

Review of Environmental Factors

Brigidine College St Ives – Carpark

Prepared on behalf of Brigidine College St Ives

Ethos Urban acknowledges the Traditional Custodians of Country throughout Australia and recognises their continuing connection to land, waters and culture.

We acknowledge the Gadigal people, of the Eora Nation, the Traditional Custodians of the land where this document was prepared, and all peoples and nations from lands affected.

We pay our respects to their Elders past, present and emerging.



'Gura Bulga'

Liz Belanjee Cameron

'Gura Bulga' – translates to Warm Green Country. Representing New South Wales.

By using the green and blue colours to represent NSW, this painting unites the contrasting landscapes. The use of green symbolises tranquillity and health. The colour cyan, a greenish-blue, sparks feelings of calmness and reminds us of the importance of nature, while various shades of blue hues denote emotions of new beginnings and growth. The use of emerald green in this image speaks of place as a fluid moving topography of rhythmical connection, echoed by densely layered patterning and symbolic shapes which project the hypnotic vibrations of the earth, waterways and skies.

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Declaration and Determination

This Review of Environmental Factors (REF) has been prepared on behalf of Brigidine College St Ives (BCSI). It assesses the potential environmental impacts which could arise from the construction of a new carpark within the boundaries of the existing school at 325 Mona Vale Road, St Ives (the site).

This REF has been prepared in accordance with the *Environmental Planning and Assessment Act 1979*, the *Environmental Planning and Assessment Regulation 2021*, *State Environmental Planning Policy (Transport and Infrastructure) 2021* and other applicable Commonwealth and State Legislation including *Environmental Protection and Biodiversity Conservation Act 1999*.

Based on the information presented in this REF and the mitigation measures indicated, it is unlikely that there will be any significant environmental impacts associated with the proposed activity.

This REF provides a true and fair review of the proposal in relation to its potential effects on the environment. It addresses to the fullest extent possible, all matters affecting or likely to affect the environment as a result of the proposal. The information contained within this report is neither false nor misleading and on balance. Therefore, the proposal is recommended to proceed given its stated need and justification.

Person(s) who prepared the REF:

Name:	Sarah Papalia	Chris McGillick
Position:	Senior Urbanist - Planner	Associate Director

I confirm I have prepared this Review of Environmental Factors and it neither false or misleading information

Signature:




Date: 27/09/2023

Reviewer:

Name: Richard Luxford - Business Manager

Position:

I confirm I have examined this Review of Environmental Factors and satisfied it addresses to the fullest extent possible, all matters affecting or likely to affect the environment

Signature: 


Date: 230927

Determination

I have delegation to accept this Review of Environmental Factors on behalf of the Brigidine College St Ives as the determining authority and determine that the Proposal can proceed subject to the mitigation measures identified being implemented.

Name: Richard Luxford - Business Manager

Position:

Signature: 

Date: 230927

1.0 Introduction

1.1 Overview

Brigidine College St Ives (the College) proposes to construct a new carpark at the south-eastern corner of the existing college campus (the Proposal) pursuant to the 'development permitted without consent' provisions under Section 3.37 of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (Transport and Infrastructure SEPP).

The proposed works are located within the boundaries of the existing college at 325 Mona Vale Road, St Ives and involve the following:

- Demolition of the existing gymnasium, the Sister Adrian Wing, the staff carpark and associated structures;
- Construction of a new carpark, comprising 20 car parking spaces and a storage shed;
- New OSD tank to be located within the carpark;
- Minor landscape works and protection of existing vegetation;
- Associated tree removal; and
- Infrastructure upgrades to service the new carpark.

Ethos Urban has prepared this Review of Environmental Factors (REF) on behalf of the college to describe the Proposal, assess its potential environmental impacts and detail protective measures to mitigate impacts.

The REF is prepared per the Department of Planning and Environment's (DPE) Code of Practice for Part 5 Activities for Registered Non-Government Schools (NSW Code of Practice), Section 171(2) of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), and the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Schedule 1, Section 5 of the EP&A Regulation recognises non-government schools as 'public authorities' and 'determining authorities' under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the purpose of assessing and carrying out 'development without consent' under Section 3.37 of the Transport and Infrastructure SEPP. The Brigidine College St Ives is a registered non-government school and is the proponent and determining authority for the Proposal under Part 5 of the EP&A Act.

The REF helps to fulfil the requirements of Section 5.5 of the EP&A Act, which requires that the College examine, and take into account to the fullest extent possible, all matters affecting, or likely to affect, the environment by reason of the proposed activity.

1.2 Proposal Need

Established in 1954, Brigidine College is a non-government school in St Ives, within the Ku-ring-gai Local Government Area (LGA), offering a catholic education for girls from Year 7 to 12.

In 2020-2021, the College undertook a masterplan with a view to progress with a library development. However, following a recent school survey undertaken, the College found that there was a preference and larger need for an improved sporting facility, rather than a multi-level library block.

As such, the priorities of the masterplan have changed to facilitate the delivery of a new sports precinct, which will include improvements to the existing sports court, construction of a new indoor sporting facility, teaching facilities, and a new one storey carpark that will sit partially below ground.

The sports facility will be developed via a range of planning pathways including Exempt and Complying Development and Part 5 Approvals. It is emphasised that this REF relates only to the proposed one storey carpark, which forms part of the broader sports facility.

1.3 Proposal Objectives

The Proposal seeks to achieve the following objectives:

- Deliver a new and improved staff carpark, comprising 20 carparking spaces, storage, and stormwater services.
- Provide access into the College campus and the future sporting facility.
- Minimise environmental and amenity impacts and disruption to surrounding uses, including disruptions to the existing school, through appropriate mitigation measures.
- Provide a source of construction employment at a time of economic recovery.

1.4 Background

The College is undertaking redevelopment works at the south-eastern corner of the campus to facilitate a new sports facility. The sports facility will comprise a basement carpark, two indoor multipurpose sports courts, general learning areas, and a covered outdoor learning area.

The sports facility will be undertaken via separate planning pathways. It is noted that this REF only relates to the basement carpark.

2.0 Site Analysis

2.1 Site Context

The Brigidine College St Ives is located 325 Mona Vale Road, St Ives, within the Ku-ring-gai Local Government Area (LGA). It is located approximately 5km north of both Pymble and Gordon Railway Station, 10km north of Chatswood CBD, and 20km north of the Sydney CBD. The locational context of the site is illustrated in **Figure 1** below.

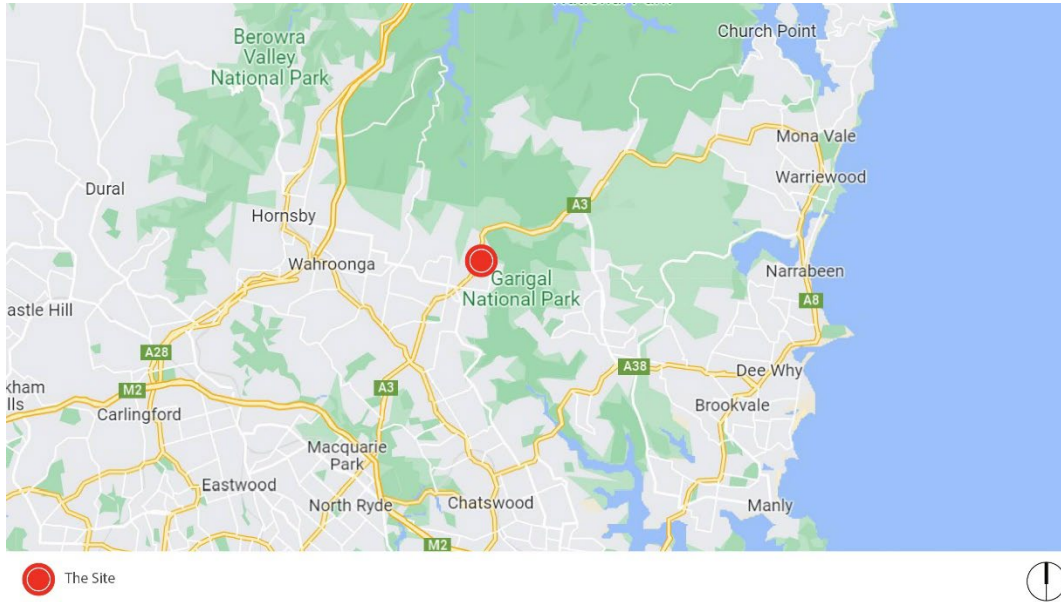


Figure 1 Context Map

Source: Google Maps / Ethos Urban

2.2 Site Description

The college campus comprises one allotment and is legally described as Lot 220 in DP 1266103. It is located on the corner of Mona Vale Road to the west and Woodbury Road to the south, with low density residential housing bounding the site to the north and east. It is regular in shape and has a total site area of 2.39 hectares.

The proposed physical works subject to this REF will be carried out within a smaller portion of the site. An aerial image of the site is shown at **Figure 2**, illustrating the broader campus in red and the extent of the REF works in blue.



Site Area Development Area

NOT TO SCALE

Figure 2 Aerial Map

Source: Ethos Urban / Nearmap

2.3 Key Features of the Site and Surrounds

2.3.1 Existing Development

The site is currently occupied by the existing school grounds of the Brigidine College, which comprises several single and double storey buildings dated from circa. 1954 to more recent additions. Specifically, the portion of the site relating to the REF works comprises the existing gymnasium, the Sister Adrian Wing, and an at-grade carpark.

The gymnasium building is two storeys in height and includes an indoor multi-purpose sports court and two learning facilities. The Sister Adrian Wing comprises a one storey building and includes three general learning areas. Both buildings are constructed of brick and concrete. In addition to the two buildings, an at-grade carpark comprises 20 staff car parking spaces is located on the site.

Figure 3 below provides images of the existing building on the site.



Existing carpark



Existing staff carpark from Woodbury Road

Figure 3 Existing Development

Source: Ethos Urban

2.3.2 Topography

The site slopes approximately 3m from Woodbury Road down to the northern boundary. This is illustrated in the Survey Plan provided at **Appendix C**.

2.3.3 Ecology and Vegetation

A Flora and Fauna Assessment has been prepared by Land Eco Consulting and is provided at **Appendix I**. The existing vegetation on the site contains a mixture of indigenous and non-indigenous native vegetation as well as exotic ornaments and weeds.

