NSW Department of Education

Review of Environmental Factors

New High School for Googong

Document version: Rev 5.0

Date: 11/03/2025

NSW GOVERNMENT

Acknowledgement of Country

The NSW Department of Education acknowledges the traditional custodians of the land on which the new High School for Googong 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 Mecone Group Pty Ltd on behalf of the NSW Department of Education (department) and assesses the potential environmental impacts which could arise from the development of a new high school at 200 Wellsvale Drive, Googong, NSW.

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.

Author	Alistair Smith
Qualification	Master of Regional and Resource Planning, MPIA
Position	Director – Environmental Lead, Mecone Group Pty Ltd
Signature	
Date	11/03/2025

Document Control

Document version: Rev 5.0

Date: 11/03/2025

Version history

Version	Date	Description	Prepared by	Approved by
1	29/01/25	First Draft to SI	Alistair Smith Tyson Ek-Moller Lauren Saunders Paige Matthews	Alistair Smith
2	16/02/25	Second Draft to SI	Alistair Smith Tyson Ek-Moller	Alistair Smith
3	17/02/25	Third Draft to SI	Alistair Smith Tyson Ek-Moller	Alistair Smith
4	06/03/25	Final	Alistair Smith Tyson Ek-Moller	Alistair Smith
5	11/03/25	Final v2	Alistair Smith Tyson Ek-Moller	Alistair Smith

Table of Contents

Tables

Figures

Appendices

Appendix	Name
1	Mitigation Measures
2	Architectural Plans
3	Architectural Design Report
4	Landscape Plans
5	Survey Plan
6	Title Plans and s88B
7	Preliminary Indigenous Heritage Assessment and Impact Report
8	Aviation Impact Assessment
9	BCA Report
10	Access Report

Appendix	Name
11	Civil Engineering Design Report
12	Civil Engineering Drawings
13	Detailed Site Investigation Report
14	Electrical and ICT Services Report
15	Hydraulic Services Report
16	ESD Report
17	Net Zero Statement
18	Section J Report
19	Geotechnical Investigation Report
20	Noise and Vibration Assessment
21	Transport Assessment
22	Preliminary Construction Transport Management Plan
23	School Travel Plan
24	Construction Waste Management Plan
25	Operational Waste Management Plan
26	Flora and Fauna Assessment (for Subdivision Development Application DA123-2017)

Abbreviations

Abbreviation	Description
AEC	Area of Environmental Concern
AHD	Australian Height Datum
AHIP	Aboriginal Heritage Impact Permit
AHIMS	Aboriginal Heritage Information Management System
AMSL	Above Mean Sea Level
BC Act 2016	*Biodiversity Conservation Act 2016*
BCA	Building Code of Australia
BDAR	Biodiversity Development Assessment Report
BFPL	Bush Fire Prone Land
CAA	Controlled Activity Approval
CEMP	Construction Environmental Management Plan
CLM Act	*Contaminated Land Management Act 1997*
COLA	Covered Outdoor Learning Area
CNVMP	Construction Noise and Vibration Management Plan
CTMP	Construction Transport Management Plan
The department	NSW Department of Education
DCCEEW	Department of Climate Change, Energy, the Environment and Water
Design Guide	*Design Guide for Schools* published by the Government Architect in

Abbreviation	Description
	May 2018
DITRDCA	Commonwealth Department of Infrastructure, Transport, Regional Development, Communications, and the Arts
DPE	Former Department of Planning and Environment
DPHI	Department of Planning, Housing and Infrastructure
DSI	Detailed Site Investigation
EFSG	Educational Facilities Standards and Guidelines
EIS	Environmental Impact Statement
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
GBCA	Green Building Council of Australia
Ha	Hectares
IE SEPP	*State Environmental Planning Policy (Industry and Employment) 2021*
Km/h	Kilometre per hour
kVA	Kilo-volt-amperes
LEP	Local Environmental Plan
LGA	Local Government Area
MNES	Matters of National Environmental Significance
MRV	Medium Rigid Vehicle
NCC	National Construction Code
NEPC	National Environmental Protection Council
NEPM	National Environment Protection Measure
NPW Act	*National Parks and Wildlife Act 1974*
NSW RFS	NSW Rural Fire Service
NVAR	Noise and Vibration Assessment Report
OEH	(Former) Office of Environment and Heritage
OHS	Outer Horizontal Surface
OLS	Obstacle Limitation Surface
ONVMP	Operational Noise and Vibration Management Plan
OWMP	Operational Waste Management Plan
PANL	Project Amenity Noise Level
PV	Photovoltaics
PIHAIR	Preliminary Indigenous Heritage Assessment and Impact Report
POEO Act	*Protection of the Environment Operations Act 1997*
Proponent	NSW Department of Education

Abbreviation	Description
PSI	Preliminary Site Investigation
QPRC	Queanbeyan-Palerang Regional Council
REF	Review of Environmental Factors
Resilience and Hazards SEPP	*State Environmental Planning Policy (Resilience and Hazards) 2021*
RF Act	*Rural Fires Act 1997*
RNP	Road Noise Policy (NSW)
Roads Act	*Roads Act 1993*
SAR	Site Audit Report
Sustainable Buildings SEPP	State Environmental Planning Policy (Sustainable Buildings) 2022
SCPP DoE	*Stakeholder and community participation plan,* published by the NSW Department of Education October 2024
SCPP DPHI	*Stakeholder and community participation for new health services facilities and schools* published by the Department of Planning, Housing and Infrastructure October 2024
SDRP	School Design Review Panel
SEPP	State Environmental Planning Policy
STP	School Travel Plan
TA	Transport Assessment
TI SEPP	State Environmental Planning Policy (Transport and Infrastructure) 2021
WM Act	*Water Management Act 2000*

Executive Summary

The Proposal

The proposed activity relates to the construction and operation of the new high school for Googong with a capacity of 700 Year 7 – 12 students and 55 staff.

The proposed new high school is located at 200 Wellsvale Drive, Googong (the site) within the Googong township, on a site bounded by Wellsvale Drive, Observer Street, Glenrock Drive and Harvest Street (Lot 829 in Deposited Plan 1277372).

Figure 1: Indicative proposed northwest entry

(Source NBRS, 2025)

The proposal is to construct the new high school to commence operation Term 1 of 2027, including:

- Building A, a part three and part four-storey building in the northern portion of the site, fronting Glenrock Drive, which will accommodate learning spaces and administrative functions of the school.
- Building B, a three-storey building in the northern portion of the site, fronting Observer Street, which will accommodate learning spaces and administrative functions of the school.
- Building C fronting Glenrock Drive, which will accommodate a school hall/gymnasium and canteen.
- Outdoor recreation areas, cricket nets, playing court and playing field.
- Main pedestrian entry established from Glenrock Drive.
- Car park, waste management area and accessible pedestrian entry from Wellsvale Drive.
- Loading area entry and exit off Observer Street
- Waste storage and management facilities that are to be located at the northern end of the car park.
- Associated civil works, earthworks, servicing and landscaping.

- Associated off-site works such as the construction of pedestrian crossings, drop off and pick up bays and a bus stop.
- School identification and wayfinding signage.

The site was identified as the location for educational facilities in the Masterplan and Neighbourhood Structure Plans prepared for the development of Googong. In 2011 a State Voluntary Planning Agreement (VPA) was executed requiring a 9-hectare site in Googong for a Public School and High School to be dedicated by the developer to the Department of Education (the department). The site was then created as part of the subdivision in development application DA123-2017, in association with the broader development of the land parcels and services for the Googong Township. The site has been dedicated for the purpose of a school and is owned by the Minister for Education and Early Learning.

The department are proposing the new high school on approximately 5.42 hectares of the 9-hectare site, which will provide a high-quality purpose-built facility to meet the educational needs of the increasing population of Googong residents. The remainder of the site will be maintained by the department for potential future expansion and operation of educational facilities.

The site has good connections to the new town centre for Googong to the north and community recreational facilities to the south-east.

The site does not contain any structures or significant vegetation and is bound by local roads.

The site slopes from the southeast down towards the northwest by approximately 12 metres. This topography, while posing certain design challenges, also offers opportunities for great views back across the valleys, connection to the new Googong Town Centre, varied landscaping, and management of solar access.

Planning Pathway

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

Therefore, the proposal is considered an ‘activity’ for the purposes of Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and is subject to an environmental assessment. For the purposes of this 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* (DPHI, October 2024).

Consultation

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

Comments received will be carefully considered and responded to.

In addition, non-statutory consultation has been undertaken with a range of community and government stakeholders throughout the design process and is addressed in Section 5.

Environmental Impacts

The key environmental impacts identified in the preparation of the REF are as follows:

- **Traffic** – Despite a large proportion of students attending the school being within walking and cycling catchment areas, the baseline traffic assessment assumes the largest mode of access to the school will be via private vehicle. Mitigation strategies include 17 kiss and drop spaces proposed, a bus stop, provision of 145 bicycle parking spaces and 55 staff car parking spaces. Traffic modelling demonstrates that the surrounding roads and intersections have adequate capacity to handle projected traffic volumes associated with the proposed high school. Measures to increase active travel and public transport usage will be promoted, and the development of a School Transport Plan required.
- **Aviation** – The proposal (like all of the Googong township) is located inside the protected airspace of Canberra Airport (the Obstacle Limitation Surface (OLS)). The building heights and any temporary use of construction cranes will require approval from Canberra Airport or the Commonwealth Department of Infrastructure, Transport, Regional Development, Communications, and the Arts (DITRDCA). However, given the commercial and residential development with a similar height to the proposal, and communications towers and flood light poles on a nearby sporting fields, the proposal is not considered to compromise the operations of Canberra Airport.
- **Contamination** – The proposal site (and primarily land to the north-west of the site) was subject to a Remediation Action Plan (RAP) and also excavation of material that included elevated heavy metal concentrations associated with naturally occurring rock. Following excavation of material, a Site Audit Statement (SAS) was issued confirming the site is suitable for the proposed high school use. A further Detailed Site Investigation (DSI) has been conducted for the proposal to address potential contaminant sources associated with fill/residual impacted soil and recent use of the site for a construction compound. While some elevated levels of heavy metals were detected, these are considered within acceptable limits. Subject to an unexpected finds protocol and ‘check’ sampling of excavated materials, the site is considered suitable for the proposed activity of a new high school.
- **Construction impacts** – The proposal site is in proximity to residential development, recreational facilities and commercial sites containing a variety of other development projects (either approved or under construction). While the proposal will have an acoustic impact on the surrounding area, such impacts are considered acceptable (subject to reasonable work and operational practices). Construction will be restricted to within standard construction hours. The Preliminary Construction Transport Management Plan (CTMP) has nominated a construction traffic entry point off Observer Street that is suitable for anticipated construction traffic and is unlikely to cause significant adverse impacts on surrounding sites. 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 the construction and operation of the new high school for Googong (the activity) at 200 Wellsvale Drive, Googong (the site). This Review of Environmental Factors (REF) has been prepared by Mecone Group (Mecone) on behalf of the department to determine the environmental impacts of a proposed new high school at 200 Wellsvale Drive, Googong (the Proposal). 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.

2. Proposed Activity

2.1 The Site

2.1.1 Site locality

Googong is a new release area within the Queanbeyan-Palerang Local Government Area (LGA), located approximately eight kilometres south of Queanbeyan and 17 kilometres southeast of the Canberra Central Business District (CBD). Googong Reservoir, a significant waterbody is located approximately 3 kilometres east of the subject site. Canberra Airport is located approximately 12 kilometres north of the subject site.

The site is located at 200 Wellsvale Drive, Googong, as shown in **Figure 2**.

Legally described as Lot 829 in Deposited Plan 1277372, the proposed new high school site within this Lot has an area of approximately 5.84 hectares (**Figure 2**). The site has street frontages to Wellsvale Drive, Observer Street and Glenrock Drive, which are local roads with 50 km/h speed limits, generous road verges, footpaths, street lighting and street trees along all frontages.

The site is currently zoned as R1 General Residential under the *Queanbeyan-Palerang Local Environmental Plan 2022* (LEP) and is located within Neighbourhood 2 of the Googong Masterplan, within the Googong Development Control Plan DCP 2010 (DCP).

Low-density residential development, recreational areas, as well as the future local centre of Googong (to the north) surround the site. Images of the site and surroundings are provided in **Figure 3** – **Figure 9**.

Currently vacant, with no existing structures, the site has been cleared of all trees and native vegetation. The site has an approximately 12 metre fall from the southwest corner of the site at RL ~763.550m Australian Height Datum (AHD) to the northeast at RL ~751.570m AHD.

The Minister for Education and Early Learning are the owners of the site.

Potable and recycled water mains are located on the north-western side of Glenrock Drive that are available for the site's potable and fire water connections. A sewer main is located on the north-eastern side of the site on Wellsvale Drive and is available for the site sewer connection.

Electricity is provided by an Essential Energy 500 kVA electricity substation (Sub 86262) located on the western verge of Glenrock Drive, with approximately 300A of spare capacity as of June 2023. It is noted that 300A is not sufficient for the new school (Arup Australia Pty Ltd, Nov 2024). Three existing electrical substations are located within the site Lot along the Glenrock Drive, Harvest Street and Wellsvale Drive frontages. Easements for multi-purpose electrical installation are burdened on the Title.

Telstra conduits are located across Wellsvale Drive from the north-east corner of the site. These conduits need to be extended across the road and connected to the school to provide high capacity fibre and copper communications services. The NBN network, is available around the site.

The site is not identified as flood affected or bushfire affected land. A restriction on the use of land is registered on the title in the s88B Instrument **(Appendix 6)** identifying the very south-east corner

of the Lot as bushfire prone (prior to the removal of the bushfire prone land classification and will need to be removed prior to development south of the REF site), but does not impact the REF site. Note, the s88B instrument predates the latest bush fire prone land mapping which removes the affectation across the site.

Figure 2: Site Plan

Source Mecone

Figure 3: Site viewed from the intersection of Observer Street and Wellsvale Drive looking south.

Source: Mecone, Dec 2024

Figure 4: Site viewed from Observer Street looking west

Source: Mecone, Dec 2024

Figure 5: Site (left of image) viewed from Glenrock Drive looking south

Source: Mecone, Dec 2024

Figure 6: Site (right of image) viewed from Glenrock Drive looking north

Source: Mecone, Dec 2024

Figure 7: Site viewed from Wellsvale Drive looking north-west

Source: Mecone, Dec 2024

Figure 8: Googong town centre land to the north of the site, viewed from Observer Street

Source: Mecone, Dec 2024

Figure 9: Two and Three storey apartments north-east of the site on Wellsvale Drive

Source: Mecone, Dec 2024

2.1.2 Site Constraints and Opportunities

Consideration of site constraints has been undertaken through the progressive development of the Proposal through phases of Due Diligence, Test Fit analysis, Masterplan, and Concept Plan development. These phases have included reviews of the Section 10.7(2) and (5) planning certificates for the site, planning controls and mapping under relevant Environmental Planning Instruments (EPIs), and a review of specialist consultant investigations and reports and other desktop assessments. Key site constraints include:

- Potential implications of known contamination on adjacent land (specifically, two 'areas of environmental concern' (AEC) located on sites to the north associated with a naturally occurring hematite zone and a waste materials zone)
- Location of development within the Obstacle Limitation Surface for Canberra Airport
- Sloping topography of the site impacting excavation, access, building siting and design

Consideration has also been given to opportunities identified in project development, including:

- Link and key pathway connection to Googong Town Centre
- Good corner visibility and opportunity for school landmark identity
- Proximity to Googong Common with various playing fields and courts (Brooks Oval, Gulaj Oval, Netball Courts) that may provide educational and recreational opportunities
- Building siting along Glenrock Drive provides a close proximity to transportation and access off a quieter road with safe environment for an extended Kiss & Drop zone and potential for future expansion.

- Building siting towards the high point of the site (Glenrock Drive) supports accessibility, creates good connections of internal spaces with outdoor areas and enhances views to and from the buildings.
- North - south orientation of the building blocks maximises north aspect and potential for all learning spaces to achieve good solar access. It provides some necessary shading of open spaces as well.
- The large site provides sufficient space for car parking on-site at grade which would be best positioned along Wellsvale Drive to create a buffer zone to this busy road.

2.2 Proposed Activity

The proposal seeks the construction and operation of a new educational establishment (school) to cater for 700 students from years 7 – 12 and 55 staff. Specifically, the proposal includes the following:

- Building A, a part three and part four-storey building in the northern portion of the site, fronting Glenrock Drive, which will accommodate learning spaces and administrative functions of the school.
- Building B, a three-storey building in the northern portion of the site, fronting Observer Street, which will accommodate learning spaces and administrative functions of the school.
- Building C fronting Glenrock Drive, which will accommodate a school hall/gymnasium and canteen.
- Outdoor recreation areas, cricket nets, playing court and playing field.
- Main pedestrian entry established from Glenrock Drive.
- Car park, waste management facilities and accessible pedestrian entry from Wellsvale Drive.
- Service entry from Observer Street.
- Waste storage and management facilities that are to be located at the northern end of the car park.
- Associated civil works, earthworks, servicing and landscaping.
- Associated off-site works such as the construction of pedestrian crossings, drop off and pick up bays and a bus stop.
- School identification and wayfinding signage.

It is intended that construction would commence in Q3 or Q4 2025, with completion in Q4 2026 and commencement of school operations from day 1, term 1 2027.

Table 1 provides a summary of key aspects of the activity.

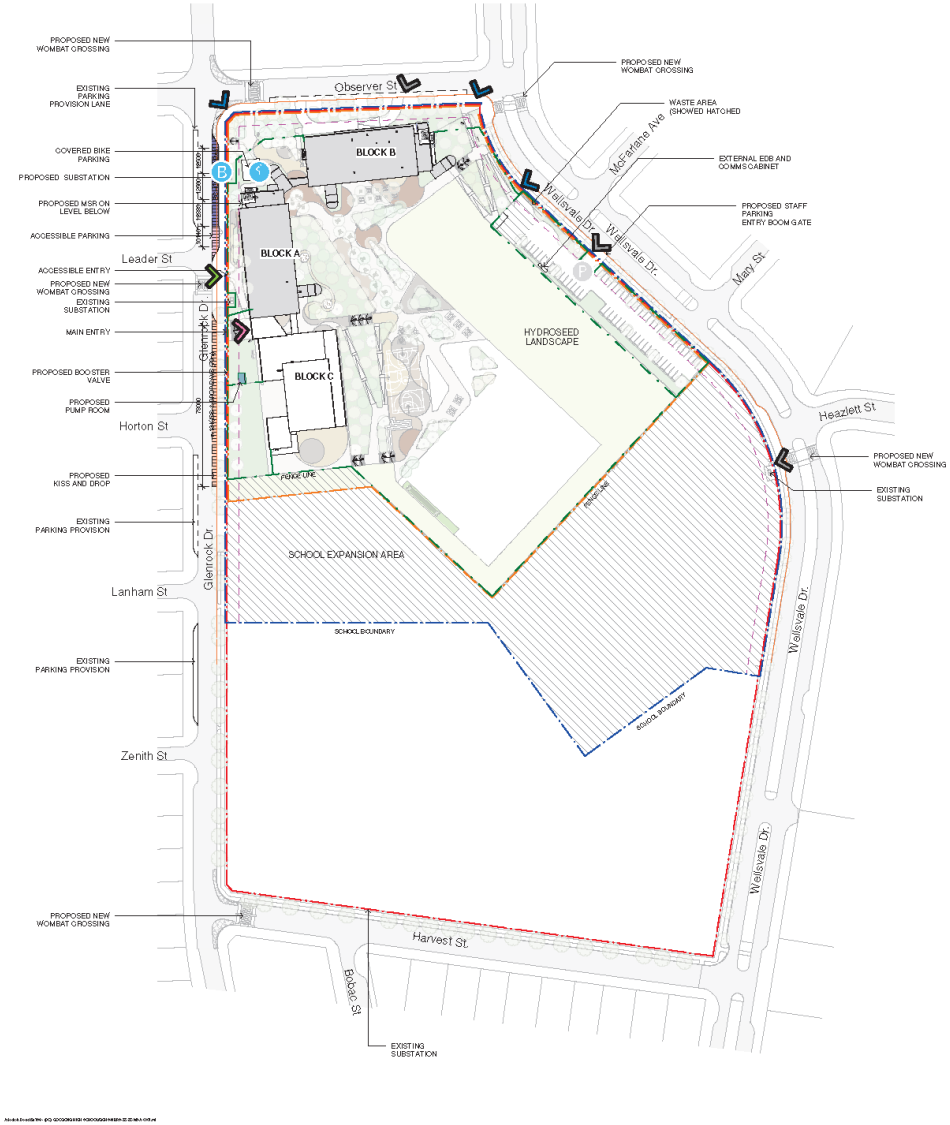
Table 1: Summary of the activity

Project Element	Description
Site Area	Approximately 5.84 hectares (within 9.04 hectare Lot 829 DP1277372)
Project Name	New High School for Googong
Project Summary	• Building A and Building B which will accommodate learning spaces and administrative functions of the school • Building C which will accommodate a school hall/gymnasium and canteen • Outdoor recreation areas, cricket nets, playing court and playing field,

Project Element	Description
	• Main pedestrian entry established from Glenrock Drive including kiss-and-drop parking, • Car park, waste management facilities and accessible pedestrian entry from Wellsvale Drive, • Service entry from Observer Street, • Waste storage and management facilities that are to be located at the northern end of the car park. • Associated civil works, earthworks, servicing and landscaping • Associated off-site works such as the construction of pedestrian crossings, drop off and pick up bays and a bus stop • School identification and wayfinding signage.
Use	Educational establishment (school)
Student and Staff Numbers	700 students, 55 staff
Car Parking and Bicycle Spaces	55 staff car parking spaces (including 2 accessible spaces) 5 staff bicycle spaces 140 student bicycle spaces 17 kiss-and-drop spaces
Site access	Three pedestrian access points from adjoining road reserves, comprising of: • A main pedestrian access route from the Glenrock Drive frontage, • A pedestrian and bicycle access route from the northwest corner of the site (i.e. at the intersection of Glenrock Drive and Observer Street), and • A pedestrian access route (both from the northeast corner of the site (i.e. at the intersection of Wellsvale Drive and Observer Street) and the car park. Three vehicular access and egress points from adjoining road reserves, comprising of: • 1 driveway crossover (servicing the carpark and waste management area) that is accessed via Wellsvale Drive, and • 2 driveway crossovers (servicing entry and exit points for the one-way service driveway) that is accessed via Observer Street.
Height	Maximum of part four storeys / 13.5 metres maximum (RL 772.076m (AHD))
Play Space	Passive Play - 4,480m^2 Active Play - 6,810m^2 Covered Outdoor Learning Area (COLA) – 203m^2 **Total Play = 11,493m^2** (16.4m^2) per student
Onsite services	Onsite services are to comprise of the following: • Onsite car parking (see above) • Waste storage and management facilities • 2 substations (including 1 existing) • Stormwater facilities (including an Onsite Stormwater Detention (OSD) tank beneath the northern end of the car park) • Firefighting facilities, including pump and booster facilities adjacent to the Glenrock Drive frontage.
Canopy Cover	Proposed trees: • 89 of 97 existing street trees to be retained

Project Element	Description
	• 200 new trees proposed Proposed tree canopy cover: **Total = 5,430m^2 (20% of site area)**
Off Site Works	Removal of 8 street trees. 5 wombat pedestrian crossings and associated kerb blisters. Provision of bus stop, kiss and drop bay and an accessible bay in Glenrock Drive (supported by footpath widening within the Council road reserve). Driveway laybacks and crossovers to provide vehicular access (including service vehicle access) to/from Wellsvale Drive and Observer Street. Sewage and drainage discharge connections within adjoining road reserves. Connections to relevant utilities and services (including undercutting of Council roads to augment services)

The key features of the proposed activity are shown in **Figure 10** to **Figure 16**.



NBRS

LEGEND

- MAIN ACCESS
- SECONDARY ACCESS
- SELU ACCESS
- VEHICLE ACCESS
- STUDENT ACCESS
- PRIMARY SCHOOL ACCESS
- FENCE LINE
- LOT BOUNDARY
- SCHOOL BOUNDARY
- WORKS AREA
- 6m SETBACK
- TOP OF EXISTING KERB
- SCHOOL EXPANSION AREA subject to demand
- PICK UP AND DROP OFF
- ACCESSIBLE PARKING
- BUS ZONE
- BUS STOP
- BICYCLE PARKING
- CAR PARK
- WASTE AREA

REF

Issue

No.	Date	Description	Chkd
2	2025.01.20	ISSUE FOR REF	RS
1	2024.11.20	ISSUE FOR DRAFT REF	RS

Changes to this Revision

NBRS
+61 2 9922 2344 nbrs.com.au
Nominated Architects
Andrew Duffin NSW 5932
Jonathan West NSW 9959
NBRS & Partners Pty Ltd NC 51197 ABN 16 002 247 565

Project
24136 - New High school for Googong

at
200 Wellsvale Drive, Googong NSW 2620

NSW Education

Drawing Title
BOUNDARY SITE PLAN

Date 20/01/2025 4:47:33 PM
Scale 1:1000 @ A1
NBRS Project # 24136
Drawing Reference
GGHS-NBRS-ZZ-ZZ-DR-A-000200
Revision 2

P Rev. Rev. Rev. Rev. Rev. Rev. Rev. Rev. Rev.

Figure 10: Indicative proposed site layout

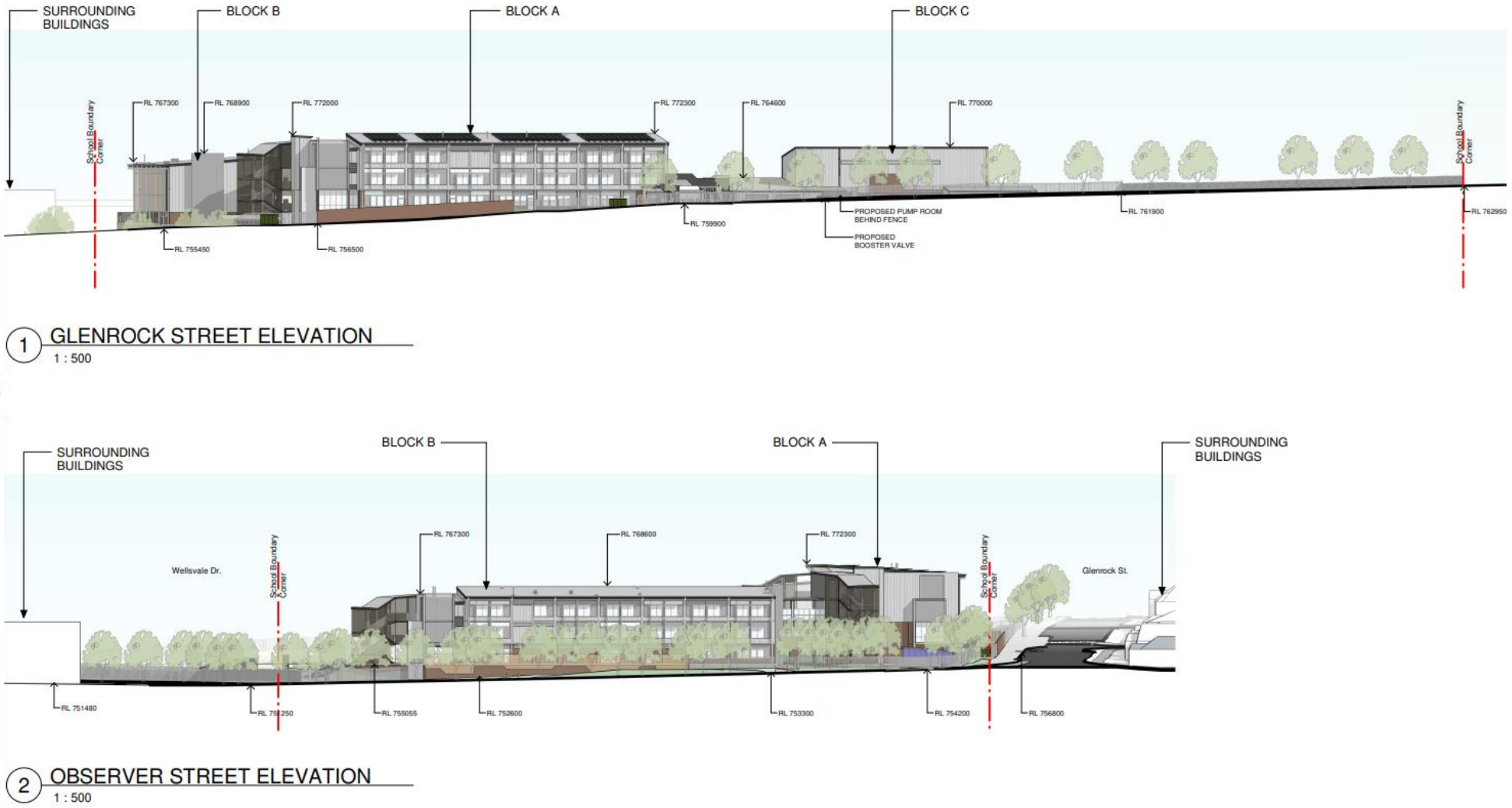


Figure 11: Indicative proposed street elevations

(Source NBRS, 2025)

Figure 12: Indicative proposed main entry

(Source NBRS, 2025)

Figure 13: Indicative proposed northwest entry

(Source NBRS, 2025)

Figure 14: Indicative proposed northeast entry

(Source NBRS, 2025)

Figure 15: Indicative proposed central courtyard

(Source NBRS, 2025)

Figure 16: Indicative proposed courtyard aerial view

(Source NBRS, 2025)

2.2.1 Design development

Design Guide and Design Quality Principles

The design of the school is consistent with the Design Quality Principles. The Design was reviewed by the School Design Review Panel (SDRP), who supported:

- the commitment to Country and integration of narratives into the design
- the separation of vehicular and pedestrian traffic and the separation of the carpark from the rest of the school
- orientating the school around a central green space
- the aspiration to create a connection between the school and town centre
- the commitment to provide mature trees

The Architectural Design Report (**Appendix 3**) outlines how the proposal responds to the design Quality Principles, as prescribed by schedule 8 of the TI SEPP, and the detailed feedback from the SDRP. And is summarised below:

Principle 1 – Response to Context

The school has been designed to mimic the colours and textures of the surrounding environment and has been tiered to follow the natural topography of the site, thus minimising visual impact and maintaining scenic views.

