Environmental Impact Statement

State Significant Development (SSD-26876801)
Relocation of The Forest High School
Allambie Road, Allambie Heights

PLANNING. URBAN DESIGN.
RETAIL AND ECONOMIC. HERITAGE

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DECLARATION

ENVIRONMENTAL IMPACT STATEMENT

Project details	
Project name:	New The Forest High School
Application number:	SSD-26876801
Address of the Land in respect of which the development application is made:	Allambie Road, Allambie Heights (formally known as 187 Allambie Road, Allambie Heights) being: • Lot 6 DP 1280781, • Lot 7 DP 1280781, • Lot 750 DP 1271174, and • Lot 751 DP 1271174
Applicant details	
Applicant Name:	New South Wales Department of Education
Applicant Address:	259 George Street, Sydney NSW 2000
Details of person by whom this EIS was prepared	
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Qualifications:	M. PropDev UTS, B.Plan (Hons) UNSW, MPIA
Declaration by qualified practitioner	
Name:	Kendal Mackay
Registration number:	Nil
Organisation registration with:	N/A
Declaration	The undersigned declares that this EIS: • has been prepared in accordance with Schedule 2 of the *Environmental Planning and Assessment Regulation 2021*; • contains all available information relevant to the environmental assessment of the development, activity or infrastructure to which the EIS relates; • does not contain information that is false or misleading; • addresses the Planning Secretary's environmental assessment requirements (SEARs) for the project; • identifies and addresses the relevant statutory requirements for the project, including any relevant matters for consideration in environmental planning instruments; • has been prepared having regard to the Department's State Significant Development Guidelines - Preparing an Environmental Impact Statement; • contains a simple and easy to understand summary of the project as a whole, having regard to the economic, environmental and social impacts of the project and the principles of ecologically sustainable development; • contains a consolidated description of the project in a single chapter of the EIS; • contains an accurate summary of the findings of any community engagement; and • contains an accurate summary of the detailed technical assessment of the impacts of the project as a whole.
Signature:	
Date:	2 November 2022

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Abbreviations

ACHAR	Aboriginal cultural heritage assessment and archaeological technical report
APZ	asset protection zone
BCA	Building Code of Australia
BC Act	*Biodiversity Conservation Act 2016*
CIV	capital investment value
COLA	covered outdoor learning area
Council	Northern Beaches Council
COWA	covered outdoor working area
CMP	construction management plan
CPTED	crime prevention through environmental design
CWMP	construction waste management plan
DA	development application
DCP	development control plan
DDA	*Disability Discrimination Act 1992 (Cth)*
DFP	DFP Planning Pty Limited
DoE	NSW Department of Education
DP	Deposited Plan
DPE	NSW Department of Planning and Environment
EEC	endangered ecological community
EFSG	Educational Facilities Standards and Guidelines
EIS	environmental impact statement
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 (Cth)*
EPI	environmental planning instrument
ESD	ecologically sustainable development
FTE	full time equivalent
GANSW	Government Architect NSW
kV	kilovolts
kVA	kilovolt-amps
kW	kilowatt
LEP	local environmental plan
LGA	local government area
MMoC	modern methods of construction
PRG	project reference group
PV	photovoltaic
RAP	remedial action plan
RL	reduced level
RMS	NSW Roads and Maritime Services
SDRP	State Design Review Panel
SEPP	State Environmental Planning Policy
SEARs	Secretary's Environmental Assessment Requirements
SIA	social impact assessment
SINSW	School Infrastructure NSW
SSD	state significant development
SSDA	state significant development application
TAIA	transport access impact assessment
TFHS	The Forest High School
TfNSW	Transport for NSW
T&I SEPP	*State Environmental Planning Policy (Transport and Infrastructure) 2021*

Summary

The State-led Frenchs Forest 2041 Place Strategy and Northern Beaches Council's Hospital Precinct Structure Plan require that The Forest High School be relocated from its current site at Frenchs Forest Road West, Frenchs Forest (Lot 99 DP 1241021) to a new site in order to facilitate the future development and transition of the area to become a Strategic Centre introducing 5,360 additional dwellings and 2,300 new jobs.

Accordingly, School Infrastructure New South Wales (SINSW) has identified and acquired a new site for the relocation of the school to Allambie Road, Allambie Heights. Relocation of The Forest High School involves the construction and operation of a new government high school which will increase capacity from 800 students to 1,500 students, comprising:

- Block A, a two (2) storey building comprising administration, staff spaces, staff amenities, and general learning spaces;
- Block B, a two (2) storey building comprising special support unit facilities, staff spaces, amenities, and general learning spaces;
- Block C, a two (2) storey building comprising library, general and specialist learning spaces;
- Block D, a two (2) storey building comprising science facilities, general learning spaces, staff facilities, and amenities;
- Block E, a two (2) storey building comprising food technology spaces, fabric and textile spaces, woodwork and metal work facilities, staff facilities, amenities and general learning spaces;
- Block F, a one (1) and two (2) storey building comprising a gymnasium with associated change rooms, showers, amenities and storage, first aid room, and metal work facilities;
- Block G, a two (2) storey building comprising a hall with movement studio, stage and lecture theatre, performance facilities, visual arts facilities, canteen, amenities, staff facilities, and general learning areas;
- Outdoor sporting facilities including a sporting field and six (6) games courts;
- Covered outdoor learning area (COLA) and covered outdoor working area (COWA);
- Basement parking area for 121 vehicles;
- Bicycle parking for 121 bicycles and scooter parking for 61 scooters; and
- Associated earthworks, tree removal, new tree planting and other landscaping, stormwater works, service upgrades and supporting infrastructure.

As the works have a capital investment value (CIV) exceeding $20 million, the project is deemed to be State Significant Development under *State Environmental Planning Policy (Planning Systems) 2021*. The proposed works will generate up to 163 construction jobs and up to 120 operational staff (an increase from 80 existing staff) once operating at full capacity.

The new The Forest High School Campus is to be located at Allambie Road, Allambie Heights, at the corner of Allambie Road and Aquatic Drive, within the Northern Beaches Local Government Area (LGA).

The new campus is zoned SP1 Special Activities (Health Services Facility, Seniors Housing Community Facilities, Educational Establishments) under *Warringah Local Environmental Plan 2011* (the LEP) and development for the purpose of an educational establishment is permissible with consent in this SP1 Zone.

SINSW and the project team have consulted with the existing school community, local community, Northern Beaches Council and State government agencies throughout the design of the development. Feedback provided through this time has been incorporated and addressed where possible in the final design and supporting documentation.

The proposal arranges two (2) storey buildings around a central playground on the eastern half of the site with a sports field, sports courts, basement car parking and remnant bushland on the western half of the site (**Figure 1**).

Summary

Figure 1 Site Plan (Source: Architectus)

Though parts of some of the proposed buildings exceed the maximum building height of 8.5 metres under the LEP, the proposed two (2) storey development is largely consistent with the surrounding area and achieves acceptable amenity outcomes in terms of visual impact, overshadowing, privacy and view sharing.

The proposed scale and setbacks ensure views are maintained to those travelling south along Allambie Road. Breaks in the proposed buildings have been incorporated to retain district views across the site. At two (2) storeys, the buildings sit within the cascading landscape rather than penetrating above the hilltop (**Figure 2**).

Figure 2 3D perspective of proposal looking west over Allambie Road (Source: Architectus)

Student and staff spaces are visually connected to nature and are orientated to take advantage of expansive district views to the south and east. Raked roofs are proposed in the library and visual arts units to take advantage of additional light and significant views where they will be most beneficial.

Summary

Protection of the natural environment including retention of the most significant collections of trees and highest biodiversity values on site have been a key consideration. The most valuable vegetation (including Duffys Forest community) on site has been protected where practicable, to be supplemented by significant additional planting to provide a generous canopy.

While it would be ideal to protect every mature tree on site, the significant Asset Protection Zone (APZ) requirements and site constraints that limit options for the placement of a sports field have required the removal of some mature trees.

A Biodiversity Development Assessment Report (BDAR) has been prepared by SLR in accordance with the NSW Biodiversity Assessment Method. The proposal requires the permanent removal of 0.43 hectares of native vegetation, comprising 0.28 hectares of PCT 1786 in moderate-good condition and 0.15 hectares of PCT 1786 in low condition. The removal of the PCT 1786 in moderate-good condition also represents the permanent removal of 0.28 hectares of Duffys Forest Endangered Ecological Community. The BDAR states that Duffys Forest is not a 'Serious and Irreversible Impact entity'.

The landscaping across the site incorporates 6,851m^2 of existing canopy cover to be retained and supplements it with an additional 3,490m^2 of new canopy cover to achieve a 25% canopy cover across the site. This is impressively high for an urban school that also provides a full competition size playing field and six (6) sports courts.

The site does not contain any State or local listed heritage items, and the site does not meet the threshold for local listing. While some historic, social and associative values have been associated with the site, it has been determined that the proposal will not have a detrimental impact on the significance of the site.

An Aboriginal Cultural Heritage Assessment and Archaeological Technical Report (ACHAR) prepared by GML Heritage has determined that there are no tangible First Nations values directly associated with the site. The Report recommends that an 'unexpected finds' procedure is implemented prior to the commencement of works. There is also opportunity to incorporate interpretation within the new school design to connect with the wider Aboriginal cultural landscape.

Connecting with Country report has been prepared by Tocomwall to inform the project design. Preparation of the report involved engagement of the local Aboriginal community, and further consultation with the Aboriginal Education Consultation Group is scheduled to continue to inform the project.

Recommendations to acknowledge Country have been incorporated by integrating learning and recreation spaces within the natural landscape setting and the project team continue to explore the inclusion of elements such as a Yarning Circle, engravings, waterways, native garden, and artwork. These elements will be especially valuable in their support of the Aboriginal Studies curriculum.

SINSW will continue to work with the Connection to Country consultant and the design team to develop and incorporate these strategies as the design moves into the detailed design phase.

The site is partially identified as being bushfire prone as a result of vegetation located on the western side of the site and on adjacent land adjoining the west of the site. In order to address the bushfire hazard and achieve compliance with required standards, a 67 metre wide Asset Protection Zone will be provided to the vegetation within the western portion of the site. As an additional precaution, all buildings will be constructed to a BAL 12.5 standard and a 35 metre wide Asset Protection Zone will be provided to the north of the site where non-bushfire prone mapped vegetation is present.

The site is not identified as flood prone but does contain an ephemeral creek and some localised low points which do not connect to a creek system. A stormwater strategy for the site has been designed to manage up to a 1% Annual Exceedance Probability (AEP) flood event. Down pipes and collection pits will convey stormwater to three (3) onsite stormwater detention (OSD) tanks across the site.

A series of pollution control devices have been provided to remove contamination from stormwater runoff to the required level prior to discharge. The devices will include litter screens in pits, a detention tank trash screen, and an end of line treatment device to remove nitrogen, phosphorus, and suspended solids prior to discharge to the Council stormwater system. This system is determined to be appropriate

as it will be able to achieve pollutant reductions required, is easily maintained, and does not require large open areas or pose a risk to safety for school users.

The school proposes to implement ecologically sustainable development (ESD) principles outlined in the Educational Facilities Standards and Guidelines (EFSG) and exceed the requirements of Section J of the National Construction Code (NCC) for energy-efficiency in building fabric and building services / systems. The project will target a 5-Star green star rating. Initiatives include passive design with appropriate shading and thermal performance, energy and water efficient systems, rainwater reuse and a 99kW solar PV system to provide for 30% of the school's energy demand.

The relocation of TFHS presents an opportunity for the school to strengthen its sustainable travel behaviour culture. A combination of infrastructure and policy initiatives will prioritise walking and cycling for those close to the site and public transport for students located further from the site.

The proposal would improve the local transport network by providing the following public infrastructure:

- Signalisation of intersection at Aquatic Drive and Allambie Road;
- Pedestrian crossing at the Rodborough Road and Allambie Road;
- New bus zone to the west of the new pedestrian signalised intersection on Allambie Road;
- Expansion to existing bus zone on the east side of Allambie Road;
- On-street pick-up/drop-off bays on the northern and southern sides of Aquatic Drive;
- Dedicated covered support unit drop-off at the eastern side of the school (within school grounds);
- An accessible on-street pick-up/drop-off zone adjacent to the main pedestrian entry to the school; and
- Widening of existing shared path adjacent to the school along Aquatic Drive and Allambie Road.

A staff car park will be located underground at the centre of the site beneath the playing field. The car park will be accessed from Aquatic Drive via a shared private road along the western perimeter of the site. Staff who drive will then use a private access road to enter/exit the car park. The car park provides 121 parking spaces for the 120 school staff.

No provision has been made for Year 12 students to drive to the school in order to encourage students to walk, cycle, or take the bus to prevent additional congestion during school peaks.

Traffic modelling undertaken by SCT Consulting shows that with implementation of all proposed off site infrastructure, all but one surrounding road intersections will provide a level of service of 'A' or 'B' to the year 2025. The exception is the intersection at Allambie Road and Warringah Road which will provide a level of service of 'D', generally consistent with its current performance. Beyond the year of 2025 it is anticipated that additional growth in the Frenchs Forest Future Precincts would be supported by future associated infrastructure upgrades and therefore these so cannot be accurately modelled at this stage.

Resonate has conducted a noise impact assessment associated with the proposal. The scope of the assessment involved a survey of the existing noise environment; derivation and establishment of project specific noise criteria through consultation with various NSW and Australian guidelines; a noise impact assessment with respect to the appropriate criteria; and, where required, recommendations for noise control measures.

The proposal is deemed to not cause "Offensive Noise" to neighbouring residences, subject to the implementation of recommended noise control measures. With regard to ongoing school operations, the assessment concludes that the proposed development is capable of satisfying the established criteria, provided that:

- a 2.1 metre high timber fence be installed along the western and southern boundaries of the Games Court as provided for on the proposed plans; and
- the external doors to the Movement Studio / Lecture Theatre are closed when events are being carried out in these spaces.

Summary

At a broad level, the community and public authorities are generally supportive of the proposed school design. As documented above, concerns and questions regarding specific elements of the proposal have been raised through the evolution of its design. These matters have been addressed in design and operational responses where desirable and mitigation measures have been proposed to minimise adverse impacts.

The proposed works have been assessed on balance as providing significant public benefit to the immediate local and surrounding district through the provision of new facilities.

This Environmental Impact Statement report has been prepared under Part 4 of the *Environmental Planning and Assessment Act 1979,* in accordance with the Secretary's Environmental Assessment Requirements (SEARs) for SSD 26876801 issued by the Department of Planning and Environment, and Part 8 of the *Environmental Planning and Assessment Regulation 2021*. The works proposed under this SSDA will be subject to the recommendations of specialist reports to ensure appropriate outcomes are achieved.

The proposed works have been designed to, and will be carried out in, the interests of the public. The works will meet the project objectives to provide new state of the art educational facilities.

Accordingly, it is requested that the Minister for Planning grant approval to the proposed State Significant Development application as set out in this report.

1 Introduction

1.1 Overview

1.1.1 Purpose of Report

DFP Planning Pty Ltd (DFP) has been commissioned by School Infrastructure NSW (SINSW) on behalf of the Department of Education (DoE) to prepare an Environmental Impact Statement (EIS) to accompany a development application (DA) to the NSW Department of Planning and Environment (DPE) for the proposed relocation of The Forest High School (TFHS) from Frenchs Forest Road West, Frenchs Forest to Allambie Road, Allambie Heights (the site).

The proposed development is for an educational establishment with a capital investment value (CIV) of more than $20 million and accordingly, is deemed to be State Significant Development (SSD) pursuant to Clause 15(1) of Schedule 1 of *State Environmental Planning Policy (Planning Systems) 2021*.

On 22 September 2021, the Secretary of the DPE issued Secretary's Environmental Assessment Requirements (SEARs) for SSD Application No. 26876801.

This report has been prepared in accordance with the SEARs, Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and Part 8 of the *Environmental Planning and Assessment Regulation 2021* (the Regulation) to enable assessment and determination of the proposal.

1.1.2 Project Objectives and Summary

TFHS has operated on its current site in Frenchs Forest since opening in 1961. The State-led Frenchs Forest 2041 Place Strategy and the Northern Beaches Council's Hospital Precinct Structure Plan require that TFHS vacate its current site to facilitate the future development and transition of the area to become a Strategic Centre introducing 5,360 additional dwellings and 2,300 new jobs. Accordingly, SINSW has acquired a new site for the relocation of the school to Allambie Road, Allambie Heights.

The project objective is to relocate the school and to provide sustainable and contemporary opportunities for learning based on the EFSG for a Medium High School (Stream 9). The following additional units have been selected by SINSW:

- 1 x Science Learning Unit
- 1 x Movement Studio
- 1 x Lecture Learning Unit
- A Support Unit made up of 3 classes and ancillary functions

The new school will provide for a capacity of 1,500 students in years 7 to 12 (an increase from 800 existing) and 120 staff (an increase from 80 existing) will all having equitable access across the site with minimal reliance on the use of any stairs or lifts.

1.2 Site History

Evidence of the long period of Aboriginal occupation in the Northern Beaches is scattered throughout the area in the form of shell middens and rock art engravings. The site is located within Kuring-gai (Guringai) Country on the land of the Garigal people. Throughout the Northern Beaches Aboriginal people lived predominantly along the harbour and coastal foreshores. They fished and hunted in the waters and hinterlands of the area, and harvested food from the surrounding bush.

Following European settlement, the site formed part of the catchment land for Manly's water supply, being formally protected for this purpose from 1892 to 1932 (GML 2021).

By the 1940's the site was being used to access surrounding quarrying operations.

1 Introduction

In February 1950, a five (5) acre parcel of Crown land was issued to the Spastic Centre (now Cerebral Palsy Alliance) which was to be used to build a hostel for country children with cerebral palsy. The Country Children's Hostel, later known as McLeod House, opened at Allambie Heights in 1957 as a 'home away from home' for up to 100 cerebral palsied country children and hospital accommodation for 24 patients. McLeod House, as it was in the 1980's is shown in **Figure 3**.

The site was expanded to the south with another five (5) acres granted in 1968 which was used to accommodate a factory for 850 persons including 250 disabled persons in an industrial rehabilitated division.

Part of the site was destroyed by fire in 2007. After been vacated by the Cerebral Palsy Alliance, McLeod House fell into disrepair and approval was issued for its demolition in 2012.

The site currently contains remnant landscaping associated with the former Spastic Centre, areas of hardstand car parking, remnant regrowth bushland and a high voltage transmission power line pylon in the norther eastern corner of the site.

The Heritage assessment undertaken for this SSDA has concluded that nothing on site sufficiently meets the criteria for heritage listing but there are some historic, social and associated values that can be interpreted and celebrated.

Figure 3 McLeod House at Allambie Road, Allambie Heights shortly after construction (Source: Nothing is Impossible: Adventures in cerebral palsy by Neil McLeod, 1986)

1.3 Site Context

1.3.1 Location

The site is located approximately 40 kilometres north of Sydney central business district, 3 kilometres west of the Brookvale/Dee Why Strategic Centre and 1 kilometre southeast of the Northern Beaches Hospital. The site is accessible from Warringah Road, Wakehurst Parkway and Pittwater Road via Allambie Road.

The site is located approximately 1km south east of the current TFHS campus and the proposed future Frenchs Forest Strategic Centre. The site is adjacent to the Cerebral Palsy Alliance to the south, Arranounbai School to the west, industrial development and an Ausgrid substation to the north, and low density residential development to the east (**Figure 4**).

1 Introduction

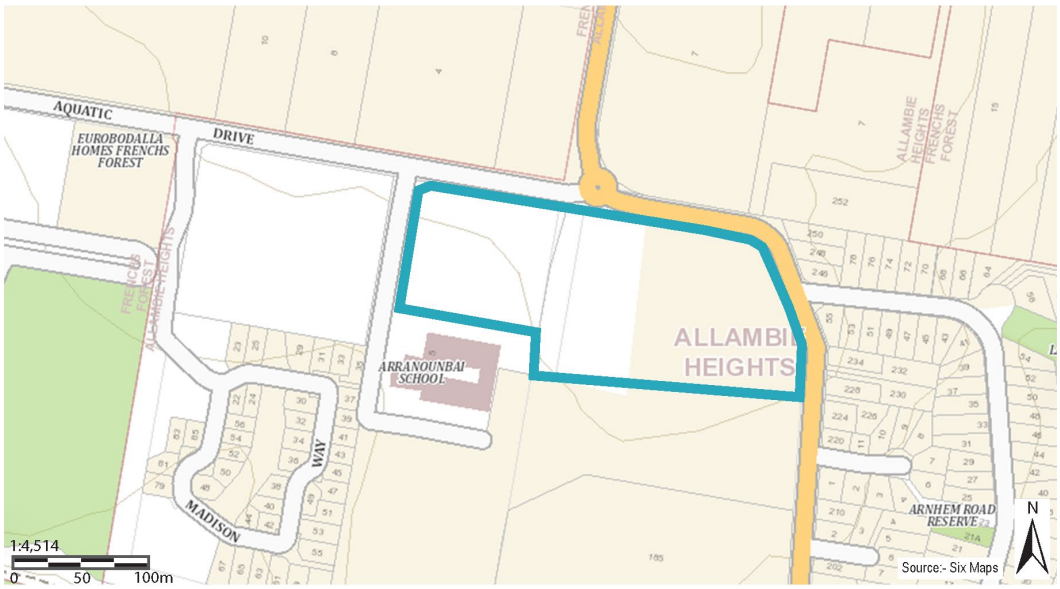

Figure 4 Site Location (Source: Six Maps)

1.3.2 Site Description

The new Forest High campus will be located at Allambie Road, Allambie Heights (survey at **Appendix F**), legally described as:

- Lot 6 DP 1280781,
- Lot 7 DP 1280781,
- Lot 750 DP 1271174, and
- Lot 751 DP 1271174

The site has a total area of 4.5 hectares and has two (2) road frontages:

- Allambie Road (290m); and
- Aquatic Drive (130m).

