traffic and Access**: Increased construction traffic, including heavy vehicles, could lead to congestion and disruptions on local roads. Construction vehicle movements may also pose safety concerns for pedestrians in the vicinity.
- **Waste Generation**: The construction activities will generate waste, including recyclable materials and hazardous substances, requiring responsible management and disposal.
- **Erosion and Sedimentation**: Earthworks and excavation activities could result in sediment runoff, potentially contaminating local waterways and stormwater systems if not adequately controlled.

- **Visual and Aesthetic Impact**: Temporary changes to the site's appearance, such as hoardings, stockpiles, and heavy equipment, could detract from the visual amenity of the area.
- **Community Disruption**: Construction activities may lead to temporary inconveniences for nearby residents, including noise, dust, and restricted access.

Mitigation Measures

The following mitigation measures are to be implemented to address potential construction impacts.

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
CI1	To manage impacts during the construction stage of the project	The Principal Main Works Contractor is responsible for developing and implementing a comprehensive Construction Management Plan that integrates Workplace Health and Safety (**WHS**), Environmental, and Quality management.	Pre-construction	Not significant

7.17 Site Services

7.17.1 Water and Hydraulic Services

Existing Environment

A Hydraulic Services Report has been prepared (refer **Appendix 22**) which reviews the existing hydraulic infrastructure available for the proposed school site and identifies upgrade works required. The study identified a 300 mm potable water main on the southern side of Birchfield Drive, available for the site's potable and fire water connections.

For sewer services, a 150 mm diameter sewer main is located on the northern side of Birchfield Drive, with an existing connection available at the site boundary. The agricultural block will connect to this sewer main. Existing sewer mains running through the middle of the site will become redundant and are proposed to be removed. Further details can be found in the Civil Engineering Design Report for stormwater details.

Assessment

The proposed hydraulic infrastructure for the proposed activity includes several augmentations to the water system. The existing water mains in Birchfield Drive are expected to meet the school's water demand, with a Section 68 application to Council required in the detailed design phase. The proposed water infrastructure will include:

- Domestic cold-water connection with a 100mm diameter pipe and an authority water meter.
- Fire hydrant system water connection with a 150mm diameter pipe.
- Domestic cold water pumps to boost water pressure within the site.

- A 100kL capacity rainwater tank with rainwater reuse pumps and filtration.
- A rainwater reuse system to supply irrigation and toilet flushing throughout the site.

The sewer infrastructure for the proposed activity will also be upgraded to meet the expected demand. The existing sewer mains in Birchfield Drive are anticipated to support the school's needs, with a Section 68 application to Council being required. The proposed sewer infrastructure will include:

- Gravity sewer mains serving all buildings, up to 150mm in diameter.
- Sewer access chambers located on main lines and at changes of direction.
- A trade waste grease arrestor serving trade waste drainage from kitchens.
- A dilution pit serving science lab trade waste drainage.

Potential environmental impacts, such as soil disturbance, vegetation disruption, noise, and visual effects, have been identified, with the below mitigation measures being provided to address these potential impacts effectively.

Mitigation Measures

The following mitigation measures are to be implemented to address potential hydraulic services impacts.

#	Reason for mitigation measure	Mitigation measure	Timing	Significance after mitigation
HS1	To minimise soil disturbance	Plan service routes efficiently, reuse excavated soil for backfilling, stabilise exposed areas with mulch or vegetation, and implement silt barriers to prevent erosion and runoff.	Construction	Not significant
HS2	To minimise noise during construction	Restrict noisy activities to standard working hours, use noise barriers near sensitive areas, maintain equipment with noise-dampening devices, and inform residents and businesses about high-noise activities in advance as per the traffic consultant’s report.	Construction	Not significant
HS3	To minimise visual impact	Above-ground hydraulic services to use neutral or natural-coloured materials for utility structures, positioned discreetly, landscaping for screening, and incorporate aesthetic design elements to blend with the surroundings as per the landscape architect's report.	Construction	Not significant

7.17.2 Electrical and Telecommunications Services

Existing Environment

An Electrical and IT Services Report (refer to **Appendix 15**) has been prepared, providing a comprehensive review of the school's current electrical infrastructure and outlining the necessary upgrade works.