Principle 2 – Sustainable, efficient and resilient

The school will incorporate passive design strategies to minimize energy consumption and maximize comfort, such as natural ventilation, solar shading, and thermal mass. Drought-tolerant landscaping and water-efficient fixtures would help conserve resources.

Principle 3 – Accessible and inclusive

The school will have multiple entry points with equitable access and provides accessibility for students with disabilities (refer **Appendix 10**).

Consistent wayfinding signage will be used throughout the school grounds, using symbols and colours that are easy to understand for students of all ages and cultural backgrounds.

All areas of the school, including outdoor spaces, will be accessible via ramps and pathways with gentle gradients, ensuring that students with mobility challenges can easily navigate the entire campus.

Principle 4 – Health and Safety

The building design prioritizes natural ventilation and daylighting to create comfortable and healthy indoor learning spaces and includes a variety of outdoor learning spaces to encourage physical activity and provide opportunities for students to connect with nature.

The design has integrated Safety and Crime Prevention Through Environmental Design (CPTED) principles, such as natural surveillance, clear sightlines, and controlled access points, to enhance safety and security. Refer to Section 6.11 for discussion of CPTED principles.

Principle 5 – Functional and Comfortable

The classrooms and other learning spaces have been designed to be flexible and adaptable, utilizing large sliding doors allows them to be used for a variety of formal and informal educational activities.

The school grounds include a variety of outdoor spaces, such as courtyards, gardens, and playing fields, that are designed to be comfortable and engaging for different active and passive activities for all age groups.

Principle 6 – Flexible and Adaptable

Spaces within the school, such as the library, gymnasium, and classrooms have been designed to accommodate a range of educational activities within the curriculum.

Principle 7 – Visual Appeal

The buildings and landscape have been designed with proportions and composition of built and natural elements. This involves using a variety of building heights, setbacks, and materials to create visual interest and break down the scale of the buildings. The design integrates the school entries with the surrounding streetscape, using landscaping, pedestrian pathways, and visual connections to create a welcoming and accessible environment.

The building facades have been designed to draw from a natural palette and resemble the character of the neighbourhood, using a variety of materials, colours, and textures of the area. A combination of a masonry base and metal cladding on the upper levels create a strong base and reducing the scale by having lighter upper levels.

Design Concept

Setbacks

The siting of the school has considered the street setback provisions as set out in the DCP 2010 for ‘non-residential development on residential zones’, which requires a 6m setback to all sides.

Whilst it is acknowledged that DCP's do not apply to REF's, the prescribed 6m setback has been considered into the design, to ensure the built form responds to the desired future character of the area.

Site Arrangement

The site arrangement draws inspiration from the natural surrounding landscape. Buildings are terraced down the natural topography of the site, mimicking the valley's contours, and feature green mounds to blend with the environment.

The outdoor learning spaces offer panoramic views, while a central gathering space acts as a community hub. Varying scale of spaces create a sense of openness or intimacy as needed, and natural light floods the interiors. The design promotes interdisciplinary learning, outdoor education, and community engagement, fostering a sense of place and connection to nature.

The site's multi-level design necessitates a well-considered vertical circulation strategy. A combination of ramps and stairs provides access between the different levels, with a priority placed on ramps with 1:20 gradients to enhance accessibility and minimize the need for handrails. A lift is positioned in the northwest corner of the site to ensure full accessibility for all users.

Efficient and safe service access was a key consideration in the site arrangement, as summarised below:

- A dedicated driveway off Observer Street on the northern boundary provides a convenient point for material drop-off and servicing. Its proximity to Block B allows for easy access to the food tech kitchens, wood/metal workshops, and canteen. This location also provides a safe and designated area for gas bottle replacement.
- A waste area is strategically located within the staff car park, minimizing its visual impact and ensuring efficient waste collection. The 1:20 ramp between the main plaza and the car park facilitates easy movement of waste trolleys by contractors.

Design Principles

The school's design is based on four architectural design principles, including 'topography', 'access', 'active vs passive play' and the 'heart of the school' and are discussed below.

Topography

A key aspect of the design is the sensitive response to the site's topography, given the 12m level difference across the site. The design encompasses terraced levels to minimize cut and fill, which also create a dynamic and engaging learning environment. Overall, the buildings have been strategically placed to work with the existing slope, reducing the need for extensive earthworks and preserving the natural beauty of the site.

Figure 17: Site topography

(Source NBRS, 2025)

Access

The design incorporates multiples entries, promoting accessibility and ease of movement throughout the school grounds. The main school entrance, situated on Glenrock Drive, features a generous forecourt designed to serve as a welcoming gathering space and manage the flow of students during peak times. There are also two additional access points coming from the two northern corners.

Figure 18: Site pedestrian entries

(Source NBRS, 2025)

Active vs Passive Play

The school's design separates the courtyard into active and passive zones. The active zone features a sports precinct with a playing field, cricket net, and basketball courts, while the passive zone offers assembly courts with seating areas amidst native flora. This balance ensures students have spaces for both physical activity and relaxation, fostering a holistic learning environment.

Figure 19: Active and passive play locations

(Source NBRS, 2025)

Heart of the School

The buildings have been strategically placed around the permitter of the site, creating a sheltered internal central courtyard. This perimeter design offers a panoramic view of the outdoor spaces, facilitating effective supervision and fostering a sense of security within the heart of the school

Figure 20: Location of the heart of the school (central courtyard)

(Source NBRS, 2025)

Design Details

Built Form and Scale

The high school has been designed to minimise bulk and scale through a combination of varied setbacks and recessing and articulating facades to Blocks A and B. While Block A is to be a part 3- and 4-storey building, its design is such that it presents to the public domain (i.e. Glenrock Drive and Observer Street) as a 3-storey building. Landscape screening is proposed adjacent to the Glenrock Drive frontage, adjacent to Block C to reduce the perception of scale of the gymnasium when viewed from the public domain.

In accordance with Sections 3.37(2) and 3.37A(2) of the TI SEPP, the proposal has a maximum height of 4 storeys, which is less than the greater of four storeys and the height limit under the environmental planning instrument applying to the site.

Building Façade

The design of the façade is a critical element of the school and has been designed to contribute to the aesthetic of the streetscape, as well as the functional performance of the building. The colours and materials used are designed to blend in the natural landscape, including the eucalyptus trees, which are prominent within the area

Views and Vistas

Nestled within the valley, the school has been designed to evoke a sense of shelter and protection, echoing the natural haven that valleys often provide. Buildings have been thoughtfully positioned within the landscape, creating a harmonious relationship with the surroundings. Courtyards will offer protected outdoor spaces, fostering a sense of enclosure and safety. The design will also embrace the natural flow of a valley, acting as a conduit that brings together water, wildlife, and people. Interconnected spaces will encourage movement and interaction, creating a dynamic and vibrant learning environment.

Overshadowing and access to sunlight

The development was designed to avoid casting shadows on neighbouring properties between 9 am and 3 pm throughout the year. This ensures that the school will not negatively impact the solar access of surrounding homes. The design has also sought to avoid excessive overshadowing of proposed play areas, particularly during mid-winter when overshadowing is at its greatest.

Connecting with Country

The Connecting with Country Framework acknowledges the different Aboriginal Nations in NSW, all with different natural and cultural systems, making each school site unique. For this reason, there is no universal design for Connecting with Country.

How the site relates to its context – its community, natural environment, built environment, and cultural setting – will inform the project.

Responding to the specific character and identity of a location will allow the school site to compliment and care for Country and allow for deeper connection between Country and people.

The department seeks to provide a high-quality public school as a thriving place to learn with a portal to a profound connection to Country & communities. The landscape design (**Appendix 4**) will play a pivotal role in shaping a sense of community and educating on Country. The proposed landscaping scheme accommodates spaces where informal gathering can occur, places to exhibit cultural value and be evolving over the time.

Elements of Aboriginal knowledge throughout the school environment will be incorporated by displaying artworks and symbols that reflect local stories, promoting a sense of pride and shared belonging, in consultation with Aboriginal culture knowledge holders.

Sustainability and Climate Change

An Ecological Sustainability Development (ESD) Report has been prepared by ARUP (at **Appendix 16**), considers how the proposal incorporates principles of ESD in the design, construction and ongoing operation of the development.

The following ESD measures are proposed within the design to achieve the above aims and targets:

- The project has been registered with the Green Building Council Australia (GBCA) and is being designed to achieve a minimum Green Star 4 Star rating. Such a target performance is considered “Best Practice” level by the GBCA.
- Environmental targets for the development and systems put in place to measure results include:
    - 20% reduction in energy use compared to a ‘reference building’ (i.e. a building that is based on Deemed-To-Satisfy (DTS) criteria within the National Construction Code (NCC).
    - Water efficient fixtures and water-using appliances
    - 10% reduction in upfront carbon emissions compared to the reference building
    - Airtightness target of 4 m^3/h.m2 *Air Permeability 50pa* (AP50) based on the *Air Tightness Testing and Measurement Association Technical Standard L2* (ATTMA TSL2)
- Minimum of 90% of waste generated from construction and demolition to be reused or recycled, to limit the amount of waste going to landfill.
- A Construction Waste Management Plan (CWMP) and Operational Waste Management Plan (OWMP) have been prepared and incorporates waste principles within the construction and occupation phases of the development respectively. These principles, relate to the separation of waste streams (i.e. building waste, general operating waste, recycling, organics and other

waste products) and design of adequate waste storage area and associated management facilities.
- Pollutants entering the building are minimised and a high level of outdoor air (50% improvement above AS1668.2) is provided to the regularly occupied spaces.
- High levels of daylight and external views are provided to regularly occupied learning and administration areas, to support high levels of visual comfort for building occupants.
- The building's acoustic design aims to deliver acoustic comfort through achieving maximum internal noise levels, providing acoustic separation, and controlling reverberation.
- Internal air pollutants have been reduced via selection of materials with low or no volatile organic compound (VOC) levels and low formaldehyde concentrations.
- Strategies to minimise the urban heat island effect including light-coloured roofing and external finishes, as well as maximising the extent of landscaping elements.
- Passive design principles, including high-performance building envelope, effective shading and building orientation, and natural ventilation openings to support comfortable and low-energy indoor environment quality.
- Roof mounted solar photovoltaic (PV) system in accordance with EFSG requirements.
- Appropriate internal and external lighting design to reduce light pollution.
- Incorporate an appropriate landscape area that includes a diversity of species and prioritises the use of climate-resilient and Indigenous plants.
- Provision of end-of trip facilities for staff to encourage active transport modes when commuting to work.
- School infrastructure designed to encourage access by public transport.

The proposed high school is being designed to consider future climate impacts. A climate change risk assessment has been prepared, with measures identified to mitigate and reduce risks associated with such impacts.

A Net Zero Statement has also been prepared (**Appendix 17**), which identifies how the design of the proposed high school aims to minimise the use of onsite fossil fuels. Such measures are in alignment with the department's Commitment to Sustainability Goals for 2030 and net zero operating emissions by 2030.

The ESD Report concludes that the proposed sustainability measures are consistent with the relevant frameworks and encourages best practice design towards energy, water, and waste reduction; as well as providing improved indoor environmental quality and a positive impact on nature and the community.

Landscaping

The proposed landscaping scheme (**Appendix 4**) includes plantings around the perimeter of the school as well as generous plantings within the central courtyard, providing shade and sun protection. A turfed sports oval is proposed. Furniture and fixtures will include benches, picnic tables, natural sandstone boulders, as well as natural boulders from a local supplier, providing a connection to Country. Landscaping throughout the school will predominately consist of native species. Key components of the landscaping plan are outlined below:

Canopy Cover

The proposal includes 200 new trees, which when fully grown will provide 5,430m^2 of tree canopy cover.

Due to the site having no existing trees the proposed design is relying on new tree planting only. All tree species are local endemic species which are suited to the site's conditions and will relink the remnant endemic landscape adjacent the site. The design will use advanced tree stock (200 litre pot size) to ensure the new trees are advanced as possible at the opening of the school to provide amenity. While these trees will take time to mature and provide substantial shade and amenity to the site, the design of the external space includes a COLA and covered walkways to provide shade. The proposed landscape design will achieve a 20% tree canopy coverage at maturity.

Planting Typology

The planting selection for this project is based on the Monaro-Queanbeyan Rolling Hills Grassy Forest & Southern Tableland Grassy Box Woodland Community. This palette has been distributed across the site to adapt to shade, wind and sunlight. Their growth habits, colours, and textures have been also considered to create a visually pleasing and cohesive landscape as well as responding to some of the Connecting with Country themes.

Areas to the east of the site (i.e. between the social promenade/activated play area and the carpark/waste storage facilities and areas adjacent to the southern boundaries)) are to be occupied by 'hydroseed' landscaped areas. Such areas (primarily the aforementioned area to the east of the site) are not proposed to be landscaped or be subject to tree planting, as they are designated for potential development, should future student demand require an expansion of the school's capacity.

Outdoor play spaces

- Sensory Garden

The proposal features a sensory garden and breakout area, located between the site boundary and Block A, the ground floor of which will include the Sensory Learning Unit (SLU). This area provides a quiet retreat for students and features a variety of native species. A solid wall along the site boundary will provide privacy from adjacent properties.

- Central Courtyard

The central courtyard will act as the heart for the school, offering a mix of active and passive play spaces. It includes a variety of seating areas for relaxation and social interaction, basketball courts for sports and recreation, and sports ovals for physical activity. Multiple trees are integrated throughout the courtyard to provide shade and sun protection, ensuring a comfortable environment for students throughout the year.

- Hydroseed area

As indicated above, the 'hydroseed' area is intended to provide space for potential development should future student demand require an expansion of the school. As such, these areas have not been incorporated as unencumbered play area, however any future development would be integrated with proposed and possible future play areas.

Public Domain

The landscape design has sought to provide a sense of place at the main entry whilst ensuring that the other entries have a strong relationship to the existing public domain. A generous landscaped setback will provide a transition between the public domain and the school. This buffer will provide space to negotiate any level difference, soften the secure fence line with the use of planting, allow

space for new tree planting for shade and amenity, transition the scale of the building and the street, and demonstrate an adequate urban understanding and resolution to all interfaces. Landscaping works within adjoining road reserves (other than the removal of 8 trees to facilitate works) is not proposed.

Tree and Vegetation Removal

The site has been substantially cleared of vegetation. A total of 97 street trees are currently located around the permitter of the site. Of the 97 trees, 8 are proposed to be removed to facilitate vehicular access off Wellsvale Drive and Observer Street as well as the provision of a school bus bay off Glenrock Drive.

The proposed activity will include 200 new trees within the site (**Figure 21**) and a proposed tree canopy of 5,430m^2, which will offset the loss of 8 street trees.

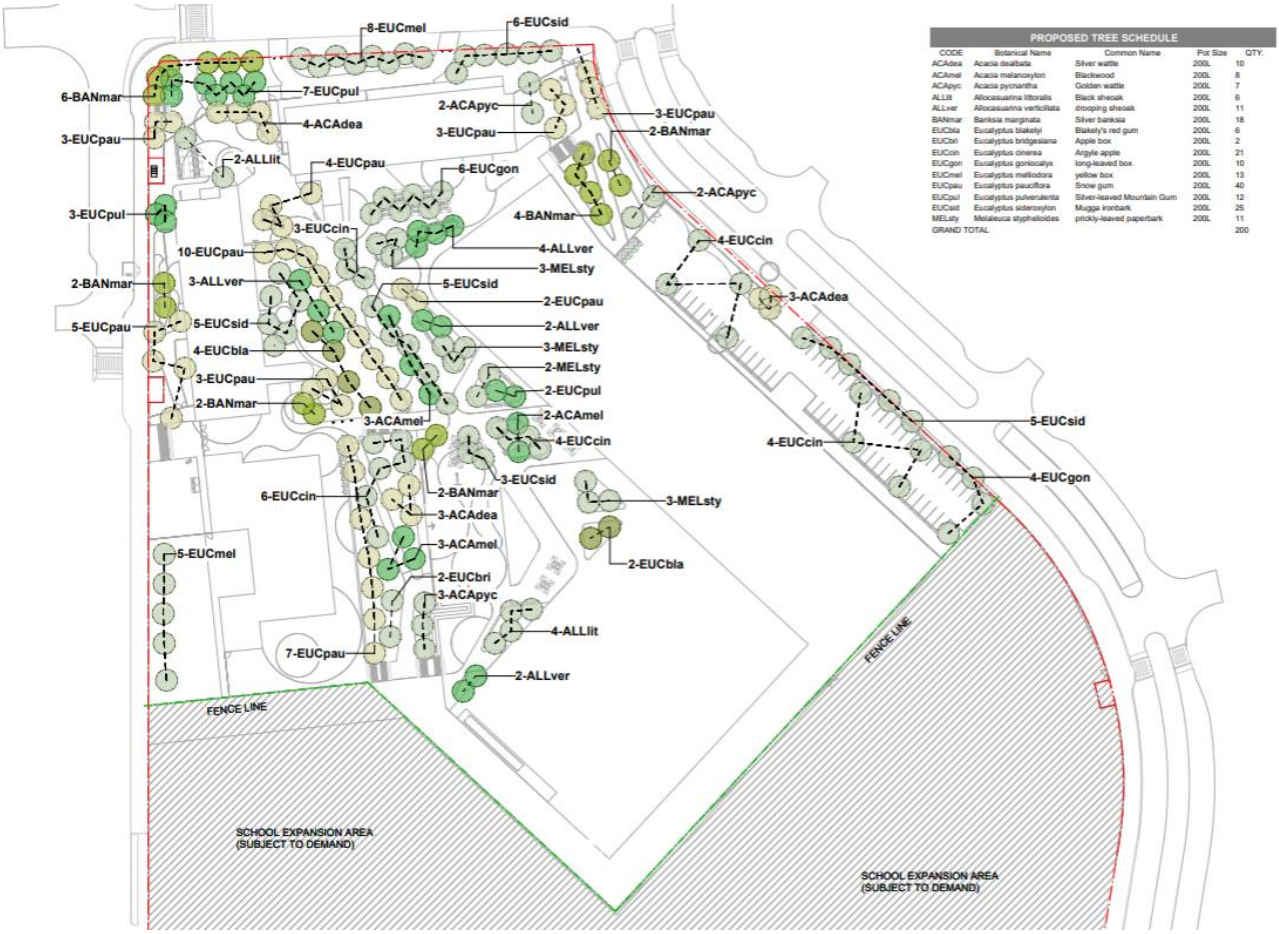


Figure 21: Proposed Tree Plan

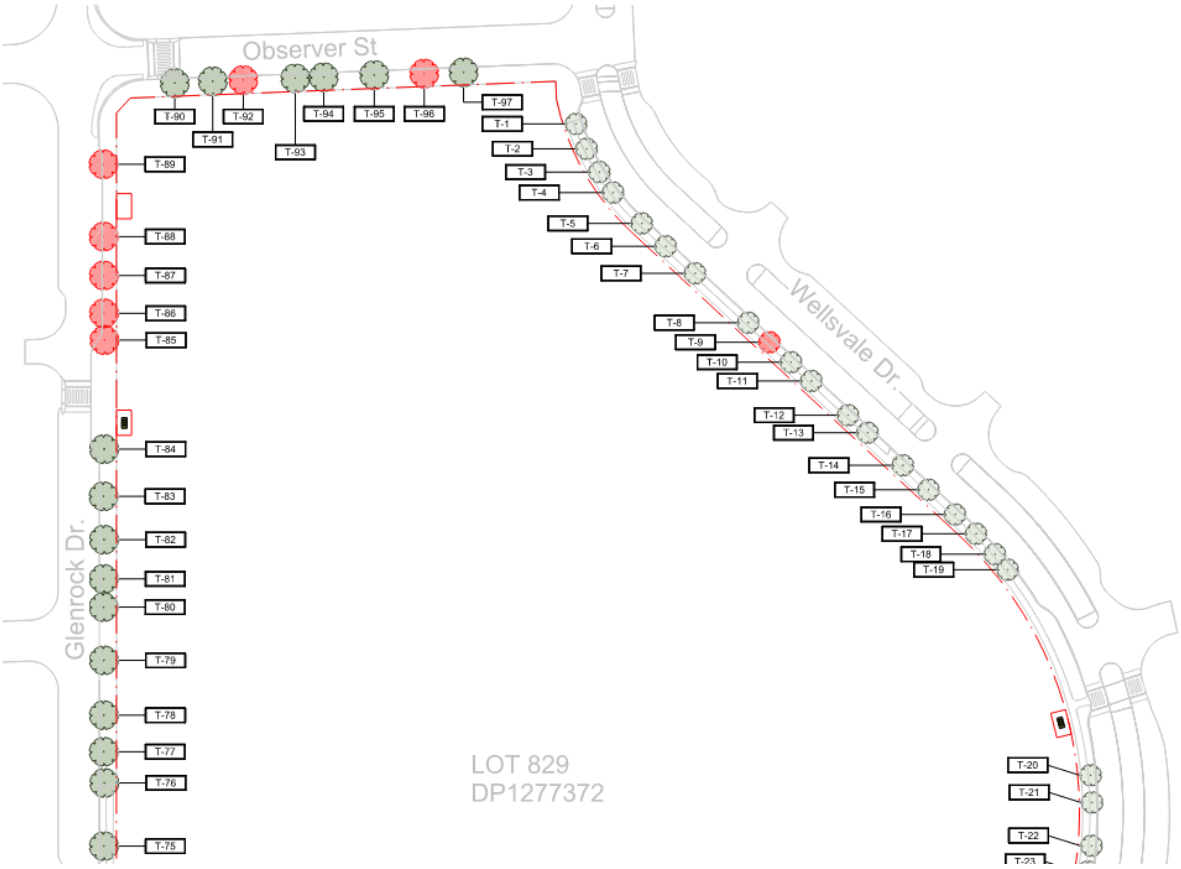


Figure 22: An extract of the Proposed Tree Removal Plan. Note: This extract only shows the northern half of the site, as no trees are proposed to be removed from the southern half of the site.

(Source NBRS, 2024)

Access and Parking

Pedestrian access

The main entry to the school is provided off Glenrock Drive, conveniently located to the north of the kiss and drop parking bays. An accessible pedestrian entry is also provided off Glenrock Drive, adjacent to the accessible car parking bays.

Five new wombat pedestrian crossings are proposed, to Glenrock Drive, Observer Street, Wellsvale Drive (x2), and Harvest Street providing safe and convenient access to the proposed school.

Kiss and drop

The proposal provides 17 kiss and drop parking bays off Glenrock Drive. The provision of kiss and drop bays is based on an analysis travel demand, as discussed within Section 6.

Bicycle access

Secure bicycle/scooter spaces will be provided for students and staff within a covered bike parking area, which will be accessed via Observer Street. End of trip facilities are also provided for staff use. End of Trip facilities will not be provided for students.

Vehicle access and parking

The proposal provides 55 car parking spaces (including 2 accessible) for staff, at a rate of 1 space per staff member.

Access to the staff parking is provided from Wellsvale Drive, which is separate from the kiss and drop parking bays and bus services, to avoid conflict. An accessible path of access to the school is provided from the proposed car park to the school.

It is noted that student car parking is not proposed on-site as the department does not endorse on-site car parking for students and signage will be erected in the car park clearly displaying staff parking only.

Utilities and Services

The site is serviced by potable and recycled water mains located on the north-western side of Glenrock Drive and trenched connections will be made at the boundary for the site's potable and fire water connections. A sewer main is located on the north-eastern side of the site on Wellsvale Drive and trenched connection will be made at the boundary for the site's sewer connection.

The site is currently serviced by Essential Energy's 500 kVA electricity substation (Sub 86262) located on the western verge of Glenrock Drive, with approximately 300A of spare capacity as of June 2023. It is noted that 300A is not sufficient for the new school (Arup Australia Pty Ltd, Nov 2024). One additional substation is therefore proposed within the northwest part of the site adjacent to the northwest pedestrian entry to the school.

Telstra conduits are located across Wellsvale Drive from the north-east corner of the site. These conduits need to be extended across the road and connected to the school to provide high capacity fibre and copper communications services. The NBN network, is available around the site.

Utility applications will need to be made for connections to the relevant utility service providers.

Connections to utilities and services within the adjoining road reserves will be subject to works (i.e. trenching and the like) within Council's road reserves. Future approvals (undertaken in accordance with the *Roads Act 1993*) will be obtained for such works within Council's road reserves following determination of the REF.

Existing communications and utility services and proposed connections are addressed in detail in **Appendix 14** and **Appendix 15** respectively.

Waste Management

A dedicated waste management area would be provided at the northern end of the staff car park, accessed from Wellsvale Drive.

2.2.2 Construction

A Preliminary Construction Transport Management Plan (CTMP) has been prepared (**Appendix 22**), which ensures safe access to the school and minimises impacts to the surrounding transport network during construction. Construction details are provided below

Construction Route

Two potential access routes for construction vehicles have been identified. The construction route to the school site includes Old Cooma Road and Wellsvale Drive, both classified as arterial roads.

Option 1 - A right turn from Wellsvale Drive into Site from the median opening adjacent to McFarlane Street is feasible for a heavy rigid vehicle (HRV, 12.5m) but not for articulated vehicles (19m) without mounting the median.

Option 2 - Articulated vehicles can complete a right turn from Wellsvale Drive into Observer Street without issues.

To accommodate articulated vehicles, it is recommended that the construction site entry be located on Observer Street (Option 2). This will be confirmed through the detailed Construction Environmental Management Plan (CEMP) that is to be prepared by the builder/contractor following determination of the activity once further details are available regarding construction vehicles likely to access to the site.

Construction vehicle types

The construction vehicles accessing the site will mainly comprise of Medium and Heavy Rigid vehicles (MRVs and HRVs). It is expected that mobile cranes may be required to have access to the site. During certain stages of construction, articulated vehicles may also be used onsite.

Traffic Management

Traffic controllers will be required for directing the movement of medium rigid vehicles and larger, to ensure safety and minimise pedestrian-vehicle conflicts with improved sightlines. Traffic controllers are to manage vehicles and pedestrian access points in accordance with the Traffic Control at Work Sites Manual (TfNSW), who will be accredited through Safe Work NSW.

The appointed contractor will coordinate deliveries to ensure no queuing occurs to disrupt normal road operation. A designated area for unloading and pick up will be provided.

Construction Hours

Proposed Construction hours are:

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

Demolition

The site is currently vacant; therefore, demolition works are not proposed. 8 street trees are proposed to be removed outside the site boundary to facilitate bus bays and vehicle access points.

Construction Waste

A Construction Waste Management Plan (CWMP) has been prepared and can be found at **Appendix 24**. The CWMP would be implemented by the construction contractor and proposes the use of the northern end of the proposed staff car park, accessed from Wellsvale Drive for the storage and collection of construction waste (which will eventually become the operational waste storage and collection area). The CWMP includes reuse and recycling targets. All waste collection for construction works will be conducted between the proposed construction hours. All waste generated on site will be transported to an approved and appropriately licensed resource recovery facility and/or landfill site.

Earthworks

Bulk earthworks are required to facilitate construction of the school. The site has an approximate 12 metres of fall from the southwest corner of the site down to the northeast, as such fill of up to approximately 4 metres is required to create level and accessible spaces within the school. Given the topography of the site, an estimated total of 24,838m^3 of cut and an estimated total of 24,823m^3 fill is required for the proposed structures and pavement, as outlined in the Civil Engineering Review of Environmental Factors Design Report (**Appendix 11**) and Civil Engineering Drawings (**Appendix 12**). The balance of excavated material (i.e. 15m^3 or 0.06% of all excavated material) is extremely small; it will therefore be reused onsite if possible.