The site was formally part of a larger landholding known as No. 187 Allambie Road, Allambie Heights and prior the most recent subdivision, was legally described as:

- Lot 11 DP 1194177, 187 Allambie Road, Allambie Heights;
- Lot 13 DP 1112906, Aquatic Drive, Allambie Heights;
- Lot 751 DP 1271174, Aquatic Drive, Allambie Heights; and
- Lot 750 DP 1271174, Aquatic Drive, Allambie Heights.

It should be noted that some of the reports submitted with this EIS may refer to the site as it was formally known, particularly investigative reports which record the site and its conditions at the point in time at which the investigations were undertaken.

McLeod House, formerly the Spastic Centre Country Children's Hostel, located in the north eastern corner of the site was partially demolished in 2017 in accordance with development approval DA2011/1633. This demolition work will continue in the near future.

The western side of the site is densely vegetated. The remainder of the site is largely cleared with patches of vegetation. Some hardstand former at-grade car parking and access roads remain on the southern and central areas of the site (**Figure 5**). Two (2) high tension electricity transmission lines traverse the north-eastern corner of the site with one (1) pylon located on the site close to Aquatic Drive.

1 Introduction

The site has step level changes from north to south with a fall of approximately ten (10) metres across the site. The southern boundary of the site has a step vegetated embankment falling to the Cerebral Palsy Alliance and the Arranoundai School properties.

No natural watercourses are mapped as traversing the site.

Some areas of the site captures views to the ocean, city skyline and across the region (see **Figure 6**).

Figure 5 Aerial photograph of proposed school site (Source: Nearmaps)

Figure 6 Regional views to city skyline ad ocean from the site (source: Architectus)

1.3.3 Surrounding Development

Surrounding development within 500m of the site comprises a broad mix of light industrial, residential, seniors living, educational establishment, community, recreational land uses and bushland areas. The southern boundary of the site adjoins the Cerebral Palsy Alliance Allambie Heights Campus and the Arranounbai School.

1.3.4 Surrounding Road Network

Key roadways adjoining and surrounding the school site include:

- **Allambie Road** – a Regional road (7345) under the jurisdiction of Transport for NSW adjoining the northern and eastern boundaries of the site. The road is two-way with an on-road bike lane on both sides. The road joins Warringah Road at its north to Rodborough Road, Aquatic Drive and local residential streets until it turns into Kentwell Road at its southern end.

  A shared pedestrian and cycle path is present along the western side of Allambie Road from the Allambie Road shops to Frenchs Forest Road East.

Bus zones and drop off areas are located adjacent to the site on both sides of Allambie Road.

There is a signalised pedestrian crossing at Mortain Avenue and pedestrian traffic islands adjacent to Sunlea Place and at the roundabout at Rodborough Road.

Allambie Road has a speed limit of 60km/h and has a school zone for Allambie Heights Public School.

- **Aquatic Drive** – local road under the jurisdiction of Northern Beaches Council adjoining the northern side of the site. The road is two-way, with an on-road cycle lane on both sides of the road and on-street parking. There is a pedestrian traffic island at the roundabout at the intersection with Allambie Road.

  A shared pedestrian and cycle path is present along the southern side of Aquatic Drive which continues along Allambie Road to the east and along Fitzpatrick Avenue to the Wakehurst Parkway to the west.

  Aquatic Drive has a speed limit of 50km/h with a school zone for Arranounbai School.

- **Warringah Road (A38)** – State road (328) under the jurisdiction of Transport for NSW. This road does not adjoin the site, however, provides access to Allambie Road 400 metres north of the site. The road provides three (3) travel lanes in two (2) directions from Dee Why to the Roseville Bridge and has major intersections with Pittwater Road, Willandra Road, Allambie Road, Wakehurst Parkway and Forest Way.

- **Wakehurst Parkway** – State road (397) under the jurisdiction of Transport for NSW. This road does not adjoin the site, however, provides access to Allambie Road 700 metres west of the site. The road provides two-way connection between Seaforth and Narrabeen. Aquatic Drive can be accessed from Wakehurst Parkway in both directions but the exist of Aquatic Drive at this location is left-out only (**Figure 7**).

Figure 7 Intersection of Aquatic Drive an Wakehurst Parkway (Source: NearMaps)

The current and projected performance of key roads and intersections are detailed in the Transport Access Impact Assessment prepared by SCT (**Appendix N**) and is discussed in **Section 6.5** of this EIS.

1 Introduction

1.3.5 Surrounding Transport Network

There are no rail or ferry services in proximity to the site. There are two (2) public bus stops located along the frontage of the site on Allambie Road, one (1) northbound and one (1) southbound. TfNSW operate the 142 and 174X, and Forest Coach Lines operate the 280 bus routes past the site which connect Manly, Warringah Mall, Chatswood and Narraweena to the site every 15-30 minutes during peak periods.

The site is also within a walking catchment of additional bus routes including those that stop at the Wakehurst Parkway and the Skyline Shops (corner of Patanga Road and Frenchs Forest East Road) (**Figure 8**).

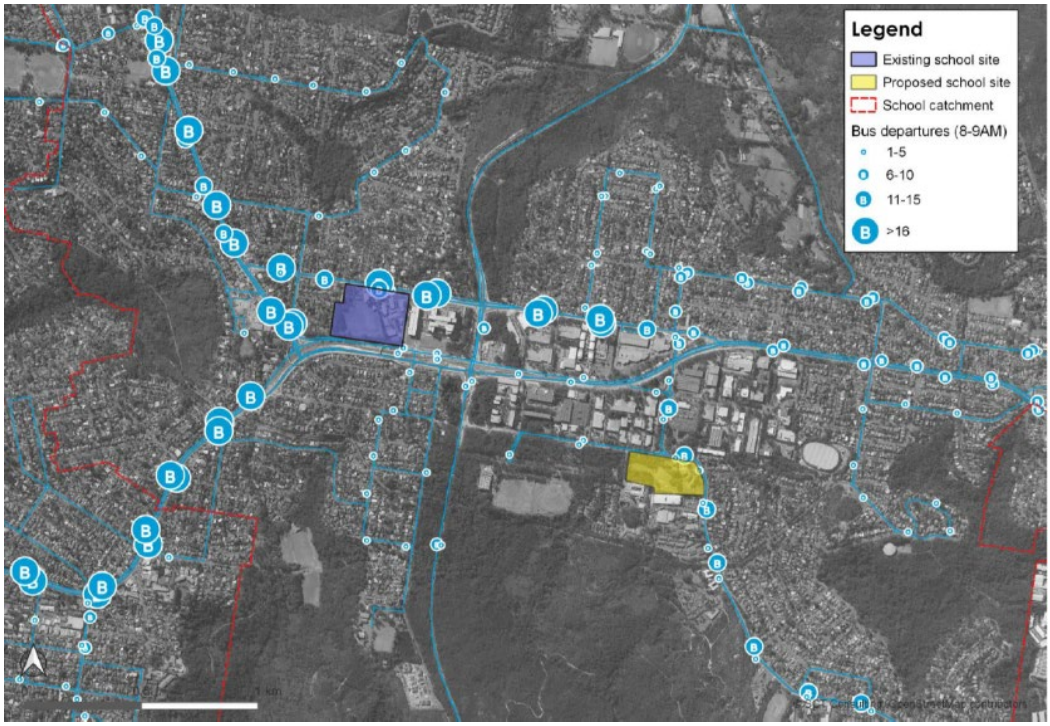

Figure 8 Local bus service routes (Source: SCT Consulting)

There is a 2.5 metre wide shared path along the frontage of the site that runs from the Warringah Aquatic Centre to the Allambie Heights Shops, Skyline Shops, Forestway Shopping Centre and to the existing school site at Frenchs Forest West Road. This shared path connects to a broader informal network of roadside footpaths and pedestrian connections.

The walking catchment of the existing school location in comparison to the proposed school location is provided in **Figure 9**.

1 Introduction

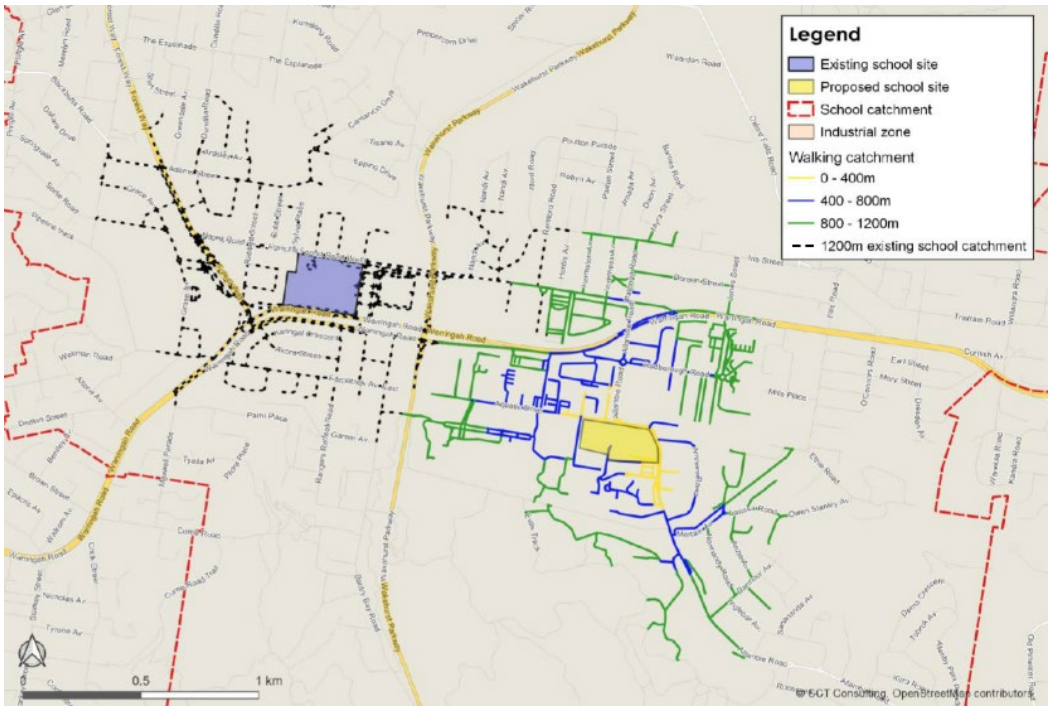

Figure 9 Walking catchment to existing and proposed school sites (Source: SCT Consulting)

1.3.6 Options Analysis

In line with other NSW Government expenditure, SINSW projects require business cases to be prepared and submitted to NSW Treasury as part of the annual budget process. A business case is a documented proposal to meet the Government's objectives that is used to inform investment decisions. It contains analyses of the costs, benefits, risks and assumptions associated with various investments.

Options analysis for school developments occurs as part of the business case process with a preferred option being put forward for funding and to progress to development application stage. It is only when an option is approved for funding that it can be made public. This is to avoid creating expectations before the project is committed to.

The Options considered for the proposal are:

1. **Do nothing** – this option was not selected on the basis that the existing school does not have sufficient capacity (i.e. 800 students) to cater for future population growth in the catchment, does not provide high-quality contemporary learning facilities and prevents the creation of the new town centre;
2. **Redevelop the existing site** - this option was not selected on the basis that it prevents the creation of the new town centre;
3. **Relocation to a suitable site within the school catchment** – this option was selected for the following reasons:
    a. A suitable vacant site was found within the existing school catchment that was already zoned for educational purposes;
    b. The new site enables the creation of high-quality fit for purpose learning facilities including indoor and outdoor spaces;
    c. The new site enables the delivery of equitable access for all users;
    d. The new site enables a design that would have minimal negative amenity impacts to neighbouring properties including acoustic and visual privacy, overshadowing, and traffic impacts; and

e. The new site enables a design that preserves ecological values of the western portion of the site.

Within Option 3 there have been a series of sub-options associated with various design alternatives which have been tested, considered, and developed. The design development is discussed in **Section 1.3.7** below.

The developed design proposed in this SSDA has been identified as the option which best addresses the issues above and meets education service needs in this intake area and has been approved for funding by NSW Treasury.

1.3.7 Design Development

The site has constraints that have influenced the design, including:

- Moderately steep topography across the site;
- Varied scale and context of neighbouring development;
- Land uses adjoining the site at Arranounbai School and the Cerebral Palsy Alliance potentially sensitive to noise and privacy impacts;
- Mature trees and remnant vegetation including Duffy's Forest Ecological Community;
- Potentially sensitive Aboriginal archaeology (later confirmed not to be present);
- Ephemeral creek and overland flow paths;
- Regional Road (Allambie Road) wrapping around from the north to the east;
- Two (2) high tension electricity transmission lines traversing the site; and
- Bushfire prone land.

The new Forest High School campus presented an opportunity to re-imagine how the school community can best be serviced. The design has sought to celebrate the natural beauty across the site with strong physical and visual linkages to the unique settings of the site through the integration of Aboriginal history in the design, capitalising on bush, city and coastal views. The creation of new high-quality facilities capitalises on the surrounding landform and new opportunities for learning and socialisation in the natural settings.

Development of Masterplan

A masterplan was developed by Architectus in consultation with SINSW, technical consultants and stakeholders to accommodate the requirements of the EFSG and the most recent Design for Manufacturing and Assembly practices of SINSW.

Six (6) design principles have been employed to capture the school's vision and the relevant design guidelines as discussed in **Section 2.2**. These are:

- Connection to Country: A strong sense of belonging to place by relating with remnant forest and existing trees, tracks along the site, views to the water and spaces for gathering.
- Connection to Nature: Biophillic design approach to bring in daylight, fresh breezes and the warmth of the sun. The school will incorporate elements that evoke sense of nature with natural materials, colours, shapes/forms/patterns and textures.
- Create School Heart: Establish a central space for the entire campus with strong connection to existing landscape, high visibility and accessibility, and close proximity to other collaborative functions.
- Create School Identity: Showcase the identity of the school through its strong affiliation with sport activities, performance activities and community collaboration.

1 Introduction

- Create Learning Precincts: Create flexible, dynamic learning precincts that provide physical and visual connection to outdoor different modes of learning and formal and informal collaborative opportunities.
- Response to Site Topography: Create an inclusive campus through strong relationships between the site terrain, built forms and landscape promoting accessibility, vantage points for access and views out, and retention of existing natural features.
- Equitable Access: Provide easy and direct access across all areas of the site with minimal reliance of stairs for equality between users of all mobility abilities.

Following a detailed site analysis, a set of overarching site-specific responses were developed including: 'corner expression' to provide a strong landmark at the bend of Allambie Road, appropriate arrival points, siting of built form elements in response to site constraints and placement of key activities at the centre of the site to create the 'heart of the campus'.

The master plan, as submitted with the request for SEARs in August 2021, is shown in **Figure 10**.

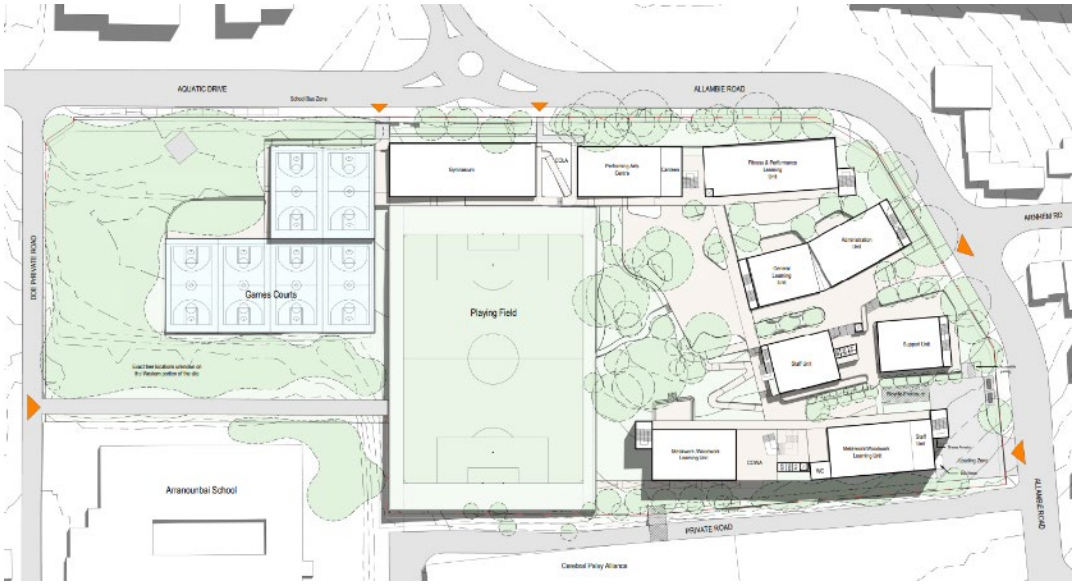

Figure 10 Extract of ground floor plan at time of SEARs request (Source: Architectus)

Architectus continued to refine the design within the requirements of the EFSG, guidelines for Modern Methods of Construction (MMoC) and budget. Notably, Blocks A, B and C were moved and reorientated east to increase the play space area in the central courtyard. The amended layout was tested and developed to maximum use and functionality while maximising amenity within the site as well as to surrounding land uses (**Figure 11**).

Figure 11 Masterplan options (Source: Architectus)

A favoured design emerged that best utilised the built form as a protective buffer from the busy Allambie Road, wrapping around from the north to the east, and best accommodated a clear buffer to the bushfire hazard to the west (**Figure 12**).

A four (4) storey built form achieved a large sheltered outdoor open space for the students that expands on to the sports field and playing courts to the west. It reserved the most valuable vegetation on site and avoided the placement of built form on a 'sensitive zone' where there is highest potential of Aboriginal Archaeology.

1 Introduction

The design created multiple connections to nature within the site and maximised views from internal spaces to the surrounding bush setting and mature landscaping. The large central courtyard hosted mature trees, allowing students and teachers to benefit from the biophilic design. The buildings were carefully positioned to allow the sight of passers-by and community members drawn to the green heart of the school.

Figure 12 Aerial view from master plan schematic design (Source: Architectus)

At this point in the project, SINSW resolved to improve equitable access across the campus. Achieving equitable access across the four (4) storey design would have required an unreasonable quantity of ramps and walkways that would have occupied a significant portion of the internal open space. Accordingly, a further redesign was required to limit the building heights to two (2) storeys and allow the retention of unhindered open space.

Development of Final Scheme

Architectus has prepared an Architectural Design Statement (**Appendix G**) which provides an analysis of the site context, identifies the opportunities and constraints of the site and details urban design strategies for the site which support the proposed built form as well as providing an assessment of the proposal against the Design Quality Principles set out in Schedule 8 under *State Environmental Planning Policy (Transport and Infrastructure) 2021* (T&I SEPP).

The built form, bulk, height, articulation, and materiality reflects the scale and character of the surrounding area and sits comfortably within its setting. By respecting the topography and existing mature vegetation across the site, the development presents an appropriate aesthetic and interface with the streetscape (**Figure 13**).

Careful consideration has been given to the location and relationship of the various school programme spaces. The Administration Unit is located at the main entry to the school and facing the public domain. The Staff Unit is distributed between the buildings following consultation with the school. The library and visual arts are located on the upper level to capitalise on district views and maximise solar access into these spaces. Heavily serviced programs such as the metalwork and woodwork are located on the ground level, in close proximity to the service entry and loading dock.

Oculus have developed a high-quality landscape response across the site, as detailed in the Landscape Plans (**Appendix K**) and Report (**Appendix L**). The proposed landscaping provides an appropriate interaction between the school site and the surrounding context, provides strong physical and visual connections through and beyond the site, and maximises opportunities for outdoor learning, relaxation, and recreation.