The existing electrical services for the site include two kiosk substations located near the site boundaries, one to the south along Birchfield Drive and another to the east along Winyu Rise, both of which will be retained. The site is bordered by an underground high voltage cable network and a network of underground low voltage cables that provide connectivity to the surrounding residential lots. Essential Energy assets, including kiosks, feeder pillars, and underground cabling, will be retained, with potential modifications or additions required to meet the site's electrical supply needs while maintaining existing infrastructure performance.

The existing communications services include NBN conduits around the site perimeter, with pits positioned at key intervals to facilitate connections to the school buildings. However, no Telstra conduits or services are currently identified directly within or adjacent to the site boundary, and these may need to be extended to meet the school's requirements. The servicing strategy will involve coordinating with NBN and Telstra to finalise connection points and ensure compliance with regulatory and utility provider requirements. Utility applications for connection will be completed in the next design stage to ensure the proposed connection strategies are viable.

Assessment

The proposed electrical infrastructure for the proposed activity includes several essential components to ensure reliable power supply:

- A new 1000kVA kiosk substation next to Building A, supplying power to all facilities except the agriculture building.
- A main switch room in Building A to minimise cable reticulation.
- Underground low voltage distribution for electrical cabling to various buildings and key infrastructure.
- A 70kW solar PV system on Building A's rooftop, with the potential to expand to 100kW in future phases.

The proposed ICT infrastructure aims to provide comprehensive and reliable communication services throughout the school:

- A main communications room on the ground floor of Building A, housing the Campus Distributor.
- Building communications rooms strategically located to maintain the required 75 metre cabling radius.
- Wireless access points (**WAPs**) distributed across classrooms, corridors, and communal spaces, with external WAPs for covered outdoor learning areas.
- Integration of both NBN and Telstra services to ensure redundancy and comprehensive ICT support for the school.

The proposed electrical services works are unlikely to result in an environmental impact that requires mitigation, and therefore no mitigation measures have been provided.

7.18 Cumulative Impact

As described in **Section 2.9,** there are no significant projects recently approved and within 500 metres of the site. Notwithstanding, there is significant residential growth expected surrounding the school, as well as the proposed temporary high school at 10 Majara Street, Bungendore. The proposed temporary high school will be located approximately 2.5km from the new Bungendore High School site. Therefore, the cumulative construction impacts of both developments are considered to be negligible.

The cumulative impacts of the simultaneous construction of the school and surrounding residential development is expected to be negligible given the low number of truck movements required to construct the residential development. Given the proposed activity's distance from residential accommodation, the cumulative acoustic impacts of the proposed activity are negligible.

To mitigate potential conflicts, heavy vehicle movements related to the construction of Bungendore High School will be restricted during peak school pick-up and drop-off periods. Specifically, construction vehicles will be prohibited from accessing Malbon Street between 8:35am and 9:05am, as well as between 3:10pm and 3:40pm. This measure ensures student safety while minimising disruptions to traffic flow in the area.

Ultimately, the cumulative impacts of the proposed activity with nearby development are negligible.

7.19 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 30** and where mitigation measures have been proposed in response to the factor, these have been identified.

Section 171A of the EP&A Regulation sets out additional matters to take into account when considering the likely impact of an activity on the environment in a regulated catchment. As the site is not located within a regulated catchment, Section 171A does not apply to the proposed activity.