Remediation

A Detailed Site Investigation (DSI) for contamination has been conducted at the site of the proposed school (**Appendix 13**). The report notes that the site was previously remediated due to the presence of metals which exceeded the National Environmental Protection Council (NEPC) (2013) health investigation levels.

No further remediation works are required as part of the construction of the school, as the DSI found that the site is suitable for the proposed use from a contaminated land perspective. This is discussed in detail in Section 6.4.

Staging

No staging is proposed.

2.2.3 Operation

The high school will have capacity for 700 students with 55 staff. The site allows for future expansion. Standard school hours are anticipated to occur between 8:00am and 4:00pm, Monday to Friday. Once the school is operational, out of hours use of school facilities will be subject to exempt development provisions under section 3.39(1)(j) of the TI SEPP.

Waste Management

A dedicated waste management area would be provided at the northern end of the staff car park, accessed from Wellsvale Drive.

An Operational Waste Management Plan (OWMP) has been prepared and can be found at **Appendix 25**. Based on the estimated waste and recycling volumes generated by the school, general waste and recycling will be collected three times per week. A private waste contractor will be engaged to service the school's agreed collection schedule.

On the day of service, a private waste collection vehicle will enter the site from Wellsvale Drive and park in the loading bay. Once the bins are serviced, the collection vehicle will exit the site onto Wellsvale Drive in a forward direction.

2.3 Related activities

There no other projects occurring concurrently at the site. All proposed works are included within this REF.

3. Proposal Need and Alternatives

3.1 Proposal Need

The site was identified as the location for educational facilities in the Masterplan and Neighbourhood Structure Plans prepared for the development of Googong and adopted into the Googong DCP (**Figure 23**). In 2011, a State Voluntary Planning Agreement (VPA) was executed requiring a 9-hectare site in Googong for a primary school and high school to be dedicated by the developer to the department. The site was then subdivided as part of development application DA123-2017, in association with the broader development of the land parcels and services for the Googong Township. The site has been dedicated for the purpose of a school and is owned by the Minister for Education and Early Learning (confirmed on title search 17 May 2024).

The department are now proposing the new high school on the site, which will provide a high-quality, purpose-built facility to meet the educational needs of the increasing population of Googong residents.

The NSW Government's 2024-25 Budget includes record investment in education funding, including a historic $1.4 billion for new and upgraded schools in regional NSW. This targeted investment will ensure growing communities get access to a world class public education. The proposed activity directly responds to the State’s priority of delivering new high quality learning spaces and facilities aimed at improving education opportunities and learning outcomes.

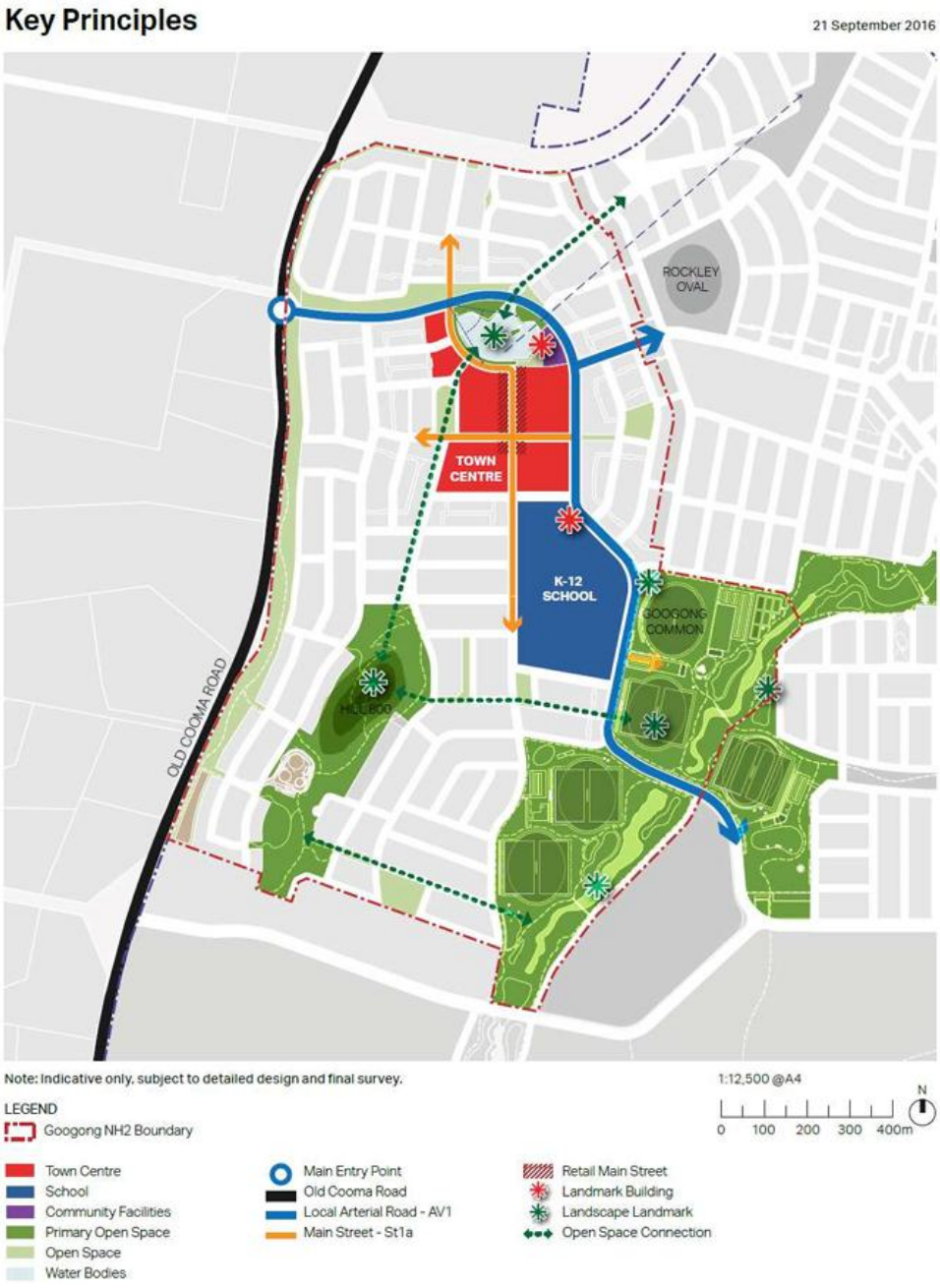


Figure 23: Identified school location in Googong Neighbourhood 2 Structure Plan

Source: Googong Development Control Plan 2010 (Queanbeyan–Palerang Regional Council)

3.2 Alternatives

The proposed activity has been developed following a consideration of options and alternatives to address the need identified above. A summary of the options considered is provided in Table 2.

Table 2: Assessment of Options and Alternatives

Option	Discussion	Preferred Option
Option 1: The Proposed Activity	The proposal site was adopted in the master planning for Googong and dedicated for educational facilities under a VPA. The proposed activity will provide	Option 1 is preferred as the locality is undergoing transformation to a substantial residential area, with a growing number of school aged

Option	Discussion	Preferred Option
	essential educational services to a developing and growing urban area. A high school within Googong would decrease traffic generation between Googong and the larger centres of Queanbeyan and Canberra resulting from students and parents travelling further afield to access a high school. Option 1 will alleviate requirements for surrounding high schools to exceed enrolment capacities and to develop additional infrastructure, often on constrained sites, to meet the growing demand.	residents, where access to education is imperative for current and future generations. The site is centrally located within Googong, which provides good access for students and is close to the town centre commercial zone. Option 1 is also preferred as it will alleviate significant travel times to surrounding high schools and foster the development of the community of Googong.
Option 2: Alternative Master Plan	An alternative master plan was prepared which reorientated Block B to Wellsvale Drive rather than to Observer Street where it is located under Option 1. This alternative design was not preferred as it would require significant earthworks and retaining walls. Further, this option would create poor outcomes should the school be expanded as additions would also be along Wellsvale Drive creating a very long straight building.	Option 2 is not preferred as it would require significant earthworks and retaining walls and would not provide an appropriate response to surrounding connection points. The option was also identified to be constrained for servicing of workshops. Further, this option would result in poor outcomes should the school need to be expanded which is not preferred.
Option 3: Alternate Site	Alternate sites were not pursued due to the master planning and location of the site, which has been set aside since 2011 for the development of a high school in Googong.	Option 3 is not preferred as there are no alternate sites central to the Googong township that offer the same opportunities to be developed for a school by the department.
Option 4: Do Nothing	To do nothing, would result in a lack of infrastructure to support a developing residential area. Residents in the surrounding locality would need to enrol kids into high schools further afield. This would result additional traffic generation to the school catchment areas and overcrowding of the existing school networks and likely requirements for temporary infrastructure to accommodate additional students.	Option 4 would fail to meet the commitments of the NSW Government. Option 4 is not preferred as it would result in surrounding schools expanding and would not address local community needs.

4. Statutory and Strategic Framework

4.1 Permissibility and Planning Approval Pathway

State Environmental Planning Policy (Transport and Infrastructure) 2021 (TI SEPP) aims to facilitate the effective delivery of infrastructure and educational establishments across the state and provides under Chapter 3, Part 3.4, Section 3.37A that development for the purposes of a new government school is permitted without consent. The proposed activity is development permitted without consent as outlined in Table 3.

Whilst the proposed works to utilities and roads may be considered ancillary to the development of a new government school, Chapter 2, Part 2.3, of the TI SEPP contains a number of development controls addressing the approval pathway for such works, which are also outlined in Table 3.

Chapter 2, Part 2.2, Section 2.10 to 2.15 of the TI SEPP contain provisions for public authorities to consult with local councils and other public authorities prior to the commencement of certain types of development. Consultation, including consultation as required by the TI SEPP, is discussed in Chapter 5 of this REF.

Table 3: Description of Proposed Activities under the TI SEPP

Division and Section within TI SEPP	Description of Works
Division 4 Section 2.38	Solar energy systems The proposed activity includes provision for a roof mounted PV system. Development of a solar energy system by or on behalf of a public authority that is ancillary to an educational establishment may be carried out as development without consent.
Division 5, Subdivision 1, Section 2.45	Electricity substation development The proposal includes the construction of a new electrical substation. Prior to carrying out the construction of a substation, the department or electrical supply authority must give written notice of the intention to carry out the development to Council and to the occupiers of adjoining land. Further, the department or electrical supply authority is to consider any response to the notice that is received within 21 days after the notice is given.
Division 17, Subdivision 1, Section 2.109 **Subdivision 2 Section 2.122(3)**	Roads and road infrastructure facilities The proposal includes the construction of vehicle crossovers, bus stop and parking bays, which constitute road and road infrastructure facilities and are permitted without consent by or on behalf of a public authority. Under Schedule 3 of the SEPP, the proposal constitutes 'traffic-generating development' as it is anticipated to generate 200 or more motor vehicle movements per hour to a road (irrespective of size or capacity). Pursuant to Section 2.122(3) of the TI SEPP, A public authority, or a person acting on behalf of a public authority, must not carry out development to which this section applies that this Chapter provides may be carried out without consent unless the authority or person has— • given written notice of the intention to carry out the development to Transport for NSW (TfNSW) in relation to the development, and • taken into consideration any response to the notice that is received from TfNSW within 21 days after the notice is given. As such, written notice is to be provided to TfNSW, with consideration to be had for any response received with 21 days from the issue of that notice.

Division and Section within TI SEPP	Description of Works
Part 3.4, Section 3.37A	<u>New government school</u> The proposed activity comprises development for the purposes of a new government school on behalf of a public authority on land which does not contain an existing or approved school and is in the R1 General Residential Zone which is a prescribed zone under the TI SEPP. This is development permitted without consent. The proposed activity involves the construction of building(s) with a maximum height of 4 storeys, compliant with this section 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 2.2.1.
Part 3.4, Section 3.38A	<u>Notification to carry out development of a new government school</u> The department will provide written notice, to Queanbeyan-Palerang Regional Council (**Council**) and Transport for NSW, of the intention to carry out the development. Consideration will be given to responses received within 28 days of giving notice. Written notice will be provided to occupiers of any dwelling located within 20m of the site boundary and Council at least 2 days before the work starts.
Schedule 8	The activity has been designed in accordance with Schedule 8 as summarised in section 2.2.1 and detailed in the Architectural Design Report in **Appendix 3**.

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

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

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

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

4.2 Environmental Protection and Biodiversity Conservation Act 1999

The provisions of the EPBC Act do not affect the proposal 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 4.

Table 4: EPBC Act Checklist

Consideration	Yes/No
Will the activity have, or likely to have, a significant impact on a declared World Heritage Property?	No
Will the activity have, or likely to have, a significant impact on a National Heritage place?	No
Will the activity have, or likely to have, a significant impact on a declared Ramsar wetland?	No
Will the activity have, or likely to have, a significant impact on Commonwealth listed threatened species or endangered community?	No
Will the activity have, or likely to have, a significant impact on listed migratory species?	No
Will the activity involve any nuclear actions?	No
Will the activity have, or likely to have, a significant impact on Commonwealth marine areas?	No
Will the activity have any significant impact on Commonwealth land?	No
Would the activity affect a water resource, with respect to a coal seam gas development or large coal mining development?	No

4.3 Other Approvals and Legislation

Table 5 identifies any additional approvals that may be required for the proposed activity.

Table 5: Consideration of other approvals and legislation

Legislation	Relevant ?	Approval Required?	Applicability
State Legislation			
National Parks and Wildlife Act 1974 (NPW Act)	Yes	No	A Preliminary Indigenous Heritage Assessment and Impact Report (PIHAIR) has been prepared in support of the development (**Appendix 7**). The PIHAIR concludes that that the study area has no potential to contain Aboriginal objects as sites 57-2-0988 and 57-2-0989 have been destroyed under AHIP No. #C0003603 (Permit ID 4242). Moreover, any artefact bearing soil has been removed by development of Googong Neighbourhood 2. The activity area is covered by an active AHIP which was issued on 27 April 2018 with a duration of 10 years (AHIP No. #C0003603) (Permit ID 4242) and allows for the construction of the school.
Rural Fires Act 1997 (RF Act)	Yes	No	The site was previously partially mapped as bush fire prone land (BFPL). Queanbeyan-Palerang Regional Council (QPRC) and the RFS recently updated the BFPL map (20 March 2024) to reflect the current level of residential development and subsequent removal of surrounding bushfire hazards, which removed the BFPL layer from the subject land. When having regard to the above, there is no bushfire hazard within 140 metres of the subject land, as assessed in accordance with the detailed methodology of Planning for Bush Fire Protection (PBP), therefore, no specific bushfire protection measures apply to the future development of the site.
Water Management	Yes	No	The proposed works are not located on 'waterfront land' and as such a Controlled Activity Approval (CAA) under

Legislation	Relevant ?	Approval Required?	Applicability
Act 2000 (WM Act)			section 89 of the Act is not required. The Geotechnical investigation (refer Section 6.6) did not encounter free groundwater in any of the boreholes on site to depths of 5.6-7.0m. Therefore, it is not envisaged that an Aquifer Interference approval would be required for the construction works. Accordingly, no approval is required from the Office of Water (Department of Primary Industries) prior to the carrying out of works. Note: Requirements under Division 5 of Part 2 of Chapter 6 of the WM Act may be applied for water supply works pursuant to Section 64 of the LG Act (discussed below).
Biodiversity Conservation Act 2016 (BC Act)	Yes	No	The site will not adversely impact on critical habitat, threatened species, or ecological populations or community, noting that the site is clear of any established vegetation and notable trees. As such, a biodiversity assessment (including the need for a Biodiversity Development Assessment Report (BDAR)) is not required.
Heritage Act 1977	Yes	No	The site is not listed on the department's s170 Heritage Conservation Register. The proposal does not involve any works within, or that would impact, any Commonwealth, State or Local heritage item, heritage curtilage or heritage conservation area. Therefore, a Heritage Impact Statement is not required to support the REF and no approvals required under the Heritage Act.
Contaminated Lands Management Act 1997 (CLM Act)	Yes	No	The assessment in Section 6.4 confirms that the site has not been notified to the EPA as contaminated, nor is regulated land under the *Contaminated Land Management Act 1997.* A Detailed Site Investigation has been prepared in support of the proposed school (**Appendix 13**), which concluded that the site is suitable for the proposed high school.
Roads Act 1993	Yes	Yes	Section 138 of the Roads Act requires that a person must not carry out work in, on or over a public road, dig up or disturb the surface of a public road or remove or interfere with a structure, work or tree on a public road without the prior consent of the appropriate roads authority. The roads surrounding the site are local roads for which QPRC is the roads authority. Approval will be required from QPRC for works in the road reserve. The work could also result in temporary impacts to traffic during construction activities. A Road Occupancy Licence (ROL) is required for any activity likely to impact on traffic flow, even if that activity takes place off-road.
Local Government Act 1993 (LG Act)	Yes	Yes	Water and Sewer utility connections are provided to the boundary of the site. A section 68 approval under the LG Act will be required to undertake works and make connection to these services. If any water or sewer supply head works are required then application for a certificate of compliance will be required pursuant to Section 64 of the LG Act and Division 5 of Part 2 of Chapter 6 of the WM Act, where conditions may be imposed, and contributions may be payable, or exemption granted.

Legislation	Relevant ?	Approval Required?	Applicability
Environmental Planning and Assessment Regulation 2021 *(Section 171A*	Yes	No	The site is not located within a regulated catchment
State Legislation – State Environmental Planning Policies			
State Environmental Planning Policy (Biodiversity and Conservation) 2021 (BC SEPP)	Yes	Yes	*Chapter 2 Vegetation in Non-Rural Areas* is relevant to the site, as the site is located within an R1 zone. While there are no trees on the site, 8 trees are required to be removed from adjoining road reserves to facilitate works. Noting that the 8 trees are on Council land, pursuant to clause 2.6(1) of the BC SEPP, consent is to be obtained for the 8 trees before they can be removed. Given that the trees are not of biodiversity significance and that neither the site or surrounding sites nor surrounding areas are identified as containing areas of elevated biodiversity significance, matters related to biodiversity and offset thresholds are not relevant to this proposal.
State Environmental Planning Policy (Sustainable Buildings) 2022	Yes	No	Section 3.2 of the Sustainable Buildings SEPP applies to non-residential development. The ESD Report (**Appendix 16**) confirms that the proposed activity has been designed to address the requirements of Section 3.2 of the Sustainable Buildings SEPP and can achieve a 4-star rating.
State Environmental Planning Policy (Resilience and Hazards) 2021	Yes	No	A Detailed Site Investigation has been prepared in support of the proposed school (**Appendix 13**), which concluded that the site is suitable for the proposed high school, as such site remediation is not required.
State Environmental Planning Policy (Industry and Employment) 2021	Yes	No	Three signs are proposed as part of the application. These signs are consistent with the aims of the SEPP as they are compatible with the desired amenity and character of the area, provide effective communication in a suitable location and are of high-quality design and finish. The SEPP contains no detailed controls directly applicable to the proposed signage, and consultation with TfNSW is not required given the size and location of the signage. An assessment against the general criteria in Schedule 5 of the IE SEPP has been undertaken. In summary, the signage will have no adverse impacts in relation to character of the area; special areas; views and vistas; streetscape, setting or landscaping; site and building; associated devices and logos; illumination; or safety.
Airports Act 1996 ***Airports (Protection of Airspace) Regulations 1996***	Yes	Yes	Part 12 of the Airports Act 1996 and the Airports (Protection of Airspace) Regulations 1996 establish a framework for the protection of airspace at and around airports. The Airports Act 1996 defines any activity resulting in an intrusion into an airport's protected airspace to be a “controlled activity” and requires that controlled activities cannot be carried out without approval. The Regulations provide for the Commonwealth Department of Infrastructure, Transport, Regional Development, Communications, and the Arts (DITRDCA) or the airport operator to approve applications to carry out

Legislation	Relevant ?	Approval Required?	Applicability
			controlled activities, and to impose conditions on an approval. Any activity that infringes an airport's protected airspace is called a “controlled activity” and requires approval before it can be carried out. Controlled activities include the following: • permanent structures, such as buildings, intruding into the protected airspace; • temporary structures such as cranes intruding into the protected airspace; • any activities causing intrusions into the protected airspace through glare from artificial light or reflected sunlight, air turbulence from stacks or vents, smoke, dust, steam or other gases or particulate matter. The proposed buildings penetrate the Obstacle Limitation Surface for Canberra Airport; therefore, a controlled activity approval will be required from Canberra Airport for the buildings and potential crane operations.

4.4 Strategic Plans

Table 6 considers strategic plans that are relevant to the proposed activity.

Table 6: Consideration of applicable Strategic Plans

Strategic Plan	Assessment
NSW State Priorities	The NSW Government's 2024-25 Budget includes record investment in education funding, including a historic $1.4 billion for new and upgraded schools in regional NSW. This targeted investment will ensure growing communities get access to a world class public education. The proposed activity directly responds to the State’s priority of delivering new high quality learning spaces and facilities aimed at improving education opportunities and learning outcomes
State Infrastructure Strategy 2022-2024	The provision of a new high school within Googong aligns with key objective of ‘servicing growing communities’ as it will deliver key infrastructure to meet the needs of a growing population.
School Infrastructure NSW Delivery Strategy 2023 – 2024	The proposed activity was announced as one of 23 new or upgraded schools across NSW as part of the 2023-24 NSW Budget and forms part of the department’s Delivery Strategy published by the NSW Department of Education in December 2023. The proposed activity is consistent with the Strategy as it provides for an identified new high school and would allow for the delivery of high quality, sustainable and contemporary learning environments.
South East Tablelands Regional Plan 2036	The South East and Tablelands Regional Plan 2036 (Regional Plan) aims to provide a borderless region with Canberra as the Metropolitan City at its heart. The Regional Plan guides the NSW Government’s land use planning priorities and decisions over the next 20 years and provides a necessary strategy to deliver the vision of the region. To achieve this vision, the NSW government has set the following regional goals: *1. A connected and prosperous economy*

Strategic Plan	Assessment
	2. *A diverse environment interconnected by biodiversity corridors* 3. *Healthy and connected communities* 4. *Environmentally sustainable housing choices* The proposal aligns directly with Goal 3 and Direction 21: *Increase access to health and education services* through its provision of new education services within Googong.
Draft South East and Tablelands Regional Plan 2041	The Draft Regional Plan includes 25 objectives under 5 themes that articulate intended outcomes through actions and strategies to be the focus for the next 5 years following the publishing of the plan. The proposal closely aligns with *Objective 21: Provide efficient access to infrastructure and services* and associated Strategy 21.1 which requires strategic planning and local plans to consider how planning will improve access to school infrastructure. New schools should consider the specific needs and characteristics of local student populations. New urban release areas should optimise shard facilities for community and school uses. As noted above, the school is situated within a new release area and opportunities for shared facilities and/or community will be further explored during design development.
Queanbeyan Palerang Local Strategic Planning Statement 2040	The Queanbeyan-Palerang Local Strategic Planning Statement 2040 (**LSPS**) sets out the 20-year vision for land use in the LGA, special characteristics that contribute to the area, shared community values and how growth and change will be managed into the future. The LSPS will work in conjunction with the *Community Strategic Plan 2018-2028* to set out the community's long-term vision for all planning activities. The LSPS acknowledges the role that Googong will play in the development of the LGA. The LSPS identifies *Planning Priority 8: We ensure that future planning for the region is well coordinated and provides for its sustainable development.* Action 4.8.1 provides that settlement should be focussed on planned locations with access to higher level services such as employment, education and health. The project will deliver a school within a planned precinct in accordance with the intended masterplan. This infrastructure delivery is an important component of the Googong masterplan and will provide improved education access to residents.
Queanbeyan Palerang Community Strategic Plan	The Queanbeyan Palerang Community Strategic Plan – Towards 2042 (Community Strategic Plan) communicates the communities' vision and mission. The project directly aligns with *Strategic Objective 2.4: 'Our Community has access to increased and enhanced education, training and learning opportunities.'* The proposal aligns with Council's plan to achieve this objective through the collaboration with education providers, such as the department, to advocate for and promote education pathways in the Queanbeyan Palerang Regional Area.

5. Consultation

5.1 Early Stakeholder Engagement

Table 7 provides a summary of early stakeholder (non-statutory) consultation undertaken to inform project development and preparation of the REF. Responses to the matters raised have been included after each matter.

Table 7: Summary of Early Stakeholder Engagement

Stakeholder	Engagement
Aboriginal stakeholders	The project team engaged with the Connecting with Country stakeholders during a community feedback session on 22 November 2024, to introduce the Googong project. Feedback from this session was integrated and presented at a subsequent community session on 24 January 2025. Additional feedback on the native planting and local animals from this second session will be incorporated into the overall building and landscape design.

Queanbeyan-Palerang Regional Council	Consultation with QPRC was undertaken through meeting 16 January 2025 and follow-up correspondence. Key points raised by QPRC:
	• There is a need to address requirements for parents dropping children off on Wellsvale Drive and Observer Street. **Response:** consistent with TWG comments below, the pedestrian crossing on Wellsvale Drive was relocated to align with QPRC masterplan, but otherwise the decision made not to encourage nor discourage through physical changes, but parents will be encouraged to use Glenrock Drive.
	• Can improvements be made to the Kiss and Drop as it operates away from the main entrance (i.e. the back of the queue is near the gate rather than the front), which generates additional vehicle movement conflict then there needs to be. **Response:** While placement of the proposed kiss and drop spaces was considered further to the north on Glenrock Drive, the placement of such facilities further to the south was proposed to:
	  ○ Avoid any queuing of vehicles back to the intersection of Glenrock Drive and Observer Street,
	  ○ Avoid any queuing of vehicles back to the proposed bus bay, and
	  ○ Allow placement of the bus bay further to the north of the kiss-and-drop spaces, so that buses using the bus bay are not delayed by any queued vehicles utilising those spaces.
	• If existing kerb is to be retained, the proposed road width and kiss and drop bay width don't add to actual achievable widths. Please check plan accuracy **Response:** existing kerb will be altered where required to achieve desired and compliant dimensions.
	• Pedestrian crossings will need full lighting and drainage design (no details on site plans). The drawings aren't entirely accurate and will need to ensure no impact to existing residential driveways. **Response:** compliant swept paths, lighting and drainage to be adopted in detailed design.

Stakeholder	Engagement
	• Include procedures in the plan of management around the PA system and the security alarm (Council get a lot of complaints about school PA and alarm systems). **Response:** Specific noise mitigation included addressing operational use of PA. • Provide a plan of management and odour report if keeping of any agricultural animals proposed onsite. **Response:** no keeping of animals included in this proposal. • If applicable provide indication of the grease trap location and include pump out of it in the waste management plan. **Response:** Hydraulic Services Report **(Appendix 15)** addresses and identifies the location of inground grease arrestor pit to north of Block B. The OWMP will include responsibilities and details for pump out.
Transport Working Group (TWG) – comprising Transport for NSW, QPRC, SI Colliers	The Transport strategy for the proposal has been presented to three Transport Working Group (TWG) meetings 18 October 2023, 3 November 2023 and 31 October 2024. Key Items raised in meetings and responses from subsequent meetings are provided below (refer to Section 6.1 below for): • TWG 1 – Traffic calming will be required to complement pedestrian crossings. **Response:** kerb blisters added. • TWG 1 – Will need to maintain bus access where kerb blisters used. Response: assessed swept paths and they have been designed to fit. • TWG 1 – Are there proposed changes to bus services. **Response:** contacted TfNSW and no response. • TWG 1 – Safe Kiss and Drop required and consideration that Wellsvale Drive will be a drop off point for some parents/students. **Response:** A drop off on Wellsvale Drive and a relocation of the pedestrian crossing to align with the QPRC masterplan was considered, however the decision made not to encourage nor discourage through physical changes; parents will be encouraged to use the proposed kiss-and-drop facilities within Glenrock Drive. • TWG 1 – Proposed parking provisions. **Response:** staff parking amended to 1 space per staff member. • TWG 1 – Mode share scenarios. Provision of safe infrastructure and positive messaging to encourage active transport. • TWG 1 – Lighting required at pedestrian crossings. **Response:** It is proposed to install PX2 category lighting relevant to this site. • TWG 2 – Confirmation of school enrolment number. **Response:** confirmed 700 students. • TWG 2 – Confirm staff parking access. **Response:** Access to staff parking facilities is to be obtained from Wellsvale Drive. • TWG 2 – Update mode share targets. **Response:** Cycling mode share target set to 20%. • TWG 3 – Assessment of travel demand and mode share. **Response:** %'s proposed are accepted. • TWG 3 – Updated layout. **Response:** relocation of driveway to staff car park, lighting to pedestrian crossings confirmed, QPRC to provide as-builts for services, bus bay location to be confirmed as may block kiss and drop. • TWG 3 – Parking provisions. **Response:** No student parking to be provided on site, consider parking requirements for visitors,

Stakeholder	Engagement
	including short term parking in kiss and drop outside peak kiss and drop hours, left in left out access to staff car park was agreed.