1 Introduction

Connection-to-Country has been woven through the project, especially the landscape design, by retaining and interpreting local ecological values, improving connection to retained groves of mature planting, recreating walking tracks across the site, providing storytelling engravings, providing outdoor gathering spaces, by reflecting seasonal change, and through materiality.

Internal facing walkways, corridors and learning spaces are open to the central courtyard with balustrades and large windows to connect to this green passive outdoor setting. Circulation around the buildings, referred to as 'the learning loop' provides a continuous accessible walkway around the central courtyard (**Figure 14**).

The design has allowed for two (2) separate secure zones. The entire site is secured with a 2.1 metre palisade fence with five (5) entry points. A secondary secure perimeter can enable exclusive access to the gym, hall, playing field and sports courts for community access outside of school hours.

Figure 13 Eastern façade from Allambie Road (Source: Architectus)

1 Introduction

Figure 14 Proposed 'learning loop' walkway (Source: Architectus)

Refer to **Section 3.2** for a detailed description of works. Assessment of the environmental impacts of the proposal are set out in **Section 6**.

1.3.8 Separate Works Packages – Under Separate Planning Pathways

Demolition of the existing McLeod House is currently being carried out under an existing Development Consent (DA2011/1633).

2 Strategic Context

2.1 Strategic Justification and Project Need

The NSW Government has increased their 'School Building Program' investment from $6.7 billion to $7 billion to deliver 200 new and upgraded schools to support communities across NSW. In the past year 50 new school or upgraded schools were delivered.

The State-led Frenchs Forest 2041 Place Strategy and Northern Beaches Council's Hospital Precinct Structure Plan require that The Forest High School be relocated from its current site at Frenchs Forest Road West, Frenchs Forest (Lot 99 DP 1241021) to facilitate the future development and transition of the area to become a Strategic Centre introducing 5,360 additional dwellings and 2,300 new jobs.

Accordingly, SINSW has identified and acquired the site for the relocation of the school to enable the future town centre to proceed and to cater for the population growth.

Creation of a new school campus also represents an opportunity to create new facilities better designed for contemporary learning and development.

The present school is extremely dependant on stairs to access many teaching and other ancillary spaces. The new campus has been designed to provide equitable access for all users.

2.2 Strategic Plans

2.2.1 State Policies

Table 1 provides a summary assessment of the proposed development against the relevant provisions, goals and objectives of relevant State policies.

Table 1 Response to Provisions, Goals and Objectives of State Policies

State Policy	Response
NSW State and Premier's priorities (Dept. Premier and Cabinet) • Highest quality education • Bumping up education results for children • Increasing the number of Aboriginal young people reaching their learning potential • Greening our city	The proposal is consistent with relevant State and Premier priorities as it will: • Create new jobs for construction workers, and maintain employment for teachers, support staff and maintenance workers. • Provide superior educational infrastructure to support the growing population in the locality. • Provide specialist educational facilities including equitable access. • Provide a high-quality environment to enable a high quality publicly funded education; and • Provide a safe learning environment and education regarding personal protection and welfare.
Future Transport Strategy 2056 (Transport for NSW) Relevant vision outcomes: • Successful places • Accessible services • Sustainability	The strategy sets six (6) state-wide outcomes to guide investment, policy and reform and service provision. The proposal will support the relevant vision outcomes identified in the NSW Future Transport Strategy 2056 by: • Active travel to the school is further encouraged through the provision of 121 bicycle and 61 scooter parking spaces and of end of trip facilities; • Encouraging the use of public transport through the provision of school bus services; and • Supporting more environmentally sustainable travel by adopting green travel initiatives to discourage private car use in favour of more sustainable means.
Greater Sydney Region Plan: A metropolis of three cities (Greater Sydney Commission)	The project contributes to the implementation of the Greater Sydney Region Plan as it allows the current school site to be utilised by other uses that will optimise the existing hospital and transport infrastructure. The school has been sited and designed to encourage walking and cycling to campus. The new school campus will continue to facilitate community uses outside of school hours as encouraged in the Plan.

2 Strategic Context

Table 1 Response to Provisions, Goals and Objectives of State Policies	
State Policy	**Response**
North District Plan (Greater Sydney Commission)	The project contributes to the implementation of the North District Plan as it facilitates the development of the Frenchs Forest Health and Education Precinct. The proposal will help to create and support an inclusive and vibrant neighbourhood. Planning for the schools has respond to growth and changing demand such as more efficient use of land, contemporary design, flexible learning spaces and providing improved spaces and facilities for shared use. Safe walking and cycling has also be carefully considered to encourage young people to be more active and reduce traffic congestion.
State Infrastructure Strategy 2022-2042 Staying Ahead (Infrastructure NSW 2022)	The proposal is consistent with this Strategy as it delivers investment in modern education infrastructure to service demand.
Koala Habitat Protection Guideline (DPIE 2020)	The Koala Habitat Protection Guideline was the implementation tool for the Koala Habitat Protection SEPPs. As SEPP (Biodiversity and Conversation) 2021 is now in force, the SEPP is the overarching legislation relevant to this proposal, and has been addressed at **Section 6.7** of this report.
Northern Beaches Local Strategic Planning Statement: Towards 2040 (Northern Beaches Council)	The project contributes to the implementation of the Local Strategic Planning Statement as it facilitates the development of the Frenchs Forest Health and Education Precinct. The proposal also delivers on Priority 10: World-class education facilities… and Priority 11: Community facilities and services that meet changing community needs.
Frenchs Forest 2041 Place Strategy (DPIE 2021)	The Place Strategy identifies five (5) 'Big Moves' required to realise the full potential of the precinct. The first of the five (5) is "Relocate and construct a new high school". Consistent with the Place Strategy, the proposal provides: • a new state-of-the art high school, where students will enjoy easy connections to transport, open space and sporting fields. • the opening up of more than 60,000 sqm of ideally located land for a bustling new town centre.
Hospital Precinct Structure Plan (Northern Beaches Council 2017)	The Structure Plan envisaged the delivery of 5,360 new dwellings and 2,300 new jobs over and around the current high school campus. The structure plan proposed the relocation of The Forest High School to the site of the Warringah Aquatic Centre at Aquatic Drive to facilitate the development of the new town centre. The proposal is consistent with the Structure Plan as it provides for the relocation of TFHS to facilitate the new town centre.
Crime Prevention Through Environmental Design Principles	This report provides a CPTED assessment of the proposal in the Architectural Design Report at **Appendix G**. The assessment considers the objectives and desired outcomes of the principles/strategies employed by CPTED.
Healthy Urban Development Checklist (NSW Health)	The design of the proposed relocation of The Forest High School is consistent with the relevant aspects of the Healthy Urban Design Checklist as it will: • Include community uses to promoting social and physical activity. • Promote walking and cycling through provision of appropriate infrastructure. • Include CPTED principles in its design to promote a safe environment for students and visitors to the school; and • Provide equitable access to facilities.
Better Placed: An integrated design policy for the built environment of NSW (GANSW) This policy aims to ensure a well-designed built environment that is:	The project team met with the Government Architect and State Design Review Panel (SDRP) three (3) times through design process, and comments were incorporated into the design accordingly (**Appendix D**). The project meets the objectives of this policy as follows: • The proposal provides 121 bicycle and 61 scooter parking spaces and of end of trip facilities to encourage walking and cycling.

2 Strategic Context

Table 1 Response to Provisions, Goals and Objectives of State Policies	
State Policy	**Response**
• Healthy for the community • Responsive to the needs and aspirations of local people • Integrated • Equitable and • Resilient	• Proposed gym, sports field and sports courts promote physical activities. • The proposal is responsive to the needs and aspirations of the community by providing upgraded, state-of-the-art educational facilities. • The proposal is integrated into the community through after-hour community uses and through being adjacent to residential, commercial and recreation uses. • The proposal provides educational facilities for all students and achieves equitable access. • A Connection to Country report (**Appendix BB**) has been prepared and is discussed in **Section 6.2.1**.
Design Guide for Schools (GANSW) This policy aims to: • Promote and champion good design processes and outcomes for schools across NSW; and • Deliver schools that respond positively to their physical, social and environmental context; and • Support the delivery of excellent learning environments.	Schedule 8 of the Transport and Infrastructure SEPP sets out the seven (7) design quality principles which must be addressed as part of any development application for a school (refer **Section 4.7.4**). The Design Guide for Schools provides further guidance around each of the seven (7) design principles, and outlines design considerations to be considered for school projects. The Architectural Design Report (**Appendix G**) provides an analysis of the design against the design quality principles and finds that the proposal satisfies the principles, including responses to heritage context, biodiversity values, site circulation/accessibility, safety and security, amenity of learning spaces, adaptability of learning environments, and quality of character and materiality.
Environmental Design in Schools (GANSW) This policy aims to provide school principals and school communities with a holistic understanding of environmental design.	The Environmental Design guide presents strategies for passive design as opportunities for making positive, sustainable change in the building or running of a school. The strategies set out in the Environmental Design guide have been incorporated into the proposal with common objectives with the EFSG and green star system, seeking to achieve environmentally sensitive design and ensure its integration into school development. The proposal implements ESD principles to achieve a 5-star rating.
Greener Places (GANSW) • Integration • Connection • Multifunctionality • Participation	The proposal provides a school campus that integrates learning and recreation spaces with the natural environment. The project will retain 6,851m^2 of existing tree canopy including the majority of highest retention value trees and will plant 3,490m^2 of new canopy to achieve 25% canopy cover across the site.
Draft Greener Places Design Guide (GANSW) The Draft Greener Places Design Guide framework provides information on how to design, plan, and implement green infrastructure in urban areas throughout NSW. The major components that make up the green infrastructure network fall into three categories: • Open space for recreation: green infrastructure for people • Urban tree canopy: green infrastructure for climate adaptation and resilience	The Draft Greener Places Design Guide framework provides information on how to design, plan, and implement green infrastructure in urban areas throughout NSW. The proposal provides high quality landscaping and introduces significant canopy coverage over a site without tree canopy cover. Outdoor learning areas are also proposed to increase teaching/ student learning facilities, connection to nature and connection to Country. The project supports the Guide by applying the design advice in the design of the new high school campus.

2 Strategic Context

Table 1 Response to Provisions, Goals and Objectives of State Policies	
State Policy	**Response**
• Bushland and waterways: green infrastructure for habitat and ecological health.	
Better Placed: An integrated design policy for the built environment of New South Wales (GANSW, 2017)	The project team met with the Government Architect and State Design Review Panel (SDRP) three (3) times through the design process, and comments were incorporated into the design accordingly (**Appendix D**). The project meets the objectives of this policy as follows: • The proposal provides 121 bicycle parking spaces, 61 scooter spaces and end of trip facilities to encourage walking and cycling. • Proposed gym, sports field and sports courts promote physical activities. • The proposal is responsive to the needs and aspirations of the community by providing state-of-the-art educational facilities. • The proposal is integrated into the community through after-hour community uses and through being adjacent to residential and recreation uses. • Connection to Country report (**Appendix BB**) has been prepared and is discussed in **Section 6.2.1**. ESD principles have been incorporated into the design as discussed in the ESD report (**Appendix M**) and in **Section 6.10** of this EIS.
Sydney's Bus Future 2013 – simpler, faster, better bus services (Transport for NSW)	Students and staff can access school and public bus transport for travel to and from school as outlined in **Section 1.3.5** of this EIS. The proposal provides purpose built and appropriately located bus set-down/pick-up areas.
Sydney's Walking Future 2013 – Connecting people and places (Transport for NSW)	The proposal encourages walking and cycling for transport purposes by implementing a School Travel Plan (**Appendix N**). The proposal encourages active travel by connecting to an extensive existing footpath network. In this effort, the proposal includes widening of an existing shared path along the frontage of the school and provision of signalising and unsignalised pedestrian crossings. The proposal includes provision of 121 bicycle and 61 scooter parking spaces and of end of trip facilities to further encourage cycling.
Sydney's Cycling Future 2013 - Cycling for everyday transport (Transport for NSW)	

3 Project Description

3.1 Project Summary

The key aspects and features of the proposal are set out in **Table 2**

Table 2 Summary of Key Aspects of Project

Aspect	Description
Site Area	4.5 hectares
Site Description	**The site is currently known as:** Allambie Road, Allambie Heights: • Lot 6 DP 1280781, • Lot 7 DP 1280781, • Lot 750 DP 1271174, and • Lot 751 DP 1271174 **The site was formally known as:** Part of 187 Allambie Road, Allambie Heights: • Part Lot 11, DP 1194177, • Lot 13 DP 1112609, • Lot 750 DP 1271174, and • Lot 751 DP 1271174 **Upon completion of transfer of ownership the site is anticipated to be registered as:** • Lot 4 DP 1280781, • Lot 5 DP 1280781, • Lot 6 DP 1280781, and • Lot 7 DP 1280781
Use	Educational establishment
Project Summary	Relocation of The Forest High School involving construction and operation of a new government high school for up to 1,500 students.
Site Preparation	• Removal of 226 trees; and • Civil works.
Built Form	• Block A, a two (2) storey building comprising administration, staff spaces, staff amenities, and general learning spaces; • Block B, a two (2) storey building comprising special support unit facilities, staff spaces, amenities, and general learning spaces; • Block C, a two (2) storey building comprising library, general and specialist learning spaces; • Block D, a two (2) storey building comprising science facilities, general learning spaces, staff facilities, and amenities; • Block E, a two (2) storey building comprising food technology spaces, fabric and textile spaces, woodwork and metal work facilities, staff facilities, amenities and general learning spaces; • Block F, a one (1) and two (2) storey building comprising a gymnasium with associated change rooms, showers, amenities and storage, first aid room, and metal work facilities; • Block G, a two (2) storey building comprising a hall with movement studio, stage and lecture theatre, performance facilities, visual arts facilities, canteen, amenities, staff facilities, and general learning areas; • Outdoor sporting facilities including sporting field and six (6) games courts; • Covered outdoor learning area (COLA) and covered outdoor working area (COWA); • Basement parking area for 121 vehicles; • Bicycle parking for 121 bicycles and scooter parking for 61 scooters; and • Associated landscaping, stormwater works, and supporting infrastructure.
Utility Infrastructure	• Relocate 11kV underground cables owned by Ausgrid running north-south through the site. • Relocate 33kV overhead transmission cables and poles owned by Ausgrid running north-south through the site. • Install two (2) x 800kVA kiosk substations adjacent to Allambie Road to form part of Ausgrid's distribution network. • Install a 99kW solar PV system on the roof of Blocks C, D and E.

3 Project Description

Table 2 Summary of Key Aspects of Project	
Aspect	**Description**
Public Domain Works	• Signalisation of intersection at Aquatic Drive and Allambie Road. • Pedestrian crossing at the Rodborough Road and Allambie Road. • New bus zone to the west of the new pedestrian signalised intersection on Allambie Road. • Expansion to existing bus zone on the east side of Allambie Road. • On-street pick-up/drop-off bays on the northern and southern sides of Aquatic Drive. • Dedicated covered support unit drop-off at the eastern side of the school (within school grounds). • An accessible on-street pick-up/drop-off zone adjacent to the main pedestrian entry to the school. • Widening of existing shared path adjacent to the school along Aquatic Drive and Allambie Road.
Capacity	• 1,500 students (increased from 800 at existing site) • 120 staff (increased from 80 at existing site)
Maximum Height	The maximum height occurs in the south-east corner of Building C which has a height of 12.45m.
Proposed Open Play Space	15,300m^2 (10.2m^2 per student)
Access	• Primary pedestrian entry is from Allambie Road. • Secondary pedestrian entries are available from Allambie Road and Aquatic Drive. • Vehicle access from driveway to Arranounbai School off Aquatic Drive. • Vehicle access to covered accessible drop-off from Allambie Road.
Car parking	121 car parking spaces
Bicycle parking	121 bicycle parking spaces and 61 scooter parking spaces
Hours of operation	**Core School Use** • 08:30-15:00 Monday – Friday **Music extension program (Northern Sydney Symphonic Wind Ensemble)** • 17:00-19:30 Monday • 17:00-19:00 Tuesday • 17:00-18:30 Wednesday • 17:30-20:00 Thursday **Community drama group** A community drama group currently uses the existing school campus and could relocate to the new site subject to agreement. **Community Uses** Outside of school hours, the following facilities could be made available for community use by arrangement subject to joint use agreements with Council or community users: • Gymnasium (Block F) • Lecture Theatre and Performance Spaces (Block G) • Classrooms • Sports field • Games courts
Construction hours	• 7:00 – 18:00 Monday to Friday • 8:00 – 13:00 Saturday • No works to occur on Sundays and public holidays
Anticipated date of operation	2025
Jobs	163 full time equivalent construction jobs (**Appendix H**)
CIV	$112,497,600 (**Appendix H**)

3 Project Description

3.2 Physical Layout and Design

Architectural Plans (**Appendix B**) and a supporting Architectural Design Report (**Appendix G**) have been prepared by Architectus which show the physical layout and design of the proposal in technical detail.

The proposed school campus would generally arrange two (2) storey buildings around a central playground on the eastern half of the 4.5 hectare site with a sports field, sports courts, basement car parking and loading dock, and remnant bushland on the western half of the site (**Figure 15**).

Figure 15 Proposed site plan (Source: Architectus)

The campus has been organised into different precincts with creative arts to the north west, wood and metal work to the south west, science, technology, engineering and music to the south, and humanities to the east. The school hall, performance spaces, gym and outdoor sporting facilities are provided to the far west where they can be accessible to the community and separated from the rest of the school grounds.

The Administration Unit is located at the main entry to the school on Allambie Road. Staff spaces are distributed between the buildings as requested by the school.

A 121 space staff car park will be located beneath the southern portion of sports courts and sports field to be accessed from Aquatic Drive via the driveway to the Arranounbai School (**Figure 16**). The basement will also facilitate waste collection and deliveries.

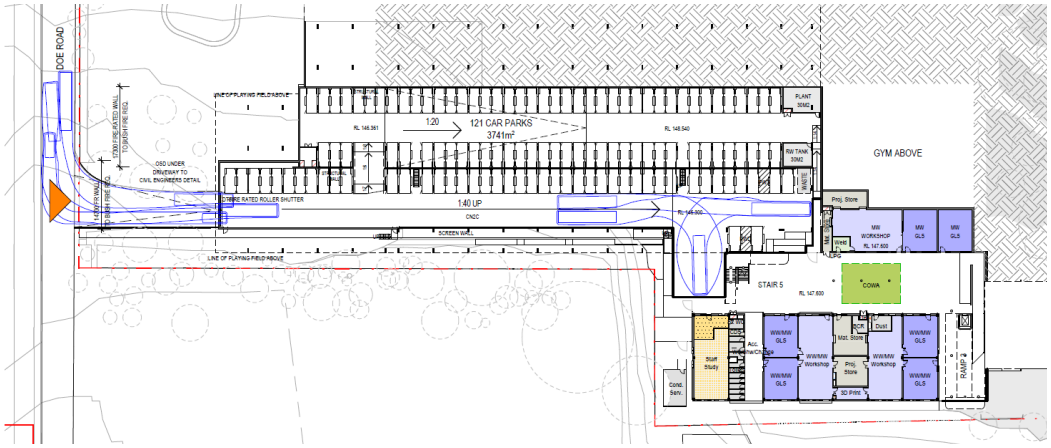

Figure 16 Lower ground floor plan (Source: Architectus)

3 Project Description

3.2.1 Built form

The proposal is characterised by long, low built form that cascades down the sloping site. The two storey structures sit below the well-established tree canopy and are separated into modules with landscaped spaces between them.

A variety of vertical and horizontal elements including shading louvres/fins, metal cladding and fascias, elongated windows and balustrade railing create patters across the building façades as shown in **Figure 17** - **Figure 22**.