The assessment found that the native vegetation within the subject site belongs to a threatened community, known as the 'Sydney Turpentine Ironbark Forest in the Sydney Basin Bioregion' which is listed as a Critically Endangered Ecological Community under Schedule 2 of the Biodiversity Conservation Act 2016. It is also listed as 'Turpentine Ironbark Forest of the Sydney Basin Bioregion', which is listed as 'critically endangered' under the EPCA Act.

Three threatened flora species that are considered to be planted specimens outside of their natural range and habitat were found on the site, which included *Syzygium paniculatum*, *Eucalyptus nicholii* and *Macadamia integrifolia*. These species are listed as either vulnerable or endangered on the BC Act and the EPBC Act. It is noted that no threatened fauna species were found on the subject site.

Further detail on the ecology is provided in **Section 6.7** of this report.

2.3.4 Heritage

An Aboriginal Due Diligence Assessment has been prepared by Unearthed Archaeology and Heritage and is provided at **Appendix J**. The report notes that no Aboriginal sites or objects are recorded on the AHIMS search nor were they identified during the site inspection. Additionally, the assessment found that there was no evidence of Aboriginal occupation or specific cultural values on the site.

2.3.5 Transport and Accessibility

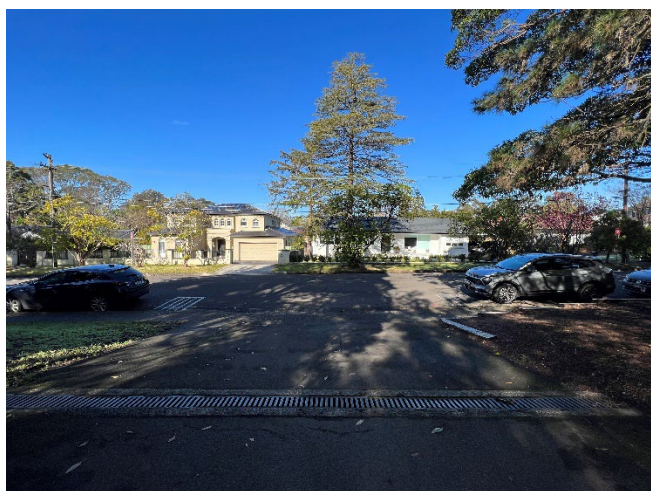
As detailed within the Transport Impact Assessment provided at **Appendix G**, there are multiple points of access on campus, two of which are provided from Woodbury Road and an additional two from Mona Vale Road. Specific to the subject site, Gate 5 is used for accessing and exiting the existing staff carpark from Woodbury Road.

2.4 Surrounding Development

The urban context of the site is generally characterised by low density residential development. Specifically, a summary of the existing surrounding development context is provided below:

- **North:** To the north of the subject site is the existing outdoor sports courts within the school campus, along with the Anita Murray Centre Building, which is the performing arts building. Beyond the school boundary is low density residential.
- **East:** Immediately to the east of the site is low density residential housing, particularly the adjoining residential property that was recently acquired by the school.
- **South:** The site is bounded by Woodbury Road to the south with low density residential immediately adjacent from the school campus. Further south is the St Ives Town Centre, along with the Pymble and Gordon Railway Station.
- **West:** To the immediate east of the site is the school library and the Connolly Wing, along with several other school buildings. The school campus is bound by Mona Vale Road to the west with low density residential housing located further west.

Photographs of the surrounding development is provided at **Figure 4** below.



Low density residential to the south



Low density residential to the east

Figure 4 Surrounding Development

Source: Ethos Urban

3.0 Proposed Activity

3.1 Overview

Brigidine College is seeking to deliver a new sports facility at the south-eastern corner of the site, which will include a new two storey building comprising sports courts and teaching facilities, upgrades to the existing outdoor sports courts, and a one storey carpark.

This REF specifically relates to the proposed one storey carpark and will include the following works:

- Demolition of the existing gymnasium, the Sister Adrian Wing, the staff carpark and associated structures;
- Construction of a new carpark, comprising 20 car parking spaces and a storage shed;
- New OSD tank to be located within the carpark;
- Minor landscape works and protection of existing vegetation;
- Associated tree removal; and
- Infrastructure upgrades to service the new carpark.

The abovementioned works are proposed under this REF. As detailed in **Section 1.4**, the delivery of the broader sports facility will be undertaken via separate planning pathways.

Architectural Drawings prepared by Mayoh Architecture at **Appendix A** have been prepared to accompany this REF. **Figure 5** below provides a site plan of the proposed works.

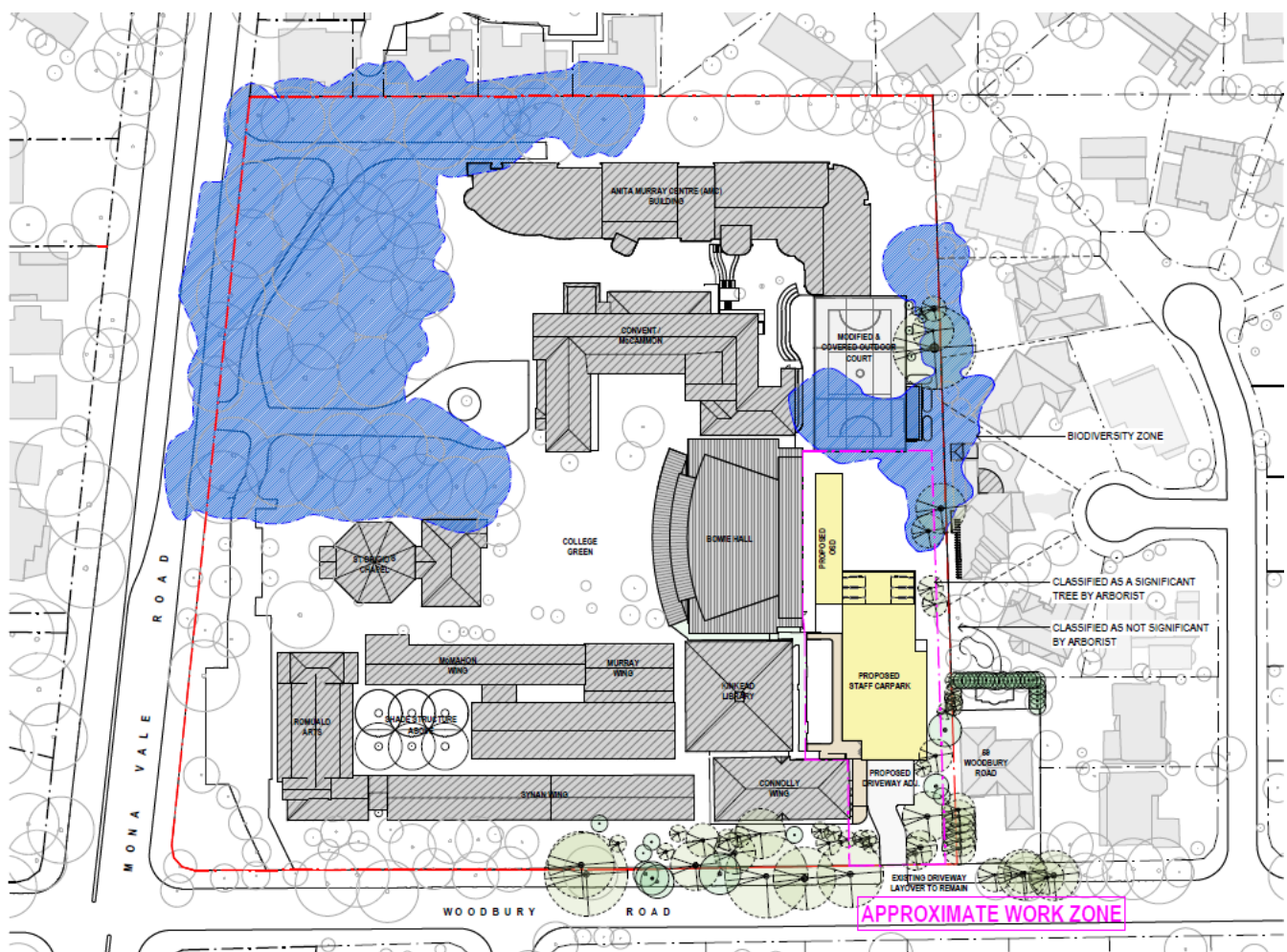


Figure 5 Proposed Site Plan

Source: Mayoh Architects

3.2 Site Preparation and Early Works

3.2.1 Demolition

The proposal requires demolition on the site to facilitate the new carpark. Specifically, the demolition works proposed include the demolition of the existing gymnasium and the Sister Adrian Wing and the associated structures.

Additionally, the proposal also seeks the demolition of the existing staff carpark on the site, which contains an approved 20 carparking spaces. It is noted that some landscaping and trees are proposed to be removed in order to facilitate the new carpark.

Figure 6 below provides an excerpt of the demolition plan.

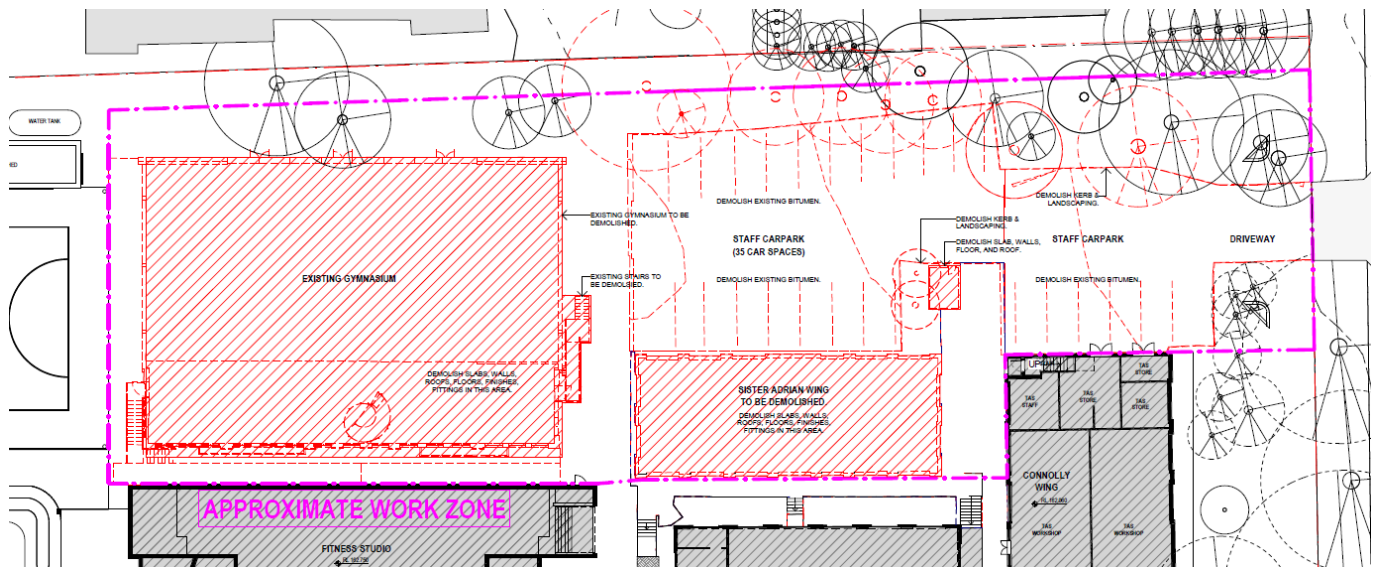


Figure 6 Demolition Plan

Source: Mayoh Architects

3.2.2 Excavation

The proposed activity requires partial excavation of the land to facilitate the carpark, OSD and associated plant and services. The proposed excavation will be at a maximum depth of 4.5m below ground level. This will result in a site cut of 3,804m³ and fill of 7.4m³, equating to a total bulk volume of approximately 3,796m³ to be removed from the site.