5.2 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 21 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.

6. Environmental Impact Assessment

This section provides an environmental impact assessment for the construction and operation of the New High School for Googong.

This section of the REF provides a detailed description of the potential environmental impacts associated with the establishment and construction of a New High School for Googong. Aspects of the environment, potentially impacted upon by the proposal, are considered, under the following sub-sections:

- Traffic, Access and Parking (Section 6.1)
- Aviation (Section 6.2)
- Noise and Vibration (Section 6.3)
- Contamination and Hazardous Materials (Section 6.4)
- Soils and Geology (Section 6.5)
- Hydrology, Flooding and Water Quality (Section 6.6)
- Aboriginal Heritage (Section 6.7)
- Environmental Heritage (Section 6.8)
- Ecology (Section 6.9)
- Social Impact (Section 6.10)
- Other Issues (Section 6.11)

Site-specific safeguards and management measures are provided to mitigate the identified potential impacts.

6.1 Traffic, Access and Parking

The Traffic Assessment (TA), prepared by ARUP Consulting, outlines the traffic and transport site context, anticipated demand for the proposal, issues and potential opportunities, and mitigation measures for the proposed new high school for Googong. The TA is provided in **Appendix 21**.

This section of the REF summarises the outcome of the TA for the operational phase, and the construction activities, as well as any proposed traffic and transport solutions to mitigate these impacts.

6.1.1 Methodology

The assessment within the TA (in addition to the Preliminary CTMP (**Appendix 22**) and a School Travel Plan (STP) (**Appendix 23**)) includes the following key tasks:

- A review of the Googong and Tralee Traffic Study (2031),
- Review of relevant background documents and information including relevant planning policies and DCP,
- A comparison with QPRC's TRACKS Model South Jerrabomberra and Queanbeyan Traffic Analysis to validate traffic volume results,
- An analysis of existing conditions, including site location and existing traffic, parking, public transport and active transport facilities and conditions, and
- An analysis of future student numbers within the distance-based catchments of specific transport modes (e.g. walking, cycling, etc.).

A detailed description of the proposal, including:

- Proposed construction activities, working hours, size and type of vehicles (up to and including 19-metre-long articulated vehicles), access routes and volumes.
- Proposed operations trip generation (increase in bus movements) and distribution to the surrounding road network, vehicle, pedestrian and cyclist access to the depot as well as proposed staff parking.

Analysis of traffic, transport and access impact, including:

- Construction impacts on active transport access, public transport operations, road network performance, property access and parking activities.
- Operations impacts on active transport access, public transport operations, road network performance, property access and parking activities.

Discussion of any mitigation measures that may be required.

6.1.2 Existing environment

The proposal is located within Googong, immediately to the south of the Googong Town Centre. It is surrounded by land-use zones and development that are as follows:

- Areas to the north/northwest are zoned as E1 Local Centre zones for facilitate future development within the Googong Town Centre,
- Sites to the east and northeast of the comprise of low, medium and high-density residential development,
- Areas to the southeast comprise of community facilities (i.e. ovals, netball courts, onsite parking facilities, etc.), and
- Areas to the south and west comprise of low-density residential development.

Most of the residential allotments that are closest to the site have been developed and/or are in the process of being developed.

The new high school site addresses three road frontage that include:

- Observer Street to the north,
- Wellsvale Drive to the east,
- and
- Glenrock Drive to the west.

All adjoining road reserves provide for two-way travel, with a single traffic lane in each direction; such roads also contain posted 50km/h speed limits. All adjoining road frontages contain paved pedestrian pathways within the road verges, while Wellsvale Drive also provides dedicated bicycle lanes in each direction of travel.

The Googong DCP also envisions a new public bus stop within Wellsvale Drive to the east of the site. That bus stop is expected to service future bus routes that would service different parts of Googong.

Googong is served by the following Bus routes:

- Public bus routes:
    - 840X Googong and Jerrabomberra to Canberra CBD Express, and

  - 830 Googong to Canberra CBD

- School bus routes:
  - S273, S252, S212 and S229

At present, none of these routes pass nor directly service the site, with all routes using a combination of Wellsvale Drive, Gorman Drive and/or Googong Road to access north-eastern parts of Googong (i.e. Googong North Village Centre, Googong Primary School and the Anglican School Googong).

Regarding intersection performance, the TA reviewed The Googong and Tralee Traffic Study (2031), which was undertaken in 2010 by and assessed the transport impacts of planned developments within the Queanbeyan-Palerang LGA (including 5,550 new households in Googong).

That study focussed on the Gorman Drive/Wellsvale Drive intersection (located approximately 300 metres north of the proposed high school); those two collector roads will connect most residential routes to Old Cooma Road and thereby facilitating road travel to Queanbeyan. That intersection is therefore expected to handle the highest traffic movements within the Googong masterplan area, as they provide movement from most parts of Googong to Old Cooma Road. That study showed that in a variety of scenarios, that intersection was projected to maintain a Level of Service (LOS) of 'D' or better during peak periods, which indicates sufficient capacity to handle the forecasted traffic volumes associated with development (which includes the proposed high school) within the Googong area.

6.1.3 Construction Traffic, Access and Parking

The extent of works will be mostly contained within the site, with access to be controlled by gates, hoarding and fences. Works to occur outside of the boundaries of the site will be limited to five new wombat crossings, 17 kiss-and-drop spaces and a dedicated bus stop within Glenrock Drive (and associated pathway widening works), construction of driveway laybacks and crossovers and the connection of the site to utilities within road reserves around the site.

As a worst-case scenario for testing construction impacts, it has been assumed that there will be an average peak of 34 construction-related vehicles each day (with an average of four construction vehicles per hour). Such vehicular movements will occur within approved construction times. While it is expected that construction vehicles will comprise of Medium Rigid Vehicles (MRVs) and Heavy Rigid Vehicles (HRVs), the CTMP incorporates vehicle sizes up to and including 19-metre-long articulated vehicles (AVs)).

The CTMP also anticipates that construction works will be simultaneously occurring on surrounding sites.

Access to the site more broadly is to occur via:

- Elleton Drive and/or Old Cooma Road (subject to the issue of permits by the National Heavy Vehicle Regulator to the construction contractor), and
- Wellsvale Drive.

From Welllsvale Drive, The TA considered two vehicular access options, comprising of:

- Option 1: 'Left in-right out' access via Observer Street to the north of the site, and

- Option 2: ‘Right in-left out’ access via Wellsvale Drive at its intersection with McFarlane Avenue.

Option 2 was selected as the preferred access option due to the larger turning circle of AVs, which are unable to clear the centre divider within Wellsvale Drive if they were required to turn right into the site via Option 1.

The CTMP advises that traffic controllers will be required for the direction of MRVs and AVs to ensure safe access to and egress from the site and to avoid pedestrian vehicle conflicts. Further, dedicated turning areas are required to be provided on the site to enable forward site access and egress. A dedicated onsite loading/unloading area is to also be provided to prevent off-site loading and unloading of construction equipment,

Construction parking is anticipated to be accommodated within surrounding roads, given that:

- The site is mostly surrounded by predominantly residential development such on-street parking around the site would only be utilised by residents at night and on weekends and
- There will subsequently be sufficient on-street parking capacity for construction workers during the day when peak demand for such spaces will be low.

As the works will be (except for public domain works) within the site, they will not block access to existing development on surrounding sites, nor will they prevent construction access to any surrounding sites that are being simultaneously developed. The CTMP recommends that the appointed contractor is to coordinate deliveries to avoid the queuing of construction vehicles accessing the site within surrounding roads. Traffic controllers are also proposed to manage work vehicles entering and leaving the site,

For the proposed public domain works, Section 138 of the Roads Act requires that works carried out on, over, in an adjoining public road will be undertaken in accordance with the requirements of the appropriate roads authority (i.e. QPRC).

6.1.4 Operational Traffic, Access and Parking

Transport infrastructure

In response to the TA requirements and other supporting documents, the following transport infrastructure is to be provided:

- 55 onsite car parking spaces for staff (including two disabled spaces) with a single driveway access point to be accessed from Wellsvale Drive,
- 145 onsite bicycle and scooter spaces,
- 17 kiss-and-drop bays within Glenrock Drive,
- One accessible parking space within Glenrock Drive,
- One (1) dedicated school bus bay within Glenrock Drive,
- Service vehicle facilities (including two driveway crossovers that are to be accessed from Observer Street to facilitate one-way access and egress (i.e. one-way in and one-way out)),
- Service vehicle facilities, which are to be accessed via the staff parking facilities and associated driveway from Wellsvale Drive,
- End of Trip (EoT) facilities including two showers for staff, and
- Five ‘wombat’ pedestrian crossings within surrounding roads, including:
    - Two crossings within Wellsvale Drive

- One crossing within Observer Street
- One crossing within Glenrock Drive
- One crossing within Harvest Street.

Access

The following pedestrian and vehicle access points are proposed to the proposed high school:

- Glenrock Drive:
    - Two pedestrian access routes, including:
        - The main pedestrian access point (which will comprise of both an accessible entry ramp and a stairway entrance), which are to be located in proximity to the intersection of Glenrock Drive/Leader Street and the proposed 'wombat' pedestrian crossing, and
        - A secondary pedestrian access point near the intersection of Glenrock Drive and Observer Street,
- Observer Street:
    - A shared pedestrian and cycling access point near the intersection of Glenrock Drive and Observer Street, and
    - Two driveway crossings that will provide for one-way service vehicle access to the site,
- Wellsvale Drive:
    - A driveway providing access to the staff carpark and waste servicing areas,
    - A pedestrian access point near the intersection of Wellsvale Drive and Observer Street, and
    - An accessible pathway will be provided from the northern end of the staff carpark, which will connect internally to the pedestrian access pathway from the north-eastern corner of the site.

The locations of the main pedestrian access point and the pedestrian/bicycle accessways are in proximity to the dedicated bus area, kiss and drop bays and pedestrian crossings that provide access across both Observer Street and Glenrock Drive. Such a layout will enable accessible and identifiable paths of travel directly from such transport facilities. The third pedestrian access point from the northeast of the site will also provide a clearly identifiable and accessible path of travel both from the carpark and a point adjacent to the northern of the two proposed wombat pedestrian crossings that cross Wellsvale Drive.

Figure 24: Proposed site plan with pedestrian and vehicular access points denoted.

Travel demand and mode share targets

The findings of the transport analysis within the TA identified that the vast majority of children (i.e. 90% of students) enrolled to attend the proposed high school live within a relatively small catchment, being neighbourhoods NH1, NH2 and NH3 within Googong. Only students living in areas more than 2.9 kilometres from the proposed high school will qualify for free bus travel under the School Student Transport Scheme (SSTS). As such, it is projected that 10% of future students will qualify for free bus travel under the SSTS.

Given that 90% of future students are projected to live within a relatively small area that does not qualify for free bus travel, based upon a student population of 700 children, the TA's analysis found that:

- 38% of students attending the school would be located with a 15 minute (i.e. 1.2 kilometre) on-path walking catchment of the proposed high school. and
- 90% of students would be located with a 15 minute (i.e. a three kilometre) cycling catchment of the proposed high school.

Combined, 83% of students will therefore be located within walking or cycling distance of the school. Noting the small catchments, five main routes (each projected to provide walking and cycling routes for between 20 and 90 students during AM and PM peak periods) have been

identified that require the crossing of roads around the proposed high school to access the main entry point from Glenrock Drive on the western side of the site. Four 'wombat' crossings are therefore proposed on Observer Street, Glenrock Drive and Wellsvale Drive to facilitate safe pedestrian access to the school.

While there are no safe active travel facilitates or crossings on Old Cooma Road to the west of the site, that road forms the western boundary of the school catchment, and as future students using Old Cooma Road to access the site will be doing so via public transport or private vehicles, that road is unlikely to be used for any active transport uses (including the crossing of that road).

Based on the above, the TA has projected future traffic generation for the proposed school based upon three testing scenarios, being

- Scenario 1, a baseline (i.e. do nothing) approach,
- Scenario 2, a 'medium' active/public transport mode share, and
- Scenario 3, a 'reach' active/public transport mode share.

Depending on the scenario, projected mode share and subsequent traffic generation rates vary. Anticipated mode share assumptions (based on the TA analysis) and traffic generation for teachers are detailed within Table 8 below.

Table 8: Mode share assumptions

Mode	Baseline mode share (students)		Reach mode share (students)		Teachers (all scenarios (rounded))
	AM	PM	AM	PM	
Walking	27%	32%	38%	40%	6% (3)
Cycling	15%	15%	20%	20%	1% (1)
Public transport (bus)	10%	10%	20%	22%	2% (1)
Car	48%	43%	22%	18%	82% (45)
Carpool	-	-	-	-	9% (5)

Based on the above, in a 'baseline' (i.e. a 'do nothing') scenario, it is anticipated that the school will generate peaks of 336 and 301 vehicular trips during the AM and PM periods respectively, in addition to 50 vehicular trips for teaching staff.

As also shown within Table 10, if the proposed high school were to alternatively operate under Scenarios 2 or 3 (i.e. 'Medium' or 'Reach' active/public transport mode shares respectively), then projected vehicular traffic generation rates would be significantly reduced (i.e. to 205 and 129 vehicular trips under 'Medium' and 'Reach' modes respectively. Such reductions would be achieved as a result of higher proportions of students using active and/or public transport to travel to the proposed high school.

Traffic modelling

The proposed high school is not anticipated to have any adverse impacts on regional roads and the performance of intersections with roads accessing Googong. Noting that:

- Old Cooma Road to the west of Googong forms the boundary of the proposed high school's catchment, and
- Students travelling to Googong via Old Cooma Road are likely to live within areas that qualify for free bus travel under the SSTS,

The proposed high school is unlikely to generate significant traffic volumes on this regional road and will therefore not adversely affect service levels at existing/future intersections that provide road access into and out of Googong.

For local roads within Googong, the TA assessed five intersections in proximity to the site that include:

- The intersection of Observer Street and Glenrock Drive (to the northwest of the site),
- The intersection of Observer Street and Wellsvale Drive (to the northeast of the site),
- The intersection of Wellsvale Drive and Heazlett Street (to the east of the site),
- The intersection of Wellsvale Drive and Harvest Street (to the southeast of the site), and
- The intersection of Glenrock Drive and Harvest Street (to the southwest of the site).

Such assessments also considered pedestrian traffic associated with four of the five wombat crossings in proximity to these intersections.

Analysis of these intersections used SIDRA software to assess AM and PM traffic flows for the proposed high school, with peak periods being identified as:

- Mornings:
    - 1-hour peak: 8:00am to 9:00am
    - 30-minute peak: 8:30 to 9:00am (assuming a 9:00am bell time)
- Afternoons:
    - 1-hour peak: 2:30pm to 3:30pm
    - 30-minute peak: 2:45pm to 3:15pm (assuming a 3:00pm bell time)

Resulting traffic volumes were compared with road link volumes within Googong, as reported in QPRC's TRACKS Modelling for South Jerrabomberra and Queanbeyan Traffic Analysis to validate traffic volume results. The SIDRA assessment found that both overall outbound AM volumes and inbound PM volumes were higher than those within QPRC's 2014 TRACKS modelling report, which indicates that SIDRA modelling is more conservative than that earlier Council report.

While the morning peak period for the proposed high school would coincide with a typical morning peak for the Googong locality, with the afternoon peak period occurring prior to the typical evening peak times for the Googong locality.

Noting that intersection Level of Service (LOS) is ranked from A to F (with A denoting minimal delays, F denoting maximum delays and D denoting minimum overall intersection LoS for controlled intersections), the intersection analysis found that all intersections around the site (including those with proposed wombat crossings) would maintain an LOS of 'A' during both AM and PM peak periods.

This indicates that intersections surrounding the site have adequate capacity to handle projected traffic volumes associated with the proposed high school.

Kiss-and-drop

17 kiss-and-drop bays (in addition to one disabled parking space) are to be provided within Glenrock Drive on the western side of the site, in proximity to the main entrance point to the school.

Based on Scenario 1 of projected private vehicle travel rates of 336 and 301 student trips during AM and PM periods respectively, average vehicle occupancy rates of 1.2 students per vehicle, the worst-case scenario that no students will be picked up from other points surrounding the school,

the TA found that the 17 kiss-and-drop bays proposed within Glenrock Drive are suitable for the proposed high school. The TA found that it is unlikely that queues associated with the kiss and drop bays would result in delays for the proposed bus bay and the nearest traffic intersection at Glenrock Drive/Observer Street. Promotion of sustainable travel behaviours would also reduce overall demand for the kiss and drop facilities and thereby further reduce the extent and duration of any queuing.

Further, by moving the 17 kiss-and-drop bays further to the south of the Glenrock Drive frontage, this will enable school buses to operate without being delayed by any vehicles queuing to utilise the kiss-and-drop bays.

Bus bay

The site is not directly serviced by a bus route (including any SSTS routes), noting that services currently servicing Googong are located to the north and east of the site. The provision of a school bus bay is to enable servicing of the proposed high school site by future bus routes (including SSTS routes) within the area.

Bicycle parking

Based on projected mode sharing rates, the proposed high school will make provision for the onsite parking of 145 bicycles and/or scooters (140 for students, plus five additional racks for staff) within an enclosed and sheltered area towards the northwest of the site. EoT facilities including two showers will also be provided for staff use.

Onsite and offsite car parking

The school will provide 55 onsite car parking spaces for teachers (including 2 accessible spaces), which are to be provided at a rate of one space per teacher (noting that such parking facilities will be segregated from the kiss-and-drop bays). One accessible parking space will also be provided immediately to the south of the dedicated bus bay. No onsite parking spaces will be provided for students or visitors.

While no student parking is to be provided, approximately 60 on-street car parking spaces will be located around the proposed high school. Such numbers are expected to be sufficient, as a result of:

- The number of students with access to private vehicle travel will be relatively small, and
- The high level of walking and cycling accessibility to the proposed high school, which is anticipated to further reduce the number of students who would drive to the proposed high school.

Further, the site is mostly surrounded by predominantly residential development. As such many of those on-street car parking spaces would only be utilised by residents at night and on weekends (i.e. at times that the school is not operating), which will provide sufficient on-street parking capacity for students during the day when peak demand for such spaces will be low.

For large events (such as teacher-parent evenings), there is sufficient off-site car parking capacity to cater for parents attending the site by car. As many as 416 parking spaces can be provided within the following areas:

- Public road reserves:
    - 75 spaces within Wellsvale Drive,
    - 62 spaces within Glenrock Drive, and

- 58 Spaces within Leader Street, and

- 221 parking spaces within the public carpark at Brooks Oval.

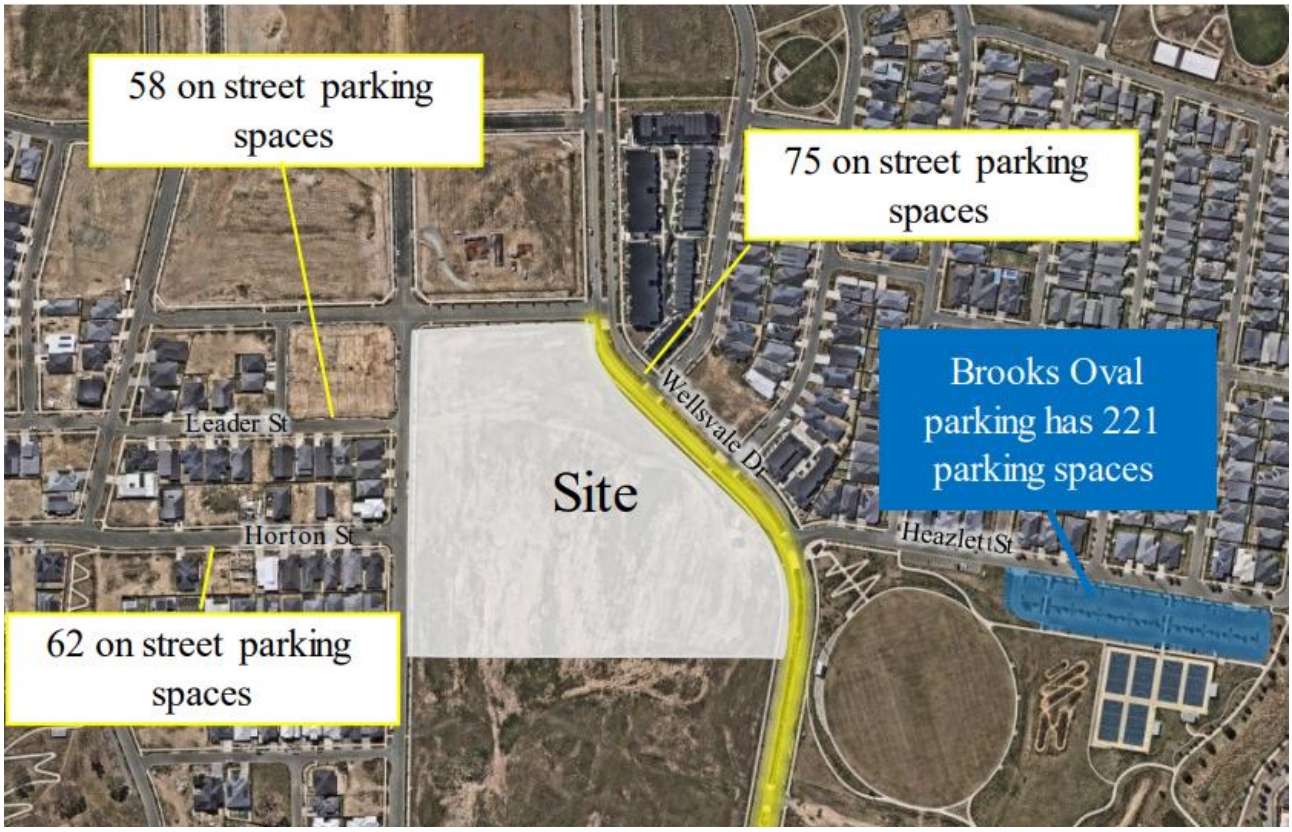


Figure 25: Surrounding parking allocation

The TA advises that arrangements should be made with Council in advance to ensure that:

- There will be no events at the public sporting facilities that coincide with major school events, and
- That all parking spaces at the Brooks Oval carpark to maximise parking availability.

Reliance on parking within the surrounding area could be reduced through communication to parents ahead of school events on communication portals (such as apps and social media) to promote alternative travel modes (such as walking, car-pooling and/or picking up/dropping off) to parents.

If such arrangements can be made, the TA advises that there will be sufficient parking provision in proximity to the school to cater for occasional large events.

6.1.5 Safeguards and management measures

The TA and the associated CTMP conclude that the proposed high school is not likely to have significant environmental impacts in relation to traffic access and parking, subject to the implementation of the mitigations and project recommendations, which have been included within Table 9 below and **Appendix 1**.

Table 9: Traffic, transport and access safeguards, mitigation measures and project recommendations

ID	Mitigation Measure	Timing
T1	A detailed CTMP, which will include a Construction Traffic Management Plan, will be prepared in accordance with Transport's *Traffic Control at Work Sites Manual* (Transport, 2022). The CTMP will include: • vehicle estimates (including hourly movements). • confirmation of haulage routes • measures to maintain access to local roads and properties • site-specific traffic control measures (including signage) to manage and regulate traffic movement • measures to maintain pedestrian and cyclist access • requirements and methods to consult and inform the local community of impacts on the local road network • access to construction sites including entry and exit locations and measures to prevent construction vehicles queuing on public roads. • a response plan for any construction traffic incident • consideration of other developments that may be under construction to minimise traffic conflict and congestion that may occur due to the cumulative increase in construction vehicle traffic • monitoring, review and amendment mechanisms.	Pre-Construction
T2	Training is provided to all workers, to ensure familiarity with traffic management strategies and controls. Accredited traffic controllers will be required to ensure the function of all pedestrian and construction interfaces. Hoarding, fences, boom gates and appropriate signage to be employed.	Pre-Construction
T3	Prior to the commencement of any construction work within the road reserve, approval under Section 138 of the Roads Act 1993 is to be obtained from the relevant road authority. Any work in the road reserve, including a road opening permit for temporary construction access, requires Section 138 approval.	Pre-Construction
T4	Widened footpath Glenrock Drive and Observer Street to accommodate students walking to/from, the school entrances. The footpath on Glenrock Drive will be widened to 4.8m at the Kiss and Drop area and 3.9m at the bus zone. Threshold treatments (continuous footpath) to be considered where feasible with regard to constructability and levels. These would be provided across staff car park driveway and delivery driveway on Observer Street.	During Construction
T5	Safe pedestrian access in and around the site shall remain unimpeded at all times. Required informative signage and directional information must be provided in appropriate locations ensuring pedestrian safety. Where necessary, traffic control measures will be implemented.	During Construction
T6	Five raised crossings proposed on Wellsvale Drive (x2), Observer Street, Glenrock Drive and Harvest Street connecting to the school block. Kerb blisters proposed on Observer Street	During Construction

ID	Mitigation Measure	Timing
	and Glenrock Drive Wombat crossings. All wombat crossings are to be well illuminated with street lighting designed according to AS/NZS1158.4	
T7	Incorporate planting/landscaping treatments either side of marked crossing as part of the kerb build out at raised crossings. Reinforce no-stopping requirements on approach to raised crossings by incorporating low-height landscape treatments between the footpath and the carriageway. This would include: • 20m on approach to the Wellsvale Drive crossing at Heazlett Street and along the widened kerb after (adjacent to site) • 20m on approach to the Observer Street crossing at Glenrock Drive and along the corner kerb after (adjacent to site) • 20m on approach to the Wellsvale Drive crossing at Observer Street and along the corner kerb after (adjacent to site). Monitor pedestrian crossing in the first 12 months of school operations for uncontrolled / unsafe crossings.	During Construction
T8	140 bicycle spaces for students; 5 bicycle spaces for staff. 5 lockers, 4 showers provided for staff. Design of bike racks to be confirmed during design development.	Pre-Construction, During Construction
T9	Footpaths adjacent to the site frontages along Observer Street and Glenrock Drive are to be widened to accommodate students walking to/from school entrances on those frontages. Additional footpath widening on Glenrock Drive is to extend the length of the kiss-and-drop bays and the bus bay. Threshold treatments (such as continuous footpaths are to also be provided across driveway crossovers for the staff car parking driveway	Pre-Construction, During Construction
T10	17 kiss-and-drop bays are to be provided on Glenrock Drive to the south of the dedicated bus stop.	Prior to Operation
T11	55 onsite car parking spaces are to be provided for staff. Access controls at the carpark are not recommended to minimise queuing and delays for staff entering/leaving the site.	Prior to Operation
T12	A 38m long bus zone including a dedicated bus parking bay is to be provided on Glenrock Drive before (i.e. on the northern side of) the kiss-and-drop zones.	Prior to Operation
T13	A School Transport Plan (STP) must be prepared to the satisfaction of NSW Department of Education (DoE) Transport Planning team. The STP is to establish objectives and strategies to assist in the development of transport goals, policies and procedures, including the use of sustainable travel modes to reduce reliance on private vehicle transport.	Prior to Operation

6.2 Aviation

An Aviation Impact Assessment (AIA) has been prepared by Aviation Projects (**Appendix 8**). The AIA outlines the site context with respect to airport airspace, infrastructure and operations. The AIA assesses the potential impacts of the proposal on aviation operations as well as the potential for aircraft noise to impact the proposal. The AIA provides aviation safeguards and mitigation

measures to address air safety regulations and procedures, as well as the consultation requirements with relevant aviation agencies.

This section of the REF summarises the outcome of the AIA for the operational phase, and the construction activities.

6.2.1 Methodology

The assessment in the AIA includes the following:

- Review of relevant guidelines, regulatory requirements and information sources, including:
  - National Airports Safeguarding Framework (NASF) guidelines addressing noise, protection of operational airspace, and protection of aviation facilities
  - Airservices Australia Aeronautical Information Package (AIP)
  - Civil Aviation Safety Authority (CASA) Manual of Standards Part 139 – Aerodromes
  - Airports Act 1996 and Airports (Protection of Airspace) Regulations 1996
  - Canberra Airport Master Plan

Following the review of the guidelines and regulatory requirements, the AIA includes an Aviation Impact Statement (AIS) addressing the requirements of Airservices Australia, which includes an assessment of Aerodromes (registered/certified aerodromes that are located within 30 nautical miles from any obstacle referred to in the report), Air Routes, and Airspace.

The AIS addressed the potential impacts of both the proposed operational building heights as well as consideration of temporary crane use during construction.

6.2.2 Existing environment

The proposal is located approximately 12 km to the south of Canberra Airport, which is a CASA certified airport (i.e. an airport that includes among other things, Terminal Instrument Flight Procedures (TIFP) and Regular Civil Commercial Passenger Operations).