Figure 17 Northern elevation (Source: Architectus)

Figure 18 Southern elevation (Source: Architectus)

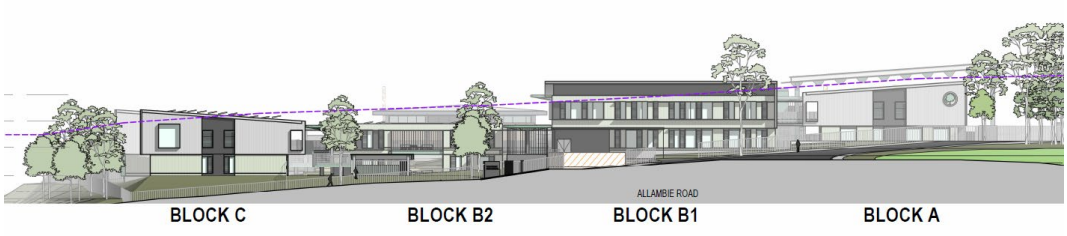

Figure 19 Eastern elevation (Source: Architectus)

Figure 20 Western elevation (Source: Architectus)

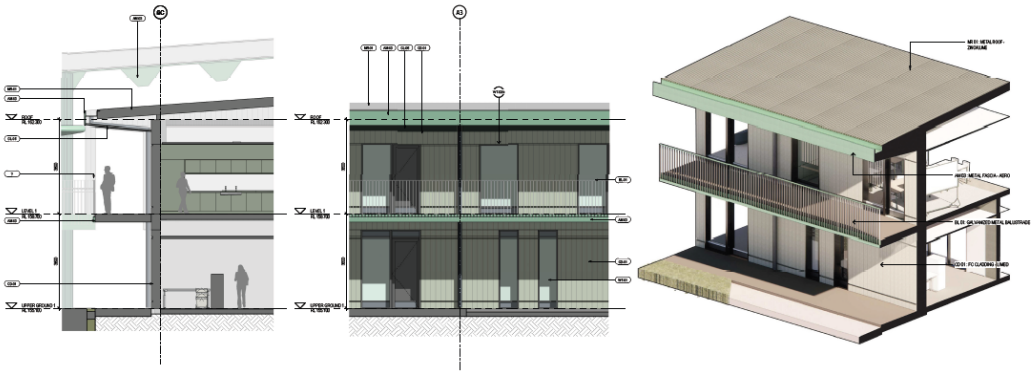

Figure 21 Typical façade treatment (Source: Architectus)

3 Project Description

The colour palette for the new TFHS campus has been derived from the surrounding bushland and coastline. Natural elements, such as the soil, rock and native trees formed the primary inspiration of the colour palette (**Figure 22**).

Figure 22 Proposed colour palette (Source: Architectus)

3.2.2 Landscaping

A Landscape plan for the site has been developed by Oculus which is outlined in technical detail in the Landscape Plans (**Appendix K**) and Landscape Report (**Appendix L**).

The landscape design has been developed around the following seven (7) design principles:

- **Context** – respond to the proposed built form and site conditions including topography, surrounding land uses, remnant bushland, regional views, and Aboriginal cultural heritage.
- **Sustainability and durability** – respond to the site's micro-climate, integrate water sensitive urban design (WSUD), select robust and durable materials, and support active transport travel to site.
- **Accessibility and inclusion** – provide spaces that are safe, accessible, legible and walkable.
- **Health and safety** – provide for protection from the weather and respond to key connection points such as footpaths, cycleways, bus bays and drop-off/pick-up points.
- **Amenity** - provide adequate outdoor space to accommodate the student population, create an appropriate interface between indoor and outdoor spaces, and provide landscaped buffers in the site setbacks.
- **Whole of life approach** - provide capacity for multiple uses, flexibility and change of use over time.
- **Aesthetics** – create engaging, attractive and comfortable spaces where utilitarian elements such as fencing and services are screened and incorporated into the landscape.

3 Project Description

The proposal provides a range of open spaces to facilitate student's learning, physical activity, socialising and wellbeing where adjacencies of uses and circulation patterns have been closely considered. The proposal provides a total of 15,300m^2 of open space (10.2m^2 per student) and incorporates the following outdoor elements:

- Outdoor covered learning workshop (123m^2);
- Outdoor learning unit (525m^2);
- Sports field (6,500m^2);
- Six (6) x sports courts (3,876m^2);
- Assembly court (1,532m^2); and
- Covered meeting space at primary entry (250m^2).

The landscape design has incorporated elements of Country (as per the Connection to Country Report prepared by Tocomwall – **Appendix BB**) including protection of existing trees and integration of remnant bushland, provision of walking tracks which traverse the site, engravings (in the floor plane, seating, and sandstone blocks) to communicate indigenous narratives, and provision of outdoor gathering spaces (**Figure 24**).

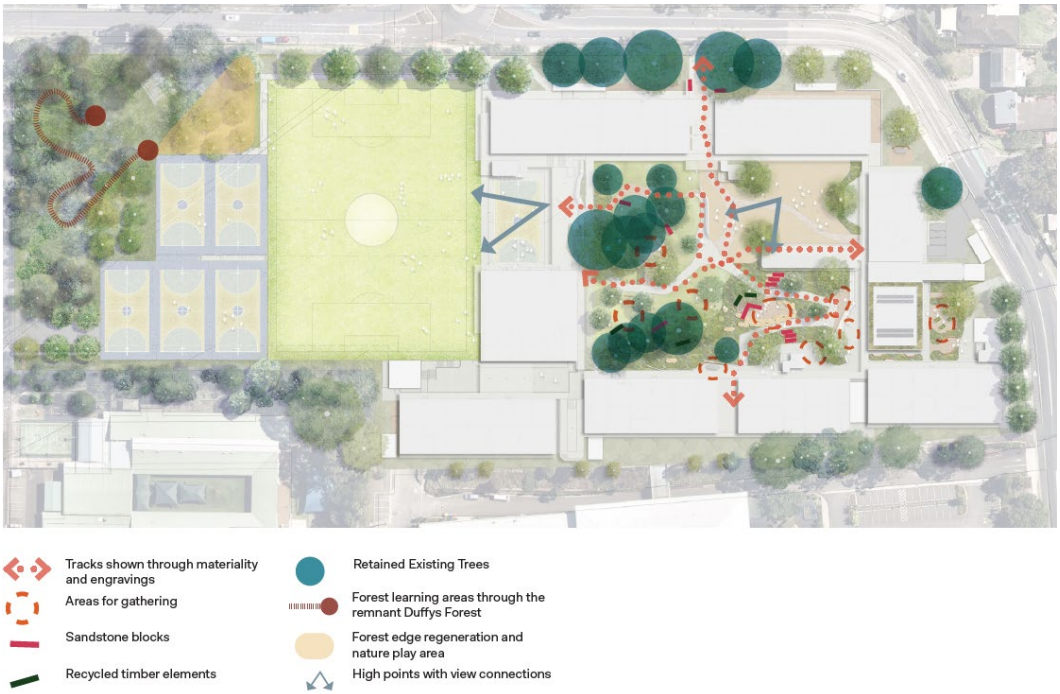

Figure 23 Connection to Country landscape strategy (Source: Oculus)

These design elements provide opportunities for learning and planning in nature, reflect seasonal changes, storytelling and support education of cultural significance.

3 Project Description

A range of materiality will be employed to reflect local natural elements and naturally occurring patterns as illustrated in **Figure 25**.

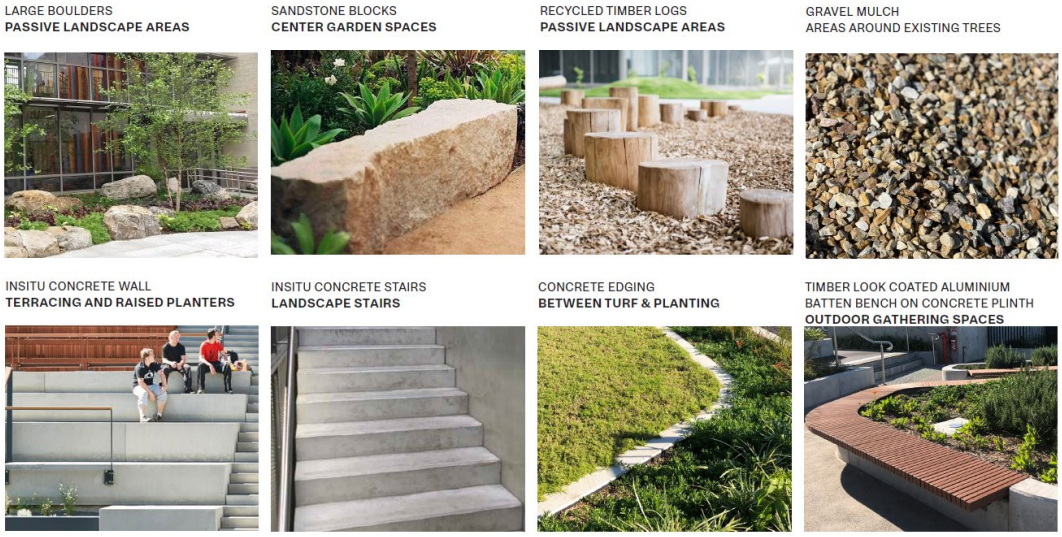

Figure 24 Proposed landscape materiality (Source: Oculus)

3.2.3 External lighting

A lighting strategy has been developed to provide adequate illumination of key outdoor paths and spaces in order to provide for safety and comfort while preventing unacceptable light-spill to surrounding land uses and the natural environment. The outdoor lighting strategy consists of recessed ceiling lights, pole lighting and flood lighting as illustrated in **Figure 26**.

Figure 25 Lighting strategy (Source: Architectus)

The sports field lighting will be designed to satisfy the amateur and recreational lighting criteria outlined in AS 2560.2.3. It is anticipated that four (4) lighting poles approximately 20 metres tall will be positioned approximately 25 metres from the half-way line but locations are indicative only and are yet to be confirmed by detailed design. Similarly, each sports court is anticipated to be illuminated by four (4) light poles approximately eight (8) metres in height.

3 Project Description

3.2.4 Signage

Proposed signage including the school emblem, school name and building name signage. **Figure 27** depicts (clockwise) the western elevation of Block G viewed from the sports field, northern elevation of Block G at the secondary entry point, northern elevation of the main entry from Allambie Road, and eastern elevation of Block C viewed from Allambie Road.

Figure 26 Proposed signage (Source: Architectus)

The main entry sign comprises of a backlit metal emblem and lettering mounted to a 2.4 metre lightweight wall. The emblem is approximately 1,800mm in diameter. The lettering would be approximately 500mm tall and have total length of 9,500mm. The school name and theatre name is also provided at secondary entry points to the school.

The school emblems mounted to the side of Block C and Block G would be backlit lightboxes approximately 2,000mm in diameter and 100mm deep.

3.2.5 Public Domain

The following public domain works are proposed as an outcome of consultation with Council and TfNSW:

- Signalisation of intersection at Aquatic Drive and Allambie Road.
- Pedestrian crossing at the Rodborough Road and Allambie Road.
- New bus zone to the west of the new pedestrian signalised intersection on Allambie Road.
- Expansion to existing bus zone on the east side of Allambie Road.
- On-street pick-up/drop-off bays on the northern and southern sides of Aquatic Drive.
- Dedicated covered support unit drop-off at the eastern side of the school (within school grounds).
- An accessible on-street pick-up/drop-off zone adjacent to the main pedestrian entry to the school.
- Widening of existing shared path adjacent to the school along Aquatic Drive and Allambie Road.

3 Project Description

The location of the proposed works are illustrated in **Figure 28** and **Figure 29** below.

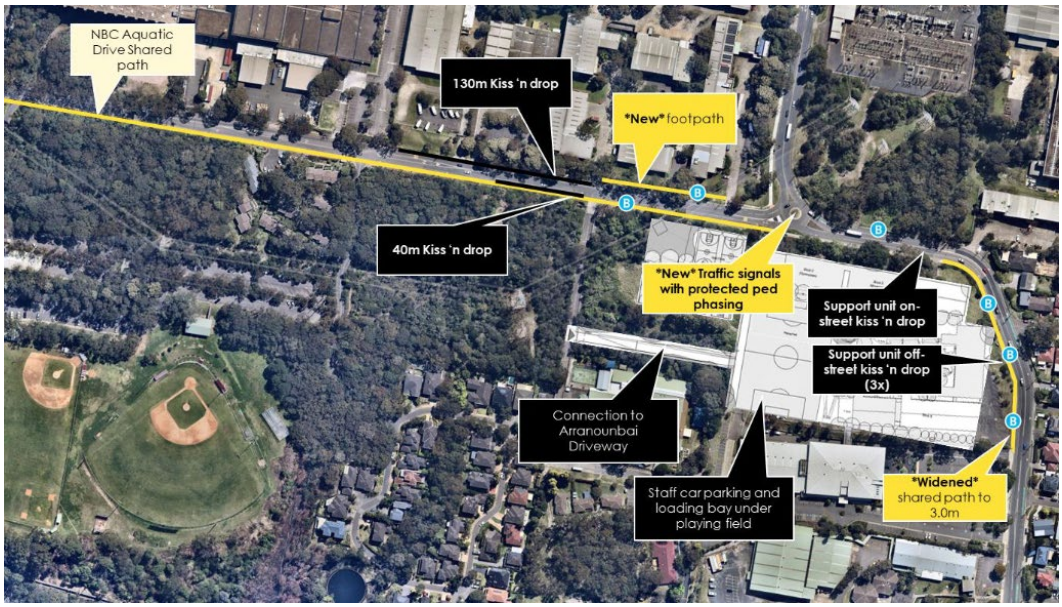

Figure 27 Walking, cycling and traffic infrastructure initiatives (Source: SCT Consulting)

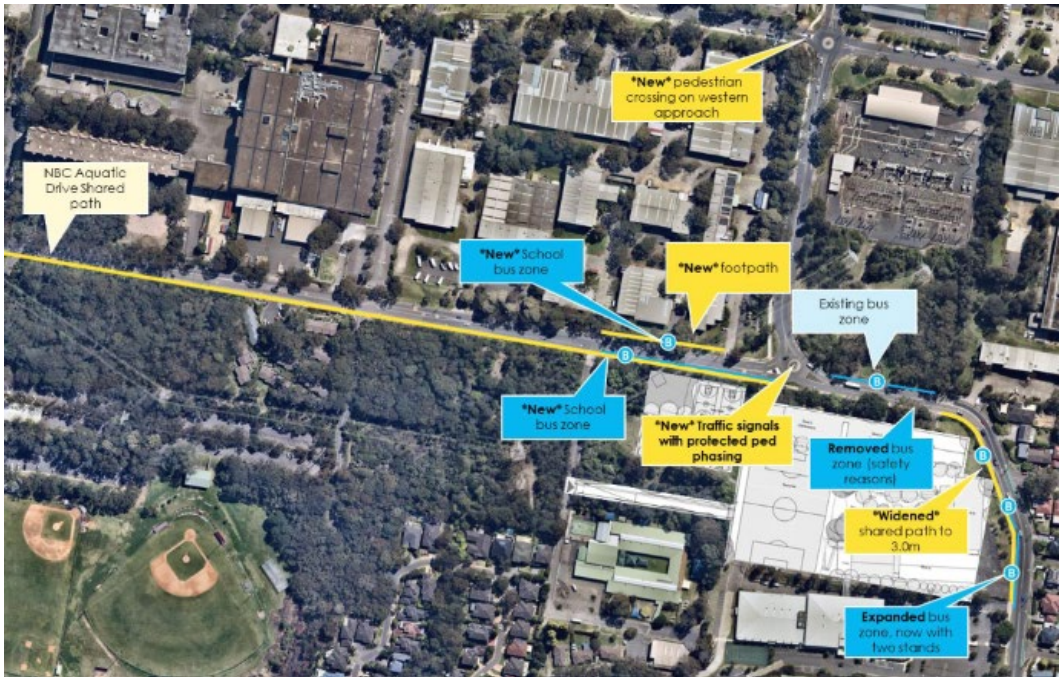

Figure 28 Public transport infrastructure initiatives (Source: SCT Consulting)

4 Statutory Context

4.1 Planning Approval Pathway

The proposal comprises new education establishment (high school) with a CIV exceeding $20 million. Pursuant to Part 2.2 of the Planning Systems SEPP, the proposed works are classified as an SSD.

4.2 Permissibility

The new site for TFHS (Allambie Road, Allambie Heights) is zoned SP1 Special Activities (Health services facility, Seniors Housing Community facilities, Education establishments) (SP1 zone), as shown in **Figure 30**.

Educational establishments, being a purpose of this SP1 zone shown on the land zoning map, is permitted with consent. Furthermore, pursuant to Section 3.34 of the T&I SEPP, the SP1 zone is a prescribed zone and development for the purposes of an educational establishment may be carried out within this zone.

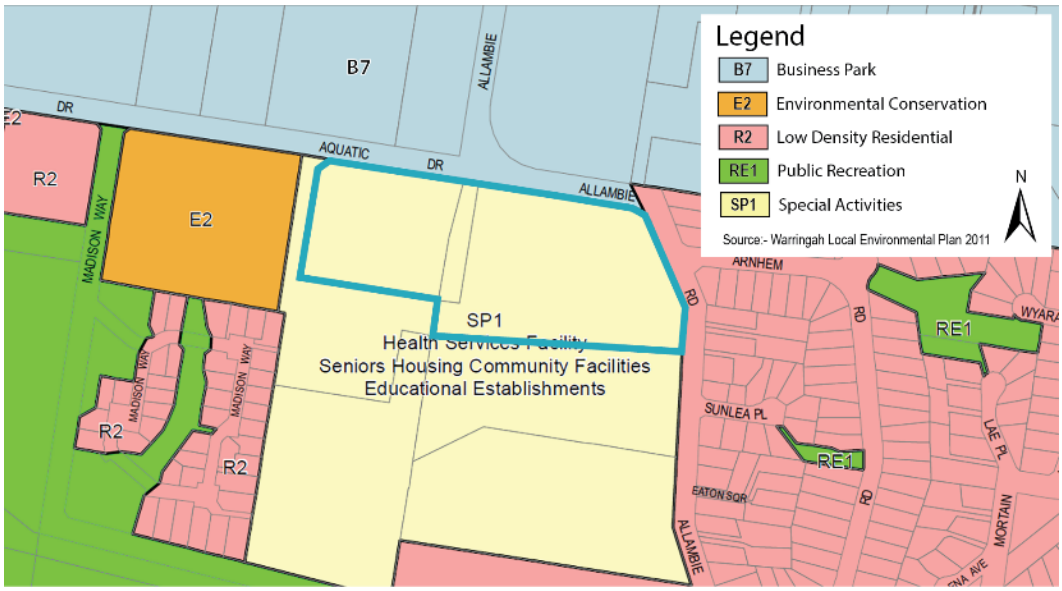

Figure 29 Extract from Warringah LEP 2011 zoning map

4.3 Statutory Approvals

4.4 Commonwealth Department of Environment and Energy

4.4.1 Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)

Part 3 Division 1 Subdivision C of the EPBC Act provides, amongst other things, that a person must not take an action that has, will have or is likely to have a significant impact on:

- a listed threatened species included in the extinct in the wild, critically endangered, endangered or vulnerable categories; or
- a listed threatened ecological community included in the critically endangered or endangered categories;

unless a 'controlled action' approval has been granted under Part 9 Section 133 of the EPBC Act. The Commonwealth Minister for the Environment and Energy is responsible for the decision on such an approval.

A BDAR prepared by SLR Consulting (**Appendix O**) has identified areas of *Sydney Ironstone Bloodwood-Silvertop Ash forest* on site that is listed under the EPBC Act. A detailed assessment of the impacts on these species is contained at **Section 6.7.2** of this EIS.

4 Statutory Context

4.5 NSW Department of Planning and Environment (DPE)

4.5.1 Heritage Act 1977

The *Heritage Act 1977* contains provisions relating to the protection of items of State heritage significance or items of potential significance.

Section 57 relates to items listed in the State Heritage Register or to which an interim heritage order applies and development relating to such items triggers the integrated development provision of the EP&A Act. As detailed in the Heritage Impact Statement prepared by GML Heritage (**Appendix CC**), the site does not comprise of an item listed on the State Heritage Register nor is it subject to an interim heritage order as discussed in **Section 6.2** of this EIS.

4.5.2 National Parks and Wildlife Act 1974 (NPW Act)

The NPW Act contains the primary statutory controls relating to Aboriginal heritage in NSW.

Section 90 of the NPW Act does not apply to SSD pursuant to Section 4.41 of the EP&A Act, however provisions relevant to Section 90 of the NPW Act have been considered in the body of this assessment and in the relevant reports appended to this EIS.

An ACHAR has been prepared by GML Heritage (**Appendix Z**), which provides an assessment of the Aboriginal cultural heritage values of the site. The ACHAR concludes that there are no tangible First Nations values directly associated with the site as discussed in **Section 6.2.1**.

4.6 Transport for NSW (TfNSW)

4.6.1 Roads Act 1993

Section 138(1) of the *Roads Act 1993* relates to works associated with public roads and provides that a person must not:

> *"(a) erect a structure or carry out a work in, on or over a public road, or*
>
> *(b) dig up or disturb the surface of a public road, or*
>
> *(c) remove or interfere with a structure, work or tree on a public road, or*
>
> *(d) pump water into a public road from any land adjoining the road, or*
>
> *(e) connect a road (whether public or private) to a classified road,*
>
> *otherwise than with the consent of the appropriate roads authority."*

The site adjoins public roads with active frontages to Allambie Road (a classified road) and Aquatic Drive. The proposal comprises modifications to provide new bus zone, 'kiss n drop' zone, and will provide transport infrastructure upgrades including signalisation of intersections and new/upgraded footpaths, which will require the consent of the roads authority.