Further detail on the proposed excavation is provided in the Civil Drawings and Civil Design Report at **Appendix E** and **Appendix F**.

3.3 Built Form

The proposed new carpark is one storey in height and will comprise a storage shed, 20 carparking spaces, and a new on-site detention tank. It is set within the natural slope of the land such that the entry along the southern boundary is at grade, while the northern end of the carpark is below natural ground. This allows for the carpark to have a very low profile with negligible impact on the surroundings.

Additionally, it is noted that the carpark is setback more than 5m off the eastern boundary to allow for the retention of the landscape zone, therefore, maintain the pleasant outlook, natural habitat and the visual screening to the nearest residential neighbours.

Figure 7 and **Figure 8** below provides an excerpt of the floor plan and section to illustrate the proposed built form and massing.

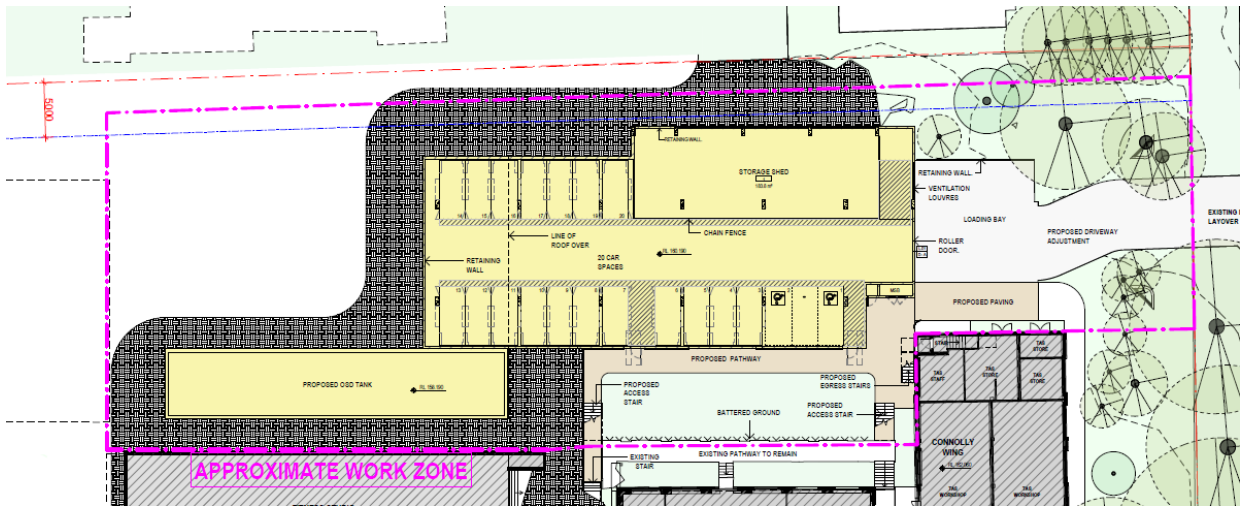


Figure 7 Proposed Floor Plan

Source: Mayoh Architects

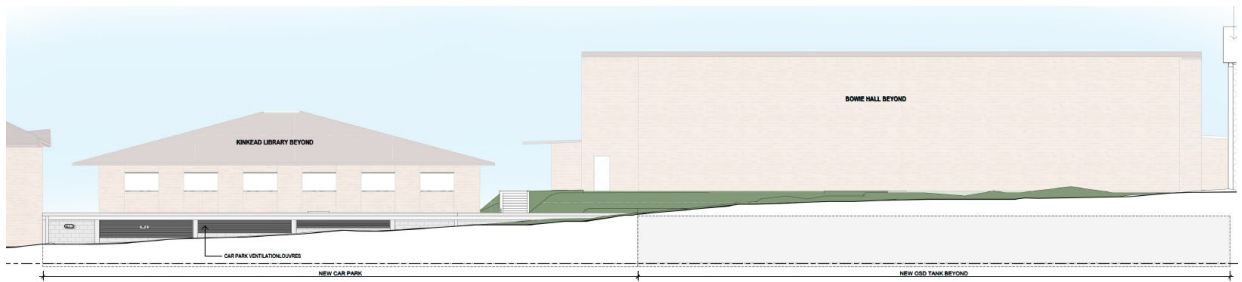


Figure 8 Proposed Eastern Elevation

Source: Mayoh Architects

3.4 Landscaping

The proposal involves the construction of a temporary lawn, new paving of surrounding walkways and corridors, and associated planting and landscaping works with the redesign of the existing driveway and new carpark. Specifically, it is noted that the proposal includes the planting of 11 replacement trees around the subject site, particularly along the eastern boundary.

Figure 9 below provides an excerpt of the proposed landscape plan provided at **Appendix D**.

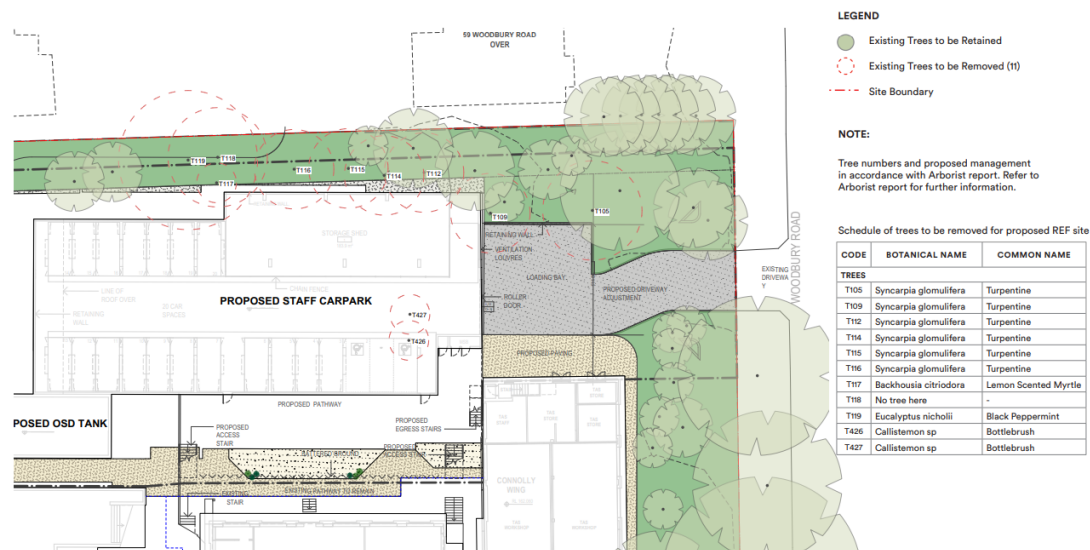


Figure 9 Proposed Landscape Plan

Source: Context

3.5 Stormwater Management

A Civil Design Report has been prepared by TTW, which is provided at **Appendix F**. As detailed within the report, a new on-site detention tank (OSD) is proposed on the site. The proposed OSD tank replaces an existing one located within the new carpark. The below ground level OSD has been an approximate volume of 750m².

3.6 Operational Activities

Use

The Proposal will comprise a new carpark, which will continue to be used for the ongoing use of the site as an educational establishment (school).

Staff/Student Numbers

The Proposal does not increase the College's student or staff numbers. It merely replaces the existing at-grade staff carpark on site with a new covered carpark and associated storage facilities and stormwater management services.

Traffic Arrangements

As detailed in the Traffic Impact Assessment at **Appendix G**, the proposal does not impact the College's existing traffic arrangements, such as new or relocated vehicular access points. Additionally, it is noted that the proposed carpark will comprise 20 carparking spaces, which is consistent with the approved carparking on the site.

3.7 Construction Activities

Table 1 details the construction activities associated with the proposal. The REF is accompanied by a Preliminary Construction Management Plan prepared by CTPG (**Appendix R**).

Table 1 Construction Activities

Construction Activities	
Estimated Commencement Dates and Work Duration	Construction to commence in November 2023 for a period of up to four months until March 2024.
Construction Measures	<p>Prior to the construction commencing for the REF works, the Head Contractor will prepare a construction site plan specific to each stage of works. The plan will include:</p> <ul style="list-style-type: none">• Site boundaries and fencing• Detail of site signage• Site office and amenities• Site entry/exit gates• On site traffic management• On site materials storage and handling• Staging of works <p>Hoarding and fencing will be installed in accordance with Australian Standards and Workcover requirements to prevent public access and to maintain security to the area of works.</p> <p>Vehicular access/egress gates will be manned by qualified traffic supervisors at the time of vehicular access and egress to the site.</p>
Work Hours	<p>The working hours will be in accordance with the Interim Construction Noise Guideline 2009, as follows:</p> <ul style="list-style-type: none">• Monday – Friday: 7am to 6pm• Saturday: 8am to 1pm• Sunday and public holidays: no work
Traffic Management	<p>Prior to construction commencing for each stage of works, the Head Contractor will prepare a construction traffic management plan. The plan will include consideration of the following:</p> <ul style="list-style-type: none">• Vehicle access to the site during construction• Construction vehicle routes• Traffic and parking effects• Measures to manage and protect pedestrian movements• On-street works zone• Measures to manage and control construction traffic at the site.