The published elevation of Canberra Airport is 575 m Australian Height Datum (Source: Airservices Australia, dated 28 November 2024), while the proposed new high school for Googong is proposed on a site with a natural ground elevation of approximately 750 m.

The proposal site is located within airspace classified by CASA as Class C controlled airspace (i.e. airspace that surrounds airports with a moderate level of traffic and designed to manage the flow of aircraft and ensure safety for both Instrument Flight Rules (IFR) and Visual Flight Rules (VFR) operations). The proposal is not located in airspace that includes Prohibited, Restricted and Danger areas. There is no impact from military aviation activity.

6.2.3 Potential impacts

During construction and operational

Obstacle Limitation Surface (OLS)

Obstacle Limitation Surfaces (OLS) are established for each certified aerodrome runway to protect airspace and to notify the Civil Aviation Safety Authority (CASA) of any permanent or temporary obstacles that may infringe this airspace to ensure the safety of aircraft operations. The AIA

identifies that the proposal site is within the Outer Horizontal Surface (OHS) of the OLS for Canberra Airport (**Figure 26**). The AIA states that the OHS is at a height of 719.5 m AHD (2361 ft Above Mean Sea Level (AMSL)). The new high school is proposed on a site with a natural ground elevation of approximately 750 m (2460 ft). This means that any development on the site will automatically infringe on the Outer Horizontal Surface. The elevation profile between the Project Site and Canberra Airport is shown in **Figure 27**.

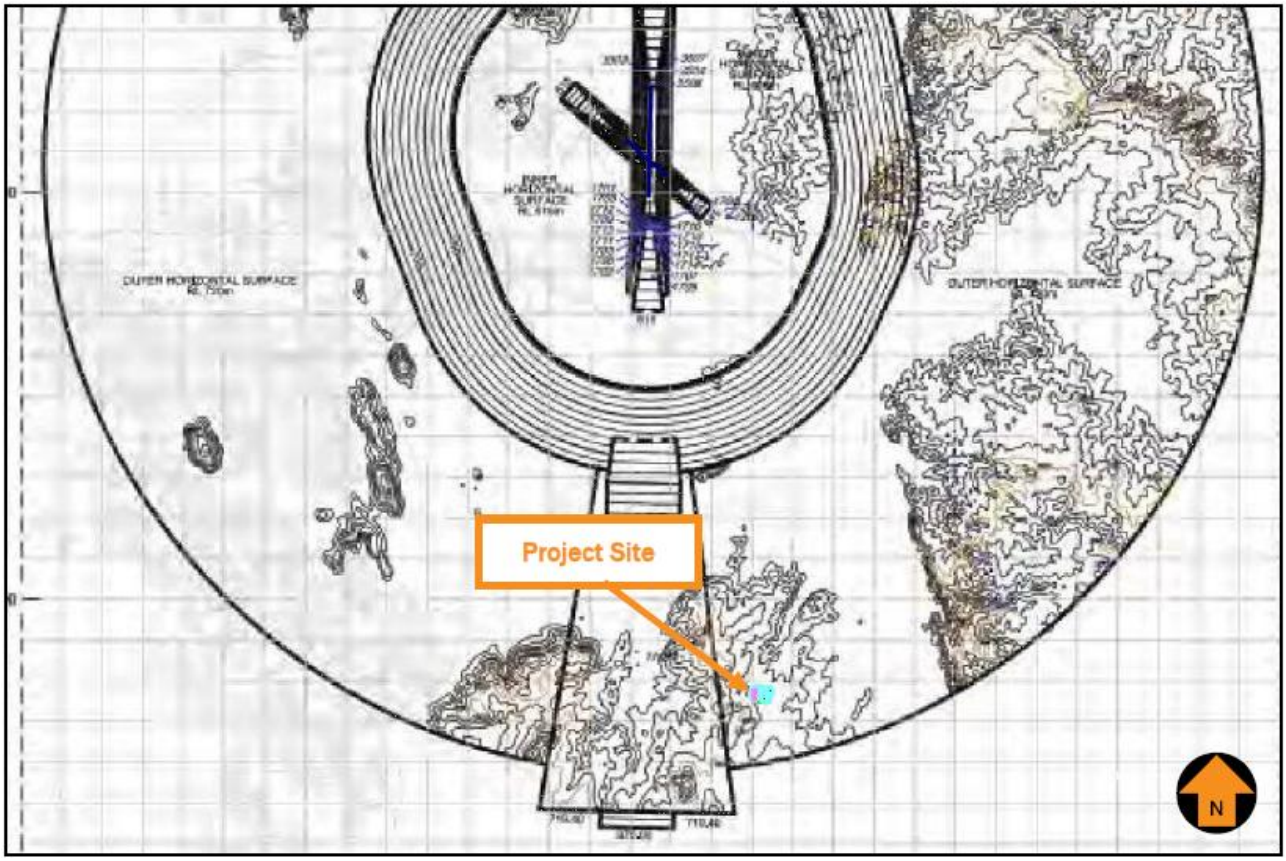


Figure 26: Canberra Airport OLS contours and Project Site

Source Aviation Impact Assessment, (Aviation Projects, 2024)

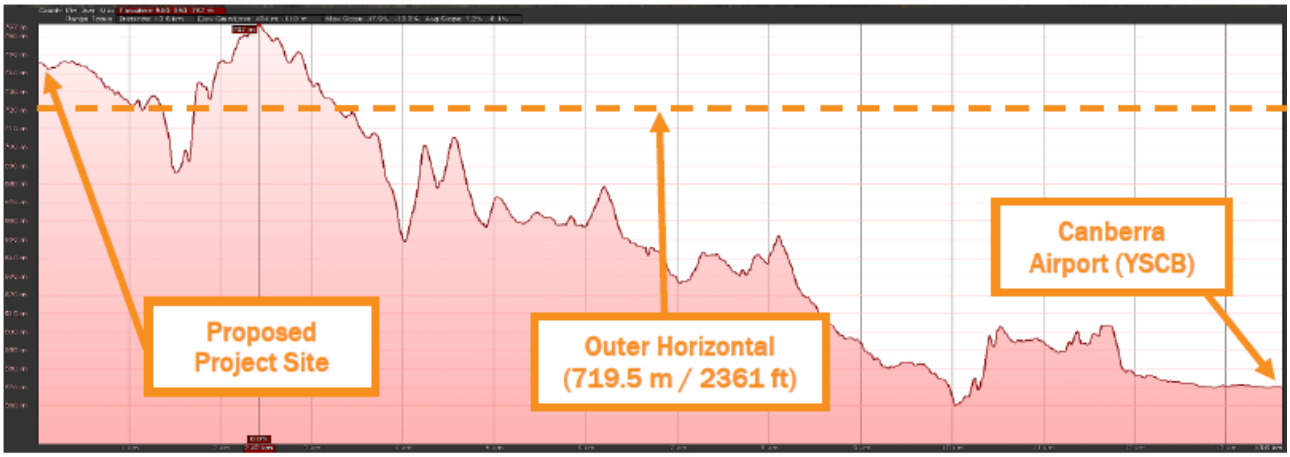


Figure 27: Elevation Profile from the Project site to Canberra Airport

Source Aviation Impact Assessment, (Aviation Projects, 2024)

The AIA states that it is important to note that the OLS does not prohibit all intrusions. The aim is to ensure that all objects that intrude into the OLS can be identified and assessed for their potential

impact on aircraft operations. The assessment enables a determination on whether the intrusion is permissible, and if so, a determination on whether any risk mitigation requirements should be imposed.

The AIA sets out that the site has the following proposed heights:

- Proposed Building A has a maximum height of 772.076 m AHD (2533.1 ft AMSL)
- Proposed Building B has a maximum height of 768.326 m AHD (2520.8 ft AMSL)
- Proposed Building C has a maximum height of 766.201 m AHD (2513.8 ft AMSL)

The AIA assumes that during the construction phase, cranes up to 25 m above the building may be utilised, which will result in:

- The top of the Crane at Building A could be up to 797.076 m AHD (2615.1 ft AMSL)
- The top of the Crane at Building B could be up to 793.326 m AHD (2602.8 ft AMSL)
- The top of the Crane at Building C could be up to 791.201 m AHD (2595.8 ft AMSL)

At the proposed heights, both the proposed permanent buildings and any temporary construction cranes will penetrate the OLS for Canberra Airport and require a controlled activity approval pursuant to the *Airports Act 1996*. The AIA notes:

- The buildings are a permanent infringement and require approval from the Department of Infrastructure, Transport, Regional Development and Communications (DITRDC), via an application to Canberra Airport that can be completed and submitted with the AIA attached as the safety case.
- The use of a crane will be a temporary infringement and requires approval from Canberra Airport if the crane operation is determined as a “short term” operation for less than 3 months, or if for a longer period, negotiations with the airport and DITRDC for amendments to affected procedures.

The AIA notes that although the new high school in Googong will infringe the OHS for Canberra Airport (719.5 m AHD (2361 ft AMSL)), it is located in a built-up area, with residential and commercial properties that all penetrate the Outer Horizontal Surface. Adjacent to the location of the new high school in Googong, there is a commercial and residential development with a similar height to the Project, and communications towers and flood light poles on a nearby sporting field. The AIA, therefore, concludes that although the Project will infringe on the Outer Horizontal Surface of the OLS of Canberra Airport, it will not compromise the operations of Canberra Airport.

Protection of instrument operations Procedures for Air Navigation Services – Operations (PANS-OPS) surfaces

A second group of criteria is used to determine the volumes and dimensions of airspace required to protect the safety of Instrument Flight Rules (IFR) operations. Under IFR operations, pilots fly aircraft relying on instruments for navigation. Airspace protection for IFR operations cannot allow for any long-term penetrations.

The PANS-OPS surfaces are used in the construction of take-off, landing and approach procedures based entirely on navigation with sole reference to aircraft instruments. They are designed to protect aircraft from colliding with obstacles when flying on instruments. Minimum safe altitudes are established for each segment of an instrument procedure.

The AIA assessment of PANS-OPS Surfaces includes:

- Minium Sector Altitude (MSA) Surfaces – area applying to each instrument approach procedure
- Instrument Flight Rules (IFR) Circling – circling areas established for instrument flight procedures
- PANS-OPS Approach and Departure Procedure Surfaces

The AIA confirms that the proposal sites maximum height is lower than the protection surfaces of all MSA surfaces, is located outside any circling areas, and will be outside or beneath the protection surfaces of all approach and departure procedure surfaces and, therefore, will not impact the PANS-OPS surfaces for Canberra Airport.

Aviation Facilities - Communication, Navigation and Surveillance

The AIS in the AIA includes an assessment of Communication, Navigation and Surveillance (CNS) systems and the potential for the proposed structures to cause unacceptable interference. The AIA concludes that the proposal site is located sufficient distance from any aviation facilities (minimum 13.6 km) that it will not have any impact on aviation facilities.

Air Traffic Control (ATC) Surveillance Radar Installations

The AIS in the AIA includes an assessment of the potential for the proposal to affect radar lines of site at the radar facilities of Sandra's View - approximately 6.6 km west of the proposal site, and Mt Majura – approximately 21.3 km north of the proposal site. The AIA concludes that no line-of-sight will be impacted by the proposal for these radar facilities.

Australian Noise Exposure Forecast (ANEF) System

The NASF includes Guideline A: Measures for Managing Impacts of Aircraft Noise. This guideline principally provides recommendations to local planning authorities on the implementation of noise policies within their legislative frameworks using principles set out in the Australian Noise Exposure Forecast (ANEF) System and the Australian Standard AS 2021-2015 Acoustics – Aircraft Noise Intrusion – Building Siting and Construction (AS2021). noise. The ANEF charts typically show noise exposure contours of ANEF — the higher the ANEF value, the greater the noise exposure. The ANEF system, as described in Australian Standard AS2021-2000, is the only endorsed method of guiding land use planning around Australian airports.

Figure 28 Shows the ANEF in relation to the project (Source: Canberra Airport Master Plan 2020). The chart indicates the estimated future level of aircraft noise exposure based on forecast aircraft movement. The Project Site is located outside the ANEF contours and as such will not be adversely impacted by aircraft noise from Canberra Airport.

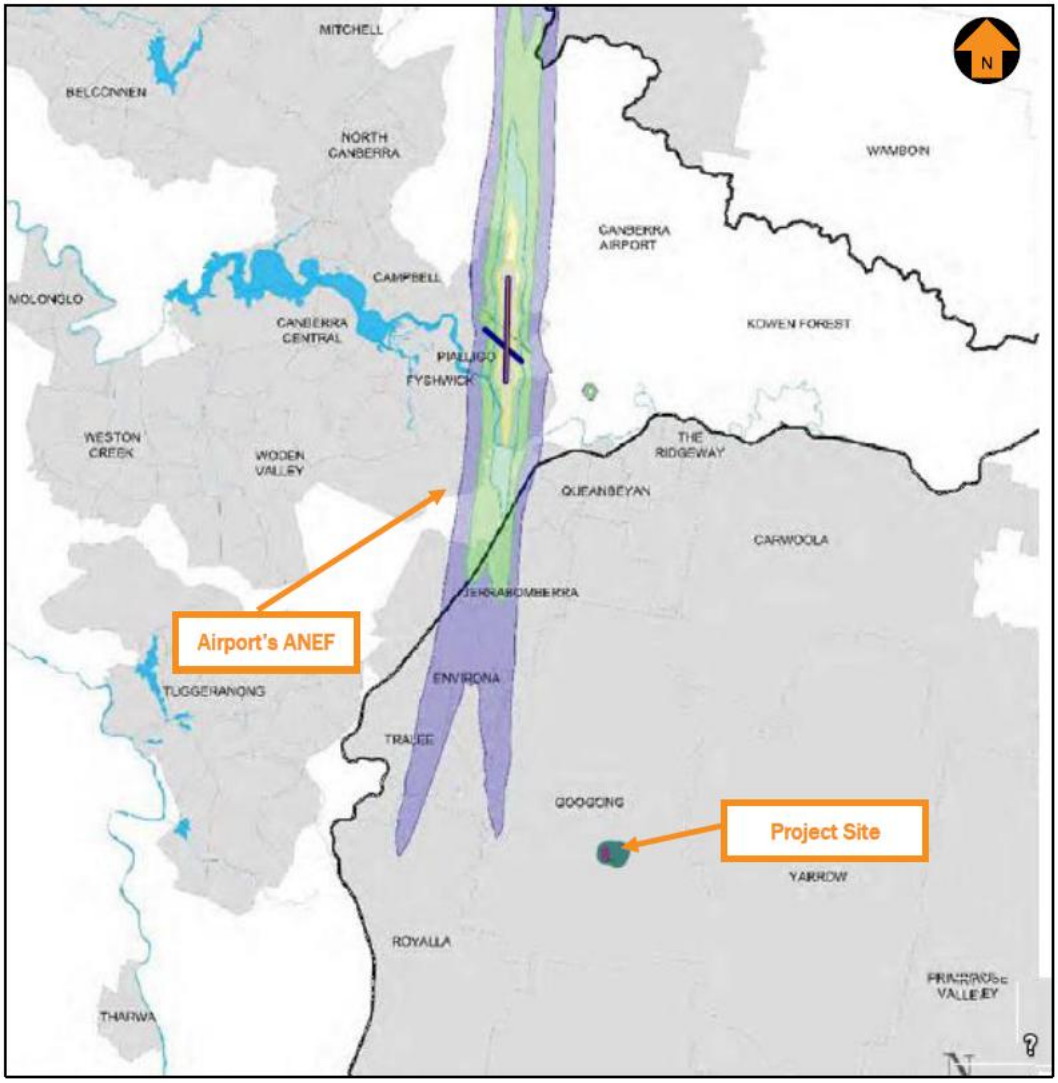


Figure 28: Australian Noise Exposure Forecast (ANEF) in relation to the proposal site

Source Aviation Impact Assessment, (Aviation Projects, 2024)

6.2.4 Safeguards and management measures

The AIA concludes that the proposal can be supported without adversely affecting aviation safety, subject to the implementation of the mitigations and project recommendations, which have been included within Table 10 and **Appendix 1**:

Table 10: Aviation mitigation measures

ID	Mitigation Measure	Timing
A1	The buildings are a permanent infringement into the Obstacle Limitation Surface of Canberra Airport and require approval from the Department of Infrastructure, Transport, Regional Development and Communications (DITRDC). An application must be made via Canberra Airport with the Aviation Impact Assessment (Aviation Projects, Feb 2025) attached as the safety case.	Pre-Construction
A2	Consultation is to be undertaken with Airservices Australia and include the Aviation Impact Statement within the Aviation Impact	Pre-Construction

ID	Mitigation Measure	Timing
	Assessment (Aviation Projects, Feb 2025) for publication in relevant aeronautical information products.	
A3	Consultation is to be undertaken with the Department of Defence to confirm the extent of Defence aviation activities in the area for inclusion in the Aviation Impact Statement.	Pre-Construction
A4	Any crane used during construction must be referred to Canberra Airport for approval.	Pre-Construction

6.3 Noise and Vibration

This section provides an assessment of the potential noise and vibration impacts of the proposal during both operation and construction and identifies safeguards and management measures to avoid or minimise these impacts.

A Noise and Vibration Assessment Report (NVAR) has been prepared by ARUP Consulting. The main findings of the NVAR are summarised in this section and the NVAR is provided in **Appendix 20.**

6.3.1 Methodology

The NVAR sets out noise and vibration criteria against which the assessment is undertaken, establishes current ambient and background noise levels, and assesses the main sources of construction and operational noise and vibration. The NVAR then identifies potential receivers likely to be sensitive to noise and vibration impacts, predicts noise and vibration impacts to these sensitive receivers and recommends appropriate safeguards to appropriately mitigate any impacts.

In considering operational noise and vibration, the NVAR considered the impacts of noise generated from school during operating hours through building services, and operational activities, as well as the impacts of noise intrusion on school operations.

Construction noise and vibration criteria

Hours of Work

Construction works will be undertaken within the hours outlined in Table 11, in accordance with Interim Construction Noise Guideline (ICNG) standard hours of construction. These hours have been used to assess potential construction impacts.

Table 11: Proposed hours of construction

Day	Standard construction hours
Monday to Friday	7:00am to 6:00pm
Saturdays	8:00am to 1:00pm
Sundays and Public Holidays	No work without prior approval on Sundays and Public Holidays

Construction Noise Criteria

The ICNG recommends noise levels for construction near sensitive areas. For standard hours, no further action is required if all feasible and reasonable measures fail to meet noise levels. For out-of-hours work, the ICNG sets a threshold 5 dB below the noise-affected level for community consultation. Noise data from representative logger locations informed the project's noise management levels, summarised in Table 12 below.

Table 12: Construction Noise Management Criteria for Residential Premises

Time Period	Description	NML Criteria $L_{Aeq(15min)}$[1]
During recommended standard hours	Noise affected	55
	Highly noise affected	75
Outside recommended standard hours	Noise affected	50

Note:
1 - LAeq(15min) stands for the A-weighted equivalent continuous sound level measured over a 15-minute period. Noise levels apply at the property boundary that is most exposed to construction noise, and at a height of 1.5 m above ground level. If the property boundary is more than 30 m from the residence, the location for measuring or predicting noise levels is at the most noise-affected point within 30 m of the residence.

Construction Vibration Criteria

Disturbance to Building Occupants:

- Vibration impacts on humans are assessed using the NSW Assessing Vibration guideline, based on British Standard BS 6472-1992. Vibration sources are categorized as continuous, impulsive, or intermittent. Preferred and maximum vibration levels for human comfort are provided, with specific values for different types of vibration and locations (e.g., residences, offices, schools).

Impact on Structures and Services:

- Structural damage is assessed using British Standard 7385 Part 2 and German Standard DIN4150-3. Different levels of structural damage (cosmetic, minor, major) are defined, with corresponding vibration limits. Sensitive structures, such as heritage buildings, are assessed conservatively using DIN 4150-3.
- Guideline values for vibration impacts on buried pipework are provided, with specific limits for different pipe materials.

Detailed maximum vibration acceleration levels are contained within Section 2.6.3 of the NVAR, with specific criteria and guidelines for different scenarios.

Operational Noise Emissions Criteria

Building services noise emissions are assessed in accordance with the NSW Noise Policy for Industry (NPI) which is primarily concerned with controlling intrusive noise impacts in the short-term for residences and maintaining long-term noise level amenity for residences and other land uses. The NPI has been utilised by Arup Consulting throughout their assessment of the proposals noise emissions.

Project Specific Noise Trigger Levels

Based on the background and ambient noise monitoring, Table 13 summarises the derived project specific noise levels based on the NPI.

Table 13: NPI Project Specific Noise Levels

Receiver	Time Period	Project Specific Noise Levels – $dBL_{Aeq,15min}$	
		Intrusive Noise Trigger Levels	Project Amenity Noise Level (PANL)
Nearest residential receivers	Day	50	53
	Evening	45	43
	Night	40	38
School outdoor areas	When in use	-	55
School classroom - internal	Noisiest 1hr period	-	$35_{LAeq(1hr)}$
Passive recreation	When in use	-	50
Active recreation	When in use	-	55

The school will operate during the daytime period and therefore the daytime criterion is taken as the most onerous target on which assessment of noise emission is based.

Sleep Disturbance

The NSW NPI includes criteria for assessing potential sleep disturbance between 10 pm and 7 am. However, as the activity does not include operation during these hours, sleep disturbance is not a relevant consideration.

School Activity

There are no specific regulations for noise from general school activities. However, the *NSW Land and Environment Court* case (*Meriden School v Pedavoli*, 2009) established that noise from normal school activities is not considered offensive. Noise impacts are typically assessed using the *Association of Australasian Acoustical Consultants (AAAC) Guideline for Child Care Centre Acoustic Assessment*, which provides recommendations for managing noise levels.

Key Guidelines:

- Outdoor Activity:
    - Limited to 4 hours per day (e.g., 2 hours each in the morning and afternoon).
    - Noise levels should not exceed the background noise level by more than 10 dB over 15 minutes at the assessment location (e.g., property boundaries or balconies).
- Indoor Activity:
    - Noise levels (including indoor play, mechanical equipment, drop-off/pick-up, and other operations) should not exceed the background noise level by more than 5 dB over 15 minutes at the assessment location.

These noise management levels are aspirational and assist in operational management but are not mandatory.

Road Traffic Noise

The NSW Road Noise Policy (RNP) includes assessment criteria for existing noise sensitive receivers affected by additional traffic on existing roads generated by land use developments. These criteria are reproduced in Table 14 for reference.

Table 14: Road traffic noise assessment criteria for residential land uses

Road Category	Type of Project/Land Use	Assessment Criteria	
		Day (7am-10pm)	Night (10pm-7am)
Freeway / arterial / sub-arterial roads	Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments	60 dB $L_{Aeq, (15\ hour)}$ (external)	55 dB $L_{Aeq, (9\ hour)}$ (external)
Local roads	Existing residences affected by additional traffic on existing local roads generated by land use developments	55 dB $L_{Aeq, (1\ hour)}$ (external)	50 dB $L_{Aeq, (1\ hour)}$ (external)

When traffic noise exceeds assessment criteria, the primary goal is to reduce it using feasible, reasonable measures. A secondary goal is to prevent significant amenity loss by applying relative increase criteria. A 2 dB increase is considered a minor, barely perceptible impact.

Noise Intrusion

Road traffic noise intrusion

The Educational Facilities Standards and Guidelines (EFSGs) stipulate that road noise shall be assessed in accordance with the requirements of Chapter 2 of the TI SEPP. The TI SEPP is supported by the *Development near Rail Corridors and Busy Roads – Interim Guidelines,* which sets the following internal noise criteria for educational facilities presented below in Table 15:

Table 15: TI SEPP internal airborne noise criteria

Receiver Type	Time	Airborne Noise Daytime $L_{Aeq,15h}$	Airborne Noise Night Time $L_{Aeq,15h}$
Educational Institutions including childcare centres	When in use	40	40

Given the use of different spaces, lower internal noise levels may be necessary per the EFSG. Therefore, Chapter 2 of the TI SEPP criteria should be treated as the minimum legislative standard.

Outdoor Areas

The criteria from the TI SEPP considers the impact of road traffic noise on internal comfort but does not address external amenity.

The NSW Environmental Criteria for Road Traffic Noise (ECRTN) and the RNP provide criteria for school playgrounds and childcare outdoor play areas respectively. Criteria for outdoor learning areas are not provided by any of the relevant policies and guidelines referenced. The proposed aspirational noise criteria for outdoor areas are presented in Table 16 below.

Table 16: Aspirational noise criteria for outdoor areas

Type of Space	Assessment Criteria, $L_{Aeq, 1hr}$
Outdoor school playgrounds	55
Outdoor learning areas	50

The above criteria should be targeted where practical; however, achieving them may not be feasible or necessary due to site constraints and the specific uses of different areas.

6.3.2 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 locale.

The existing area has an acoustic environment that is predominantly made up of natural sounds with minimal traffic noise. There is also an identified ‘urban hum’ which is a mix of unidentifiable sounds characteristic of a residential area.

As shown in **Figure 29** below, there are several sensitive receivers which have been considered in this assessment. These have been summarised in Table 17 below.

Table 17: Nearest sensitive receivers

Receiver ID	Address	Classification
R1	2 Observer Street, Googong	Residential
R2	148 Wellsvale Drive, Googong	Residential
R3	3 McFarlane Avenue, Googong	Residential
R4	8 McFarlane Avenue, Googong	Residential
R5	8 Mary Street, Googong	Residential
R6	13 Harvest Street, Googong	Residential
R7	186 Glenrock Drive, Googong	Residential
R8	2 Zenith Street, Googong	Residential
R9	1 Lanham Street, Googong	Residential
R10	3 Horton Street, Googong	Residential
R11	168 Glenrock Drive, Googong	Residential
R12	140 Glenrock Drive, Googong	Residential
AR1	Brooks Oval	Recreation
AR2	Gulaj Oval	Recreation
AR3	McFarlane Park	Recreation
AR4	Husky Park	Recreation
AR5	Googong Lookout	Recreation

Figure 29: Sensitive Receivers Map

Source: Arup 2025

6.3.3 Potential Impacts

Construction noise and vibration assessment

Construction noise

The construction assessment is based on reference schools and assumes a 12-month timeline, covering the following phases: site establishment, excavation/earthworks, substructure, structural/concreting, building envelope, fit out/finishes, external works/landscaping, and demobilisation.

Noise emissions have been modelled on the following assumptions:

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

Detailed noise prediction results are contained within the NVAR, as assessed by Arup Consulting.

These results show that all but 2 (R6 & R7) of the identified sensitive residential receivers may experience some noise level exceedances, with up to 14 dB for R12 being the worst-case scenario during excavation and earthworks. Compliance with active recreation criteria is expected for all construction scenarios. It is noted that no sensitive receivers will be highly affected (i.e. NML 75dBA or above) by construction works.

Noise impacts will vary as construction equipment moves, depending on factors such as distance, terrain, and equipment type. It's unlikely that all equipment will operate at maximum noise levels simultaneously. Since construction is temporary, the noise impact will not be continuous or permanent. When noise levels for works are predicted to exceed management criteria, feasible and reasonable work practices will be implemented in accordance with an approved construction management plan and the other mitigations included in Table 19 and **Appendix 1**.

Construction Vibration

The recommended minimum working distances for vibration-intensive plant, are detailed in the NVAR, indicating the potential impact on nearby receivers. These distances are guidelines and may vary based on the plant and local conditions. If a receiver is within the minimum distance, vibration monitoring may be needed, and equipment or construction methods may need to be reassessed.

The safe working distances are indicative and may vary based on the type of plant and local geotechnical conditions. They are designed to prevent structural and cosmetic damage to typical buildings under standard conditions.

The contractor must manage both vibration and noise, using best practices like avoiding dropping heavy items. For vibration-intensive work within minimum working distances, vibration monitoring should be considered at nearby buildings, with real-time alerts for exceeding vibration criteria.

Conclusion

Exceedances of target noise management levels have been identified for some noise sensitive residential receivers. However, construction is proposed during standard daytime construction hours and notification of noise generating activities will be provided.

The assessment found the activity would be unlikely to cause a significant impact on the environment subject to the implementation of appropriate mitigation measures as contained in Table 19 and **Appendix 1**.

Operational Noise and Vibration Assessment

The NVAR assumes school operations with the potential to generate noise and vibration will typically occur between 8am and 4pm Monday to Friday.

Building Services

Building services will comprise air conditioning (including condenser units, fans coil units and exhaust fans), dust extraction system for wood workshop and electrical substation. Adverse impacts to either the school or nearby noise sensitive receivers are not anticipated provided sufficient attenuation is specified for these items of electrical equipment within the detailed design.

Operational Activities

The NVAR identified, predicted and assessed noise levels for the following school operations:

- outdoor play areas
- gymnasium noise breakout
- covered outdoor workshop area
- car park
- school traffic
- public address
- waste removal, deliveries and cleaning

Outdoor Play Areas

To help mitigate noise impacts, strategic site planning has been implemented, incorporating buffer zones that increase the distance between major activity areas and nearby receivers. The current design places active play areas away from residential areas and utilises perimeter buildings to shield much of the noise generated.