4.7 Mandatory Matters for Consideration

4.7.1 Environmental Planning and Assessment Act 1979

Section 1.3 – Objects of the EP&A Act

Section 1.3 of the EP&A Act sets out the Objects of the Act. An assessment of the proposed development's consistency with these Objects is provided at **Appendix C**. The assessment concludes that the proposal is consistent with the Objects of the Act.

Section 4.33 – Determination of Crown Development Applications

The proposed development is submitted by the NSW Department of Education and so is classified as a *Crown development application* under Section 4.32. Section 4.33 of the EP&A Act sets out matters to be considered by consent authorities in the determining or imposition of a condition upon a Crown development application.

Section 4.41 – Approvals etc Legislation that Does Not Apply

Section 4.41 outlines that a range of authorisations are not required for SSD. A bush fire safety authority under the Rural Fires Act 1997 is the only authorisation listed under Section 4.41 that would otherwise have been required for the proposed development.

Section 6.28 – Crown Subdivision, Building, Demolition and Incidental Work

The EP&A Act requires that Crown building work cannot commence until it is certified that the work complies with the Building Code of Australia (BCA). As discussed in **Section 6.15** and set out in **Appendix I**, the proposed works are capable of satisfying the provisions of the BCA.

4.7.2 Biodiversity Conservation Act 2016

Part 7 of the *Biodiversity Conservation Act 2016* (BC Act) sets out provisions relevant to biodiversity assessment and approvals under the EP&A Act. Specifically, Clause 7.9 applies to an application for development consent under Part 4 of the EP&A Act for SSD. This includes the proposed development.

Clause 7.9(2) and (3) set out the following requirements:

> *(2) Any such application is to be accompanied by a biodiversity development assessment report unless the Planning Agency Head and the Environment Agency Head determine that the proposed development is not likely to have any significant impact on biodiversity values.*
>
> *(3) The environmental impact statement that accompanies any such application is to include the biodiversity assessment required by the environmental assessment requirements of the Planning Agency Head under the Environmental Planning and Assessment Act 1979.*

SLR Consulting prepared a BDAR (**Appendix O**) in accordance with the NSW Biodiversity Assessment Method for a proposal. The proposal is found to require the removal of areas Duffys Forest Endangered Ecological Community. The BDAR states that Duffys Forest is not a 'Serious and Irreversible Impact entity'. The BDAR provides the information required for the decisionmaker to determine that the proposal does not have a Serious and Irreversible Impact on biodiversity values in accordance with the principles set out in the *Biodiversity Conservation Regulation 2017.*

4.7.3 State Environmental Planning Policy (Planning Systems) 2021

Clause 15 of Schedule 1 of the Planning Systems SEPP identifies development that involves the erection of a building for an existing school on land that, immediately before the commencement of the development, was not used for the purposes of a school, with a CIV of more than $20 million as SSD.

Turner & Townsend has prepared a Quantity Surveyors Report which confirms that the CIV of the proposed development will be $112,497,600 (**Appendix H**).

Clause 2.10 of the Planning Systems SEPP states that Development Control Plans (DCPs), whether made before or after the commencement of the SEPP, do not apply to SSD.

4.7.4 State Environmental Planning Policy (Transport and Infrastructure) 2021

Part 3.4 of the Transport and Infrastructure SEPP sets out specific development controls for schools, which are addressed in **Table 3**.

Table 3 Transport and Infrastructure SEPP - Schools

Requirement	Response
Clause 3.36(6)(a): Evaluation of design quality principles in Schedule 4	Architectus have prepared an Architectural Design Statement (**Appendix G**) which provides an evaluation of the proposal against the design quality principles under Schedule 8 and demonstrates consistency.
Clause 3.36(6)(b): Does development enable shared community use of school facilities	The proposed development will enable (and maintain) the shared community use of some school facilities (refer **Section 3.1**).

4 Statutory Context

Table 3 Transport and Infrastructure SEPP - Schools	
Requirement	**Response**
Clause 3.36(9): DCP controls relating to Clause 35 subclauses (1), (2), (3), or (5) does not apply	Noted, but notwithstanding, an assessment against DCP controls has been provided at **Section 4.7.9** of tis EIS.
Clause 3.43: Development consent may be granted even though development would contravene a development standard imposed by this or any other EPI.	Assessment on Built Form is contained in **Section 6.1** of this EIS. The proposal contravenes the maximum building height applicable to the site to achieve a superior development outcome.
Clause 3.58 Traffic generating development: Referral to RMS required if development will result in educational establishment being able to accommodate 50 or more additional students.	The proposal will result in accommodation of up to 1,500 students on a new campus. Accordingly, DPE are required to give written notice of the application to the TfNSW (formerly RMS). As discussed at **Section 5.3.1** of this EIS, the project team has carried out consultation with TfNSW and has incorporated that feedback into the body of this DA submission.

In accordance with Schedule 3 of the Transport and Infrastructure SEPP, the site is located within 90 metres of a classified road and therefore triggers a requirement to be referred to Transport for NSW.

Transport for NSW have been consulted through the design process. Their input and the project team's responses are addressed in **Section 5.3.1** and **Section 6.5** of the EIS.

4.7.5 State Environmental Planning Policy (Resilience and Hazards) 2021

Chapter 4 of the Resilience and Hazards SEPP relates to remediation of contaminated land and requires, amongst other things, investigations to be undertaken as part of the development assessment process, to determine whether the subject land is likely to be contaminated and if so, what remediation work is required.

A Detailed Site Investigation (DSI) was carried out by Tetra Tech Coffey (**Appendix T**) in accordance with the Resilience and Hazards SEPP and NSW Environmental Protection Agency (EPA) endorsed criteria. The assessment concludes that the site can be made suitable for the proposed development as per the requirements of the SEPP, subject to the three (3) recommendations pertaining to gas monitoring, and preparation of Remedial Action Plan (RAP) and a Construction Management Plan (CMP) which are discussed below.

The report recommends that further monitoring and assessment of ground gas be undertaken to determine appropriate gas protection measures. Accordingly, a Landfill Gas and Groundwater Monitoring Report was prepared by Aurecon Australasia (**Appendix U).** It found that there is low risk of expose to hazardous ground gases on site.

The DSI recommends that a RAP be prepared to address how identified risks as well as unexpected contamination, if found, will be mitigated during construction. Accordingly, a RAP was prepared by Aurecon Australasia (**Appendix W**) to manage contamination present across the site, render the site suitable for the proposed development, and minimise potential hazards to human and environmental health.

Finally, the DSI recommends that a CMP be prepared by the principal contractor prior to the commencement of earthworks to address environmental risks proposed to construction works as well as the wider environment. A CMP has been prepared by Johnstaff (**Appendix X**).

4.7.6 State Environmental Planning Policy (Industry and Employment) 2021;

Chapter 3 of the Industry and Employment SEPP aims to ensure that signage is safe, compatible in its character setting, and effective in its communication.

The proposed signage is of a scale which is considered suitable for the length and height of the built form and the size of the site, and will not dominate the streetscape.

Signage is outlined in the Architectural plans and Architectural Design Statement prepared by Architectus (**Appendix B & G**). A more detailed assessment is provided in **Section 6** and the Statuary Compliance Table at **Appendix C**.

4.7.7 State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 2- Vegetation in Non-Rural Areas and Chapter 6 - Bushland in Urban Areas of the Biodiversity and Conservation SEPP both apply to the site as it is zoned SP1 Special Activities.

Chapter 2 aims:

> *(a) to protect the biodiversity values of trees and other vegetation in non-rural areas of the State, and*
>
> *(b) to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.*

Chapter 6 aims:

> *(1) The general aim of this Chapter is to protect and preserve bushland within the urban areas referred to in Schedule 5 because of—*
>
> > *(a) its value to the community as part of the natural heritage,*
> >
> > *(b) its aesthetic value, and*
> >
> > *(c) its value as a recreational, educational and scientific resource.*
>
> *(2) The specific aims of this Chapter are—*
>
> > *(a) to protect the remnants of plant communities which were once characteristic of land now within an urban area,*
> >
> > *(b) to retain bushland in parcels of a size and configuration which will enable the existing plant and animal communities to survive in the long term,*
> >
> > *(c) to protect rare and endangered flora and fauna species,*
> >
> > *(d) to protect habitats for native flora and fauna,*
> >
> > *(e) to protect wildlife corridors and vegetation links with other nearby bushland,*
> >
> > *(f) to protect bushland as a natural stabiliser of the soil surface,*
> >
> > *(g) to protect bushland for its scenic values, and to retain the unique visual identity of the landscape,*
> >
> > *(h) to protect significant geological features,*
> >
> > *(i) to protect existing landforms, such as natural drainage lines, watercourses and foreshores,*
> >
> > *(j) to protect archaeological relics,*
> >
> > *(k) to protect the recreational potential of bushland,*
> >
> > *(l) to protect the educational potential of bushland,*
> >
> > *(m) to maintain bushland in locations which are readily accessible to the community, and*
> >
> > *(n) to promote the management of bushland in a manner which protects and enhances the quality of the bushland and facilitates public enjoyment of the bushland compatible with its conservation.*

The development has been designed to minimise disturbance to the highest value vegetation and biodiversity on and beyond the site. Notwithstanding, significant removal of vegetation is proposed in order to accommodate the proposal. A BDAR has been prepared by SLR Consulting (**Appendix O**) and is discussed in **Section 6.7** of this EIS.

Chapter 3 – Koala Habitat protection 2020 and Chapter 4 – Koala Habitat protection 2021 of the Biodiversity and Conservation SEPP applies to the site being a non-rural zone in the Northern Beaches local government area.

4 Statutory Context

The SEPP requires that the consent authority be satisfied that the developable land is not potential, or core, Koala Habitat. The BDAR finds that no koalas (*Phascolarctos cinereus*) have been assessed as being present on site.

4.7.8 Warringah Local Environmental Plan 2011

A detailed assessment of the proposed development against the relevant provisions of *Warringah Local Environmental Plan 2011* (LEP) is provided in **Appendix C**. In summary, the proposal is generally consistent with the provisions of the LEP.

Part of the proposed buildings exceed the height of building development standard (**Figure 31**) with a maximum building height of up to 12.45m. No floor space ratio control applies to the site. Impacts associated with the proposed built form and height exceedance are discussed in **Section 6.1**.

Figure 30 Height of building map

4.7.9 Warringah Development Control Plan 2011

It is noted that Clause 2.10 of the Planning Systems SEPP and Clause 3.36(9) of the Transport and Infrastructure SEPP exclude the application of DCPs to SSDAs. Notwithstanding, an assessment of the proposed development against the provisions of Warringah DCP 2011 that may otherwise be deemed relevant is provided at **Appendix C**.

5 Engagement

5.1 General

The project team has carried out consultation with a wide range of stakeholders including neighbouring and surrounding landowners and residents, State agencies, the local government, the Aboriginal community and other community groups. A Community Engagement Report (**Appendix D**) has been prepared by SI outlining the consultation undertaken and the way in which this engagement has shaped the proposal. A summary of the consultation carried out by the project team are set out in the following subsections of this EIS.

5.2 Community Engagement

Consultation and engagement with the community has been undertaken to achieve the following objectives:

- Promote the benefits of the project;
- Build key school community stakeholder relationships and maintain goodwill with impacted communities;
- Manage community expectations and build trust by delivering on our commitments;
- Provide timely information to impacted stakeholders, schools, and broader communities;
- Address and correct misinformation in the public domain;
- Reduce the risk of project delays caused by negative third-party intervention; and
- Leave a positive legacy in each community.

5.2.1 Project Control Group

A Project Control Group (PCG) was formed to oversee the planning and delivery of the project including consideration for communications, stakeholder engagement, key deliverables, programme, budget, scope and risks.

A PCG comprises of the Director of Operational Readiness, Director Educational Leadership, the Principal, Deputy Principal, information and communication technology (ICT) staff, project team members and the project architect.

The PCG formally met on 16 occasions from December 2020 to July 2022. Some of the key matters discussed included:

- Consideration of elective units/subjects to be offered at the school and facilities required;
- Reuse of existing ICT equipment;
- Site acquisition;
- Development of an engagement and communications plan;
- Masterplan and concept plan development;
- Consideration for traffic and transport; and
- Accessibility.

5.2.2 Project Reference Group

A Project Reference Group (PRG) consists of Director Educational Leadership, the Principal, Deputy Principal, teacher representatives, a parent representative, project team members and the project architect. The group was formed to provide feedback on critical design elements of the project.

5 Engagement

The PRG formally met on 19 occasions from November 2020 to August 2022. Some of the key matters discussed included:

- Architecture, built form and site access;
- Traffic, bike travel, bus infrastructure and drop-off facilities;
- Site constraints and layout of facilities;
- Staff spaces;
- Naming of blocks;
- Public access;
- Detailed design considerations for useability and amenity;
- Logistics of community information sessions;
- Equitable access;
- Loading dock;
- Toilets and amenities; and
- Landscaping.

5.2.3 Community and Community Groups

Multiple community engagement strategies were carried out through the design stage including community information sessions, letterbox drops, project website, school newsletters P&C meetings and direct contact with key community stakeholders. Key feedback through these channels is summarised below.

Teachers and school staff

Teaches and staff from TFHS raised questions and comments regarding:

- Staff car parking provision;
- Storage space in classrooms and the school in general;
- Acoustics in the hall and impacts from traffic on Allambie Road noting the hall will be used for exams;
- Traffic on roads surrounding the proposed school and student safety
- Size and function of the hall;
- Consultation with Arranounbai School;
- Layouts for wood and metal workshops;
- General layout and the number of staffrooms;
- Questions about specific subjects and their perceived importance due to naming or size allocated;
- Performing arts and use of the name “movement”;
- Flexibility of classrooms and how they will work operationally; and
- Potential to organise a site visit to a comparable new build high school so that teachers can see how some modern spaces can work.

Parents

Parents of students currently enrolled at TFHS (other than those classed as ‘local residents’) raised questions and comments regarding:

- Perceived impacts of Electro Magnetic Frequency (EMF) from high voltage electrical cables;
- Concern regarding the 'substantial power station nearby' and EMF;
- Spacing of children according to age for COVID safety. Is there enough outdoor space? Some had a preference for the segregation of year cohorts;
- Bike parking provision and safety concerns for the ride home, especially need to use nearby major roads;
- Concerns about school drop off and how to turn / do a U-turn;
- Partnership opportunities, i.e., possibility for a community sporting unit (baseball academy based out of the aquatic centre);
- Bus bays not sufficient for the volumes of buses; and
- Concern that student parking not considered. Despite encouragement for bikes and bus use, driving by students is considered inevitable in the older years due to poor bus service out of school start and finish times.

Local residents

Residents who live in immediate proximity to the new school site (raised questions and comments regarding:

- Parking in surrounding streets and the impact of general parking and student parking, including a lack of restricted street parking reserved for local residents;
- Year 12 students bringing cars will use the surrounding streets to park in as there isn't enough parking in the school;
- Cumulative traffic impacts on Allambie Road with the new Bunnings going in close to the site;
- Government Road, Ethie Road, Owen Stanley Avenue and Larissa, Mortain Avenue are a "rat run". Request that a connection be provided at the end of Aquatic Drive, potentially for buses only;
- Request that school drop-off be relocated;
- Concern regarding students crossing at Sunlea Place;
- General traffic concerns;
- Some were happy with the proposed bus and pedestrian and vehicle entries;
- Concerns about visual impact and 'amenity', especially from Eaton Square;
- Business owner close to school site is concerned about traffic impacts as they have a lot of truck movement from their own business;
- Security concerns – students will start using the little park and will be vaping and drinking;
- Concerns about de-valuing house prices;
- Concerns about shading, overlooking and privacy considering four (4) storey buildings on eastern side for residents opposite; and
- Residents active in 'Say No' group said they have approximately 1,000 members on the Northern Beaches who are preparing to oppose the development.

5 Engagement

Aboriginal Representatives

Consultation was undertaken with the Local Aboriginal Land Council and seven (7) registered Aboriginal parities as well as the Aboriginal Education Consultation Group. Representatives informed the development of the ACHAR, attended a site visit and test excavations, and reviewed he Connection to Country assessment as well as providing general feedback and suggestions. This feedback included:

- Walking routes traditionally used by kangaroos and view down North Harbour for incorporating into design and especially landscaping;
- Site was identified to have low social value, no historical value, no scientific value and no specific aesthetic value to the First Nations Community; and
- Design response to the Connection to Country recommendations was generally supported with further development and consultation in later design stages anticipated.

Cerebral Palsy Alliance

Meetings were held with the Cerebral Palsy Alliance on 25 November 2021, 2 February 2022 and 15 August 2022. The meetings were used to discuss the proposed design of the school campus including the layout of buildings and sports field and implications for noise, privacy, traffic, overshadowing, dust control and security. The Cerebral Palsy Alliance was supportive of the schematic design.

Arranounbai School

Meetings were held with the Arranounbai School on 29 October 2021 and 10 August 2022. The meetings, which included a walk along the site's boundary included discussions regarding fencing, car parking, water infrastructure and changeroom facilities. The Arranounbai School was supportive of the proposed design.

State Member for Wakehurst – Hon. Brad Hazzard

Meetings were held with the State Member on 4 March 2022, 1 June 2022 and 2 August 2022 to update the Minister on the proposed school design, site selection rational, traffic impacts, community use opportunities, and community engagement.

5.3 Public Authority Engagement

5.3.1 Transport for NSW

Transport Working Group (TWG) meetings were held on three (3) occasions: 19 November 2021, 11 February 2022 and 24 August 2022. The meetings included representatives from Transport for NSW (TfNSW) as well as Council.

The TWG meetings were an opportunity to discuss proposed transport infrastructure and associated traffic modelling. A key outcome of the meetings was the development of greater pedestrian protection measures. Transport impacts and associated infrastructure are discussed in **Section 6.5** of this EIS.

5.3.2 NSW Government Architect

The project team has carried out consultation with Government Architect NSW (GANSW) in three (3) State Design Review Panel (SDRP) meetings held on 14 April 2021, 18 December 2021 and 21 June 2022.

The key SDRP recommendations and the design team response are provided in **Table 4**.

5 Engagement

Table 4 Design response to GA feedback	
GA feedback	**Design response**
Connection to Country	
Explore opportunities for insight gained through engagement with Traditional Custodians to be expressed through the school design	Connecting with Country report has been prepared by Tocomwall (**Appendix BB**) to inform the project design. Preparation of the report involved engagement of the local Aboriginal community, and further consultation with the Aboriginal Education Consultation Group is scheduled to continue to inform the project. Recommendations to acknowledge Country have been incorporated by integrating learning and recreation spaces within the natural landscape setting and the project team continue to explore the inclusion of elements such as a Yarning Circle, engravings, waterways, native garden, and artwork. These elements will be especially valuable in their support of the Aboriginal Studies curriculum. SINSW will continue to work with the Connection to Country consultant and the design team to develop and incorporate these strategies as the design moves into the detailed design phase.
Masterplan and Design	
Consider the legibility and scale of the public/after hours entry adjacent the sports field, which is currently noted as a 'secondary entry'. The entry should have clear wayfinding and be of suitably generous scale as the primary community access point.	The current proposal provides clear and direct access to the playing field, multipurpose courts, and gym. A community access strategy will be developed to further improve access and wayfinding.
Explore additional opportunities to introduce breaks in the linear form of the buildings for increased light penetration between blocks and to provide access to breakout spaces.	Breaks in the buildings have been incorporated to relieve the length of buildings while balancing the programmatic adjacencies of learning units. In the reduction of built form to two (2) storeys, light penetration has been retained. Building and landscape design has provided significant provision for comfortable and appropriately scaled breakout spaces. Student and staff spaces are now better connected to nature and are orientated to take advantage of expansive district views to the south and east.
Ecology	
Removal of Duffy's forest vegetation should be minimised	SINSW is committed to protecting the natural environment on its development sites, but acknowledges this needs to be balanced with providing facilities and amenities for a school community while working with the site constraints. Key factors that have driven tree protection decisions include: • Values and condition of existing vegetation; • Bushfire safety and APZ requirements; • Topography; • High voltage power lines traversing the site; • Limiting buildings to two storeys to improve equitable access, improve visual amenity, improve privacy, reduce overshadowing and allow learning spaces to be more directly connected to the natural setting. Assessment of tree removal and biodiversity impacts is addressed in **Section 6.7** of this EIS.
Increase permeable site area in line with water sensitive urban design principles and confirm percentage of permeable site area.	An integrated water management plan has been developed in accordance with Australian Standards and SI and Council policies. It ensures it can manage stormwater volumes up to a 1% AEP storm event. The proposal includes Onsite Stormwater Detention (OSD) and stormwater treatment to achieve appropriate pollutant targets. Assessment of stormwater management is addressed in **Section 6.5** of this EIS.
Explore opportunities to increase tree canopy cover across the site towards a target of 40%	Retention of existing tree canopy cover and additional tree planting has been maximised in consultation with the project bushfire consultant. In order to provide the APZ and adequate fire separation

5 Engagement

Table 4 Design response to GA feedback	
	within the canopy, a canopy cover of 25% of the site is considered to be the most ambitious target that can be achieved. The location of trees across the site provides for wildlife corridors.
Explore relocation of the carpark entry to avoid the significant removal of mature trees as currently proposed.	Multiple site access arrangements were explored but the proposed location along the south of the site from the west was found to be superior as documented in the design development outlined in **Section 1.3** of this EIS.
Explore the option of a natural turf sporting field	Both natural and artificial sports field surfaces have been considered in the design process. Due to usage requirements, both Northern Beaches Council (for community use) and SI request an artificial surface, full FIFA sized sports field. Appropriate design, construction and base material will ensure a sustainable drainage outcome and will require substantially less irrigation than a natural turf surface.
Flood Risk	
Outline flood mitigation measures to address flood affected areas of the site as identified in the SEARs.	The project civil engineer has undertaken a study of the site including a review of the Manly Lagoon Floodplain Risk Management Study (as referred to by Council in their letter dated 12 September 2021). The site is not identified as flood affected but does contain some localised low points but they do not connect to a creek system. These matters have been considered by the project team and have been addressed in **Section 6.4** of this EIS.