4.0 Statutory Framework

The proposed activity qualifies as 'Development permitted without Consent' under the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (Transport and Infrastructure SEPP). As a result, development consent under Part 4 (Development Assessment) of the EP&A Act is not necessary. Therefore, an assessment under Part 5 (Environmental Assessment) of the EP&A Act is required, and as such, this REF has been prepared.

4.1 Commonwealth Environmental Protection and Conservation Act 1999

The provisions of the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) do not affect the proposed works 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, nor is the proposed development a matter considered to be of national environmental significance and there is unlikely to be any significant impact on any critical habitats or threatened species. The Proposal does not require referral to the Australian Government Department of Sustainability, Environment, Water, Population and Communities.

Table 2 Matters of National Environmental Significance Consideration

Factor	Impact Assessment
Any significant impact on a declared World Heritage Property?	No
Any significant impact on a National Heritage place?	No
Any significant impact on a declared Ramsar wetland?	No
Any significant impact on Commonwealth listed threatened species or endangered community?	No
Does any part of the proposal involve nuclear actions?	No
Any significant impact on Commonwealth marine areas?	No
Any significant impact on Commonwealth land?	No

4.2 Environmental Planning and Assessment Act 1979 (NSW)

This REF considers the requirements of Section 5.5 of the EP&A Act, as well as Section 171 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) (refer to **Section 6.1** of this REF).

To attain the objectives of the EP&A Act relating to the protection and enhancement of the environment, a determining authority shall examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity (refer to sub section 1 of section 5.5). Any other provisions of the Act or the provisions of any other Act or of any instrument made under the EP&A Act or any other Act should also be taken into consideration.

This REF addresses the provisions of Section 5.5 of the EP&A Act. The table below demonstrates the effect of the proposed activity on the matters listed for consideration in Section 5.5(3).

Table 3 Matters for consideration under section 5.5(3) of the EP&A Act

Matter for Consideration	Impact of Activity
Sub-section 3: Without limiting subsection 1, a determining authority shall consider the effect of any activity on any wilderness area (within the meaning of the <i>Wilderness Act 1987</i>) in the locality in which the activity is intended to be carried on.	No effect , as the site is not located within or in the vicinity of a wilderness area as defined under the <i>Wilderness Act 1987</i> .

4.3 Environmental Planning and Assessment Regulation 2021

Section 171(2) of the EP&A Regulation provides a list of factors that must be taken into account for an environmental assessment under Part 5 of the EP&A Act. **Section 6.1** of this REF addresses these requirements.

4.4 State Environmental Planning Policies

The following SEPPs apply to the site and are relevant to the assessment of the activity as outlined below.

4.4.1 State Environmental Planning Policy (Transport and Infrastructure) 2021

The Transport and Infrastructure SEPP aims to facilitate the delivery of infrastructure across the State. Specifically, Section 3.37 of the Transport and Infrastructure SEPP enables public authorities to carry out certain types of development without consent on land within the boundaries of an existing or approved school.

Schedule 1, Section 5 of the EP&A Regulation recognises non-government schools as 'public authorities' and 'determining authorities' under Part 5 of the EP&A Act for the purpose of assessing and carrying out 'development without consent' under Section 3.37 of the TISEPP. Brigidine College St Ives is a registered non-government school, and the proposed works are within the boundaries of an existing school. Therefore, the proposal meets the prerequisites under Section 3.37 of the Transport and Infrastructure SEPP.

Demolition Works

Section 3.37(1)(e) of the Transport and Infrastructure SEPP enables the demolition of structures or buildings that are not State or local heritage items. It reads as follows:

- (1) *Development for any of the following purposes may be carried out by or on behalf of a public authority without development consent on land within the boundaries of an existing or approved school—*
- (e) *demolition of structures or buildings (unless a State heritage item or local heritage item).*

The proposal is not identified as a state or local heritage item and therefore, the proposed demolition as described in **Section 3.2.1** can be carried out accordingly under Section 3.37(1)(e) of the Transport and Infrastructure SEPP.

New Carpark

Section 3.37(1)(a)(vi) of the Transport and Infrastructure SEPP enables the construction of a car park as 'development permitted without consent' as long as it is not more than 1 storey high. It reads as follows:

- (1) *Development for any of the following purposes may be carried out by or on behalf of a public authority without development consent on land within the boundaries of an existing or approved school—*
- (a) *Construction, operation or maintenance, more than 5 metres from any property boundary with land in a residential zone and more than 1 metre from any property boundary with land in any other zone, or—*
- ...
- (vi) *A car park that is not more than 1 storey high.*

The proposed construction of the new carpark can be carried out under Section 3.37(1)(a)(vi) of the Transport and Infrastructure SEPP for the following reasons:

- The new carpark is located more than 5m from any property boundary.
- The new carpark is not more than 1 storey high.

It should also be noted that the on-site detention tank is associated with the new carpark and is considered development without consent because the existing tank will be impacted during the demolition works and will therefore, require replacement.

Development without Consent General Requirements

Further to the above, all activities comply with the remaining provisions of Section 3.37 of the Transport and Infrastructure SEPP for the following reasons:

- The Proposal will not result in the alteration of transport or traffic arrangements.
- The Proposal will not result in a prohibited increase in staff or student numbers.
- The Proposal will not contravene any existing condition of the development consent currently operating that applies to the School with respect to hours of operation, noise, car parking, vehicular movement, traffic generation, loading, waste management, landscaping or student or staff numbers. A detailed assessment of the existing conditions relevant to the development has been undertaken and can be found at **Appendix U**.

Therefore, the proposed activity qualifies as 'Development permitted without Consent' under the Transport and Infrastructure SEPP. As a result, development consent under Part 4 (Development Assessment) of the EP&A Act is not necessary. Therefore, an assessment under Part 5 (Environmental Assessment) of the EP&A Act is required, and as such, this REF has been prepared.

Exempt Development

The proposed storage shed located within the carpark is undertaken as exempt development under Section 3.39(j) of the Transport and Infrastructure SEPP, which is excerpted below:

- (j) *an amenities building, workshop or storage shed—*
 - (i) *that is not more than 1 storey high, and*
 - (ii) *that is more than 5 metres from any property boundary with land in a residential zone and more than 1 metre from any property boundary with land in any other zone.*

The storage shed is consistent with the above and therefore, considered exempt development.

4.4.2 State Environmental Planning Policy (Resilience and Hazards) 2021

Chapter 4 of the *State Environmental Planning Policy (Resilience and Hazard) 2021* (Resilience and Hazard SEPP) regulates the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment.

Clause 4.6 stipulates that a consent authority must not consent to the carrying out of development unless:

- It has considered whether the land is contaminated, and if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable after remediation) for the purpose of which the development is proposed to be carried out.
- If the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

The site currently operates as a school. No change of use or intensification of use is proposed as part of this REF. A Preliminary Site Investigation (PSI) has been prepared by Alliance, which concluded that there was potential for unacceptable land contamination on the site because of current and previous land use activities and therefore, recommended the preparation of a Detail Site Investigation (DSI).

As such, a DSI has been prepared and is provided at **Appendix M** to address the potential contamination on the site and determine whether the site can be made suitable for the proposed use as a carpark on an existing educational establishment. The results of the DSI did not find that the site contained unacceptable land contamination, nor were human health and ecological exposure risks identified on the site. Despite this, Alliance noted that potential contamination risks of AEC01-AEC06 have not been adequately addressed due to the existing use of the site as a secondary school and the presence of structures and hardstand materials across the site making it difficult to access underlying soil.

On this basis, the report concludes that the site can be made suitable for the proposed development subject to the undertaking of a supplementary contamination assessment (SCA), and management / remediation of identified unacceptable human health and ecological exposure risks. Further discussion is provided at **Section 6.8.2** of this REF.

4.4.3 State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 2 of the *State Environmental Planning Policy (Biodiversity and Conservation) 2021* (Biodiversity and Conservation SEPP) establishes controls for the clearing of native vegetation in NSW on land zoned for urban and environmental purposes that is not linked to a development application. The proposed activity will necessitate the removal of 11 trees. All relevant permits will be sought prior to the carrying out of these works. In addition, an Arboricultural Impact Assessment has been prepared by Seasoned Tree Consulting to ensure that the proposed activity is consistent with AS4970-2009: Protection of Trees on Development Sites and all other relevant legislative requirements. The assessment identifies the tree protection zones for each tree, and where possible, has provided alternative methods to tree removal, such as pruning. Refer to **Appendix I** for further information as well as **Section 6.7** of this report.

4.5 Ku-ring-gai Local Environmental Plan 2015

The Ku-ring-gai Local Environmental Plan 2015 (KLEP 2015) regulates development in the Ku-ring-gai LGA. **Table 4** assesses the Proposal against the relevant standards of the KLEP 2015.

Table 4 Assessment against the Ku-ring-gai Local Environmental Plan 2015 (KLEP 2015)

Clause	Provision	Compliance
2.3 Zone objectives and land use table	SP2 Infrastructure (Educational Establishment)	<p>The development of an educational establishment (school) is permissible in the SP2 Infrastructure (educational establishment) zone.</p> <p>The proposal meets the zone's objectives as it provides school-related infrastructure that is compatible and does not detract from other infrastructure.</p>
4.3 Height of Buildings	N/A	No Height of Building control applies to the site.
4.4 Floor Space Ratio	N/A	No Floor Space Ratio control applies to the site.
5.10 Heritage Conservation	N/A	The site is not identified as a local heritage item, nor is it located within a heritage conservation area.

4.6 Other Legislation

4.6.1 Roads Act 1993

Approvals under the Roads Act 1993 are not required since works are not proposed to a public road. Access to the carpark will be provided from the existing vehicular driveway off Woodbury Road.

4.6.2 Water Management Act 2000

Approval is not required under the Water Management Act 2000 since the proposed works are internal only and do not constitute a water management, use or activity requiring approval.

4.6.3 Rural Fires Act 1997

Whilst parts of the campus are bushfire prone, the proposed works do not trigger the requirement to obtain a Bushfire Safety Authority under Section 100B of the *Rural Fires Act 1997* as the works do not involve the subdivision of land or a special fire protection purpose. The *Rural Fires Act 1997* therefore, does not apply to the proposed development.