Table 30: Environmental Factors considered

Environmental Factor	Consideration
Any environmental impact on a community?	The proposed Bungendore High School project is designed to balance functionality with environmental and community considerations while responding to the site's unique topography. The building footprints are proportionate to the overall site area and align with the scale of development planned for the surrounding area. Given the site's significant slope, the design incorporates terraced platforms to accommodate level changes, ensuring seamless integration with the landscape and accessibility across different elevations. To minimise noise impacts on neighbouring properties, outdoor play spaces are positioned centrally within the site, using the natural landform and building placement as buffers. The façade design has been carefully developed to address privacy concerns, with appropriate setbacks, landscaping, and reduced glazing on sensitive frontages to prevent overlooking and maintain privacy for both students and nearby residents. During the construction phase, temporary environmental impacts such as increased traffic, noise, and dust may arise. These impacts, however, are expected to be minor and will be effectively mitigated through the implementation of management strategies outlined in this REF. These measures include dust suppression, traffic control, and noise management plans to ensure minimal disruption to the community. Overall, the proposed activity is designed to prevent long-term adverse impacts on the surrounding environment and community. By addressing both immediate construction-related concerns and long-term operational considerations, the development achieves a balance between functionality and environmental stewardship, contributing positively to the local area.
Any transformation of a locality?	The proposed activity will have a positive transformational impact on the locality. Once operational, the high school will provide a positive significant benefit to the wider community through providing necessary educational facilities for students and employment for staff.
Any environmental impact on the ecosystems of the locality?	The proposed activity has been designed to minimise environmental impacts on local ecosystems, though some effects are expected due to site modifications. The site was previously cleared for residential development and primarily consists of grassland with minimal native vegetation. However, the project includes significant landscaping with locally endemic species to enhance biodiversity and ecological resilience. A riparian corridor to the west of the site serves as a drainage reserve. While the development does not directly impact this corridor, stormwater management measures, including bio-retention systems, will be implemented to prevent runoff and erosion from affecting local waterways. Given that the site

Environmental Factor	Consideration
	has already been cleared, its current habitat value for native fauna is limited, though the introduction of native tree planting and green spaces within the school grounds aims to support local bird species and improve ecological connectivity. Geotechnical assessments indicate that the site consists primarily of sandstone and residual clay, with no significant groundwater concerns identified. Erosion and sediment control measures will be in place during construction to prevent soil degradation and protect surrounding areas. Temporary impacts such as dust, noise, and construction runoff will also be managed through best-practice environmental strategies, including dust suppression, noise controls, and sediment barriers. While the project will result in some environmental changes, mitigation measures ensure that impacts are effectively managed. Through native landscaping, stormwater controls, and biodiversity-friendly design elements, the development seeks to maintain ecological balance and contribute positively to the local environment.
Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality?	The proposed activity is situated on a site previously designated for low-density residential development. The proposed activity aligns with the planned character of the area, incorporating significant landscaping and architectural treatments that soften the built form and enhance visual appeal. The design includes setbacks, planting buffers, and facade articulation to reduce visual impact on surrounding residential properties. Views to key landmarks, such as Mount Gibraltar, have also been considered to maintain the area's scenic quality. By integrating these design elements, the proposed activity ensures that it does not detract from the aesthetic, recreational, scientific, or other environmental qualities of the locality. Instead, the development complements the existing character of the area, resulting in a project that is both contextually appropriate and environmentally considerate. The school will introduce new outdoor play spaces, sports courts, and a sports field, which could provide recreational opportunities and broader community benefits. The design ensures that green spaces are retained and enhanced, contributing to the overall amenity of the area. From an environmental perspective, the site was previously cleared for residential development and has limited ecological value in its current state. The inclusion of locally endemic plant species and sustainable water management features will help enhance biodiversity and restore elements of the natural landscape. Scientifically, there are no identified significant ecological or heritage features within the school site itself. The nearby riparian corridor and drainage reserve remain unaffected by the development, with appropriate stormwater management strategies in place to ensure long-term environmental protection.

Environmental Factor	Consideration
Any effect on locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations?	The proposed activity has been designed to respect and integrate with the locality's cultural, historical, and social significance while providing essential educational infrastructure. Cultural and heritage assessments found no Aboriginal objects or sites of significance within the school boundary, though the project incorporates "Connecting with Country" principles to acknowledge Indigenous heritage through design and landscaping. Archaeological studies indicate a low likelihood of significant findings, but an Unexpected Finds Protocol will be in place during construction. Architecturally, the school's design aligns with the emerging character of the area, minimising visual impact while enhancing community amenities. Socially, the school will provide a much-needed educational hub, strengthening local infrastructure and offering shared community spaces. While the site has no known scientific or environmental research value, the project incorporates sustainable design elements, such as stormwater management and biodiversity-friendly landscaping, to support long-term ecological resilience. Overall, the proposed activity preserves and enhances the area's historical, cultural, and social value while delivering a modern, well-integrated school for Bungendore's growing community.
Any impact on the habitat of protected animals, within the meaning of the *Biodiversity Conservation Act 2016*?	The proposed activity is not expected to have any significant impact on the habitat of protected animals within the meaning of the BC Act 2016. The site has already been cleared for previous residential subdivision approvals and consists mainly of exotic grassland with no native vegetation communities present. No critical habitat for threatened species, populations, or ecological communities exists on-site, and the likelihood of occurrence for protected fauna is low to negligible. Any mobile species that may occasionally forage in the area, such as raptors, are not reliant on the site for survival. The development will not result in habitat fragmentation or the loss of key biodiversity values, and no further biodiversity offsetting or species impact assessment is required.
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 is not expected to endanger any species of animal, plant, or other forms of life, whether living on land, in water, or in the air. The site has already been cleared for previous residential subdivision approvals and consists primarily of exotic grassland with no native vegetation communities. No threatened species, populations, or ecological communities have been identified within the site, and the likelihood of occurrence for protected fauna is low to negligible. While some mobile species, such as raptors, may occasionally forage in the area, the site does not provide essential habitat for their survival. There are no natural watercourses or aquatic habitats within the site, further minimising the potential for impacts on water-dependent species.
Any long-term effects on the environment?	The proposed activity is designed to minimise long-term environmental effects through sustainable design and mitigation strategies. Given the site was previously cleared for residential development,