5.3.3 Northern Beaches Council

In addition to the TWG meetings outlined above, a formal pre-lodgement meeting was held with Northern Beaches Council on 4 August 2022 to discuss the proposal and gather feedback. Key matters discussed included:

- Height – proposed height is in-keeping with the local context.
- Public Domain – design of bus stops, pick-up areas, tree planting and pavement widths need to be coordinated and should refer to Council's Public Space Vision and Design Guide.
- Setbacks – confirmation of setback distances is required.
- Tree removal – the application should provide evidence that the school has been designed for its setting, landscape and heritage, and has minimised the number of trees required to be removed.
- Strategic Context – the proposal aligns with the broader strategic directions for Frenchs Forest.
- Biodiversity – the site contains occurrences of Duffys Forest ecological community in the Sydney Basin Bioregion which must be validated. Council recognises that the development has sought to retain mature trees located on site. Opportunities to maintain and improve the sites existing biodiversity values such as by tree retention, local native tree planting and landscaping is generally supported by Council. The new school location will inevitably increase the existing levels of fragmentation for the mapped wildlife corridor and reduce connectivity (including canopy) for wildlife.
- Weed invasion - vegetation management should focus on the removal and ongoing management of weeds on site, whilst retaining native vegetation wherever possible.
- Sports field - The sports field should be a multi-purpose sports field (football, soccer, hockey), floodlit for night use, and should be an all-weather surface. It should be competition size and available to sports clubs for practice and weekend sports to benefit the wider community.

- Sports courts - The sports courts should be multi-purpose courts (basketball, netball, and passive recreation uses), floodlit for night use, and may be an all-weather surface. They should be accessible to the public and sporting clubs for practice and weekend sports to benefit the wider community. They might be more appropriately located near Aquatic Drive where Building C is proposed with Building C relocated along the southern boundary area nest to Building B2, to facilitate the multi-purpose sports field near the public road and in a visible location that would appeal as a 'public' space rather than hidden behind buildings.
- Water management – Piped or channelised watercourses shall be reinstated to more natural forms where possible. Bushfire asset protection zones should be maintained outside of riparian land. The use of rainwater tanks and infiltration systems is highly recommended to control the flow volume. The treatment chain is to be based on a sound water management strategy including control, harvesting and reuse, and quality. Any proposed stormwater discharge connection from the site shall not increase stormwater discharges onto downstream properties including the rear eastern boundaries of the properties within the Madison estate.
- Traffic and transport – issues including active transport connections, impacts on on-street parking and consideration for cumulative impacts are to be addressed in the SSDA and car parking for students is to be considered.

Council concludes that overall, the revised design is welcomed by Council and is consistent with the height of buildings and sympathetic to the R2 zoned land on Allambie Road and raise no objections on traffic grounds.

At a broad level, the community and public authorities are generally supportive of the proposed school design. As documented above, concerns and questions regarding specific elements of the proposal have been raised through the evolution of its design. These matters have been addressed in design and operational responses where desirable and mitigation measures have been proposed to minimise adverse impacts. These matters are discussed throughout this EIS.

6 Assessment of Impacts

6.1 Built Form and Urban Design

6.1.1 Site and design context

The project requires consideration of the opportunities and constraints that present at the site. Placement, orientation and scale of the proposed buildings has most significantly been influenced by site topography which falls from the north east to south west, significant views from the site to the coastline and to the Sydney skyline, retaining as many significant trees and remnant bushland on site as practicable, and to internalise outdoor spaces for security, acoustic and visual privacy.

The layout provides large sheltered outdoor open spaces that expand on to the sports field and playing courts to the west. The sports field provides a cleared buffer to bushfire prone land and provides for the required Asset Protection Zone (APZ).

Internal facing walkways, corridors and learning spaces are open to the central courtyard with balustrades and large windows to connect to this green passive outdoor setting. Circulation around the buildings, referred to as 'the learning loop', provides a continuous accessible walkway around the central courtyard.

Despite the significant construction cost involved, the proposal places car parking and service vehicle movements underground to mitigate against any potential negative amenity impacts and to maximise the quantity of tree retention and open space available for educational and community use.

6.1.2 Building Height

Bulk and scale has been carefully considered and reconsidered through the design process. In revising the built form down from four (4) storeys to two (2), building footprints have been increased but equitable access between and through all buildings has been greatly improved. This is considered especially important on this site given the site's long association with 'The house with no steps' disability services and adjacency to the Arranounbai School, students of which will utilise the new TFHS facilities. Limiting the development to two (2) storeys allows learning spaces to be more directly connected to the natural setting and helps maintain a character of 'lighter' buildings below the tree canopy as well as maintaining solar access to the neighbouring property to the south.

Parts of the proposed buildings exceed the maximum building height of 8.5 metres under the LEP as shown in **Figure 31** and on the elevations and sections in the Design Report**.**

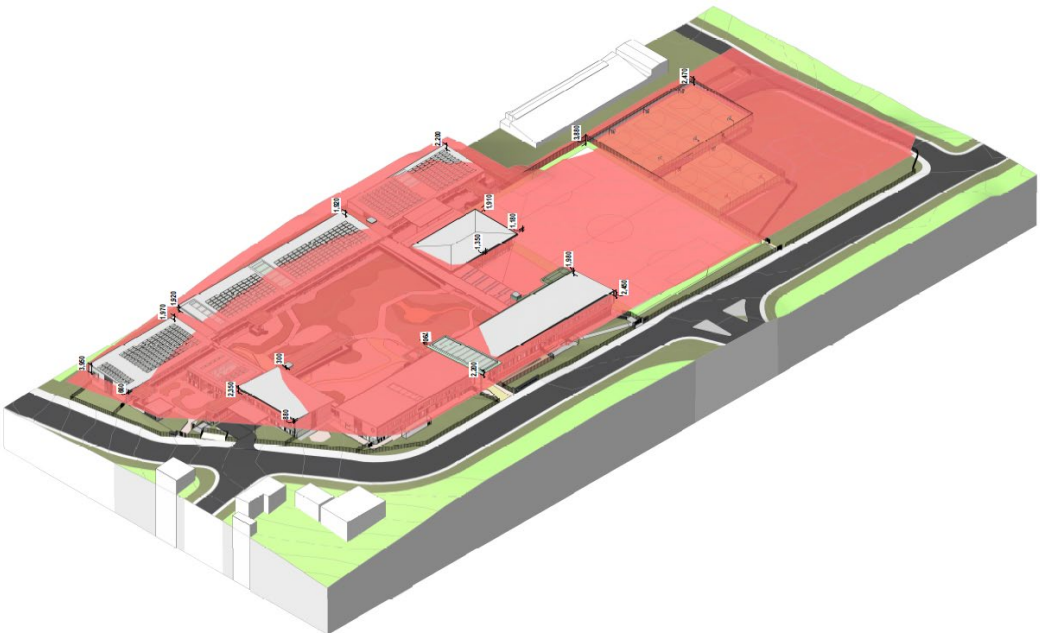

Figure 31 Height plane analysis (Source: Architectus)

6 Assessment of Impacts

The following summarises the areas and extent of exceedance:

- Entry Feature between Blocks A and G – between 790mm at the southern edge to 2.2m at the front of this architectural design feature;
- Block B – between 300mm at the south-west corner to 2.35m at the south-east corner due to sloping topography;
- Block C – between 660mm at the north-east corner to 3.95m at the south-west corner due to the sharp fall of the existing ground levels in this part of the site and the pitched roof form;
- Blocks D and E– 1.92m at the south-east and south-west corners due to the pitched roof form to increase natural daylight into the upper floor levels;
- Block F – between 1.18m and 1.91m primarily due to sloping topography in this part of the site; and
- Block G – between 1.98m at the south-west corner to 2.45m at the north-west corner due to undulations in the existing ground levels and pitched roof form.

These exceedances arise from the design response to the site's terrain, floor to ceiling heights, roof pitch/design, and desire to provide natural light and ventilation.

Notwithstanding that parts of some buildings exceed the LEP height limit, the proposal is considered to be consistent with the relevant objectives of the SP1 Zone and the height of buildings development standard because:

- It provides for an educational establishment for which the zoning specifically permits that cannot be provided in some other zones;
- It minimises adverse impacts on surrounding land with the area above 8.5m containing only clerestory windows that do give rise to privacy impacts, do not obstruct significant views (see **Section 6.1.4**), do not cause significant adverse overshadowing (see **Section 6.9**). and do not sit uncomfortably in the streetscape (see **Section 6.1.3**);
- It does not impact on the coastal environment and whilst there is a loss of some existing bushland, much is retained and will be supplemented by new landscaping; and
- The proposed buildings and landscaping treatments are of a high quality that will be improvements to the visual qualities of the site which is currently characterised by ageing buildings and unkempt grounds.

Furthermore, the sloping topography of the site and minimisation of significant adverse environmental impacts on surrounding properties are considered to be sufficient environmental planning grounds to justify the exceedances of the height of buildings development standard in this instance.

6.1.3 Streetscape and character

The proposal presents two (2) storey built form to Allambie Road and Aquatic Drive which is consistent with surrounding development. The general bulk, scale and density of buildings across the site is consistent with land uses surrounding the site including the Cerebral Palsy Australia and William Charlton retirement village to the south, Arranounbai School to the west and the business park development to the north of the site.

Proposed setbacks around the school are generally consistent with the requirements of the DCP. The front setbacks along Aquatic Drive and Allambie Road allow for the retention of trees and planting of new trees to screen built elements and preserve existing views south and east down Allambie Road.

The two (2) storey structures sit below the well-established tree canopy and are separated by landscaped spaces (**Figure 32**). A variety of vertical design elements including shading fins,

metal cladding, elongated windows and balustrade railing further break up the apparent building scale.

The proposed mix of natural, neutral tones assists the built form to sit within the landscape and soften its visual dominance.

Figure 32 Proposed Allambie Road frontage (Source: Architectus)

6.1.4 Views

The site is located at the top of a hill and benefits from broad views across the region including to views to tree canopy, ocean and the city skyline. The proposed scale and setbacks ensure views are maintained to those travelling south along Allambie Road. Breaks in the proposed buildings have been incorporated to retain district views across the site. In the reduction of built form to two storeys, the buildings sit within the cascading landscape rather than penetrating above the hilltop.

Student and staff spaces are visually connected to nature and are orientated to take advantage of expansive district views to the south and east. Raked roofs are proposed in the library and visual arts units to take advantage of additional light and significant views where they will be most beneficial.

An assessment of view impacts including visual analysis of the proposal from key viewpoints is contained in the Architectural Design Report (**Appendix G**).

Examples of the new build form as viewed from the public domain are provided in **Figure 33** and **Figure 34**.

Figure 33 Existing and proposed view from Allambie Road (Source: Architectus)

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Figure 34 Existing and proposed view from Arnhem Road (Source: Architectus)

6.2 Heritage Significance

6.2.1 Aboriginal Cultural Heritage

An Aboriginal Cultural Heritage Assessment and Archaeological Technical Report (ACHAR) (**Appendix Z**) has been prepared for the site by GML Heritage. The ACHAR was produced in accordance with relevant statutory controls and the following guidelines:

- *Guide to Determining and Issuing Aboriginal Heritage Impact Permits* (Department of Environment and Climate Change 2009);
- *Operational Policy: Protecting Aboriginal Cultural Heritage* (Department of Environment and Climate Change 2009);
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (Department of Environment and Climate Change and Water 2010);
- *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (Department of Environment and Climate Change and Water 2010);
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (Department of Environment and Climate Change and Water 2010);
- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011); and
- *The Burra Charter* (Australia ICOMOS Inc. 2013).

A search of the Heritage NSW Aboriginal Heritage Information Management System (AHIMS) identified 100 Aboriginal sites/places within a broad 25km^2 search area around the site (**Figure 35**). Sites and items were predominately centred on Bantry Bay and on rock escarpments along ridgelines that denote former traditional walking routes.

Notwithstanding, an area in the centre of the site has been largely undisturbed and was considered to have potential for Aboriginal archaeological artifacts. The ACHAR includes the results of the archaeological survey and testing program. The survey found that there is no evidence of Aboriginal objects located within the site but further Aboriginal cultural heritage assessment and management is required if the ground surface or old growth trees will be disturbed.

Aboriginal community consultation was undertaken for the project following the *Aboriginal cultural heritage consultation requirements for proponents 2010* and resulted in the registration of seven (7) unique Registered Aboriginal Parties (RAPs) for the project. The RAPs were involved in consultation throughout the project and provided feedback on the ACHAR where required.

The ACHAR determined that there are no tangible First Nations values directly associated with the site. The Report recommends that an 'unexpected finds' procedure is implemented prior to the commencement of works. There is also opportunity to incorporate interpretation within the new school design to connect with the wider Aboriginal cultural landscape as discussed below.

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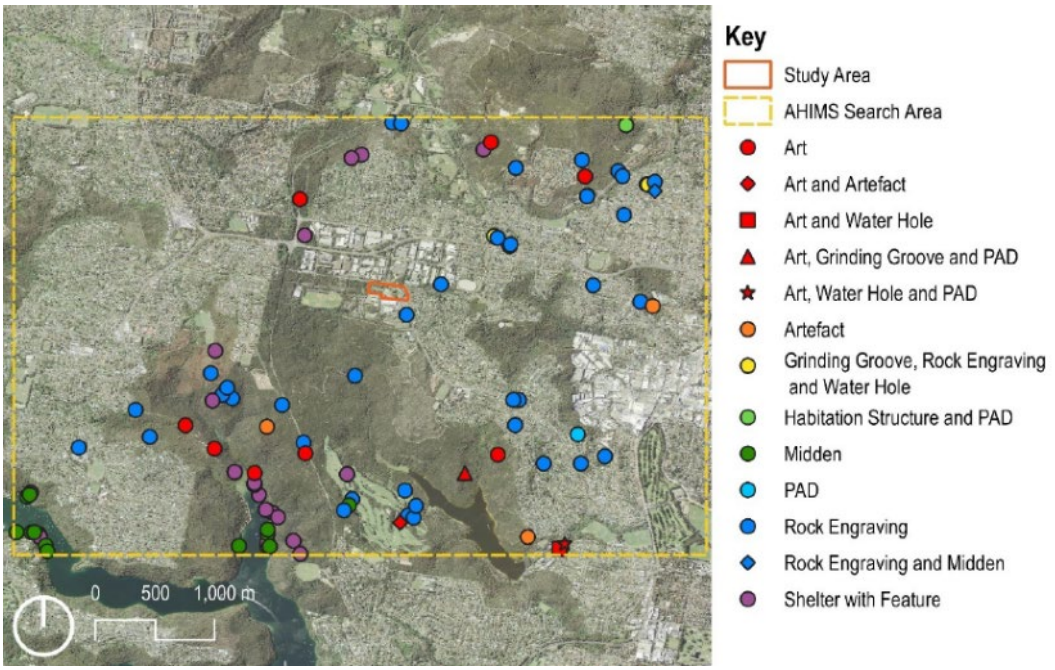

Figure 35 AHIMS search results (Source: GML Heritage)

Connection to Country

A Connecting to Country Report has been prepared by Tocomwall (**Appendix BB**) to inform the project on how local Aboriginal culture can best be incorporated into the proposal. Tocomwall undertook desktop research as well as consulting with registered Aboriginal parties, land councils and Aboriginal community members.

The report summarises eight (8) primary suggestions that came out of the research and consultation, namely:

- **Acknowledgement of Country** – Acknowledgement or welcome to country of the Cammeraygal people and other first nations people should be practiced to pay respects.
- **The Landscape** – Forms, colours and textures from the local natural landscape should be incorporated into the school design. The proposal incorporates use of earthy tones and textures and the vibrant colours of local flowers. References to dependence on fire and associated regrowth is also employed.
- **Engravings** – Indigenous artwork engravings are prominent around the Frenchs Forest area. Engravings in sandstone blocks, pathing and concrete with plant, water, marine life and footprint motifs are being developed and incorporated into landscaping.
- **Waterways** – water features including locally occurring pools on rock shelfs and small wildlife oasis are important to Indigenous peoples and can be referenced on site through symbology, imagery and landscaping.
- **Native Gardens** – ornamental native gardens can be used to draw locally occurring plant species into the site which may also draw local wildlife including the Glossy Black Cockatoo and Rosenberg Goanna. A native food garden could consist of edible plants such as *Podocarpus elatus* (Illawarra Plum), *Acacia acuminata* (Rasberry jam Wattle), *Acacia cyclops* (Red-eyed Wattle), *Acronychia acidula* (Lemon Aspen), *Davidsonia johnsonii* (Smooth Davidson's Plum), *Citrus australasica* (Finger Lime), and *Cymbogopon ambigus* (Native Lemon Grass). Plants have been selected for their sound, touch, smell, sight and taste.
- **Aboriginal Artwork** – Inclusion of Aboriginal artwork is a modern celebration of Indigenous knowledge systems and storytelling practices. Creation of artwork should

involve the collaboration of local Aboriginal artists and TFHS students. The project team is continuing the consultation and design process to develop a public art strategy to deliver appropriate engravings. Murals and architectural installations can be used to respect local traditional custodians and should be both decorative and informative.

- **Education of History** – 'walking with' Country is important for connection and storytelling. Use of dual language signage to tell stories of local heritage along a nature trail is an outdoor learning opportunity. QR codes can be used to provide audio recordings to preserve native language and share Cammeraygal family narratives. Walking 'goat tracks' are proposed through the site to be embellished with cultural storytelling.
- **Yarning Circles** – Meeting places are an important element of the cultural landscape and continue the tradition of story and truth telling. Yarning circles are proposed in a prominent positions by the main school entry and in the courtyard adjacent to the sports field.

Protection of the natural environment in the practice of traditional custodians is an inherent part of Connection to Country. So too is fostering a tangible relationship and interaction with the natural environment. Accordingly, the siting of activities and spacing within the natural setting, and encouragement of outdoor activities is an important element of the new campus. The most valuable vegetation (including Duffys Forest community) on site has been protected where practicable, to be supplemented by significant additional planting to provide a generous canopy.

6.2.2 European Heritage Significance

A Statement of Heritage Impact (SHI) prepared by GML Heritage (**Appendix CC**) has considered the European heritage significance of the site and its former uses. It determined that the site does not contain any State or local listed heritage items, and the site does not meet the threshold for local listing. While the SHI does recognise some historic, social and associative values associated with the site, it determined that the proposal will not have a detrimental impact on the significance of the site.

The SHI recommends that an interpretation plan be prepared and implemented and interpretive materiality be used to reflect the former Country Children's Hostel that occupied the site.

There is one (1) locally listed heritage item and one (1) locally listed Landscape Conservation Area within the vicinity of the site:

- Manly Dam and Surrounds (Item C9 in the LEP) located 300m south of the site.
- Warringah Reservoir and attached Valve House (Item I130 in the LEP located 400m east of the site.

The site is a considerable distance and is screened by development and vegetation to ensure that the proposal will have no impact on the heritage significance of this item and conservation area.

6.3 Bushfire

A Bushfire Assessment Report has been prepared by Australian Bushfire Protection Planners (**Appendix HH**) to determine the level of bushfire risk present to the site and mitigate the risk in accordance with legislative requirements including *Planning for Bushfire Protection 2019* (PBP). The findings of the report are summarised below.

The site falls from the north east to the south west by approximately 10 metres (**Figure 36**). The Northern Beaches Council Bushfire Prone Land Map indicates that bushfire prone vegetation is located on the western half of the site and to the west of the site towards Madison Way (**Figure 37**).