4.6.4 Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* came into effect on 25 August 2017 and replaces the *Threatened Species Conservation Act 1995*. It aims to protect native vegetation, species of threatened flora and fauna, endangered populations and endangered ecological communities and their habitats in NSW.

A Flora and Fauna Assessment Report prepared by Land Eco Consulting (**Appendix I**) has confirmed that the proposed activity is not considered likely to contribute significant impact to the threatened ecological community listed under the BC Act. Further assessment is provided in **Section 6.7**.

4.6.5 Fisheries Management Act 1994

No approvals are required under the *Fisheries Management Act 1994*.

4.6.6 Contaminated Land Management Act 1997

Extensive contamination investigations have been undertaken throughout the school campus. Both a Preliminary Site Investigation and a Detailed Site Investigation has been undertaken by Alliance and is provided at **Appendix L** and **M**.

The Preliminary Site Investigation concluded that there was potential for unacceptable land contamination present at the site, as well as unacceptable human health and ecological exposure risk. As such, it recommended a Detailed Site

Investigation be prepared to confirm whether the site could be made suitable for the proposed development for a new carpark on an existing school.

On this basis, a Detailed Site Investigation was undertaken, which included sampling and analysis quality plan. Based on the field work observations and data, and the laboratory analytical data, Alliance concluded that unacceptable land contamination, human health and ecological exposure risks have not been identified for the site. It concludes that the site can be made suitable for the proposed development subject to the undertaking of a supplementary contamination assessment (SCA) and the preparation of a remediation action plan (RAP) for AEC01-AEC06. Further detail is provided at **Appendix M**.

The recommendations outlined within the Detailed Site Investigation have also been summarised and included in **Section 7.0** of this report.

4.6.7 Heritage Act 1997

The site is not a State or locally listed heritage item, and the proposal will have no adverse impact on surrounding items of heritage significant. Therefore, the provisions of the *Heritage Act 1997* do not apply to the proposed development.

4.6.8 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) relates to the establishment, preservation and management of national parks, historic sites and certain other areas and the protection of certain fauna, native plants and Aboriginal objects.

There are no national parks, historic sites, Aboriginal objects or other such sites or objects as legislated for by the NPW Act, that are located on, or in the vicinity on, or in the vicinity of, the subject site of the works. Provisions of the NPW Act therefore do not apply to the proposed development.

4.6.9 Other Approvals

Aside from those approvals identified above, there are no separate approvals or authorisations required in relation to the proposed development activity prior to determination under Part 5 of the EP&A Act. Certification under Section 6.28 of the EP&A Act will be required before certain work commences on site.

5.0 Consultation

The REF scope of work was notified from 21 calendar days to the Ku-ring-gai Council and occupiers of adjoining land in accordance with the relevant consultation requirements of the Transport and Infrastructure SEPP as outlined in **Table 5**.

Table 5 Notification Triggers

Consideration	Yes	No
3.38 Notification of carrying out of certain development without consent		
This section applies to development to which section 3.37(1)(a) applies.	Yes	
Before development to which this section applies is carried out, the proponent of the development must—		
(a) give written notice of the intention to carry out the development to the council for the area in which the land is located (unless the proponent is that council) and to the occupiers of adjoining land, and		
(b) take into consideration any response to the notice that is received within 21 days after the notice is given.		
3.8 Consultation with Councils—development with impacts on council-infrastructure or services		
Will the development have a substantial impact on stormwater management services provided by Council?		No
Is the development likely to generate traffic to an extent that will strain the capacity of the road system in a local government area?		No
Does the development involve connection to, and a substantial impact on the capacity of, any part of a sewerage system owned by a Council?		No
Does the development involve connection to, and use of a substantial volume of water from, any part of a water supply system owned by a Council?		No
Does the development involve the installation of a temporary structure on, or the enclosing of, a public place that is under a Council's management or control that is likely to cause a disruption to pedestrian or vehicular traffic that is not minor or inconsequential?		No
Does the development involve excavation that is not minor or inconsequential of the surface of, or a footpath adjacent to, a road for which a council is the roads authority under the Roads Act 1993 (if the public authority that is carrying out the development, or on whose behalf it is being carried out, is not responsible for the maintenance of the road or footpath)?		No
3.9 Consultation with Councils—development with impacts on local heritage		
Is the development likely to affect heritage significance of a local heritage item, or of a heritage conservation area, that is not also a State Heritage item in a way that is more than minimal?		No
Is the development being carried out without development consent under this Chapter?		No
3.10 Notification of councils and State Emergency Service—development on flood liable land		
Is the development on flood liable land? If yes, written notice to the State Emergency Service and Council is required.		No
3.11 Consideration of Planning for Bush Fire Protection		
Is the development on bush fire prone land? If yes, the development must consider <i>Planning for Bush Fire Protection</i> before carrying out the development in an area that is bush fire prone land.		No
3.12 Consultation with public authorities other than Councils		
Is the development adjacent to land reserved under the National Parks and Wildlife Act 1974 or acquired under Part 11 of the Act? If yes, the specified authority is an appropriate Public Service Employee designated by the Minister for Energy and Environment.		No
Is the development on land immediately adjacent to a rail corridor that—		No
(i) Is likely to have an adverse effect on rail safety, or		
(ii) If the rail corridor concerned is used by electric trains, involves the placing of a metal finish on a structure, or		
(iii) Involves the use of a crane in air space above any rail corridor.		
If yes, the specified authority is the rail authority for the rail corridor.		

Consideration	Yes	No
Will the development increase the amount of artificial light in the night sky and that is on land within the dark sky region as identified on the dark sky region map? If yes, the specified authority is the Director of the Observatory.		No
Is the development on land within a mine subsidence district within the meaning of the Coal Mine Subsidence Compensation Act 2017? If yes, the specified authority is the Subsidence Advisory NSW		No
If the site has access to a road and the development will result in the school being able to accommodate 50 or more additional students? If yes, the specified authority is Transport for NSW.		No
Does the site have access to (i) a classified road, or (ii) a road (the connecting road) that connects, within 90 metres (measured along the alignment of the connecting road) of the access point, to a classified road, and the development will result in the provision of an additional 50 or more car parking spaces? If yes, the specified authority is Transport for NSW.		No
If the site is not accessible via a classified road and the development results in the provision of an additional 200 or more car parking spaces? If yes, the specified authority is Transport for NSW.		No
Will the development result in— (i) a new vehicular or pedestrian access point to the school from a public road, or (ii) a change in location of an existing vehicular or pedestrian access point to the school from a public road If yes, the specified authority is Transport for NSW.		No
Will the development involve excavation to a depth of 3 or more metres below ground level (existing) on land within or immediately adjacent to a classified road within the meaning of the Roads Act 1993. If yes, the specified authority is Transport for NSW.		No

The notification period commenced on 12 May 2023 and concluded on 1 June 2023. An overview of the comments received from Council is outlined below in **Table 6**.

Table 6 Response to Council's Comments

Council Comment	Response
It must be established that Brigidine College is a 'public authority' of the purposes of this clause having regards to the current versions of the Environmental Planning and Assessment Regulation 2021 and Environmental Planning and Assessment Act 1979.	Registered non-Government schools are prescribed to be 'public authorities' under Part 5 of the EP&A Act only for the purposes of assessing and carrying out development without consent under the Transport and Infrastructure SEPP, and therefore can also undertake 'development without consent' for this type of development. It is noted that they are also prescribed to be 'determining authorities' for these purposes and therefore are subject to the environmental assessment requirements of Part 5 of the EP&A Act like other public authorities. It is confirmed that the school is a registered non-government school.
The Department of Planning's Guide to State Environmental Planning Policy (Transport and Infrastructure) 2021 states the following, 'Basements and stacking of 2 storey buildings are not development without consent'. As the proposed basement is contrary to this requirement it is unlikely that the proposal can be carried out as development without consent.	As described in Section 3.3 above, the proposed carpark is a single storey building that is set within the natural slope of the land. This means that a portion of the building is below ground at the northern end of the carpark. Since it is only one storey, it can be undertaken as development permitted without consent.
Clause 3.37(4) of the SEPP states: <i>(4) Nothing in this section authorises the carrying out of development in contravention of any existing condition of the development consent currently operating (other than a complying development certificate) that applies to any part of the school, relating to hours of operation, noise, car parking, vehicular movement, traffic generation, loading, waste management, landscaping or student or staff numbers.</i>	Review of past consents have been completed with legal review, which is provided at Appendix U . Each specialist consultants have reviewed the relevant conditions, which is provided in each report.

As the proposal will reduce the number of on site car spaces the REF will need to demonstrate compliance with Condition 9 of the development consent to DA0817/10 issued by the NSW Land and Environment Court that requires a minimum of 126 on site car parking spaces.

As detailed within the Traffic Report at **Appendix G**, the proposal will continue to comply with Condition 9 as it will propose a total of 20 parking spaces, which is consistent with the approved spaces in the existing staff carpark.

The proposed storage shed and OSD tank have a substantial footprint and do not appear to be ancillary elements of the car park, therefore there is some doubt as to whether these elements can be carried out as 'development without consent'. Storage sheds and OSD tanks are not identified as types of development able to be carried out without consent.

The storage shed is undertaken as exempt development under Section 3.39(l) of the TISEPP. Additionally, it should be noted that the storage shed is not more than 1 storey, it is more than 5 metres from the boundary and does not require development consent.

Due to demolition works associated with the new carpark, the existing OSD tanks will be impacted and are required to be removed. Therefore, the proposed OSD tank replaces the existing OSD tank and as such, it is associated with the proposed carpark and can be undertaken as part of this REF.

Landscaping should be provided to the eastern side of the proposed structure to soften the built form and all paving set back from the eastern side boundary.

The landscaping scheme has been designed accordingly with significant planting proposed along the eastern boundary. Additionally, it is emphasised that the mature trees along the eastern boundary are being retained where possible.

All stormwater infrastructure should be designed in accordance with the requirements of Part 24 'Water Management' of the Ku-ring-gai DCP.

The stormwater infrastructure has been designed accordingly as detailed in the Civil Design Report at **Appendix F**.

6.0 Environmental Impact Assessment

The following Section outlines the potential impacts of the activity on the environment, and how these potential impacts will be managed.

6.1 Environmental Planning and Assessment Regulations 2021

Table 7 below provides a summary checklist of matters to be considered under Section 171 of the EP&A Regulations.