The assessment concluded that Noise levels during times when the entire student body is using the outdoor play areas (i.e. recess and lunch) are expected to comply with the Project Amenity Noise Levels (PANLs) at all nearby noise sensitive receivers. This was assumed to be worst case scenario and at all other time noise levels are expected to be considerably lower.

Gymnasium Noise Breakout

The assessment predicted noise breakout to comply with PANLs during daytime and nighttime with doors open or closed

Covered Outdoor Workshop Area

The NVAR investigated scenarios for a covered workshop at the eastern end of Building B. Assessing the use of very noisy equipment (circular saw) the predicted noise levels would be moderately intrusive for the nearest residential receivers and for areas within the school. Scenarios are presented for the introduction of louvres, enclosure of the space, or imposition of restrictions on equipment that can be used to meet PANLs. Mitigation for this aspect of the design is included in Table 19 below and **Appendix 1**.

Car Park

The NVAR demonstrates that operational noise levels of the car park are expected to meet the relevant criteria. The car park will primarily be used during daytime hours and will feature controls, such as gate access to restrict usage and speed limits that will help reduce noise emissions from vehicles.

School Traffic

The NVAR concludes that the road traffic noise levels associated with school traffic increases are expected to increase by 3-5 dB which is more than the 2 dB increase considered a minor, barely perceptible impact in Section 6.3.1 above. In addition, future predicted cumulative road traffic noise levels for all traffic are expected to be in the order of up to 11 dB above Road Noise Policy criteria for local roads during peak hour periods. Increased traffic noise is anticipated in the area as both Googong and the high school are developed. The perceptible road traffic noise impacts associated with the school operations are only anticipated during peak drop off and pick up times. To mitigate potential impacts of increased traffic noise, the design locates the staff car park off the wide median separated Wellsvale Drive, which increases the distance to residential receivers, and wombat crossing are located on each of the surrounding roads that will slow traffic flows reducing vehicle noise.

Public Address

Noise from the Public Address system had the potential to impact nearby noise sensitive receivers. Mitigation measures are recommended in Table 19 to position for necessary areas only, limit to daytime use, and restrict volume.

Waste Removal, Deliveries and Cleaning

Waste removal, deliveries and cleaning activities have the potential to disturb sleep. Procedures will be adopted into an operational waste management plan and where possible activities and waste removal will take place between 7:00 AM and 10:00 PM.

Noise Intrusion

Internal Areas

The primary source of noise intrusion for the site is existing and projected road traffic on the immediately adjacent road network. Road traffic noise intrusion has the potential to impact school operations particularly in the teaching and administration spaces of the proposed buildings.

The NVAR modelled predicted traffic volumes to establish road traffic noise levels, which were used to propose mitigations in the form of acceptable glazing, façade, door and natural ventilation selections and specifications. It is noted that the Section J (of the National Construction Code) Report in **Appendix 18** also includes minimum insulation and glazing performance requirements that must be meet and will assist in addressing noise intrusion.

Outdoor Areas

Predicted road traffic noise levels across the site are modelled in the NVAR for the proposed outdoor areas and summarised in Table 18 below against target aspirational criteria for outdoor areas. The Outdoor sports areas, COLA and outdoor learning centre for support learning unit do not meet the aspirational noise level targets (referred to in Section 6.3.1 above), and specific design solutions are recommended to mitigate the potential impacts.

Table 18: Predicted road traffic noise levels – Outdoor Areas

Area	Predicted road traffic noise level $dBL_{Aeq,1hr}$	Complies	Comments
Quadrangle	54-58	Partial	Spaces close to buildings are within the target criteria for outdoor areas. A marginal exceedance in the order of 3 dB is expected to the east of the outdoor areas.
Outdoor sport areas	56-60	No	A 1-5 dB exceedance is expected in outdoor sporting areas. Installation of a berm or barrier is not considered feasible. The introduction of buildings in future stages would provide further shielding to these areas.
Covered outdoor workshop areas (COWA)	50	Yes	Considered suitable for outdoor teaching and learning, if enclosed by full height acoustic louvres.
Covered outdoor learning area (COLA)	54-56	No	Spaces close to buildings are within the target criteria for outdoor areas. A 1-5 dB exceedance is expected for some areas of the COLA. Installation of a berm or barrier is not considered feasible. The introduction of buildings in future stages would provide further shielding to these areas. Installation of acoustic finishes to underside of canopy will assist in reducing noise levels.
Outdoor learning centre for support learning unit (OLC for SLU)	63	No	Exceeds criteria significantly with openings. Inclusion of full height glazing or acoustic louvres to the west required to address cumulative road traffic and plant noise intrusion.

Conclusion

The operational assessment has considered noise emissions from school operations including building services, outdoor play areas, gymnasium use, outdoor workshop area and car parks. Road traffic noise increase associated with operation of the school has also been assessed along with noise intrusion into the development site.

The site and building layouts have been designed to shield operational noise impacts on surrounding properties and noise intrusion into the site. Mitigation measures are recommended to enhance the building envelope where feasible and achieve compliance with target criteria.

The assessment found the activity would be unlikely to cause a significant impact on the environment subject to the implementation of appropriate mitigation measures as outlined in the section below.

6.3.4 Safeguards and Mitigation Measures

The NVAR concludes that the proposed high school is not likely to have significant environmental impacts in relation to noise and vibration subject to the implementation of the mitigations and project recommendations, which have been included within Table 19 and **Appendix 1**.

Table 19: Noise and Vibration Mitigation Measures

ID	Mitigation Measures	Timing
N1	Appropriate equipment selection and noise mitigation design to be adopted to achieve internal and external building services noise and vibration criteria in the Noise and Vibration Assessment Report (ARUP, 2025).	Pre-Construction, During Construction
N2	Acoustic louvres to be installed within Gymnasium and Covered Outdoor workshop areas where required to achieve environmental noise emission criteria in the Noise and Vibration Assessment Report (ARUP, 2025).	Pre-Construction, During Construction
N3	Restrict usage of Public Address system to daytime hours only (7am to 6pm). Use directional speakers and set volume levels to the minimum required to ensure clarity and audibility.	During Operation
N4	Where practicable, all loading dock activities, waste removal and noisy cleaning activities should take place between 7:00 AM and 10:00 PM.	During Operation
N5	Façade glazing, natural ventilation, external doors, façade wall treatments, and acoustic louvres are to be selected to mitigate noise intrusion and achieve internal noise recommendations in the Noise and Vibration Assessment Report (ARUP, 2025)	Pre-Construction, During Construction
N6	Contractor to develop a detailed construction noise and vibration management plan (CNVMP) once specific details of proposed construction activities and staging are known.	Pre-Construction

6.4 Contamination and Hazardous Materials

An assessment was carried out to identify the extent and magnitude of any contamination within or likely to affect the proposal site.

The assessment of contamination has been informed by a Detailed Site Investigation (DSI) report titled *Report on Detailed Site Investigation (Contamination) – New High School for Googong* carried out by Douglas Partners and provided in **Appendix 13**.

6.4.1 Methodology

Desktop Study

A desktop review of NSW Environment Protection Authority (EPA) public registers including the Contaminated Land Record of Notices (NSW EPA, 2025) and List of Contaminated Sites Notified to the EPA (NSW EPA, 2024) was undertaken.

The findings of a Preliminary Site Investigation (PSI) undertaken by Douglas Partners titled *Report on Preliminary Site Investigation (Contamination), Proposed New Public School, 200 Wellsvale Drive, Googong* dated November 2023, were reviewed and have been adopted in the DSI.

Detailed Site Investigation and Sampling

The DSI and sampling were undertaken to address the site history and PSI conclusions that there were two main sources of potential contamination at the site, which comprised fill or residual impacted soil and the recent use of the site as a construction compound.

The following key guidelines were consulted in the preparation of the DSI:

- National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013), (NEPM) (NEPC, 2013)
- Guidelines for Consultants Reporting on Contaminated Land (NSW EPA, 2020)

Field work carried out for the DSI broadly comprised:

- field observations
- drilling six boreholes and 20 test pit locations
- selected soil sampling and analysis
- Field work for the investigation was conducted between 27 and 29 September 2023 (Bores 201 to 206 and Pits 207 to 216) and on 8 November 2023 (Pits 217 to 226). **Figure 30** so the locations of the bores and test pits.

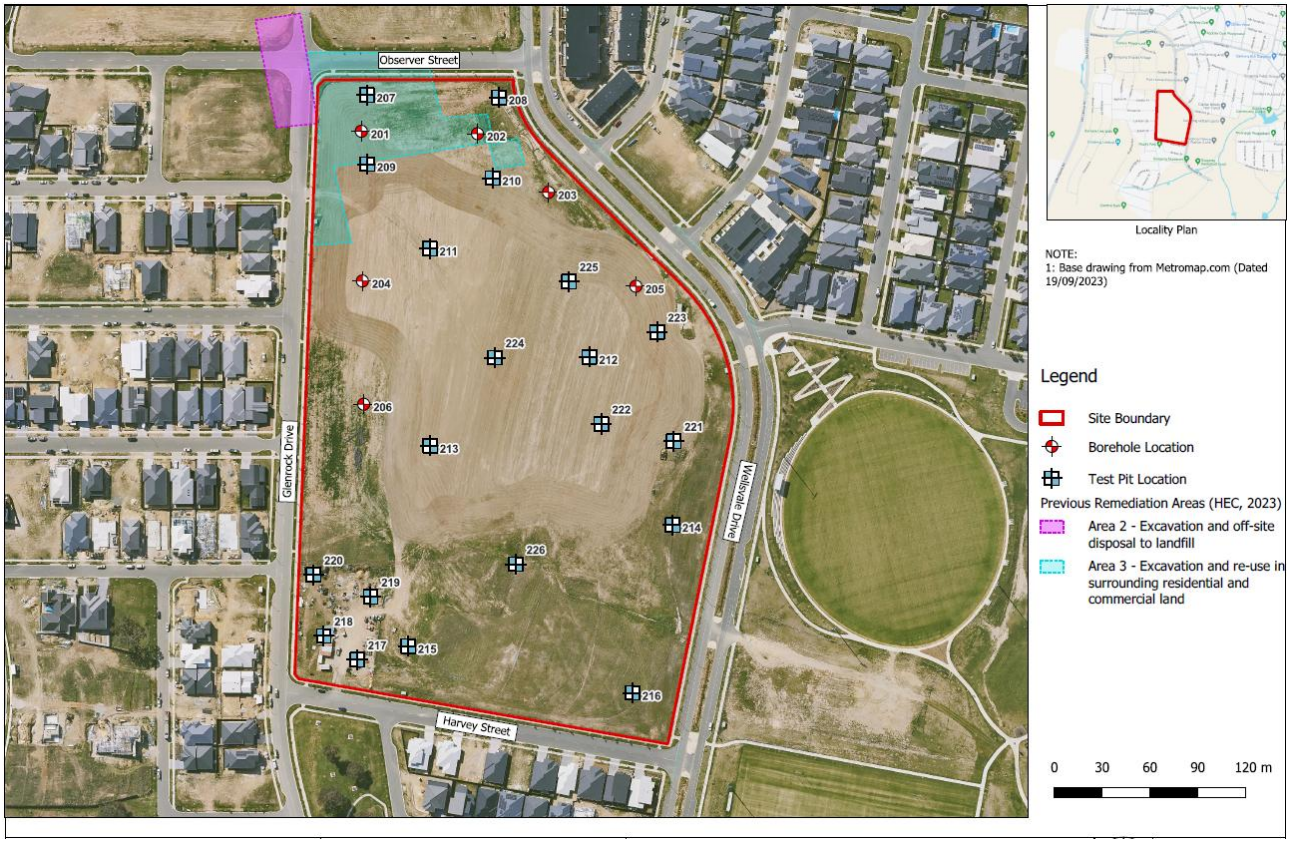


Figure 30: Previously excavated areas and locations of DSI boreholes and test pits

Source Douglas Partners, 2023

Site Assessment Criteria (SAC)

SAC were developed for the DSI based on consideration of the potential contamination sources and both human and environmental receptors (discussed below). The results of site and laboratory analysis were then assessed against the SAC and screening levels established under Schedule B1 of the NEPM for both the Health Investigation Levels Category A (HIL-A), applicable to pre-schools and primary schools land use, and Category C (HIL-C), applicable to high school land use.

6.4.2 Existing Environment

NSW EPA records

The EPA publishes a list of contaminated land notified under section 60 of the CLM Act. These have been assessed by the EPA as being contaminated but may not always require regulation under the CLM Act. The EPA also publishes a record of any notices issued by the EPA to trigger assessment and remediation of significantly contaminated land.

A search of the NSW EPA Contaminated Land Record (NSW EPA, 2025) identified no records of contaminated sites or notices issued within, or on sites surrounding the subject site.

Site History

Based on the review of available site history information, the PSI considered the site had historically been used for grazing from the mid to late 1800's until sometime around 2017, when development of the broader Googong Township commenced in the surrounding area. Aerial photography indicated that it was around this time that various sections of the site began to be used as a construction compound to support the surrounding developments. The compound areas appeared to be used for storage of various construction materials, earthwork machinery, vehicles and soil stockpiling (refer **Figure 34** in Section 6.9).

During the PSI no areas of environmental concern (AEC) were identified within the proposal site. However, two AEC were identified on neighbouring properties to the north, comprising a naturally occurring hematite outcrop and a waste material zone (rubbish pits of metal sheeting, brick, glass and concrete). Elevated heavy metal concentrations (specifically arsenic, lead, manganese and zinc) were recorded in soil samples from test pits at adjacent land to the north of the site. The elevated heavy metals were considered to be associated with the naturally occurring hematite zone.

The PSI discussed a detailed contamination investigation conducted by Geotechnique (2017) to delineate concentrations of contaminants in soil identified at the hematite zone to the north of the proposal site. Laboratory analysis confirmed that soils impacted with metals at the hematite zone extended into the northern portion of the proposal site with exceedances of the adopted NEPC (2013) health investigation levels (HIL) for residential land use with access to soils.

The PSI addressed a remediation action plan (RAP) prepared by Geotechnique (2018) to remediate the impacted soils located within the site boundary and adjacent land to the north.

Remediation works involving an area (Area 2) only marginally within the site boundary (refer **Figure 30**) were undertaken and included the excavation of arsenic, lead and manganese contaminated soil for offsite disposal to landfill under the classification of "Restricted Solid Waste". The estimated volume of waste material removed from Area 2 was approximately 1,250m^3, however the Auditor noted that only a small portion was located within the proposal site boundary.

Further remediation at 'Area 3' included the excavation of arsenic, lead, manganese and zinc impacted soil for reuse at commercial and road areas in the surrounding land. The area of remediated land located within the high school site/REF boundary was estimated to be 5,950ml^2, with the depth of excavations ranging from 0.5 metres to 2.0 metres below ground level (bgl).

The location and extent of Area 2 and Area 3 are shown in **Figure 30**.

Following the excavation of Areas 2 and 3, validation sampling was undertaken at the excavations and the results presented to an EPA accredited site auditor.

The site auditor, in issuing a Site Audit Statement (SAS) in July 2023 for the issue of a subdivision certificate to create a title for the site, considered that the site investigation, remediation and validation were undertaken appropriately and confirmed that the site has been rendered suitable for the proposed land use as a primary and secondary school, and that no further investigation or remediation was required.

6.4.3 Potential Impacts

Potential sources of contamination

Based on the desk-based assessment, site investigations and the results of the PSI and DSI, the following potential contaminants sources have been identified as relevant to the proposal:

- Fill / residual impacted soil (i.e., undetected contamination between and beyond previous test locations). The DSI notes that the site has been subject to controlled filling and so the potential for contaminated fill is considered to be low.
- Activities associated with recent use of the site as a construction compound (e.g., storage of fuels / oils, materials, construction equipment, transient stockpiling of soils).

Potential receptors and exposure pathways

The DSI identifies the potential receptors to the potential sources of contamination (e.g. construction workers, future students and staff, groundwater, adjacent sites, flora and fauna) as well as potential exposure pathways (e.g. ingestion, skin contact, leaching).

Analysis

No non-soil anthropogenic materials (i.e. substances created or influenced by human activities) were observed in the boreholes or test pits at the site.

No free groundwater was detected in any of the boreholes, which were drilled to a depth of between 5.6 and 7.0 metres. The DSI provides a detailed summary of the laboratory analysis of the boreholes and test pit samples.

The analytical results presented some elevated concentrations of naturally occurring metals (arsenic, copper, lead, manganese, and zinc) in a number of the boreholes and test pits. However, the recorded metals concentrations are not considered to be of significance with respect to the protection of local flora and fauna, and within health-based criteria such the site is considered suitable for the proposed land use comprising a high school.

Asbestos was not detected in any of the analysed samples.

The elevated metals are considered to be associated with the natural minerology as a result of the local natural soil / bedrock and not indicative of contamination. Given this, a recommendation is

made to conduct 'check' sampling and analysis for metals in soil / bedrock that is excavated and planned to be relocated as high concentrations of naturally occurring metals may be associated with bedrock (at untested depths).

Given the widespread filling of the site, albeit assessed to be at a low contamination risk, it is also recommended that an unexpected finds protocol be developed and implemented during future civil, and construction works.

The DSI notes that fill would likely be classified as general solid waste, but that standalone waste classification would be required for material to be disposed of off-site. Similarly, natural soil and rock may be classifiable as Virgin Excavated Natural Material (VENM), but further sampling and analysis would be required for classification and disposal off-site.

There is expected to be minimal impacts following completion of construction once disturbed areas have been stabilised. It is not expected that the proposal would have any ongoing contaminated soil impacts after the completion of construction.

Potential sources of contamination during construction and impacts on the environment will be mitigated through the implementation of procedures within a construction environmental management plan.

6.4.4 Safeguards and Mitigation Measures

The DSI concludes based on the results of the investigation, whilst incorporating information presented in the SAR, it is considered that the site is suitable for the proposed activity of a new high school, from a contaminated land perspective, subject to mitigations included in Table 20 and **Appendix 1**:

Table 20: Contamination Safeguards and Mitigation Measures

ID	Mitigation Measure	Timing
C1	Prepare a Construction and Environmental Management Plan (CEMP).	Pre-Construction
C2	'Check' sampling and analysis is to be carried out for metals in any soil / bedrock that is excavated and planned to be relocated within the site.	Pre-Construction, During Construction
C3	An unexpected finds protocol be developed and implemented during future civil and construction works such that any unexpected finds of contamination (or potential contamination) is appropriately assessed and managed.	Pre-Construction, During Construction
C4	A standalone waste classification is to be required for any specific material requiring off-site disposal.	Pre-Construction, During Construction
C5	Further sampling and analysis are to be undertaken in order to provide a classification for soil or rock that is designated to be disposed off-site.	Pre-Construction, During Construction
C6	Imported Fill Material: a) Imported fill material must be compatible with the existing soil characteristics of the site and limited to the following: b) Virgin excavated natural material (VENM); and/or	Pre-Construction, During Construction

ID	Mitigation Measure	Timing
	c) Excavated natural material (ENM) certified as such in accordance with Protection of the Environment Operations (Waste) Regulation 2014; and/or d) Material subject to a Waste Exemption under Clause 91 and Clause 92 of the Protection of the Environment Operations (Waste) Regulation 2014 and recognised by the NSW Environment Protection Authority as being "fit for purpose" with respect to the works under the REF. Certificates from a suitably qualified person/contractor proving that the imported fill material complies with these requirements must be provided to the Crown Certifier and the relevant DoE Project Director/Asset Manager prior to filling works.	
C7	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 and minimise harm to the environment through the introduction, spread or increase in any weed, disease or pest. A written statement provided by the supplier confirming compliance with the Resource Recovery Mulch Order 2016 is to be provided to the Crown Certifier and the relevant DoE Project Director/Asset Manager prior to importing the mulch.	Pre-Construction, During Construction
C8	The use and storage of hazardous materials and dangerous goods, including petroleum, distillate and other chemicals, shall be in accordance with the relevant legislation.	Construction
C9	All materials must be wholly contained within the construction site. The requirements of the Protection of the Environment Operations Act 1997 are to be complied with when placing and stockpiling construction and waste materials, when disposing of waste products and during any other works likely to pollute drains or watercourses.	Construction
C10	Building operations such as brick cutting, mixing mortar and the washing of tools, paint brushes, form-work and concrete trucks shall be undertaken in the construction site in a location so as to prevent air, land or water pollution.	Construction
C11	A spill containment kit will be available at all times. All personnel will be made aware of the location of the kit and trained in its effective deployment.	Construction

6.5 Soils and Geology

A Geotechnical Investigation (GI), prepared by Douglas Partners, is aimed to assess subsurface conditions at test locations to provide insights on site preparation, excavation, support measures, site classification (AS 2870:2011), pavement design, soil aggressivity, and earthquake considerations. The GI is provided in **Appendix 19.**

6.5.1 Existing Environment

The general topography of the surrounding area has slopes down in a general easterly direction. Surface levels generally fall in an easterly and north-easterly direction at approximate grades of 1 in 15 to 1 in 20.

A fault is mapped as running through the site orientated in a north-east to southwest direction. The fault is mapped as containing iron concentrations which may lead to difficult excavation conditions. It is noted however; iron cemented rock was not encountered during both previous and current geotechnical investigations within the approximate vicinity of the fault line.

Bulk Earthworks

Douglas Partners records indicate that between February 2021 and September 2022, controlled fill up to 4m deep was placed in the south-western, western, and northern parts of the site during bulk earthworks for adjacent subdivision stages. The fill material, sourced onsite, primarily consisted of rock with varying strength and fracturing, along with some residual and alluvial soils.

The approximate extent of the bulk earthworks undertaken as part of earlier subdivision works is demonstrated in **Figure 31** below.

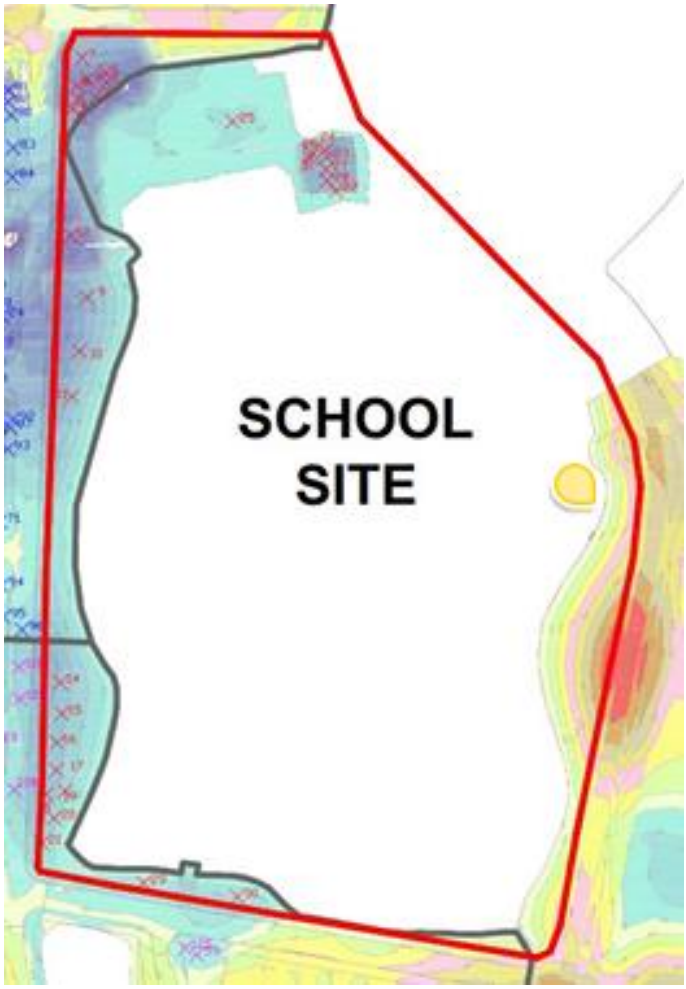


Figure 31: Approximate Extent of Bulk Earthworks

Source: Douglas Partners

6.5.2 Methodology and Impacts

Geotechnical testing conducted by Douglas Partners confirmed that the site does not contain acid sulphate soils. Additionally, mapping indicates "No known occurrence" of acid sulphate soils (ASS) in the area.

Given the topography of the site, an estimated total of 24,838m^3 of cut and an estimated total of 24,823m^3 fill is required for the proposed structures and pavement.

Excavation of fill, natural soils, and low-strength rock is expected to be manageable using conventional earthmoving equipment, with no significant challenges anticipated for site cuts up to 3 meters deep. Depending on weather conditions, subgrade stabilization may require the use of a geofabric or rock fill layer.

Most significant earthworks and site preparation were completed under the subdivision works approved under DA123-2017. While some removal of fill, natural soils, and low-strength rock may still be required, this will have minimal impact on the surrounding neighbourhood, as no blasting and little rock breakers will be necessary.

The assessment found the activity would be unlikely to cause a significant impact on the environment subject to the implementation of appropriate mitigation measures as contained in this report.

6.5.3 Safeguards and Mitigation Measures

The proposed high school is not likely to have significant environmental impacts in relation to soils and geology impacts subject to the implementation of the mitigations and project recommendations included in Table 21 below and in **Appendix 1**.

Table 21: Soils and Geology Safeguards and Mitigation Measures

ID	Mitigation Measure	Timing
S1	Prior to the commencement of any construction work, a Pre-Construction Dilapidation Report must be prepared by a suitably qualified expert and submitted to Council, relevant asset/service infrastructure owners, the Crown Certifier and the relevant DoE Project Director/Asset Manager. The report must provide an accurate record of the existing condition of adjoining private properties that are likely to be impacted by the works (and that have agreed to an offer for a dilapidation survey), and assets/service infrastructure that is likely to be impacted by the works	Pre-Construction, During Construction
S2	Vibration levels induced by the demolition activities must not exceed levels listed in Standard DIN 4150-3 (1999-02), Structural vibration Part 3 – Effects of vibration on structures Table 12-7. The operation of plant and equipment must not give rise to the transmission of vibration nuisance or damage to other premises. Prior to commencement a specific vibration monitor must be set up to monitor and record the vibration levels affecting surrounding buildings	Pre-Construction, During Construction
S3	Vibration monitoring to determine the level of vibrations induced by piling equipment is to be performed and if measured as	During Construction

ID	Mitigation Measure	Timing
	being above 5 mm/sec at the boundary of the sensitive receiver, piling works should be superseded and re-evaluated.	

6.6 Hydrology, Flooding and Water Quality

6.6.1 Local Hydrology

The subject site is not located on or in proximity to a watercourse, with NSW hydroline data indicating that the subject site is located approximately 240 metres from the closest watercourse at its nearest point.

The site is not identified as being located within a regulated catchment. Further, the site is not identified as being within a drinking water catchment, with the boundary of the nearest drinking water catchment being located approximately 1.07 kilometres southeast of the subject site at its nearest point.

6.6.2 Groundwater

Geotechnical testing was undertaken by Douglas Partners as part of a 2023 site geotechnical investigation of the subject site. Earlier testing undertaken by Douglas Partners in 2016 as part of the earlier subdivision of the site and its surrounds was also referenced in findings contained within the 2025 Geotechnical Report prepared by Douglas Partners for this REF (**Appendix 19**).

Testing for groundwater included observations as part of drilling of:

- Six boreholes for the 2023 geotechnical investigation, with test depths extending between 5.6 and seven metres, and
- 185 boreholes for the earlier 2016 geotechnical investigation, which included 18 boreholes within the boundaries of the subject site with test depths of between 600mm and five metres.

Neither the 2023 nor the 2016 investigations encountered free groundwater during the auger drilling of the boreholes, both on and around the subject site. Noting the depths of the test boreholes and that proposed earthworks will be up to three metres in depth, such investigations therefore indicate that groundwater is unlikely to be encountered during proposed construction and civil works.

It is therefore unlikely that construction and/or post-construction dewatering will be required, and as such an activity approval pursuant to Section 91 of the WM Act will not be required. However, should groundwater be encountered during works that requires ongoing construction or post-occupation dewatering, then an activity approval may be required.

Despite the above, the 2024 Geotechnical Report advises that groundwater conditions can vary rapidly due to variables such as:

- Rainfall,
- Local geology,

- Local fractures in bedrock, and
- Seasonal changes and associated changes variations in rainfall, temperature and soil permeability.

Further, the 2024 Geotechnical Report advises that groundwater spring have also been encountered during earthworks elsewhere within the Googong locality. Any seepage that is encountered is however likely to be temporary and readily controllable.

Mitigation measures therefore recommended by the 2024 Geotechnical Report to address the above include the following:

- That a geotechnical inspection be undertaken at the time of construction,
- The installation of diversion drains to minimise any surface and subsurface water entering areas of proposed development,
- The installation of subsoil drains and/or blankets and rubble drains, and
- The use of temporary casing for pier installation in the event of inclement weather prior to construction, should water pool at the base of the piers as a result of the influx of groundwater from fractures within the bedrock.