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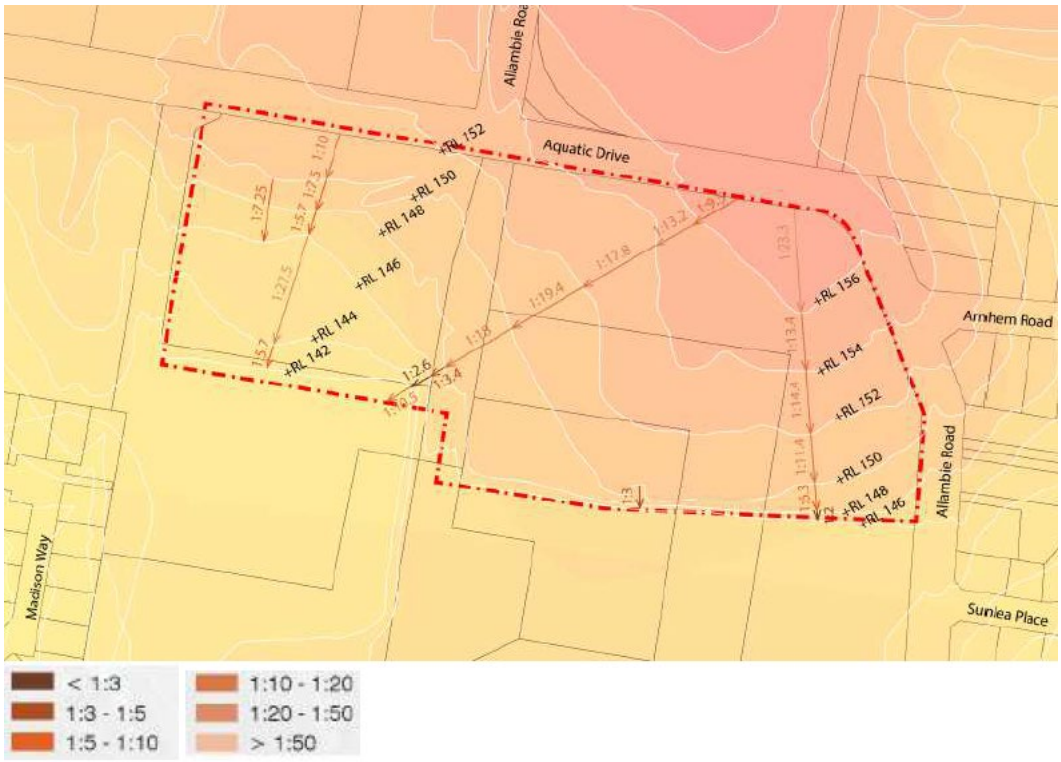

Figure 36 Site topography (Source: Australian Bushfire Protection Planners)

Figure 37 Northern beaches bush fire prone land map (Source: Australian Bushfire Protection Planners)

Vegetation to the south and southwest of the site (within the adjoining Cerebral Palsy and Arranounbai School) and on the industrial land to the north of Aquatic Drive was found to consists of managed landscaped vegetation.

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The Bushfire Prone Land Map also identifies the vegetation on the Ausgrid substation site to the north of Allambie Road as non-hazard vegetation. However, as a precautionary measure, Australian Bushfire Protection Planners have classified the land as a possible hazard and uses a Short Fire Run (due to the short length of fire run) to determine the width of the Asset Protection Zone to the north of Blocks A and G.

The site is located approximately 240 metres from the hazard in the Manly Dam Reserve to the south and is therefore deemed to have a low level of risk from the primary bushfire hazard.

It has been determined that there are potential fire paths impacting the site from the southwest and the north as shown in **Figure 38**.

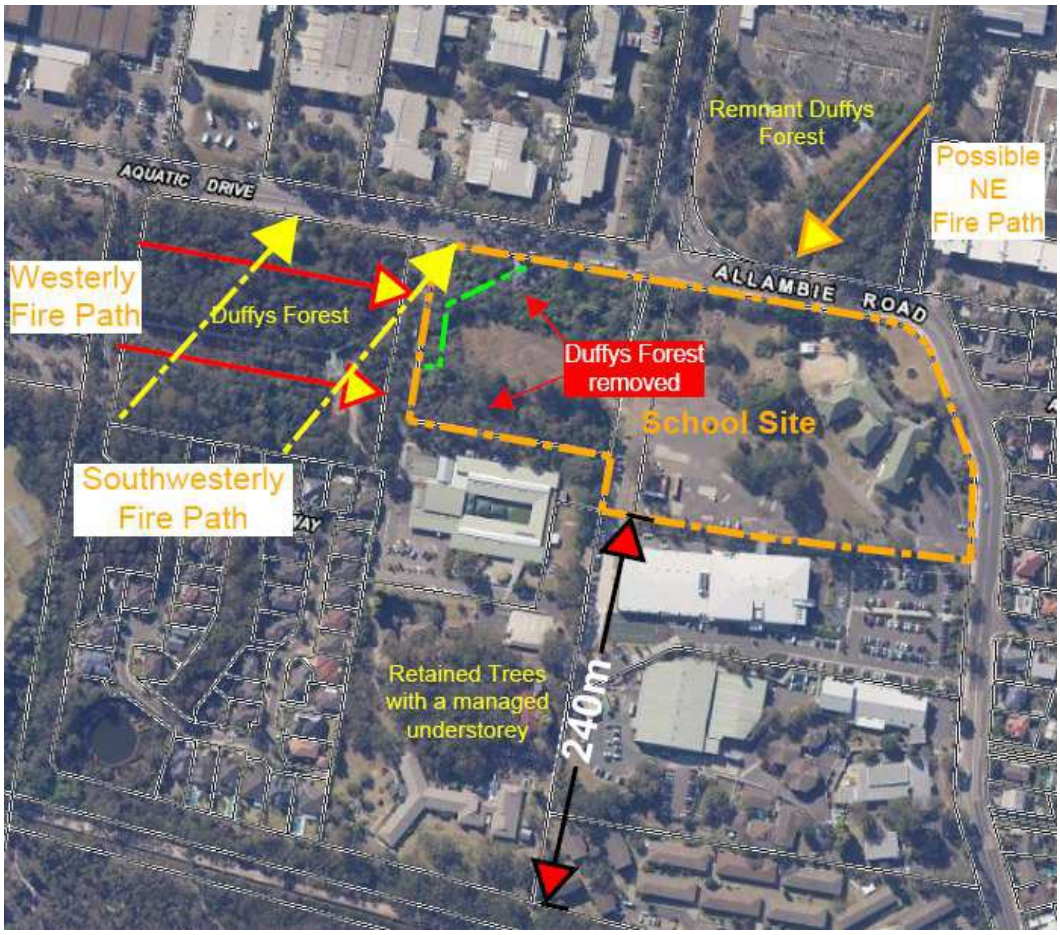

Figure 38 Potential fire paths (Source: Australian Bushfire Protection Planners)

A 67 metre wide Asset Protection Zone will be provided to the vegetation within the western portion of the site (Duffys Forest) to address the requirement to limit the radiant heat on the exterior of Block G to less than 10kW/m^2. The hazard to the west occurs under a westerly fire, across a short length of bushfire prone vegetation. The risk from a fire burning across this vegetation is deemed to be low–moderate and is addressed with the provided width of Asset Protection Zone and construction standards to the buildings (BAL 12.5).

A 35 metre wide Asset Protection Zone has been provided to the north of Block A and G as a precautionary measure.

Assessment against of the proposal against relevant bushfire protect measures can be summarised as:

- **Asset Protection Zone** - The combination of Asset Protection Zones and construction standards to the school buildings addresses the requirement that the students and staff are afforded adequate protection from exposure to a bushfire and that the buildings will not be exposed to a radiant heat flux of more than 10kW/m^2 radiant heat.

- **Access for fire-fighting operations** - The proposed school is accessed from the existing public road network which provides satisfactory emergency access for firefighting appliances and evacuation purposes.
- **Water supplies for fire fighting** - Hydrant supply to be installed in accordance with AS 2419.1 – 2022 with hydrants located within the school grounds.
- **Management of the fire protection measures** – DoE will be responsible for maintenance of APZs and landscape management in accordance with PBP2019.
- **Emergency Management** - The requirement to relocate students and staff due to bushfire risk is unlikely. If required, safe egress can be achieved to the north via Allambie Road. The preparation of a Bushfire Emergency and Evacuation Plan (BEEP) is recommended.

Bushfire Assessment Report confirms that the proposal complies with the aim and objectives, and the deemed to satisfy requirements of Section 6 of *Planning for Bushfire Protection 2019.*

6.4 Flooding

The project civil engineer Enstruct has undertaken a study of the site including flood risk (**Appendix R**). A review of the Manly Lagoon Floodplain Risk Management Study (as referred to by Council in their letter dated 12 September 2021) indicates that the site is not identified as flood affected but does contain some localised low points which do not connect to a creek system. Due to the sites inland location and elevation, the site is not identified as flood prone.

The site is located towards the top of the Manly Lagoon Catchment (**Figure 39**).

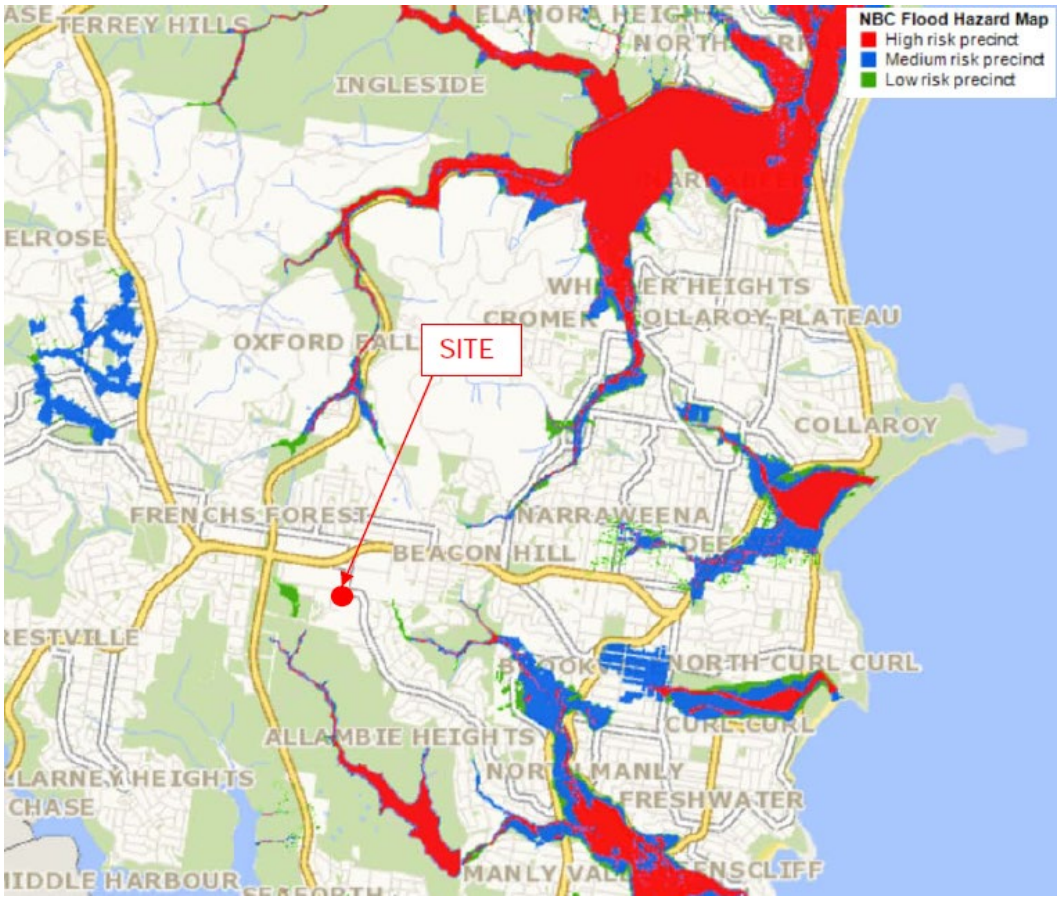

Figure 39 Northern Beaches Council flood hazard map (Source: Enstruct)

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The site contains an ephemeral creek which traverses the north western portion of the site. There is a trunk drainage line which enters the site from the north close to the roundabout at the intersection of Allambie Road and Aquatic Drive, and runs west to the Arranounbai School service road.

6.5 Stormwater

A Civil Engineering Report prepared by Enstruct (**Appendix R**) has considered the proposal in the context of site conditions and outlines an appropriate stormwater and waste water strategy for the site.

A stormwater strategy for the site has been developed in accordance with the Australian Standards, Northern Beaches Water Management for Development Policy, and SI's EFSG. The stormwater strategy has been developed to handle up to a 1% AEP storm event.

Drainage has been designed to convey stormwater to an in-ground pipe system, via gutters and down pipes from roofs and via collection pits from ground surfaces. The in-ground pipe system will collect stormwater in three (3) OSD tanks.

Where pipe capacity is exceeded (greater than 5% AEP), stormwater will be conveyed as overland flow, designed to a carrying capacity of 1% AEP stormwater flows with a Depth x Velocity product less than 0.4m^2 per second.

The proposed OSD tanks are located at the lowest point so all surface flows will be directed to them, even in the event of a pipe system failure. OSD tanks has been located away from any natural watercourses and overland flow paths from catchments external to the site to prevent impacts during major storm events.

A DRAINS model was developed to confirm the ability of the three (3) proposed OSD tanks to manage the anticipated stormwater flows and confirm sizing calculations. It determined at the tanks should be 561m^3, 131m^3 and 151m^3, all with an outlet pipe diameter of 373mm.

The location and capacity of the three (3) OSD tanks and their associated catchment areas are illustrated in **Figure 40**.

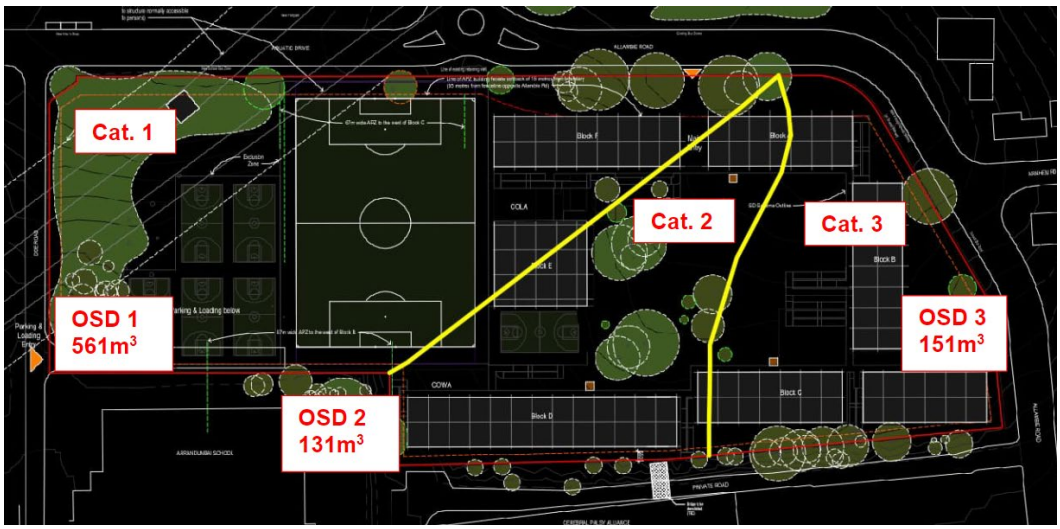

Figure 40 OSD Size and location (Source: Enstruct)

A series of pollution control devices have been provided to remove contamination from stormwater runoff to the required level prior to discharge. The devices will include litter screens in pits, a detention tank trash screen, and an end of line treatment device to remove nitrogen, phosphorus, and suspended solids prior to discharge to the Council stormwater system. This system is determined to be appropriate as it will be able to achieve pollutant reductions required, is easily maintained, and does not require large open areas or pose a risk to safety for school users.

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6.6 Traffic, Transport and Parking

A Transport Access Impact Assessment (TAIA) has been prepared by SCT Consulting (**Appendix N)** to examine existing travel network, and project anticipated travel impacts associated with the school and its construction, with consideration for appropriate infrastructure upgrades and operational practices to be implemented by the proposal. The findings and recommendations of the report as summarised below.

6.6.1 Existing Performance

Traffic counts have been undertaken at key intersections on the local traffic network surrounding the site. The 'level of service' has been assessed on the following criteria:

- A = Less than 14.5 seconds per hour of delay (good operation);
- B = 14.5 to 28.4 seconds per hour of delay (good with acceptable delays and spare capacity);
- C = 28.5 to 42.4 seconds per hour of delay (satisfactory);
- D = 42.5 to 56.4 seconds per hour of delay (operating near capacity);
- E = 56.5 to 70.4 seconds per hour of delay (at capacity. If signalised intersection, incidents will cause excessive delays. If roundabout requires other control method); and
- F = 70.5 seconds per hour of delay or greater (at capacity. If signalised intersection, incidents will cause excessive delays. If roundabout requires other control method).

The intersection level of service has considered vehicle movements only and does not capture well the performance of the transport network for pedestrians.

In addition, intersection performance is measured using 'Degree of Saturation', which represents the spare capacity of each intersection. On this metric, a score of one (1) or higher is considered to be inadequate.

Table 5 below shows the existing conditions in the year 2021 (i.e. without the school) and shows that all intersections have a level of 'C' or higher in the am peak and 'D' or higher in the pm peak.

Table 5 Existing performance in 2021 (Source: SCT Consulting)

Intersection	Type	Vehicles/hr	Saturation	Delay (seconds)	Level of service
Allambie Rd/ Warringah Rd	Signals	Am: 5,755 Pm: 5,357	Am: 0.90 Pm: 0.86	Am: 48.7 Pm: 42.2	Am: D Pm: C
Allambie Rd/ Rodborough Rd	Roundabout	Am: 2,440 Pm: 1,885	Am: 0.65 Pm: 0.55	Am: 19.4 Pm: 16.4	Am: B Pm: B
Allambie Rd/ Aquatic Dr	Roundabout	Am: 1,954 Pm: 1,862	Am: 0.87 Pm: 0.78	Am: 17.0 Pm: 15.5	Am: B Pm: B
Allambie Rd/ Mortain Ave	Signals	Am: 1,627 Pm: 1,517	Am: 0.68 Pm: 0.57	Am: 11.5 Pm: 9.4	Am: A Pm: A
Allambie Rd/ Fleurs St	Signals	Am: 1,580 Pm: 1,505	Am: 0.58 Pm: 0.44	Am: 9.7 Pm: 7.4	Am: A Pm: A

**Am = 8:30-9:30, Pm = 15:00-16:00*

6.6.2 Existing Projection (no new school)

A traffic network model was developed for the study area with consideration projected increases in background traffic to the year 2031. With consideration for growth anticipated in the Frenchs Forest Precinct, an additional 1,720 hourly am trips and 2,705 hourly pm trips have been modelled. Additional local traffic associated with a recently approved Bunnings Warehouse store located at the corner of Warringah Road and Allambie Road has also been incorporated into the model.

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Table 6 below shows the modelled performance of intersections in the year 2031, with the delay representing the worst movement for priority and roundabout controlled intersections.

Table 6 Projected intersection performance in 2031 (Source: SCT Consulting)

Intersection	Type	Vehicles/hr	Saturation	Delay (seconds)	Level of service
Allambie Rd/ Warringah Rd	Signals	Am: 5,970 Pm: 6,238	Am: 0.92 Pm: 1.01	Am: 48.3 Pm: 71.1	Am: D Pm: F
Allambie Rd/ Rodborough Rd	Roundabout	Am: 2,430 Pm: 2,220	Am: 0.69 Pm: 0.77	Am: 23.1 Pm: 25.3	Am: B Pm: B
Allambie Rd/ Aquatic Dr	Roundabout	Am: 1,839 Pm: 1,996	Am: 0.88 Pm: 0.99	Am: 15.4 Pm: 29.4	Am: B Pm: C
Allambie Rd/ Mortain Ave	Signals	Am: 1,531 Pm: 1,650	Am: 0.51 Pm: 0.57	Am: 8.7 Pm: 6.8	Am: A Pm: A
Allambie Rd/ Fleurs St	Signals	Am: 1,486 Pm: 1,639	Am: 0.42 Pm: 0.51	Am: 4.7 Pm: 5.5	Am: A Pm: A

**Am = 8:30-9:30, Pm = 15:00-16:00*

The model showed that by 2031 the network reaches capacity at Allambie Road/Warringah Road with this intersection performing a service level of 'F' in the pm peak. It also shows that the intersection of Allambie Road/Aquatic Drive maintains an acceptable performance level but would have no remaining capacity for any additional growth before it would reach a saturation level of one (1).

All other intersections were modelled to perform at acceptable levels of service.