Table 7 Summary Checklist of Matters to be Considered

Factor	Impact
<p>(a) the environmental impact on the community This REF and the accompanying technical documents confirm that the proposal is unlikely to result in adverse traffic, noise, contamination, visual impact to the surrounding local community. These impacts are further discussed in Section 0.</p>	Positive
<p>(b) the transformation of the locality, The proposal will not radically transport the locality as it involves the demolition of an existing building with a new basement carpark and associated landscape works. Despite the extent of physical works proposed, the resulting transformation of the locality is considered to be positive.</p>	Nil
<p>(c) the environmental impact on the ecosystems of the locality, There will be impacts associated with the removal of 11 trees from the site. The extensive landscape planting scheme proposed throughout the public domain, together with offset planting will minimise impacts to satisfactory levels.</p>	Nil
<p>(d) reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality, There will be an initial temporary reduction in the aesthetics of the locality due to the proposed development. Longer term however, once the new sporting facility building and landscape embellishments have had time to establish, the aesthetics of the area will return to an improved degree and therefore, have a positive impact. Further, the proposed works are consistent with an accepted and approved vision of the transportation of this part of the school campus.</p>	Nil
<p>(e) the effects on any locality, place or building that has— (i) aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance, or (ii) other special value for present or future generations, The development will not significantly increase or decrease the significance of the site.</p>	Nil
<p>(f) the impact on the habitat of protected animals, within the meaning of the <i>Biodiversity Conservation Act 2016</i>, The development will not impact on the habitat of any protected fauna. Further assessment is provided in Appendix I.</p>	Nil
<p>(g) the endangering of a species of animal, plant or other form of life, whether living on land, in water or in the air, The development will not endanger any species of animal, plant or other living thing.</p>	Nil
<p>(h) long-term effects on the environment, There will be no long term effects on the environment.</p>	Nil
<p>(i) degradation of the quality of the environment, There will be a minor, but temporary, degradation of the quality of the environment as a result of the works being carried out. The long-term vision of the sporting facility will be realised in part of the proposed works under a separate planning pathway. The ultimate objective of the broader development is to create a high-quality built form to facilitate research and education.</p>	Nil
<p>(j) risk to the safety of the environment, There will be no change to the safety of the environment.</p>	Nil
<p>(k) reduction in the range of beneficial uses of the environment, There will be no reduction of beneficial uses of the environment. The proposed works support the continued use and future operation of the site as an educational establishment.</p>	Nil
<p>(l) pollution of the environment, Minor air, noise and water quality impacts may be generated during construction. Mitigation measures are proposed to minimise pollution to the environment.</p>	Nil

Factor	Impact
<p>(m) environmental problems associated with the disposal of waste, No environmental problems are anticipated with the disposal of waste from the proposed works. Appropriate measures will be undertaken to manage and dispose of waste in accordance with legislative requirements and OH&S documents.</p>	Nil
<p>(n) increased demands on natural or other resources that are, or are likely to become, in short supply, The activity will have no significant impacts in terms of demand for scarce resources.</p>	Nil
<p>(o) the cumulative environmental effect with other existing or likely future activities, The proposed works will not contribute to a cumulative environmental effect with existing or likely future activities.</p>	Nil
<p>(p) the impact on coastal processes and coastal hazards, including those under projected climate change conditions, The proposed works will have no impact on coastal processes and coastal hazards, including those under projected climate change conditions.</p>	Nil
<p>(q) applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1, The proposed activity directly aligns with the strategic planning context as outlined in A Plan for Growing Sydney, the Greater Sydney Region Plan and the North District Plan.</p>	Positive
<p>(r) other relevant environmental factors. As identified in the sections below, there are no other environmental factors that will result in any unacceptable impact to the environment.</p>	Nil

6.2 Traffic, Parking and Access

A Traffic and Parking Statement has been prepared by TTW and is provided at **Appendix G**. The report outlines the existing traffic and transport conditions surrounding the project and also assesses the potential traffic and transport impacts relating to the construction phase.

Given the proposed activity is maintaining the existing student and staff capacity of the school, no changes are proposed to the existing traffic operational impacts. Specifically, it is emphasised that vehicular access is maintained in its current position from Woodbury Road and carparking is proposed at the approved rate of 20 carparking spaces under DA 0817/10. As such, it is considered that there are minimal operational traffic impacts to the surrounding traffic networks.

Notwithstanding, it is anticipated that the main impact to the surrounding road network will occur during construction. Therefore, TTW have recommended that construction vehicle access points to the site are secured by manned traffic control to ensure no authorised or unsafe access is permitted for vehicles or pedestrians. Traffic control will also enable safe pedestrian movements across any construction access driveways, particularly students walking to and from school.

Additionally, the report also outlines several management measures to ensure the safety of active transport users and to mitigate impacting pedestrians and cyclists that can be implemented. These include:

- Scheduling construction vehicle movements outside of school peak hours where possible to ensure pedestrian and cyclist safety.
- Prohibit pedestrians from entering or passing through specific areas of the site during construction, enforced by fencing around the perimeter.
- Signage should be fitted to communicate to students and staff any detours or prohibited areas within the site. Any changes to external pedestrian or cyclist routes should also be communicated with signage and have detours clearly marked.

Further to the above, a detailed Construction Traffic Management Plan (CTMP) will need to be prepared prior to construction to mitigate any risks.

6.3 Civil Infrastructure

Civil and stormwater infrastructure will be provided in accordance with the Civil Design Report and Drawings prepared by TTW and provided at **Appendix E** and **F**.

As detailed above in **Section 3.5**, the proposed activity includes the installation of a new OSD tank, which will have an approximate total volume of 750m³. A DRAINS model has been produced to demonstrate that the discharge of stormwater from site during both the minor 5% and major 1% AEP (Annual Exceedance Probability) storm event meet the requirements provided in Ku-ring-gai DCP.

Additionally, the stormwater quality has been designed to meet the parameters identified in the Ku-ring-gai DCP. Water quality has been designed for the 3,430m² catchment and it has been assumed that the site will be comprised of 100% impervious area. As such, the following water quality treatment devices have been proposed for implementation on the site:

- 3x OceanGuard GPT's by Ocean Protect or an equivalent product.
- 3x 690mm PSorb StormFilter Cartridges by Ocean protect or an equivalent product.

A Model for Urban Stormwater Improvement Conceptualisation (MUSIC) has been compiled to demonstrate that pollutant load reduction targets can be satisfied by the design of the site.

Further assessment on the stormwater quality and quantity, as well as the erosion and sediment controls and bulk earthworks are provided in **Appendix F**.

6.4 Noise and Vibration

A Noise Impact Assessment has been undertaken by Acoustic Logic and is provided at **Appendix N**. The report provides an assessment of the potential noise impacts during operation and construction of the proposed activity.

Figure 10 below illustrates the site layout showing the subject site and the identified sensitive receivers.



Figure 10 Proximity of site to nearby sensitive receivers

Source: Acoustic Logic

6.4.1 Operational Noise Impact

An assessment against the operational noise emissions has been undertaken on a worst-case noise scenario, factoring in the potential noise emissions from vehicle movements, internal operations and loading dock activities. Based on the assumptions made and detailed within Section 6.2 of the report, the predicted noise levels at nearby residential locations are presented in **Table 8** below.

Table 8 Predicted Noise Levels at Nearby Receivers

Receiver	Period	Assessment Location	Predicted Noise Level dB(A) _{Leq(15 min)}	Allowable Noise Level dB(A) _{Leq(15 min)}	Compliance
R3	Day (7am-6pm)	Nearest facade	44	44	Yes
	Evening (6pm-10pm)		40	43	Yes
	Night (10pm-7am)		35	35	Yes

As provided above, the predicted noise levels are compliant with the relevant criteria that the proposed activity is required to comply with under specific conditions of consent that exist on the site. However, it should be noted that predicted levels take into account any expected noise reduction provided by distance losses and the recommendations outlined below:

- No Heavy Rigid Vehicles (HRV) are to be utilised.
- Deliveries are to be done only during weekdays and daytime period only (7am-6pm Monday to Friday).
- All vehicles are to be limited to a maximum speed of 10km/h whilst manoeuvring within the facility.
- Vehicles should use non-tonal reversing beacon when manoeuvring.
- Refrain from using airbrakes whenever possible.
- Vehicles are to turn off their engines whenever possible.
- Maximum vehicle movements as provided in Section 6.2.2 of the report.
- An after-hours contact number is displayed outside of the building site, so that in the event that surrounding development believes that a noise breach is occurring, they may contact the site.

Subject to the abovementioned recommendations, Acoustic Logic confirm that the operations from the use of the carpark are able to comply with the noise emissions requirements and the existing conditions of consents specified and further detailed within the report provided at **Appendix N**.

6.4.2 Construction Noise Impacts

Acoustic Logic have also undertaken an assessment against the potential construction noise impacts to each sensitive residential receiver. The assessment found that the typical equipment and processes anticipated to be used during the construction and demolition will exceed the noise affected management levels, particularly during excavation and rock breaking activities.

Despite this, a series of mitigation measures have been recommended to mitigate any potential impacts during demolition, excavation and construction, which are summarised in **Section 0** of this report.

6.5 Aboriginal Heritage

An Aboriginal Heritage Due Diligence Assessment has been prepared by Unearth Archaeology and Heritage in accordance with the *Due Diligence code of practice for the protection of Aboriginal objects in NSW* (DECCW 2010) and the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (Office of Environment & Heritage 2011).

As detailed within the report, the study area is not considered to be a favourable location for evidence of Aboriginal occupation. Therefore, it is concluded that:

- There is no objection to the proposed works on Aboriginal archaeological grounds.
- No Aboriginal objects were recorded during the site inspection. It is considered highly unlikely that any archaeological deposits exist within the study area or would be impacted upon by the proposed development of the study area.

- No further investigation in respect of Aboriginal archaeology or cultural heritage is required. It is not necessary to undertake consultation with the Aboriginal community in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* or prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR).
- If, during the proposed works, any Aboriginal objects or evidence of Aboriginal occupation are uncovered, all work must cease in the vicinity of the suspected Aboriginal objects or evidence of occupation, and further advice should be sought from a qualified and experienced archaeologist.

All recommendations have been adopted as mitigation measures (refer to **Section 0**). Refer to **Appendix J** for a detailed assessment on Aboriginal heritage.