Environmental Factor	Consideration
	the project is unlikely to cause significant ecological disruption. Long-term environmental considerations include stormwater management, with bio-retention systems in place to prevent erosion and protect local waterways. Native landscaping will enhance biodiversity, while energy-efficient building design reduces resource consumption. Construction impacts such as noise, dust, and traffic will be short-term and managed through best-practice controls. Overall, the project is not expected to cause significant long-term environmental harm and includes measures to enhance ecological resilience and support sustainable development in the area.
Any degradation of the quality of the environment?	No degradation of the quality of the environment will occur from the proposed activity.
Any risk to the safety of the environment?	The proposed activity poses minimal risk to the safety of the environment. The project includes comprehensive environmental management plans to address potential risks during construction, such as dust, noise, and erosion, which will be effectively controlled through standard mitigation measures. The design incorporates stormwater management systems to prevent flooding and protect nearby ecosystems, reducing the risk of water-related hazards. Additionally, the use of locally endemic plant species in landscaping supports ecological stability and minimises the introduction of invasive species. Given the site's prior clearing and the absence of significant environmental hazards, the development's operational phase is not expected to introduce new risks. Overall, the project is considered safe for the environment, with effective strategies in place to manage potential risks and enhance long-term ecological health.
Any reduction in the range of beneficial uses of the environment?	The proposed activity relates to a new school located on a current vacant land and will not limit or reduce the range of beneficial uses of the environment.
Any pollution of the environment?	The risk of noise and vibration, air, water, soil and light pollution arising from carrying out the works will be mitigated by the implementation of the CMP.
Any environmental problems associated with the disposal of waste?	Waste generated by the proposed activity will be managed in compliance with the provisions outlined in the OWMP and CWMP. These plans ensure that all waste is handled, recycled, and disposed of responsibly, preventing any environmental issues associated with waste disposal.
Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply?	The activity will not increase the demand for resources that are or are likely to become in short supply.
Any cumulative environmental effects with	As outlined in **Section 7.18** of this REF, there will be negligible cumulative environmental impacts. All

Environmental Factor	Consideration
other existing or likely future activities?	construction works associated with the proposal will be undertaken in accordance with the CMP.
Any impact on coastal processes and coastal hazards, including those under projected climate change conditions?	The proposed activity will not have any impact on coastal processes or hazards and is not within proximity to any coastal areas.
Applicable local strategic planning statement, regional strategic plan or district strategic plan made under Division 3.1 of the Act?	The activity is consistent with the strategic policies identified in **Section 5.5** of this REF
Any other relevant environmental factors?	There are no other relevant environmental factors which require consideration for the proposed activity.

8. Justification and Conclusion

The proposed new high school located at part 18 Harp Avenue, Bungendore, is subject to assessment under Division 5.1 of the EP&A Act. The REF has examined and taken into account to the fullest extent possible all matters affecting, or likely to affect, the environment by reason of the proposed activity.

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

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

The activity is not likely to significantly affect threatened species, populations, ecological communities or their habitats, and therefore it is not necessary for a Species Impact Statement and/or a BDAR to be prepared. The environmental impacts of the proposal are not likely to be significant.

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 report.