Noting the above mitigation measures, Douglas Partners advised that any need for subsurface drainage can only be determined at the time of construction.

6.6.3 Stormwater Management

Engineering plans and reporting undertaken by Enstruct and survey plans prepared by CMS Surveyors (**Appendix 5**) advise that as a vacant site, there are no existing onsite stormwater systems present. Adjoining road reserves contain Council owned drainage devices, which comprise of stormwater pits and pipes that form part of the wider drainage network.

The proposed stormwater and drainage system designed by Enstruct have been prepared in accordance with relevant Australian Standards, Council controls and technical standards (including Council's Development Design Specifications for Stormwater and Drainage Design), Australian Rainfall and Runoff (ARR) Guidelines, MUSIC Modelling Guidelines and Education Facilities Standards and Guidelines (EFSG).

To summarise and as shown by **Figure 32** below, the stormwater management system will collect stormwater (collected from the roofs of buildings and both pervious and impervious surfaces) and direct them to a 306m^3 Onsite Stormwater Detention (OSD) tank, which will be located at the northern end of the onsite carpark. Flows from the OSD system will connect to an existing pit within the northeast of the site, which will then discharge to Council's drainage system within Wellsvale Drive.

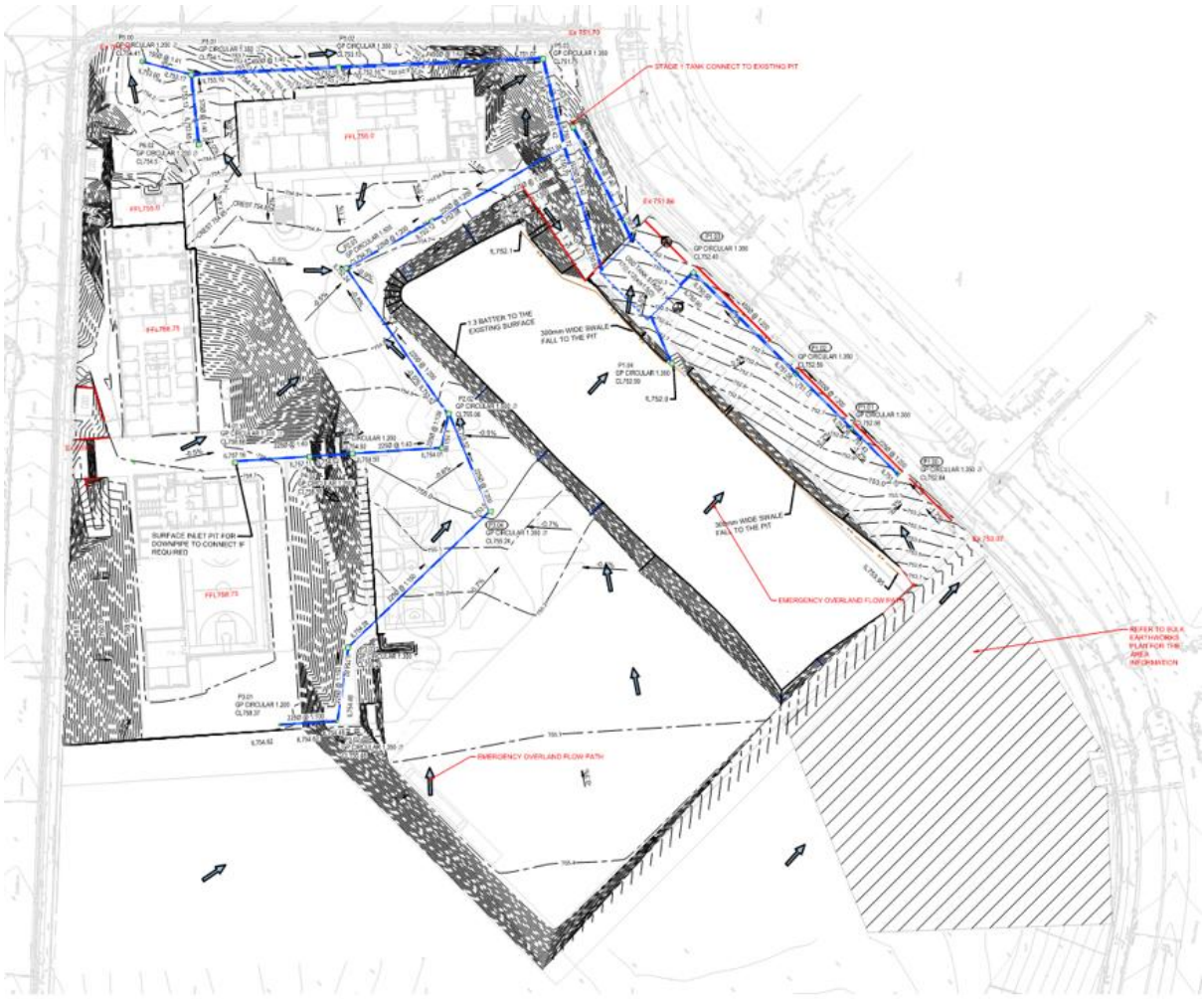


Figure 32: An extract of the proposed stormwater drainage plan

Source: Enstruct, 2025

The proposed stormwater management system has been designed to convey:

- Minimum 5% (i.e. 1 in 20-year rainfall event) Annual Exceedance Probability (AEP) flows, and
- Any exceedances up to minimum 1% (i.e. 1 in 100-year rainfall event) AEP flows, with flow velocities of less than 0.4 metres/second.

The proposed OSD system has also been designed to control runoff associated with peak stormwater events up to a 1% AEP event. Any discharge from the development site will not exceed pre-development peak discharge rates, while both discharge and bypass flows from the site will not exceed maximum permissible site discharge rates.

6.6.4 Water Sensitive Urban Design

Waster Sensitive Urban Design (WSUD) typically addresses water reuse and pollutant removal as part of controlling stormwater runoff and quality.

In accordance with relevant technical and Council design specifications, pollution control devices that form of the water treatment train (as proposed by the engineering plans and reporting

undertaken by Enstruct) are to include gully pits and filtration systems within drainage pits and the OSD tank respectively, which will capture solid pollutants of varying sizes.

With regard to the above, relevant performance requirements and proposed performance outcomes (as indicated by the Engineering plans and reporting undertaken by Enstruct) are detailed in Table 22 below.

Table 22 Pollution reduction requirements and proposed performance results.

Pollutant	Performance requirement	Performance result
Litter	100% (greater than 5mm for up to three-month ARI flows)	~99.9%
Suspended solids	80% retention of average loads	~89.1%
Total phosphorous	65% retention of average loads	~76.8%
Total nitrogen	65% retention of average loads	~67.8%

Provided that the proposed WSUD mitigation measures are maintained in accordance with relevant requirements, they will ensure that stormwater runoff from the proposed high school will maintain water quality within local drainage catchments.

6.6.5 Flooding and overland flow management

Engineering plans and reporting undertaken by Enstruct indicate that the subject site is outside of Council's flood planning area, based on studies undertaken as part of the 2019 Queanbeyan Floodplain Risk Management Plan and Study. As such, there are no Council flood-related controls that apply to the site.

Regarding post-development overland flows, ESFG requirements for stormwater necessitate that drainage systems are to be designed to maintain both access to and use of site facilities in all weather conditions, including up to a 100-Year Average Recurrence Interval (ARI).

The stormwater and drainage systems designed by Enstruct have been prepared in accordance with relevant Australian Standards, Council controls and technical standards (including Council's Development Design Specifications for Stormwater and Drainage Design), and ARR Guidelines. The design of pits and pipes and will convey (as a minimum) 5% AEP flows as per ESFG guidelines.

In the occurrence rainfall greater than a 5% AEP event, stormwater will be conveyed to the OSD system (refer to Section 1.2.3 above) as overland flows. Flow paths will generally follow the topography of the site and will direct overland flows away from buildings and structures towards pits and pipes located both in and around the carpark within the northeast part of the site. From the carpark, any such flows will be directed via pits and pipes to the OSD system.

The proposed High School will therefore not result in the creation of overland flooding hazards (both on and around the site), nor increased risks associated with flooding and overland flow impacts on other sites within the drainage catchment.

6.6.6 Erosion and sediment runoff

Measures are required during construction works to prevent erosion and the transportation of sediment off the site. Engineering plans and reporting undertaken by Enstruct indicate that erosion prevention and sediment control measures will be undertaken prior to site stabilisation and/or completion of works in accordance with *Managing Urban Stormwater: Soils and Construction – Volume 1* (otherwise commonly known as “The Blue Book”).

Proposed temporary measures to be provided include silt fences, catch drains, shaker grids on temporary access/exit points and the construction of a sediment pit, which is to be sited at the location of the proposed OSD tank.

An extract of the proposed erosion and sediment plans are contained within **Figure 33** below, however engineering plans prepared by Enstruct contain further information regarding details of erosion and sediment controls (in addition to other construction matters such as stockpile locations) and their locations. Such measures are capable of mitigating impacts associated with erosion and sediment runoff during construction works.

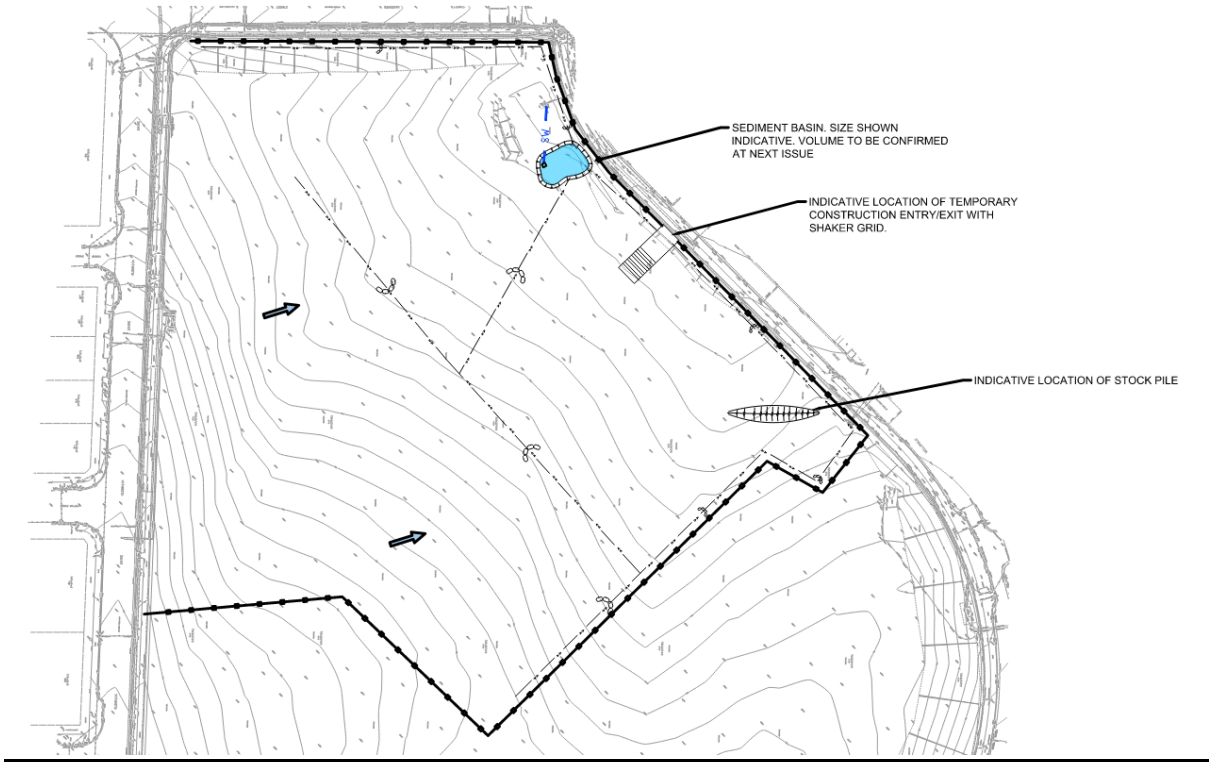


Figure 33: Extract of proposed erosion and sediment control plans

Source: Enstruct, 2025

6.6.7 Potential Impacts

During works

Interception of groundwater

While geotechnical testing in 2016 and 2023 did not encounter free groundwater, possible variables may alter groundwater conditions that may result in the interception of groundwater

during construction works. If encountered, groundwater may result in the pooling of water within excavated parts of the site and/or a need to treat and manage water discharge from the site.

Erosion and sediment control

If not appropriately managed during construction works, improperly captured and/or directed stormwater may result in onsite erosion and the transport of sediment offsite.

Post-construction occupation

Stormwater management

If not appropriately managed or maintained, proposed stormwater management works may result in damage to onsite structures and the prevention of safe movement around, and occupancy of buildings on, the site.

Stormwater treatment

If not appropriately managed or maintained, proposed stormwater treatment systems may not capture and/or treat pollutants entering the onsite stormwater management system.

Unauthorised entry to stormwater management and treatment systems

If not appropriately managed or maintained, unauthorised access may be gained to the OSD tank and associated stormwater treatment system. This may pose a risk to persons in the event of a rainfall event.

Interception of groundwater

While the encountering of groundwater is not anticipated, it may be possible as a consequence of changing variables since testing was undertaken. The report prepared by Douglas Partners advises that diversion drains should be installed as part of construction works, so that in the unexpected event that groundwater is encountered, it is diverted away from structures and excavated parts of the site.

6.6.8 Safeguards and Mitigation Measures

The proposed high school is not likely to have significant environmental impacts in relation to hydrology, flooding and water quality, subject to mitigation measures detailed in Table 23 below and **Appendix 1**.

Table 23: Hydrology, Flooding and Water Quality Safeguards and Mitigation Measures

ID	Mitigation Measure	Timing
H1	Prior to the commencement of any construction work, the operational stormwater management system for the activity must be designed by a suitably qualified person and submitted to the satisfaction of the civil engineer and Crown Certifier. The system must: a) Be in accordance with the relevant plans and supporting documents; b) Ensure that the system capacity has been designed in accordance with the relevant Australian Standards; and c) Ensure that the system has been designed in accordance with Australian Rainfall and Runoff (Engineers Australia,	Pre-Construction, During Construction

ID	Mitigation Measure	Timing
	2016) and Managing Urban Stormwater: Council Handbook (EPA, 1997) Guidelines.	
H2	Should any groundwater be encountered during construction works, works are to cease immediately. Where groundwater needs to be removed, an approval will be required under the Water Management Act 2000. This will require an application for a water supply works approval to be submitted to the NSW Natural Resources Access Regulator (NRAR) for assessment and determination. Council is to be contacted to determine the appropriate measures for the management and disposal of the groundwater.	During Construction
H3	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) prior to work commencing. The controls must be in place, inspected and managed until the works are complete, and all exposed erodible materials are stable. Inspection records must be kept and provided on request.	Pre-Construction, During Construction
H4	Prior to the commencement of operations, a Stormwater Operation and Maintenance Plan is to be prepared and submitted to the Crown Certifier. The Stormwater Operation and Maintenance Plan shall ensure that stormwater quality measures remain effective during site operations and contain the following: a) Maintenance schedule of all stormwater quality treatment devices; b) Record and reporting details; and c) Work Health and Safety requirements.	Prior to Operation
H5	To avoid post-occupation water pollution and adverse impacts on the quality of water in local water bodies, stormwater treatment measures like those detailed in the Civil Engineering Design Report (Enstruct, 2025) should be installed within the OSD tank as recommended.	Prior to Operation
H6	Stormwater management systems, including any water treatment systems, must be maintained and operated in a proper and efficient condition and in accordance with the Stormwater Operation and Maintenance Plan. Pollution control devices within the stormwater system are to be maintained in accordance with manufacturer specifications. Pollutant removal devices will require yearly inspection and maintenance.	During Operation

6.7 Aboriginal Heritage

A Preliminary Indigenous Heritage Assessment and Impact Report (PIHAIR) has been prepared by Lantern Heritage. The PIHAIR undertook both a desktop assessment and a visual pedestrian survey for the proposal site. The PIHAIR is provided in **Appendix 7**.

The PIHAIR has been prepared in accordance with the following:

- Heritage, NSW Department of Premier and Cabinet (Heritage NSW – formerly DECCW) *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (Department of Environment, Climate Change and Water, 2010a).

- *Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (Australia ICOMOS, 2013).

This section of the REF summarises the outcome of the PIHAIR.

6.7.1 Methodology

Step 1 – What is the proposed Activity?

Construction works for the proposed activity will comprise disturbance of the ground surface. As such, it is necessary to proceed with Step 2 below.

Step 2 - Review of Heritage Registers

An updated Aboriginal Heritage Information Managements System (AHIMS) register search was conducted in October 2024 (AHIMS Search #942046), identifying 117 sites within the search area. Two sites (#57-2-0988 and #57-2-0989) are located within the proposed activity area. Site #57-2-1028, previously considered within the school block, now plots within the Harvest St easement and is outside the activity area. These sites are listed as destroyed under the 2018 AHIP#4242.

Additionally, 38 sites are within a 1km radius of the study area, including artefact scatter sites and areas of potential archaeological deposit (PAD). A detailed list of all PAD sites is included in the PIHAIR

Step 3 - Desktop Assessment

The desktop component of the assessment includes a review of previous archaeological and cultural heritage investigations in the local region, together with reviews of the existing model of site location, and available mapping for the study area.

Since 2003, Googong township has undergone several archaeological investigations. The original 780-hectare study area has been divided into smaller zones based on proposed activity stages. The Googong High School study area is located within Neighbourhood 2.

In 2017, subsurface testing was conducted in Neighbourhood 2, including one artefact scatter site and two areas with low archaeological potential, excavating 86 pits. The scatter site yielded 38 artefacts, while the low potential areas produced no artefacts in one area and three in the other. Surface artefacts were found in both low potential areas, with all surface artefacts left in situ and recorded as new sites. Subsequent surveys identified seven new sites and relocated seven previously recorded ones, some yielding additional artefacts. Salvage efforts were conducted for several sites, including AHIMS #57-2-0988 and #57-2-0989.

The report recommends avoiding Aboriginal sites where possible and continuing research on farming impacts, with the requirement for an AHIP before further work. In April 2018, OEH issued AHIP C003603 (#4242) to allow for development of Googong Neighbourhood 2 which includes the current activity area.

Step 4 - Visual Assessment

The visual inspection involved a pedestrian survey of the entire activity area. All areas of ground exposure within the proposed activity area were inspected, however visibility within the northern portion of the activity area was limited by vegetation density. No mature trees were located within the activity area.

Two Aboriginal sites (#57-2-0988 and #57-2-0989) were previously recorded within the activity area. The visual survey found that the area has been heavily disturbed by construction activities from Googong Neighbourhood 2, including the removal of up to 80cm of topsoil along the eastern boundary to create a drainage channel. The rest of the area has been stripped of topsoil, revealing gravelly soil with decomposing bedrock.

Test excavation nearby indicated that artefacts were found within the top 10cm of soil, suggesting that any artefact-bearing deposits have been removed from the activity area.

6.7.2 Potential Impacts

Based on the desktop and visual assessment undertaken under this PIHAIR, it is concluded that the study area has no potential to contain Aboriginal objects as sites 57-2-0988 and 57-2-0989 have been destroyed under AHIP No. #C0003603 (Permit ID 4242). Moreover, any artefact bearing soil has been removed by development of Googong Neighbourhood 2. The activity area is covered by an active AHIP which was issued on 27 April 2018 with a duration of 10 years (AHIP No. #C0003603) (Permit ID 4242) and allows for the construction of the high school.

The proposed works may proceed with caution, with the caveat that if human remains are discovered, work must stop, and relevant authorities (HNSW or NSW Police) must be notified (DECCW, 2010a: 10).

6.7.3 Safeguards and Mitigation Measures

As a result of this assessment, the proposed high school is not likely to have significant environmental impacts in relation to Aboriginal heritage. It is recommended that the proposed New High School for Googong project may proceed with caution subject to the following safeguards and mitigation measures recommended by Lantern Heritage in Table 24 and **Appendix 1**:

Table 24: Aboriginal Heritage Mitigation Measures

ID	Mitigation Measure	Timing
AH1	Works may proceed in accordance with AHIP No. #C0003603 (Permit ID) If human remains are found, stop work, secure the site and notify the NSW Police and Heritage NSW in accordance with the Operational Conditions and the Notification and Recording Conditions of AHIP No. #C0003603.	Construction
AH2	A copy of the PIHAIR (Lantern Heritage, 2023), and any subsequent due diligence investigations, should be kept on record, and if requested, supplied to the relevant government agency as proof of compliance with the *Due Diligence Code of Practice*.	Construction

6.8 Environmental Heritage

A review of the State Heritage Register confirmed no state heritage-listed items are present on or near the site. The site is also not identified as containing, or being near, any locally significant

heritage items or as being within a Heritage Conservation Area (HCA) under Schedule 5 of the Queanbeyan-Palerang Regional LEP 2022.

On this basis, the proposed works will not impact any state or locally significant heritage items or HCAs.

Given the absence of any identified European heritage significance and disturbance to the site, including complete clearing and cut and fill activities during the subdivision development, it is unlikely that there would be any aspects or potential impacts on European archaeology.

6.8.1 Safeguards and Mitigation Measures

As a result of this assessment, the proposed high school is not likely to have significant environmental impacts in relation to environmental heritage subject to the implementation of the mitigations and project recommendations included in Table 25 and **Appendix 1**:

Table 25: Environmental Heritage Mitigation Measures

ID	Mitigation Measure	Timing
EH1	All personnel working on the site must understand their responsibilities under the Heritage Act 1977. If any archaeological relic (or potential relic) of heritage significance is discovered during any construction work, all work in the vicinity must cease and the area must be appropriately protected. Materials should not be removed from the ground wherever possible. The DoE Heritage Team is to be notified, and an archaeologist engaged to undertake a site inspection to ascertain whether the finds are significant relics. Construction works cannot recommence in that area until advised by the archaeologist, in consultation with the DoE Heritage Team. Should significant relics be identified, external approvals to impact the relics may be required.	Construction

6.9 Ecology

This section provides an assessment of the potential impacts of the proposal on ecology and identifies safeguards and management measures to avoid or minimise these impacts.

A desktop assessment of the sites history, previous assessment reports for the development of the area, and searches of state and government databases have been summarised below to inform the REF.

6.9.1 Background and Existing Environment

Approval for the subdivision development in the proposal area of Googong was granted under DA123-2017. This approval included the clearing of the site in preparation for future development.

A Flora and Fauna Assessment (FFA) was prepared by Capital Ecology to support DA123-2017 (**Appendix 26**), which addressed matters surrounding the potential for protected and threatened ecology on the site. Capital Ecology conducted a detailed analysis of biodiversity on the site, making the following conclusion:

> *'Based on the assessment provided herein, it is concluded that, with the implementation of the proposed measures to avoid, minimise and mitigate impacts upon biodiversity values (as detailed in Section 5), the proposed development is* ***unlikely to significantly affect any threatened species, population or ecological community*** *listed pursuant to the NSW TSC Act. Accordingly, the preparation of Species Impact Statements, or the provision of a formal offset, is not considered warranted for the proposed development.'*
>
> (**our emphasis**)

Following approval of the subdivision development application (DA123-2017) the site was completely cleared, as displayed in **Figure 34** below (from October 2021), and utilised as a temporary construction compound during the subdivision development. The site is now revegetated in grass, with the development of residential housing, sporting facilities and the new Googong town centre precinct surrounding the site.

Figure 34: Aerial image from October 2021 showing the proposal site completely cleared of vegetation and used as a construction compound, including stormwater detention, during the subdivision development works for the surrounding neighbourhood.

Source: Nearmap

6.9.2 Methodology and Impacts

Mecone conducted a desktop analysis using the NSW Government's Central Resource for Sharing and Enabling Environmental Data (SEED) tool and the Department of Climate Change, Energy, the Environment and Water's (DCCEEW) Protected Matters Search Tool (PMST). This analysis

utilised these resources to identify whether the site contains any significantly affected threatened species, ecological communities, or Matters of National Environmental Significance (MNES) that could be impacted by the proposed activity.

Mecone's desktop analysis of the SEED and PMST tools found no recorded sightings or protected ecological features on the site (refer to **Figure 35** below, which confirms this absence of sightings). Further, the proposed activity will not have an impact on MNES, pursuant to the EPBC Act. This is reflective of the site's current condition vegetated in grass, having been completely cleared of vegetation between 2018 and 2021. **Figure 36** below further illustrates the site's cleared state, showing no vegetation present and **Figure 37** the absence of any plant community types.

Figure 35: Image from the NSW Government SEED tool BioNet Species Sightings Data Collection taken January 2025 showing the recent sightings of flora and fauna in proximity to the site (the site identified in red).

Source: SEED Portal, NSW Government

Figure 36: Image from the Biodiversity Values Map and Thresholds Tool taken January 2025 showing the absence of threatened species and any ecological communities on the site (the site identified by the blue dot).

Source: BVMT Tool, NSW Government

Figure 37: Image from NSW Government SEED tool State Vegetation Type Map taken January 2025 showing Plant Community Types (the site identified by the red dot).

Source: BVMT Tool, NSW Government

Based on the abovementioned desktop review, the activity will not affect any *Environmental Protection and Biodiversity Conservation Act 1999* (Cth) listed threatened species, ecological community or migratory species, nor is it likely that the activity will have a significant impact in accordance with the *Biodiversity Conservation Act 2016* (BC Act 2016) (refer to **Figure 36** above which confirms this absence of threatened species and ecological communities on the site). Further, the works will not affect a National Park or reserve and there is not any important vegetation or habitat within or adjacent to the work area. The works will not impact any aquatic flora or habitat being located more than 100m from a body of water.

Since no substantial changes have occurred to the site since Capital Ecology conducted their analysis and no significant trees are proposed to be removed, it is concluded that the proposed activity will not significantly impact threatened species, ecological communities, or their habitats. As such, the activity is not likely to have a significant impact on matters of national environmental significance, or on the environment of Commonwealth land, and therefore referral to the Minister under the EPBC Act is not required

As discussed in Section 2.2 there are currently 97 street trees located around the permitter of the site. Eight of these street trees are proposed to be removed to facilitate vehicular access to the site and the provision of a school bus bay. The loss of these trees will be offset by the planting of 200

new trees within the site and appropriate safeguards are recommended to address the tree removal, protect all remaining street trees during construction, and to ensure new plantings are established and maintained.

6.9.3 Safeguards and Mitigation Measures

Following the assessment, the proposed high school is not likely to have significant environmental impacts in relation to ecology subject to the implementation of the mitigations and project recommendations included in Table 26 below and **Appendix 1**.

Table 26: Mitigation measures to prevent cumulative impacts

ID	Mitigation Measure	Timing
TR1	All street trees shown on the plans as being retained must be retained and protected.	Pre-Construction, Construction
TR2	An official “Project Arborist” must be commissioned to oversee the street tree removal and protection, any activity within the TPZ’s, and to complete any compliance certification	Pre-Construction, Construction
TR3	The Project Arborist is to participate in pre-clearing site walk-through to confirm the street trees to be removed and the street trees to be retained and the setup of tree protection measures. Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) for retained trees are to be confirmed by the arborist. Prior to commencement of construction, the arborist will inspect the setup of TPZs, ensuring they meet the requirements of AS4970(2007) Protection of Trees on Development Sites.	Pre-construction
TR4	The Project Arborist is to supervise any earthwork or service installation within the TPZ’s of street trees to be retained.	Construction

6.10 Social Impact

Mecone has conducted a desktop review to assess the social impacts associated with the proposed activity. Consideration has been given to the potential effects on future students as well as on current and future residents of the area.

Table 27 provides consideration of social impacts.