6.6 Tree Removal

An Arboricultural Impact Assessment has been prepared by Seasoned Tree Consulting to assess the existing trees on the site, and the retention value of the trees that are proposed to be removed (refer to **Appendix H**).

Due to building construction, new surfacing and poor condition of trees, the proposal requires the removal of 11 trees, which have all been identified as having a low retention value. These trees will be removed and replaced at a replacement ratio of 1:1 to offset the loss of trees. All new tree planting will be selected from the Sydney Turpentine Ironbark Forest (STIF) Tree Species list and generally, will have large canopy cover.

Of the 18 trees assessed, a total of 7 trees are proposed to be retained and protected in accordance with the relevant Australian Standards, *AS497-2009: Protection of trees on development sites*.

Additionally, the report also outlines a series of recommendations and mitigation measures, which are detailed in **Appendix H**.

6.7 Flora and Fauna Impacts

A Flora and Fauna Impact Assessment Report has been prepared by Land Eco Consulting and is provided at **Appendix I**. The report assessed impacts on the biodiversity values within the site based on the proposed activities described in **Section 3.0** above.

The proposed activity will result in the removal of approximately 0.11 hectares of mixed and exotic vegetation, including 11 trees, six of which are *Syncarpia glomulifera* trees, along with the removal of scattered individuals of locally common indigenous tree, shrub and groundcover species. Therefore, the proposed activity will involve the removal of native vegetation belonging to the *Sydney Turpentine Iron-bark Forest in the Sydney Basin Bioregion*, which is a Critically Endangered Ecological Community (CEEC) under Schedule 2 of the *Biodiversity Conservation Act* (BC Act).

In addition, it is noted that three threatened flora species were recorded within or adjacent to the subject site, which included *Syzygium paniculatum*, *Eucalyptus nicholii* and *Macadamia integrifolia*. All of these species are considered to be planted specimens as they do not occur naturally within the Ku-ring-gai LGA. Given the disturbed nature of the subject site from past earthworks and landscaping, it is not likely that any other threatened flora would occur on the site, and therefore it is not likely any indigenous threatened flora would be significantly impacted by the proposed activity.

No threatened fauna species were recorded on the site, however, it is noted that microbat species are likely to intermittently forage amongst the tree canopies. Despite this, the report notes that there is no suitable hollows or old buildings for these species to permanently roost or breed. On the basis, the removal of trees may impact on the foraging resources of microbat species.

A test of significance pursuant to Section 7.3 of the BC Act was undertaken to assess the significance of the proposed activity including the removal of vegetation and the impact it would have on flora and fauna. Based on this assessment, it is considered not likely that the proposed activity would contribute a significant impact upon the local occurrence of the STIF CEEC, nor would it have a significant impact on the total population, or viable local population of threatened species under the BC Act.

As such, with consideration of the mitigation measures discussed in **Section 0**, it is considered unlikely that any threatened species listed under the BC and EPBC Act would be significantly impacted by the proposed activity.

6.8 Geology and Soils

6.8.1 Geotechnical

Alliance have provided an assessment of the geotechnical implications of the proposed activity (refer to **Appendix K**). The field work undertaken by Alliance for this investigation, included the drilling of four boreholes for the portion of the site subject to the proposed activity. The subsurface conditions encountered at these conditions are summarised in **Table 9** below.

Table 9 Summary of Subsurface Profiles Encountered in Carpark Area

Unit	Consistency / Strength Condition	Depth to the top of unit (m)	Thickness (m)
Pavement Asphalt	-	0	0.03-0.06
Fill (Sandy/Gravelly Clay and/or Clayey/Gravelly Sand)	Moderately well compacted	0.03-0.06	0.37-0.94
Residual (Clayey sand and/or sandy clay)	Medium Dense to Dense / Stiff to Very Stiff	0.4-1.0	0.5-0.6
Extremely weathered material Sandy Clay	Hard	1.0-1.5	1.1-1.6
Bedrock ⁽¹⁾ (Sandstone)	Low to Medium Strength	2.6	4.4
Bedrock ⁽¹⁾ (Sandstone)	Medium to High strength	7	To 8m below ground

The investigation found that groundwater seepage was encountered at BH03 location at approximately 1m below ground level at the soil-bedrock interface. It is noted that groundwater was not encountered at the other locations.

To mitigate any potential geotechnical risks arising during construction, recommendations relating to site and soil classification, excavation, temporary retention and batter slopes, foundations, and site preparation and earthworks have been provided in Section 5 of the Geotechnical Investigation Report at **Appendix K**.

6.8.2 Contamination

Alliance have prepared both a Preliminary Site Investigation (PSI) and a Detailed Site Investigation (DSI), which are provided at **Appendix L** and **M**.

Based on the assessment undertaken by Alliance of site history information, fieldwork observations and data, and laboratory analytical data, Alliance has made the following conclusions:

- Unacceptable land contamination, human health and ecological exposure risks have not been identified for the site;
- Potential contaminations risks in AEC01, AEC02, AEC03, AEC04, AEC05 and AEC06 have not been adequately assessed due to the existing use of the site and the presence of structures and handstand materials across the site making it difficult to assess underlying soils.
- The site can be made suitable for secondary schools subject to the undertaking of a supplementary contamination assessment (SCA), and management / remediation of identified unacceptable human health and / or ecological exposure risks.

Further recommendations are provided within the Detailed Site Investigation, which are detailed within **Appendix M**, as well summarised in **Section 7.0** of this EIS.

6.9 Accessibility

An Accessibility Design Statement has been prepared by Morris Goding Access Consulting (MGAC) and is provided at **Appendix Q**. The Statement confirms that the accessible car parking spaces located within the new carpark have been designed in accordance with normal disability access practice and meets the requirement of the Building Code of Australia, and relevant Australian Standards.

6.10 Services

An Electrical Services Statement and Drawings have been prepared by Shelmerdines at **Appendix R**, which confirms that there is sufficient capacity within the existing network and that the works will be undertaken in accordance with the relevant Australian Standards.

6.11 Waste Management

A Construction and Demolition Waste Management Plan has been prepared by Foresight Environmental and is provided at **Appendix P**. As detailed within the plan, Foresight Environmental have calculated that approximately 837m³ of waste will be generated during the demolition and excavation phase of the development and approximately 7.44m³ during the construction phase. It is noted that these calculations have been estimated based on information derived from the cost plan and wastage quantities of projects of a similar scale.

The Plan provides specific methods of reuse, recycling and disposal for each of the waste types anticipated to be generated, which is summarised in **Table 10** below.

Table 10 Waste Generation and Management

Material	Volume (m ³)	Onsite (re-use or recycle)	Offsite (disposal/recycling contractor)
Demolition			
Carpet	11	-	Collected by contractor to be sorted and re-processed at an appropriate construction and demolition recycling facility into recycled products where possible.
Roof tiles	15		
Brick	48		
Cement	137	Crushed and reused onsite as aggregate/road base where possible.	Removed from site as required for recycling/reuse at construction and demolition facility for processing.
Bitumen	211		
Excavation	415	-	-
Construction			
Paving	0.24	-	Removed from site as required for recycling/reuse at C&D facility for processing – deposited onsite directly into skips or trucks to be removed from site
Concrete based masonry	7.40	-	Stockpiled and collected by stone merchant/supplier for reuse/recycling

The Plan also provides additional management measures relating to waste storage and collection, site waste control and management, hazardous waste, and education and training. Refer to **Appendix P** for further details.

Given this REF is prepared for a carpark, it is not anticipated that the development will generate any operational waste. Therefore, no assessment on operational waste has been undertaken.

6.12 Hazardous Materials

A Hazardous Materials (HAZMAT) Survey for the site has been undertaken by Greencap, which is provided at **Appendix O**. The HAZMAT survey confirms that the no asbestos containing materials were found in the existing gymnasium or the Sister Adrian Wing.

Notwithstanding, Greencap recommended the implementation of the following:

- Develop or update the Hazardous Materials Management Plan (HMMP) to manage the risks associated with remaining in-situ hazardous materials located at the site and ensure compliance with relevant legislation, Codes of Practice and Australian Standard.
- Prior to demolition or refurbishment works, engage a competent person to undertake a destructive hazardous materials inspection of the premises as per relevant legislation, Codes of Practice and Australian Standards.

Further recommendations can be found within the HAZMAT Survey Report.

6.13 Construction Management

A Preliminary Construction management Plan (CMP) has been prepared by CTPG and is made available at **Appendix R**. The key measures to be implemented are outlined below:

- Hours of construction will be in accordance with the Interim Construction Noise Guideline 2009 as follows:
 - Monday to Friday – 7am to 6pm
 - Saturdays – 8am to 1pm
 - No work on Sundays or public holiday
- Head contractor will prepare a construction site plan specific to each stage of works to include site boundaries and fencing, detail of site signage, site office and amenities, site entry/exit gates, onsite traffic management, onsite materials storage and handling, and staging of works.
- Preparation of a dilapidation survey of the surrounding roads and roads sharing a boundary with the site.
- Preparation of an operational site management plan to address how the site will be managed during the operation of the school.
- Preparation of a Construction Traffic Management Plan.
- Preparation of an Environmental Management Plan (EMP) to provide control procedures and checklists so as to prevent construction adversely impacting the environment, specifically relating to erosion and sediment, noise and vibration, air quality and dust, waste management, flora and fauna management, and contamination.

6.14 Cumulative Impacts

A review of online sources suggests there are not any other developments in the local area that would result in cumulative impacts that would need to be managed. The proposed works are unlikely to significantly impact on any neighbouring properties. Traffic, noise, dust and other impacts associated with construction are likely to be minimal and will be managed in accordance with a detailed Construction Environmental Management Plan.

The proposed demolition and construction works are generally minor in nature and are not expected to result in significant cumulative impacts that cannot be managed. It is likely that any future application (such as any development under a Complying Development Certificate), can be staged and managed to ensure the effective delivery of the proposed activity.

6.15 Public Interest

The proposed works are considered to be in the public interest as the new carpark will facilitate the broader redevelopment of the new sports precinct, which was identified as a need by the students, staff and parents of the school. The proposed activity will allow for the ongoing use of the site as a school and will continue to provide sufficient staff parking on the site in a safe and secure manner. As such, it is considered that the overall public benefits significantly outweigh any impacts.