Table 27: Social Impact

Type of Impact	Describe the impacts on the community and how they might be experienced, either positively or negatively	Discussion
Impacts on access – will there be an improvement to the quality of provision and a response to emerging and changing needs?	The community will benefit positively from improved access through the establishment of a new, high-quality school designed to meet the educational needs of residents in the new Googong neighbourhood. During the construction phase, there will be temporary disruptions to vehicular access. However,	At present, there are no schools within the immediate catchment area of the Googong neighbourhood. The new school will increase school capacity for both public primary and public secondary school in the social locality in response to high existing and

Type of Impact	Describe the impacts on the community and how they might be experienced, either positively or negatively	Discussion
	upon completion, the improved road, footpath, and cycle networks will enhance connectivity and provide long-term benefits to the community.	future demand. Currently, there is no public transport infrastructure near the proposed school. However, the neighbourhood and school are designed to ensure that students from the immediate catchment can safely walk to and from the campus.
Impacts on privacy, overshadowing, peace and quiet, and visual amenity (views / vistas) - will there be significant change for neighbours and the local area during both construction and operation?	The proposed activity will not negatively affect privacy or visual amenity. While there may be some impact on the neighbourhood's peace and quiet during school operational hours, this can be effectively managed through mitigation measures, ensuring the impact remains minimal.	Privacy, overshadowing and visual amenity are discussed in detail in the table below. While residents will experience a change in visual outlook, the built form has been carefully designed with appropriate setbacks to prevent overshadowing of existing homes. Additionally, integrated landscaping will help soften the building's appearance, reducing its bulk and scale to ensure a harmonious fit within the neighbourhood. Construction activities will be subject to the requirements within a Construction Environment Management plan and will be restricted to certain hours. Noise and vibration impacts are detailed in **Section 6.3** above. These assessments confirm that there will not be a significant change for neighbours and the local area during both construction and operation
Impacts on sense of place - will there be effects on community cohesion or how people feel connected to the place and its character?	The proposed activity will positively impact the community's sense of place, by providing a safe education facility.	The proposed school will serve as a vital hub for fostering connections among students, providing them with opportunities to build relationships with peers and engage meaningfully with teachers in a supportive learning environment. Beyond its role as an educational institution, the school is designed to benefit the broader community. The facilities are intended to be made available for use outside of typical school hours, creating a versatile space for organised

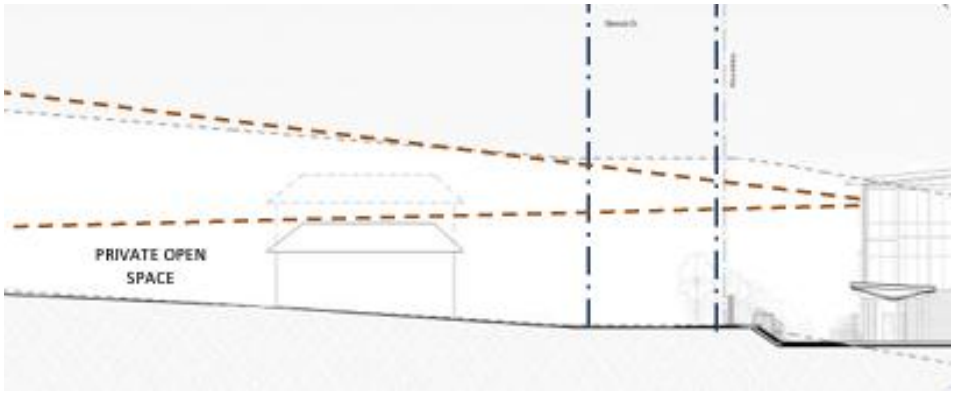
Type of Impact	Describe the impacts on the community and how they might be experienced, either positively or negatively	Discussion
		community events. This approach ensures the school becomes a cornerstone of the neighbourhood, promoting social interaction, community engagement, and a sense of place for all residents.
Impacts on the way people get around – will there be changes associated with traffic or parking in the area?	While there may be some impact on traffic and parking in the neighbourhood, this can be effectively managed through mitigation measures, ensuring the impact remains minimal.	Traffic and parking impacts are detailed in **Section 6.1** above. The new school site will likely be a traffic generator at key drop off and pick up times. The TIA confirms that the existing neighbourhood can manage additional traffic flow. Parking has been designed to allow for all staff to park on-site. Enough on-street parking is provided around the site to provide parking for students. This will be within the immediate vicinity of the school, so should no impact nearby resident's parking.
Impacts on wellbeing - will there be benefits for students and the community associated with better school facilities, sporting facilities and grounds, and active transport options?	The new school will positively impact students and residents in the Googong neighbourhood, by providing a new educational facility.	Students in the school's catchment may have increased opportunities to walk/cycle to school which may not have been possible when attending schools in the area due to distance from their homes The proposed design of the schools will promote safe active recreation outdoors by providing shaded play areas for students. The School Travel Plan (**Appendix 23**), and additional footpaths/ cycleway aims to reduce car dependency.

The analysis in the table suggests that the proposed activity is unlikely to result in any negative social impacts. In cases where the development may influence the social outcomes of the neighbourhood, appropriate mitigation measures have been proposed to effectively manage these impacts.

6.11 Other issues

Table 28: Other Issues

Issue	Consideration
Visual Amenity and Privacy	**Privacy** Privacy is essential in a school environment to foster a sense of security and well-being for both students and the surrounding community.

Issue	Consideration
	The site arrangement allows Block A and B to shield against the west and north. Whilst the east is open, Wellsvale Drive is setback behind the staff carpark and vegetation strip allowing for only distant view lines. The privacy of neighbours is equally important, and design features such as acoustic louvres and thoughtful landscaping are incorporated to reduce noise and visual intrusion. As shown below, the design considers view lines into private spaces, ensuring that even with a single-level house, residents can maintain their privacy. This approach strikes a balance, respecting the privacy of neighbouring homes while fostering a positive relationship between the school and the surrounding community.  **Visual Impact** The new high school has been designed using materials and finishes that integrate into the existing environment, whilst also creating an interesting space for the future students. The setbacks proposed have been considered in the design, to ensure the built form responds to the general desired future character for the site and surrounds. The visual character is further enhanced by the use of landscaping across the site. The landscape design aims to create a welcoming entrance while maintaining strong connections to the surrounding public space. A landscaped setback will transition between the school and public areas, softening the secure fence with planting, providing shade, and reducing the building's visual impact. The design includes a significant setback along Glenrock Drive, where local endemic plantings and tree canopies enhance the space while minimizing the visual impact of the fence.  The visual impact of the proposed activity is further discussed in **Appendix 3.**
Overshadowing	Overshadow Diagrams have been prepared by NBRS in **Appendix 2**. The school was designed to avoid overshadowing nearby residential properties between 9am and 3pm during mid-winter. As shown in the diagram below, the shadowing does

Issue	Consideration
	not directly impact any residential properties to the west, at any time. 
Bushfire	Eco Logical Australia (ELA) were engaged by the department during the due diligence phase to investigate the bushfire hazard and protection requirements associated with Proposal site and to prepare a report addressing their findings. Their report, dated March 2024, concludes that: *The subject land is partially mapped as bush fire prone land (BFPL) however, Queanbeyan-Palerang Regional Council (QPRC) recently updated the BFPL map (20 March 2024) to reflect the current level of residential development and subsequent removal of surrounding bushfire hazards, which removes the BFPL layer from the subject land. There is no bushfire hazard within 140m of the subject land which was assessed in accordance with the detailed methodology of Planning for Bush Fire Protection (PBP) as Bushfire Attack Level (BAL)-LOW therefore, no specific bushfire protection measures apply to future development on this site.* No specific bushfire provisions or mitigations are required for the Proposal.
Safety and Security (CPTED)	Safety and Security Measures have been recommended in the Design Report prepared by NBRS (**Appendix 3**). The following CPTED strategies have been employed: **Territorial Enforcement:** Community ownership of public spaces encourages use, enjoyment, and safety. People with a sense of guardianship are more likely to intervene in crime and prevent it, as criminals avoid areas with high detection risk. Territorial reinforcement uses boundaries, clear design, and environmental cues to foster responsibility, guiding appropriate use of spaces. The following design responses have been implemented to mitigate potential impacts to safety and security: • The outdoor play area is designed for safety, with open, visible spaces that discourage misuse and ensure help is accessible. Courtyards are visible from ground level, learning areas, and upper walkways. Transparent communal stairwells enhance safety by promoting supervision and discouraging illicit activities, ensuring a secure environment with no hidden corners. • Placing the high school gym and sports facilities along the southern boundary fosters potential shared use with development to the south. • The new Googong high school design will feature an Acknowledgement of Country sign and collaborate with Yerrabingin to incorporate Connecting

Issue	Consideration
	with Country elements. **Surveillance:** Public spaces feel safer when individuals can observe and interact with familiar people, such as residents. Criminals are deterred in well-monitored areas. Natural surveillance is created when regular users can observe and be observed, highlighting the importance of thoughtful design, layout, and lighting to enable this. The following design responses have been implemented: • The high school design includes visible linear walkways from the central courtyard and perforated metal balustrades on upper-level walkways for clear supervision. This minimizes blind corners and ensures a secure, well-monitored environment for students. • The visibility of the school entrances from adjacent streets aligns with the department's strategic planning guide, improving accessibility and strengthening the school's community identity. This approach promotes easy navigation for students, staff, and visitors, while external signs enhance wayfinding and assist emergency services in locating the school quickly. • External lighting is integrated in the proposal • The staff carpark and the services maintenance access area are located to the East of the site which is visible from inside the Plaza as well as from the public domain area such as footpath and Wellsvale Drive. **Access Control:** Access control treatments guide people and vehicles around the development using physical and symbolic barriers. Effective access control, including natural features like landforms, pathways, and landscaping, as well as technical measures like security hardware, increases the effort for criminals to commit crime. Wayfinding and formal/informal routes are key crime prevention elements. The following design responses have been implemented: • School identification and Acknowledgement of Country signs are placed at entrances and throughout the premises to mark restricted areas and define boundaries between public and private spaces. The secured area is surrounded by 2.1m high fencing, with gates equipped with electronic access systems, intercoms, and key card access for authorised personnel only. Transparent mesh fencing enhances security by providing visibility for natural surveillance, reducing areas of concealment, and ensuring a safe, open environment. The design meets NSW public school security standards while fostering a sense of openness and safety. • The property number is displayed on the school letterbox to ensure clear signage for emergency responders, aiding quick access during urgent situations. This practice supports regulatory standards and enhances safety by facilitating rapid response in emergencies. **Space and Activity Management:** Space/activity management is key to maintaining natural community control and safety. Effective supervision and maintenance are crucial, as underused spaces are prone to misuse. Poorly maintained areas contribute to urban decay, increasing fear of crime and avoidance behaviour. The following design responses have been implemented: • At completion, NSW public schools will adopt enhance security by monitoring access to the area and using appropriate security devices like intercom or remote locking systems in alignment with a Security Design guide prepared by the department's School Security Unit (SSU). The design responses effectively integrate CPTED principles, creating a secure, welcoming, and community-oriented environment. The school aims to provide a safe place for students and extends its role as a community hub, fostering positive interactions and shared responsibility.
Waste	**Construction** A Construction Waste Management Plan (CWMP) has been prepared by Elephants Foot (**Appendix 24**). The report promotes best practice waste management, minimising waste generation, and maximising reuse and recycling.

Issue	Consideration
	It ensures efficient design, storage, and equipment for sustainable operations, meeting the REF requirements for waste management. **Operation** The waste and bin storage area for the operation of the school will be located in the north-eastern corner of the site. An Operational Waste Management Plan (OWMP) has been prepared by Elephants Foot (**Appendix 25**). The report identifies and details the following components: Waste streams expected to be generated onsite and anticipated volumes; suitable bin sizes and quantities; waste and recycling disposal procedures; bin area size estimations and equipment recommendations; and waste collection strategies, locations and frequencies. The projected waste generated during the operation of the school will result in the production of 14,000L/week of general waste and 10,500L/week of recycling. This amount of waste creation requires the following bins to be provided: • General Waste: 2x 4,500L bins collected 3x weekly • Recycling: 1x 4,500L bins collected 3x weekly A private waste contractor will be engaged to service the school's general waste and recycling bins as per an agreed collection schedule. The collections will be in accordance with the department's contracts with a private waste collection service An in-ground grease arrestor is to be provided adjacent to the waste loading area to address liquid trade waste from Block B kitchens. The mitigation measures in **Appendix 1** include a requirement for the waste management plan to address liquid trade waste requirements. The proposed activity will not result in the generation of hazardous waste.
Air Quality	The subject site is not in proximity to a major road nor land use activities that will foreseeably affect local air quality. Both the sediment and erosion control plan prepared as part of the civil engineering plans and the associated civil engineering report indicate that all construction works are to be undertaken in accordance with *Managing Urban Stormwater: Soils and Construction – Volume 1*(The "Blue Book"). While they relate to stormwater, this document also contains guidelines relating to the management of wind erosion and dust mitigation during construction works. As such, dust mitigation measures (which include (but are not limited to) ground coverings, minimisation of certain construction activities, watering large/unprotected areas for dust suppression, etc.) will be employed during site works. Regarding post-construction occupation of the site, the nature of the proposed use (i.e. a high school) will not include activities nor include plant equipment that will foreseeably result in the emission of airborne pollutants that could adversely affect local air quality.
Wind	The proposal does not include buildings greater than four storeys that could impact the pedestrian wind environment. The proposed activity is therefore unlikely to impact the wind environment.
ESD	An ESD Report been prepared by Arup (**Appendix 16**). This report identifies the sustainability measures being pursued by the project team, in alignment with the frameworks and requirements applicable to this development. The proposed activity has been designed to address the requirements of Section 3.2 of the Sustainable Buildings SEPP and can achieve a 4-star GBCA rating. The following mitigation measures are proposed: **Prior to the commencement of any construction work** • This report identifies the sustainability measures being pursued by the project team, in alignment with the frameworks and requirements applicable to this development. • If any departures from the sustainability strategy described in this report

Issue	Consideration
	arise, a review of the strategy is required. • Responsible construction practices to be put in place by the Contractor, including development of project-specific best-practice environmental management plan (EMP). • Waste management plans to be developed by the Contractor for demolition, construction and operation of the site. • Demonstration of Contractor policies that promote diversity and reduce physical and mental health impacts. **During design finalisation** • Services and maintainability reviews to be conducted. • Specialist waste consultant to develop an operational waste management plan (OWMP). • Develop a site-specific Biodiversity Management Plan A Net Zero Statement has also been prepared (**Appendix 17)**, which confirms that the development will minimise the use of on-site fossil fuels, as part of achieving net zero emissions in NSW by 2050.

6.12 Cumulative Impact

A cumulative impact occurs when two or more projects are carried out concurrently and near to one another. Cumulative impacts may therefore be caused by both construction and operational activities and can result in a greater impact to the surrounding area than would be expected if each project was carried out in isolation.

The establishment and construction of the proposed high school in Googong is to support the rapid development and associated population growth of the Googong Township. The site has always been intended for the construction of educational facilities since the site was identified within the Masterplan prepared for the development of Googong,

There is no development or established vegetation on the site, and as identified by this planning assessment and associated consultant reports, there are no known hazards and/or significant considerations affecting the site.

As such, primary cumulative impacts likely to be associated with the proposed high school will relate to construction works and the future operation of the proposed high school.

6.12.1 Surrounding development

In considering cumulative projects, this assessment has considered development that is both currently under construction and that has been approved but not yet constructed. An outline of such development within the surrounding area is contained within Table 30 below, noting:

- The rapid transition of the Googong township into an urban area,
- The significant number of developments that have been approved and/or are under construction, and
- The large number of approvals within the surrounding area,

Table 29 therefore only makes reference to:

- Larger scale development proposals (i.e. it excludes smaller scale development proposals such as dwelling houses, dwelling alterations and additions, minor landscaping works and the like), that are within 500 metres of the subject site.

While considered, this assessment:

- Did not identify any State Significant Development (SSD) projects located within 500 metres of the site, and
- Noted that recent regional road upgrades within the surrounding area (such as Old Cooma Road to the north and Ellerton Drive extension) have already been undertaken.

Table 29: Approved development within 500 metres of the proposal with the potential to contribute to cumulative impacts on the locality

Site address and approx. distance to site	Application and/or approval number	Approval date	Details of proposal
113 Glenrock Road, Googong (20m)	DA.2023.0465	Not available (lodged 2023)	Two lot Torrens title subdivision and construction of Centre based childcare facility, specialised retail premises, food and drink premises with associated drive-thru (McDonalds and KFC), service station. signage, car park, access, landscaping, associated infrastructure and services
14 Heazlett Street, Googong (30m)	DA.2019.1129	Not available (lodged 2022)	Registered club
140 Glenrock Road, Googong (25m)	DA.2022.1233	22 August 2024	Construction of 22 dwelling houses - two storey and two studio dwellings, 22 lot Torrens title subdivision, 2 lot Strata title subdivision, bulk earthworks, landscaping and ancillary associated infrastructure
67 Glenrock Drive, Googong (160m)	DA.2023.0114	Not available (lodged 2023)	Construction of a two-storey pub including food and drink premises and function centre
31 Mary Street, Googong (155m)	DA.2022.1440	Not available (lodged 2022)	Construction of multi dwelling housing comprising 12 units
180 McFarlane Avenue, Googong (180m)	DA.2023.0103	23 November 2023	Construction of 6 residential flat buildings, comprising 138 units; strata subdivision
Heazlett Street, Googong	DA.2024.0138	6 December 2024	Demolition of a bike track, and construction of an indoor recreation facility including a 50m swimming pool, splash pool, two indoor courts and associated facilities.
44 Glenrock drive, Googong (235m)	DA.2022.1637	14 August 2023	Construction of commercial development, medical centre, recreation facility (indoor), signage, car park, earthworks and associated infrastructure
8 Barton Street, Googong (295m)	DA.2023.0535	Not available (lodged 2023)	Construction of multi dwelling housing - 8 dwellings
18 Glenrock Drive Googong (335m)	DA.2024.0027	22 August 2024	Construction of a residential flat building comprising of 163 apartments with basement car parking

Site address and approx. distance to site	Application and/or approval number	Approval date	Details of proposal
Googong Road, Old Cooma Road, 20 Lindbeck Corner, 6 Hollitt Street, Wellsvale Drive Googong (350m)	DA.2021.1549	19 September 2022	Subdivision of land (Googong Neighbourhoods 3, 4 & 5) into 1398 Torrens title residential lots, 14 super lots for future residential development, 5 Neighbourhood Centre lots, boundary adjustment, all associated subdivision construction works, roads, tree removal, signage and landscaping and relocation of Shearing Shed.
20 Edward Drive Googong (465m)	DA.2022.1615	19 September 2023	Construction of multi-dwelling housing – 116 two and three storey dwellings including Strata subdivision

6.12.2 Potential cumulative impacts

Cumulative impacts will primarily relate to construction works and as such will be temporary in nature, noting that completion of works associated with the proposed high school are anticipated to be completed within the next 18-24 months (i.e. by late 2026).

Further, the long-term benefits to associated with the delivery of a new school will significantly outweigh temporary and relatively short term (i.e. 18-24 month) amenity impacts.

If multiple and improperly managed projects are undertaken at a similar time within a relatively small area, then this may lead to construction fatigue, particularly around noise, traffic and air quality impacts.

Cumulative impacts may also occur if the construction of the proposed high school occurs simultaneously with other projects (approved and/or already under construction), as listed within Table 30.

Cumulative construction impacts that may arise include:

- Increased traffic on the surrounding roads, which in addition to potential temporary road closures, can result in delays for road users, particularly if similar roads are being used by construction vehicles for multiple projects,
- Increased construction noise and vibration where construction projects are in close proximity to each other and are subject to similar approved construction hours,
- Reduced amenity for visual receivers, particularly for residential receivers in proximity to multiple projects, and
- If improperly managed, adverse impacts could adversely affect and even overwhelm temporary controls measures installed on nearby sites. For example, uncontrolled stormwater runoff and associated erosion/sedimentation could concentrate flows on other sites within the same drainage catchment, placing additional and excessive loads upon other temporary control measures on other sites.

Many of the projects identified above are either separated by a considerable distance and/or are located to the north and east of the site, and as such will likely rely on construction routes to enter and leave those sites (e.g. via Wellsvale Drive Gorman Drive, McFarlane Avenue and Mary Street) that are unlikely to pass the proposed construction entry/egress point on Observer Street. It is

therefore not anticipated that sites further away from the subject sites would give rise to cumulative impacts. Projects within the southern side of the Googong town centre (particularly to the south towards Observer Street) and in close proximity to the site (such as those at 113 and 140 Glenrock Road, Googong (25m) are however in closer proximity to the subject site, Subject to the timing of construction of developments on those sites, they may have a greater likelihood of creating cumulative impacts.

Specific details of construction timeframes and impacts for surrounding cumulative developments are subject to ongoing consultation with relevant stakeholders, including landowners and development contractors. There is also the potential for other new developments to be approved, with works on those other projects commencing during the planned construction timeframes for the proposed high school.

As demonstrated by this REF report and its appendices, adverse impacts are broadly capable of being addressed by appropriate mitigation measures. Noting the considerable number of larger development proposals within the surrounding area, potential cumulative impacts associated with the proposal and additional strategies (if/where relevant) will be considered further during the detailed design for the proposal in liaison with construction contractors. The detailed design stage will also consider the timing of surrounding development as such details becomes known.

6.12.3 Safeguards and Mitigation Measures

In addition to potential future strategies, cumulative impacts will be minimised and managed through the application of environmental safeguards and management measures, as detailed within Table 30 below and **Appendix 1**.

Table 30: Mitigation measures to prevent cumulative impacts

ID	Mitigation Measure	Timing
CI1	Notice is to be made well in advance to relevant stakeholders (including both residents and other construction managers where possible) of roadworks, in particular those that may result in partial or full closures of surrounding roads (i.e. for works such as raised crossings and service/utility connections). In advising of such disruptions, the timing of any such part/full closures would need to be disclosed, in addition to detours or alternative routes (particularly for larger construction vehicles) if or where such closures limit the size of vehicles able to use adjacent roads while works are being undertaken.	Pre-Construction, During Construction

6.13 Consideration of Environmental Factors

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

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

Table 31: Environmental Factors considered

Environmental Factor	Consideration	Mitigation Measure Reference
Any environmental impact on a community?	Being a new school within a new urban environment, the community impacts that could arise from the proposed activity relate to traffic, access and parking, noise and vibration, stormwater management, air quality, amenity impacts (i.e. visual privacy and solar access) and social issues, These and other potential impacts have been considered by this REF, and where necessary mitigation measures have been proposed to minimise potential impacts where they are unable to be avoided. The proposed activity will deliver significant and long-term benefits, as a result of providing modern and fit-for-purpose education services within a highly accessible school catchment within an area that is rapidly transition to an urban environment. The proposed school will also deliver employment opportunities for adults within Googong and its surrounds. It is anticipated that during construction some traffic, noise and environmental impacts will be encountered, however such impacts are likely to be temporary and mostly mitigated through appropriate construction mitigation measures. Subject to the implementation of mitigation measures, such impacts are therefore considered to be acceptable.	Multiple Refer to **Appendix 1**
Any transformation of a locality?	The proposed works relate to the establishment and construction of a new high school within an area. The school will provide for the educational and employment needs of an area that is rapidly transitioning from a rural to a low, medium and high-density urban environment. Given the amount of change already created through new development associated with the Googong township, the form and scale of the proposed activity will not significantly contribute to the changing nature of the locality. As detailed within **Section 6** of this REF, the proposed activity has been designed to minimise impacts to the surrounding area. Such measures include (but are not limited to) sufficient setbacks and suitable building placement, building platforms and setting that appropriately respond to the topography of the site, suitable heights to maintain views of significant environmental features where	Multiple Refer to **Appendix 1**

Environmental Factor	Consideration	Mitigation Measure Reference
	possible, a suitable landscape setting and avoidance of adverse visual privacy and overshadowing impacts. The nature of the proposed use of the site (i.e. as a school) is such that any cumulative impacts are likely to be temporary in nature, with such impacts well outweighed by the ongoing benefits associated with the delivery of a new school.	
Any environmental impact on the ecosystems of the locality?	The proposed activity is not located within an area that contains elevated biodiversity values nor is it in proximity to local waterways. While eight trees are proposed to be removed, being recently planted street trees, they are not of landscape nor ecological significance. Noting that the removed trees will be offset by onsite landscaping, their removal will subsequently not have any adverse impacts on the local environment. Further, measures such as the implementation of sediment and erosion measures will avoid adverse environmental impacts during construction works. The nature of the post-occupation use of the site (i.e. as a school) is one that will not foreseeably have any impact on local ecosystems, noting that onsite systems to control and treat stormwater discharge from the site will also maintain water quality within local waterways. As such, the proposed height school will not give rise to adverse environmental impacts on local ecosystems.	Multiple Refer to **Appendix 1**
Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality?	The subject development site is one that has been recently created and is completely vacant. Subject to mitigation measures related to construction and the ongoing operation of the site, the proposal will not cause any reductions in the aesthetic, recreation and/or scientific value of the locality and its surrounds.	Multiple Refer to **Appendix 1**
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 subject site does not contain a heritage item, is not part of a Heritage Conservation Area and is not in proximity to a heritage item. Regarding aboriginal heritage, the site has no potential to contain Aboriginal objects, as earlier sites located on the site have already been subject to earlier Aboriginal Heritage Impact Permits and artefact bearing soils have already been removed as part of earlier subdivision works. Works may therefore proceed with caution,	Not applicable

Environmental Factor	Consideration	Mitigation Measure Reference
	subject to undiscovered find protocols. Further, the proposed design incorporates elements that both reflect the Aboriginal cultural heritage of the area, and which provide opportunities for students and the wider community to both learn about and appreciate the locality's traditional custodians.	
Any impact on the habitat of protected animals, within the meaning of the *Biodiversity Conservation Act 2016*?	Both the subject site and wider area have been subject to clearing as part of earlier subdivision works. The site and its immediate surroundings have subsequently been highly modified and therefore has no significant ecological values. Mitigation measures will also ensure that both proposed works and the ongoing use of the site will also not generate runoff capable of adversity affecting riparian areas to the southeast of the site. As such, the proposal is unlikely to impact habitats of protected animals within the meaning of the BC Act 2016.	Not applicable
Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air?	As indicated above, the site has been completely cleared as part of earlier subdivision works and development both on the site and within the surrounding area. Noting existing conditions, that no significant tree removal is proposed and the site's considerable distance to areas of enhanced biodiversity significance, it is unlikely that the proposed height school will have any foreseeable and significant impacts on any threatened species, population or endangered ecological communities and/or their habitats.	Not applicable
Any long-term effects on the environment?	The nature of the proposed high school's use is such that, as set out by this assessment, the proposed activity will not result in any foreseeable long-term impacts on the built or natural environments.	Not applicable
Any degradation of the quality of the environment?	The construction phase of the works will result in some highly localised, onsite and short-term degradation (e.g. excavation and exposure of soils, erosion). This can however be appropriately managed by the construction contractor.	Multiple Refer to **Appendix 1**
Any risk to the safety of the environment?	The site is not subject to any environmental hazards and is therefore suitable for the proposed use in this regard. Subject to adherence with the mitigation measures, the proposed activity will not adversely affect the safety of the environment.	Multiple Refer to **Appendix 1**
Any reduction in the range of beneficial uses of the environment?	The site is currently completely vacant. Further, when the site and	Not applicable

Environmental Factor	Consideration	Mitigation Measure Reference
	its surrounds was subdivided, the subject site was identified as the location for a new school within both the Masterplan and Neighbourhood Structure Plans prepared for the development of Googong. A VPA was also executed in 2011 requiring that a 9-hectare site in Googong for a Public School and High School be dedicated by the developer to the department. Noting the above, the proposed activity is anticipated on the site and as such will not reduce permissible or animated land uses within the locality.	
Any pollution of the environment?	Noting that the subject site has already been subject to prior subdivision and associated remediation works, impacts associated with any pollutants are capable of being managed through the implementation of mitigation measures during the construction phase of the development.	Multiple Refer to **Appendix 1**
Any environmental problems associated with the disposal of waste?	Subject to adherence with proposed mitigation measures, no issues have been identified with proposed waste removal during the construction phase nor ongoing waste management and removal once the school commences operations.	Multiple Refer to **Appendix 1**
Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply?	The proposal is unlikely to result in any increased remands on resources (natural of otherwise) that are, or are likely to become, in short supply.	Not applicable
Any cumulative environmental effects with other existing or likely future activities?	Cumulative impacts associated with the proposed high school have been considered within Section 11 of this REF. There are no immediate cumulative impacts that would arise if the development of the proposed high school were undertaken in conjunction with other development projects (either approved and/or underway) within the immediate vicinity. Proposed mitigation measures will minimise any cumulative impacts where possible, any such impacts would be temporary and are considered to be acceptable, given the significant and long-term benefits associated with the delivery of the proposed high school.	CI1 Refer to **Appendix 1**
Any impact on coastal processes and coastal hazards, including those under projected climate change conditions?	Not applicable. The site is not located within a coastal, coastal use or coastal environment areas.	Not applicable

Environmental Factor	Consideration	Mitigation Measure Reference
Applicable local strategic planning statement, regional strategic plan or district strategic plan made under Division 3.1 of the Act?	A review of the proposal's legislative context, as well as local and regional strategic plans have been considered where relevant to the proposal and site, as detailed within **Section 4** of this REF. The proposal is consistent with the provisions of strategy documents that include (but is not limited to) the South East Tablelands Regional Plan 2036, the Draft South East and Tablelands Regional Plan 2041, the Queanbeyan Palerang Local Strategic Planning Statement 2040 and the Queanbeyan Palerang Community Strategic Plan.	Multiple Refer to **Appendix 1**
Any other relevant environmental factors?	Nil	Not applicable

7. Justification and Conclusion

The proposed high school at 200 Wellsvale Drive, Googong is subject to assessment under Division 5.1 of the EP&A Act. This REF has examined and taken into account to the fullest extent possible all matters affecting, or likely to affect, the environment by reason of the 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.