7.0 Mitigation Measures

Mitigation measures are to be implemented for the proposal to reduce impacts on the environment. A summary of the mitigation measures are provided in Table 11 below.

Table 11 Summary of Mitigation Measures

Impact	Mitigation Measure	Stage
Ecology and biodiversity		
Project location and design	The location of the proposed activity has been positioned largely outside of "Greenweb" mapped areas and to retain seven trees. The retained trees will continue to maintain biodiversity corridors that support local wildlife.	Pre construction
Engage project ecologist	A suitably qualified and experience Ecologist with a minimum of a tertiary degree in a relevant discipline, and license under the NSW Department of Planning Industry and Environment should be engaged to oversee the implementation of the impact mitigation measures in this report.	Pre construction
Tree Protections	<p>All trees to be retained must be protected in accordance with Australian Standard - Protection of Trees on Development Sites (AS-4970-2009), which outlines that a Tree Protection Zone (TPZ) is the principal means of protecting trees on activity sites. It is an area isolated from construction disturbance so that the tree remains viable.</p> <p>Works will be avoided within the TPZ of any trees located outside of the activity site that require retention. This includes trees on neighbouring properties.</p> <p>TPZs have been designated by the Project Arboriculturist (Seasoned Tree Consulting 2023).</p> <p>A sequence of hold points has been identified in the Arborist report by Seasoned Tree Consulting (2023) which require project Arborist certification throughout the activity process. These hold points such as tree protection prior to the activity commencing must be checked and certified.</p>	Pre construction
Signage	Temporary signage should be erected within the Subject Property to inform construction staff to keep away from the retained Sydney Turpentine-Ironbark Forest CEEC located outside of the clearing and construction footprint. Signs to state 'Critically Endangered Vegetation Keep Out' and 'Refuelling of machinery must be done offsite'. This will ensure that operators and construction personnel are aware of the presence of this CEEC.	Pre construction
Stormwater	Stormwater will be managed as per best practice requirements of Ku-ring-gai Council. The concept plans (Context 2023) indicate an onsite detention tank (OSD) within the Subject Site. This system is used for detaining stormwater and slowing discharging it to the council storm water system or to the drainage areas, by providing an on-site temporary storage. The proposed activity is not considered likely to significantly exacerbate stormwater flow such that local biodiversity would be impacted significantly.	Design and construction phase Post construction phase
Sewerage	It is expected wastewater will be managed as per best practice requirements of Ku-ring-gai Council. The proposed activity is not considered likely to significantly exacerbate sewage flow such that local biodiversity would be impacted significantly.	Design and construction phase
Undertake pre-clearing survey	The Project Ecologist is to undertake a pre-clearing survey of the Study Area to check for any nesting birds, sheltering fauna, to be relocated prior to earthworks and tree, shrub or groundcover clearing. The Ecologist will advise the best course of action if any sensitive fauna or flora are found.	Construction phase
Erosion and sediment	Appropriate erosion and sediment control will be erected and maintained during construction. At minimum such measures will comply with the relevant industry guidelines such as 'the Blue Book' (Landcom 2004). The project Arborist must supervise and certify that all excavations and root pruning are in accordance with AS4373-2007 and AS4970-2009 9 (Seasoned Tree Consulting 2023).	Construction phase
Dust suppression	During hot and dry weather, soil will be covered, and other suitable dust suppression techniques will be enforced to reduce impacts on local fauna.	Construction phase
Noise suppression	Noise suppression techniques will be enforced to reduce impacts on local fauna.	Construction phase

Minimising Artificial Lighting Impacts	Low spill lighting or shielding should be used where possible and restrictions around night-time construction work will be enforced to minimise the impacts on nocturnal fauna using nearby habitats.	Construction phase
Shadowing	The building should be designed to minimise shading onto the STIF CEEC. The shadow diagrams (Mayoh Architects 2023) show that the proposed activity is unlikely to substantially change the shading onto the STIF CEEC beyond its current level.	Pre-construction phase Construction phase
Storage and stockpiling (soils and materials)	All storage, stockpile and laydown sites will be established away from any native vegetation that is planned to be retained. Never stockpile under the 'drip zone' of a tree. Avoid importing any soil from outside the site as this can introduce weeds and pathogens to the site.	Construction phase
Weed eradication and Vegetation Regeneration	Exotic weeds including High Threat Weeds should be eradicated or managed through appropriate weed and bush regeneration methods across all areas of the Subject Site. An Ecologist should flag any high threat, priority or weeds of national significance for adequate removal and disposal at a green waste facility, prior to the clearing and earthworks commencement.	Construction phase Post-construction phase
Prevention of Novel Pathogens and Weeds	To limit impacts to the native vegetation in the Subject Property, importing topsoil in the Subject Property should be avoided where possible. Where necessary, the substrate must be sanitised, sandstone fill of local provenance. All construction equipment must be thoroughly sanitised each time before entering the Subject Property.	Construction phase
Tree Replacement	Tree replacement at a minimum of 1:1 ratio (one new tree to replace each single tree cleared) will be applied for the removal of 10 trees within the Subject Site. Only advanced stock (45L pot size or greater) tree species with large canopies representative of the STIF CEEC may be selected and the appropriate planting location on the property identified in consultation with an Arborist and Ecologist. Seasoned Tree Consulting (2023) recommends that all replaced trees are to be irrigated and maintained in a healthy condition until well established in the ground.	Post-construction phase
Traffic		
Construction Traffic Impacts	Scheduling construction vehicle movements outside of school peak hours where possible to ensure pedestrian and cyclist safety. Prohibit pedestrians from entering or passing through specific areas of the site during construction, enforced by fencing around the perimeter. Signage should be fitted to communicate to students and staff any detours or prohibited areas with signage and have detours clearly marked.	Construction Phase
Noise		
Construction Noise Impacts	The scheduling of activities should be undertaken to reasonably minimise impacts to all surrounding residents. <ul style="list-style-type: none"> A respite period is to be implemented where rock breaking, saw cutting, and hydraulic hammering works are required and will generate noise levels exceeding the highly noise affected level detailed in Section 4.2.2. The recommended hours for use of high noise generating works are: <ul style="list-style-type: none"> Monday to Friday: 9am – 12pm Monday to Friday: 2pm – 5pm No rock breaking, saw cutting and hydraulic hammering works on Saturdays, Sundays and public holidays. Community consultation is proposed be undertaken throughout the demolition and excavation process. In this regard regular letterbox drops detailing site progress and scheduled works is proposed. In particular, these should detail the extent and times of rock breaking, saw cutting, and hydraulic hammering which is planned to be undertaken. Quiet work methods/technologies: <ul style="list-style-type: none"> The primary noise generating activity at the site will be rock breaking, saw cutting, and hydraulic hammering. As much as practicable, use of quieter methods is to be adopted. If required, noise and vibration monitoring could be used to assess the ongoing impacts of construction works on surrounding receivers. This could be short term unattended measurements, or long term monitoring.	Construction Phase

Materials handling/vehicles:

- Trucks and forklifts in general use on site are to use a non-tonal reversing beacon where possible (subject to OH&S requirements) to minimise potential disturbance of surrounding receivers.
- Avoid careless dropping of materials into empty trucks.
- Trucks, trailers and delivery vehicles are to turn off engines when idling to reduce noise impacts.

Complaints handling:

- An after-hours contact number is displayed outside of the building site, so that in the event that surrounding development believes that a noise breach is occurring, they may contact the site.
- In the event of complaint, the procedures outlined in Sections 7, 8, and 9 are adopted.

Once a main works contractor has been engaged, and a detailed construction methodology developed, an updated construction noise and vibration management plan should be prepared. The plan should further refine and recommend specific practices to be undertaken to manage noise and vibration impacts from the site.

Stormwater		
Erosion and Sediment	An erosion and sediment control plan will be implemented to prevent sediment laden stormwater from flowing into adjoining properties, bushland, roadways or receiving waterbodies.	Construction Phase
Geotechnical		
Dilapidation Survey	A dilapidation survey on nearby structures within the zone of influence of the proposed basement and infrastructure is recommended to be undertaken by a competent structural engineer prior to the commencement of any site excavation.	Pre construction phase
Contamination		
Contamination	<p>A supplementary contamination assessment (SCA) should be undertaken to address the data gaps associated with AEC01, AEC02, AEC03, AEC04, AEC05 and AEC06.</p> <p>A remedial action plan (RAP) should be prepared to address potential unacceptable human health exposure risks that may be present within AEC01, AEC02, AEC03, AEC04, AEC05 and AEC06 onsite. The RAP should include a methodology for:</p> <ul style="list-style-type: none"> • Addressing data gaps requiring a SCA; and • Validation of management / remediation works. <p>SCA works should be undertaken following controlled demolition and removal of the structures and pavements within these AEC's. A hazardous building materials survey of those structures should be undertaken, and a clearance certificate obtained following hazardous building materials removal, prior to demolition of the structures;</p> <p>Further assessment, management or remedial planning works for the site, should be undertaken by a suitably experienced environmental consultant;</p> <p>Preparation of hazardous building material surveys and clearance certificates should be prepared by a suitably experienced hazardous materials consultant and/or occupational hygienist.</p>	Pre construction phase
Aboriginal Heritage		
Unexpected Finds	If any Aboriginal objects or evidence of Aboriginal occupation are uncovered during construction, all work must cease in the vicinity of the suspected Aboriginal objects or evidence of occupation, and further advice should be sought from a qualified and experienced archaeologist.	Construction phase.

7.1 Summary of Impacts

Based on the identification of potential issues, and an assessment of the nature and extent of the impacts of the proposed development, it is determined that:

- The extent and nature of potential impacts are minimal and will not have significant adverse effects on the locality, community and the environment.
- Potential impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the locality and community.
- Given the above, it is determined that an EIS is not required for the proposed development activity.

8.0 Justification and Conclusion

The proposed construction of a new carpark is subject to assessment under Part 5 of the EP&A Act. The REF has examined and taken into account to the fullest extent possible all matters affecting, or likely to affect, the environment by reason for the proposed activity.

As discussed in detail in this report, the proposal will not result in any significant or long-term impact. 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.

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.
- Adequate mitigation measures have been proposed to address these impacts.

The environmental impacts of the proposal are not likely to be significant, and therefore, it is not necessary for an EIS to be prepared and approval to be sought for the proposal from the Minister for Planning under Part 5.1 of the EP&A Act. On this basis, it is recommended that the determining authority 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.