6.6.3 Operational Impact

A scenario was modelled with the full school population attending the school on day one without any upgrades to transport infrastructure. It revealed that the network would suffer significant delays and queuing. Under this scenario, the intersections of Allambie Road with Warringah Road, Rodborough Road and Aquatic Drive would all have a 'F' level of service. The intersection of Allambie Road and Aquatic Drive would also have an 'F' level of service in the pm peak. This confirmed that mitigation measures are required.

In consultation with Council and TfNSW, the project team has proposed a series of traffic infrastructure upgrades to improve transport and traffic outcomes. These upgrades include:

- Signalisation of intersection at Aquatic Drive and Allambie Road;
- Pedestrian crossing at the Rodborough Road and Allambie Road;
- New bus zone to the west of the new pedestrian signalised intersection on Allambie Road;
- Expansion to existing bus zone on the east side of Allambie Road;
- On-street pick-up/drop-off bays on the northern and southern sides of Aquatic Drive;
- Dedicated covered support unit drop-off at the eastern side of the school (within school grounds);
- An accessible on-street pick-up/drop-off zone adjacent to the main pedestrian entry to the school; and
- Widening of existing shared path adjacent to the school along Aquatic Drive and Allambie Road.

The traffic impact of anticipated growth to 2025, operation of the school and the signalisation of the intersection of Aquatic Drive and Allambie Road as proposed has been modelled as shown in **Table 7**.

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Table 7 Projected intersection performance in 2025 (Source: SCT Consulting)					
Intersection	**Type**	**Vehicles/hr**	**Saturation**	**Delay (seconds)**	**Level of service**
Allambie Rd/ Warringah Rd	Signals	Am: 5,661 Pm: 5,574	Am: 0.93 Pm: 0.87	Am: 48.0 Pm: 45.9	Am: D Pm: D
Allambie Rd/ Rodborough Rd	Roundabout	Am: 2,432 Pm: 1,953	Am: 0.77 Pm: 0.61	Am: 14.6 Pm: 12.4	Am: B Pm: A
Allambie Rd/ Aquatic Dr	Signals	Am: 2,106 Pm: 1,441	Am: 0.73 Pm: 0.47	Am: 20.6 Pm: 6.2	Am: B Pm: A
Allambie Rd/ Mortain Ave	Signals	Am: 1,543 Pm: 1,421	Am: 0.52 Pm: 0.40	Am: 9.4 Pm: 5.2	Am: A Pm: A
Allambie Rd/ Fleurs St	Signals	Am: 1,488 Pm: 2,018	Am: 0.41 Pm: 0.70	Am: 4.8 Pm: 19.2	Am: A Pm: B
Rodborough zebra crossing	Priority	Am: 431 Pm: 265	Am: 0.68 Pm: 0.38	Am: 4.3 Pm: 4.3	Am: A Pm: A

**Am = 8:30-9:30, Pm = 15:00-16:00*

This scenario also models the proposed pedestrian crossing on Rodborough Road which would have priority over vehicle movements. It shows that all intersections will provide a level of service of 'A' or 'B' with the exception of the intersection at Allambie Road and Warringah Road which will provide a level of service of 'D' and generally consistent with its current performance.

Beyond the year of 2025 it is anticipated that additional growth in the Frenchs Forest Precinct would be supported by associated infrastructure upgrades.

The 'kiss and drop' facility has been designed to accommodate 692 students (46% of full capacity) being dropped off/picked up, consistent with the assumed modal split. This has necessitated a total kiss and drop bay length of 189 metres proposed along Aquatic Drive.

Separate drop-off facilities will be provided for the school's support unit. This comprises of a kiss and drop zone along Allambie Road for three (3) cars, two (2) off-street parking spaces in proximity to the support unit, and parking space for a minibus.

A staff car park will be located underground at the centre of the site beneath the playing field. The car park will be accessed from Aquatic Drive via a shared private road along the western perimeter of the site. Staff who drive will then use a private access road to enter/exit the car park. The car park provides 121 parking spaces for the peak staffing of 120 persons which is not expected to occur until 2035-36.

No provision has been made for Year 12 students to drive to the school in order to encourage students to walk, cycle, or take the bus to prevent additional congestion during school peaks.

The TAIA finds that under the proposal there would be no net increase in car mode share despite the new school location currently having less bus frequency. Students that access the current school site bus may have to switch to other modes such as cycling and walking. This modal shift is supported by the fact that the current location of the school isn't favourable for walking compared to the new location, which is accessible by quieter roads.

Signalised pedestrian crossings are provided at the intersections of Warringah Road/Allambie Road, Wakehurst Parkway/Warringah Road, and Allambie Road/Mortain Avenue in the vicinity of the school. Pedestrian refuge islands in the surrounding areas provide some level of protection while crossing but do not provide any pedestrian priority so not to delay traffic flow.

As discussed in **Section 1.3** of this EIS, the site benefits from connection to an extensive network of existing paths, off-road cycling connections and bus services. The provision of shared pedestrian/cycle paths along Allambie Road and Aquatic Drive, Warringah Road, and Aquatic Drive indicates students by bike do not need to mix with cars, bringing safety benefits for both students/teachers cycling to school.

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The proposal would improve the local transport network by providing the following public infrastructure:

- Signalisation of intersection at Aquatic Drive and Allambie Road;
- Pedestrian crossing at the Rodborough Road and Allambie Road;
- New bus zone to the west of the new pedestrian signalised intersection on Allambie Road;
- Expansion to existing bus zone on the east side of Allambie Road;
- On-street pick-up/drop-off bays on the northern and southern sides of Aquatic Drive;
- Dedicated covered support unit drop-off at the eastern side of the school (within school grounds);
- An accessible on-street pick-up/drop-off zone adjacent to the main pedestrian entry to the school; and
- Widening of existing shared path adjacent to the school along Aquatic Drive and Allambie Road.

6.6.4 School Transport Plan

The relocation of TFHS presents an opportunity for the school to strengthen its sustainable travel behaviour culture. A combination of infrastructure and policy initiatives will prioritise walking and cycling for those close to the site and public transport for students located further from the site.

A draft School Transport Plan is provided within the TAIA which outlines a vison for safe and sustainable travel. It targets a modal shift as summarised in **Table 8** below.

Table 8 Travel mode split target (Source: SCT Consulting)

Mode	Walk	Cycle/scooter	Bus	Car
Current mode share	3%	2%	45%	50%
Mode share in year 1 (2026)	4%	7%	39%	50%
Longer term mode share	4%	12%	39%	45%

The School Transport plan proposes to encourage safe and efficient travel to and from the school and realise the abovementioned modal shift by implementing the following strategies to name a few:

- Distribute a Travel Access Guide (pamphlet) showing the school locality and the wider area. It will provide to provide staff, parents, and students with useful information about how to access the school safely and efficiently.
- Providing transport information on the school website is to ensure all staff and parents know where transport relating to the school can be accessed.
- The new starter orientation will provide new staff, students, and parents of students with information regarding public transport routes and times, safe working routes to the school, and expectations surrounding parking on site.
- School visits by NSW Police to explain safe travel, on topics such as the road rules and strategies for how to access school safely.
- Encouraging students to tap on and off the bus so bus planners in TfNSW can monitor bus patronage and improve future services.

- Annual or periodic bicycle check-ups involving a visit by an accredited external organisation to the school to show both staff and students how to best look after their bikes.
- Two (2) staff members to be on duty to observe students arriving by bicycle to the bicycle storage areas, recording students' names who bring a bike to school in the morning and leave with it in the afternoon. Students with the largest number of bike trips over a month could be eligible for a prize such as a bike shop voucher.
- Bicycle NSW provide an accreditation program for Ride Leaders, who provide bicycle skills training. Subject to uptake, SINSW is proposing to provide funded bicycle training during the first year of operation.
- Bicycle NSW run a Spring Cycle each year. If this event could occur in the vicinity of the new school location before it opens for use (or shortly after the school is opened), it could increase the awareness of students, staff, parents and guardians about cycling options in the area.
- This proposal is to put non-slip footpath decals on footpaths approaching the school. The key motivation is to help students/parents/guardians find their way to school by reinforcing the right way to school.
- Use school assemblies (regular school-wide communications) as a forum to present information on the benefits of active and public transport options. Assembly segments could include interviewing students or teachers who walk or ride to school.
- Gain buy-in from the Parent and Community Association to encourage more sustainable modes of transport, particularly as the travel mode of a student is often the decision of their parents or carers. Use of their social media channels to promote active and public transport modes will raise awareness of these alternatives to car use, and influence parents in their decision-making on how to send students to school while also increasing the safety of these modes by increasing awareness of these user groups.
- Ongoing data collection and monitoring for continued improvements to the School Transport Plan and influence modal shift away from private vehicle use.

6.6.5 Construction Traffic Management

The proposed school buildings would be delivered using 'Design for Manufacture and Assembly' which involves assembly and installation of off-site built elements. Parts are transported to the site on trucks and lifted via a crane into position. The placement of the crane will be determined subject to further consultation with Council, TfNSW and the community.

Traffic management will require approval from Council. It is expected that traffic management measures will only be required within immediate vicinity of the site on Aquatic Drive and Allambie Road.

The peak workforce is estimated to be 163 FTE workers. Whilst some workers are anticipated to use public transport, most workers are expected to use light vehicles although many of these will come in the same vehicles such that the overall number of light construction vehicles at peak construction is anticipated to be 75 vehicles.

There are large, cleared areas of the site which can be made available for the parking of most construction worker vehicles during construction although some vehicles may from time to time utilise on-street car parking, which has been assessed in the Transport Access Impact Assessment as having spare capacity. In addition, upon completion of the shell of the on-site carpark, it can be made available for use by construction workers and will provide ample on-site car parking to cater for the predicted peak demand.

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Road network impacts by worker traffic to the site will be mitigated by the construction workers generally starting earlier and finishing earlier than the commuter peak periods and would likely not coincide with the school or road network peak periods.

It is estimated that 20 heavy vehicle truck movements will be generated on a typical day.

Is not expected that there will be other major concurrent construction activities.

Appropriate mitigation measures have been provided by SCT Consulting which will prevent unreasonable impacts on the local traffic network during the construction stage.

6.7 Tree Removal and Biodiversity

Protection of the natural environment including retention of the most significant collections of trees and highest biodiversity values on site have been a key consideration. The most valuable vegetation (including Duffys Forest community) on site has been protected where practicable, to be supplemented by significant additional planting to provide a generous canopy.

While it would be ideal to protect every mature tree on site, the significant APZ requirements and site constraints that limit options for the placement of a sports field have required the removal of some mature trees as discussed and assessed below.

6.7.1 Tree Removal

An Arboricultural Impact Assessment has been prepared by Eco Logical (**Appendix J**) which documents the inspection of 406 trees in and around the site and the potential impact of the proposal. Of these, a total of 372 trees are the subject of this assessment as 34 trees on site have been approved for removal under DA 2011/1633.

In consultation with the project arborist, the new school campus has been designed to retain and protect as many existing trees as possible, especially those with the highest retention value. However, a total of 231 trees are proposed to be cleared as detailed in **Table 9**.

Table 9 Trees proposed for removal

Retention Value	Number of trees
High	10 trees (Tree Nos: 32, 39, 40, 52, 59, 110, 111, 126, 309 and 311)
Medium	48 trees (Tree Nos: 18, 19, 29, 37, 53, 61, 69, 88, 90, 91, 92, 93, 95, 97, 98, 99, 100, 102, 103, 104, 105, 108, 109, 114, 115, 117, 122, 127, 149, 153, 155, 162, 163, 173, 175, 188, 230, 232, 266, 268, 269, 274, 276, 308, 315, 321, 326, 330)
Low	173 trees (Tree Nos: 21, 33, 38, 51, 54, 68, 78, 79, 80, 83, 87, 89, 94, 96, 101, 106, 107, 111, 112, 113, 116, 118, 119, 120, 121, 123, 124, 125, 129, 130, 131, 150, 151, 152, 154, 156, 157, 158, 159, 161, 164, 165, 166, 167, 168, 169, 170, 171, 172, 174, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 189, 190, 191, 192, 193, 194, 195, 196, 197, 202, 223, 224, 225, 228, 229, 231, 233, 234, 235, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 267, 270, 271, 272, 275, 277, 278, 279, 282, 302, 303, 310, 312, 313, 314, 316, 317, 318, 319, 320, 325, 327, 328, 329, 331)
Total Trees for Removal	**231 trees**

**Note some tree reference numbers refer to groupings of multiple trees*

A total of 141 trees are proposed to be retained as summarised in **Table 10**. Of these trees, all but 11 are subject to low impact (<10% TPZ encroachment) or no impact.

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Table 10 Trees proposed for retention	
Retention Value	**Number of trees**
High	15 trees (Tree Nos: 28, 44, 49, 50, 56, 57, 58, 66, 72, 75, 82, 128, 135, 206 and 322)
Medium	31 trees (Tree Nos: 41, 42, 43, 55, 60, 62, 63, 64, 65, 67, 71, 81, 85, 86, 136, 139, 148, 205, 207, 208, 220, 221, 250, 253, 261, 263, 287, 288, 289, 298 and 323)
Low	95 trees (Tree Nos: 34, 35, 36, 45, 46, 47, 48, 73, 74, 76, 77, 84, 132, 133, 134, 137, 138, 140, 141, 142, 143, 144, 145, 146, 147, 160, 198, 199, 200, 201, 203, 204, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 222, 226, 227, 236, 237, 249, 251, 252, 254, 255, 256, 257, 258, 259, 260, 262, 264, 265, 273, 280, 281, 283, 284, 285, 286, 290, 291, 292, 293, 294, 295, 296, 297, 299, 300, 301, 304, 305, 306, 307 and 324)
Total Trees for Removal	**141 trees**

**Note some tree reference numbers refer to groupings of multiple trees*

Figure 41 below identifies the high (red), medium (yellow) and low (green) retention value trees with those to be removed circled in red outline.

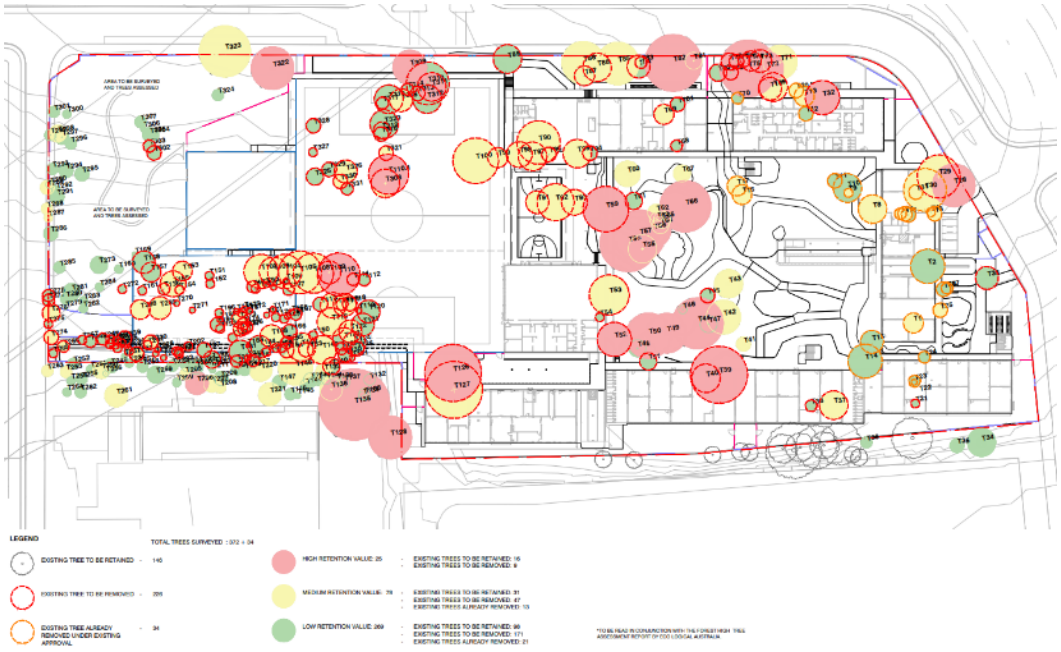

Figure 41 Tree retention and removal plan (Source: Oculus)

A Tree Protection Plan for trees to be retained is contained in the Arboricultural Impact Assessment.

Replacement planting will be undertaken as indicated in the landscaping plans at **Appendix K** and discussed at **Section 6.8**.

6.7.2 Biodiversity

A Biodiversity Development Assessment Report (BDAR) has been prepared by SLR in accordance with the NSW Biodiversity Assessment Method (**Appendix O**). The report identifies the potential impacts on flora and fauna species as detailed in the following discussion.

The BDAR identified one (1) native plant community located on the western side of the site (**Figure 42**).

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Figure 42 Native Vegetation identified on site (Source: SLR)

This *Sydney Ironstone Bloodwood-Silvertop Ash forest* community (PCT 1786) includes an area of 0.35 hectares of moderate-good condition and 0.41 hectares of low condition. The 0.35 hectare area of moderate-good community constitutes *Duffys Forest Ecological Community in the Sydney Basin Bioregion*, which is listed as an 'endangered ecological community' under the NSW Biodiversity Conservation Act 2016.

The proposal requires the permanent removal of 0.43 hectares of native vegetation, comprising 0.28 hectares of PCT 1786 in moderate-good condition and 0.15 hectares of PCT 1786 in low condition. The removal of the PCT 1786 in moderate-good condition also represents the permanent removal of 0.28 hectares of Duffys Forest Endangered Ecological Community. The BDAR states that Duffys Forest is not a 'Serious and Irreversible Impact entity'.

The BDAR provides the information required for the decisionmaker to determine that the proposal does not have a 'Serious and Irreversible Impact on biodiversity values in accordance with the principles set out in the *Biodiversity Conservation Regulation 2017.*

The Biodiversity Assessment Method Calculator was used to determine the offset obligation for the removal of vegetation and habitat associated with the proposed development. SLR found that the site does not provide any potential breeding habitat for threatened species and no species credits are required to be offset.

The BDAR includes mitigation and management measures to reduce the potential for indirect impacts on biodiversity values within the remainder of the subject land or downstream of the site. These can generally be summarised as:

- No clearing should occur during the early evening or at night, when nocturnal fauna species are most likely to be active.
- The direction of clearing should ensure that fauna species are directed away from threats such as roads, developed areas or disturbed areas.
- Trained ecologist or licensed wildlife handler is on-call during all native vegetation clearance in the case that native fauna is injured and requires capture.
- Areas of vegetation outside the development footprint are to be clearly demarcated with temporary chain mesh fencing to prevent accidental clearing during the construction phase.

- Areas of disturbance are to be rehabilitated and compensatory planting will commence as soon as practicable.
- Areas of vegetation outside the development footprint are to be clearly demarcated with temporary chain mesh fencing to prevent accidental clearing during the construction phase.
- All vehicles, equipment, footwear and clothing should be clean and free of weed propagules prior to entering the subject land.
- Any weeds that are removed during the construction phase should be disposed of appropriately.
- Sensitive environmental areas are to be identified and communicated in all onsite briefings, for all staff prior to conducting work on the site.
- A Vegetation Management Plan (VMP) is to be prepared prior to construction.
- The VMP is to ensure that the persons undertaking the development undertakes initial weed removal and planting works over a minimum of three (3) years.

6.8 Landscape

A landscape strategy has been developed by Oculus to provide a high level of amenity to the public realm and across the site for the benefit of staff, students and visitors. The Landscape Plans (**Appendix K**) and Landscape Report **(Appendix L**) provide a breakdown of the design development and justification for design decisions.

Landscaping has been designed to capitalise of opportunities for outdoor learning and recreation, and to foster connections to the natural environment. Landscaping complements the architectural design of built form by providing outdoor gathering spaces and reflecting seasonal change in direct physical and visual connections to indoor spaces. This is especially the case with the design of the internal courtyard which hosts the retention of high retention value trees, ringed by internal facing walkways, corridors and learning spaces.

The landscape design for the campus has had consideration for the bushfire hazard present on site and has incorporated performance objectives of an Inner Protection Area and Outer Protection Area. Accordingly, the Inner Protection Area (as shown in **Figure 43**) has canopy cover of no greater than 14.5%.

Figure 43 Tree canopy cover (Source: Oculus)

The landscaping across the site incorporates 6,851m^2 of existing canopy cover to be retained and supplements it with an additional 3,490m^2 of new canopy cover to achieve a 25% canopy cover across the site. This is impressively high for an urban school that also provides a full competition size playing field and six (6) sports courts.

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As illustrated in **Figure 44**, new planting has sought to provides screening and soften the visual and amenity impacts to the adjacent users. It has also sought to provide additional shade in passive recreation spaces and supplement remnant bushland that is being protected on site.

Figure 44 Planting strategy (Source: Oculus)

Landscaping works improve accessibility to and within the site, and promote the movement of students between formal and natural outdoor areas. The landscape design has had careful consideration for how the site interacts with the public domain and adjoining land uses. It provides passive wayfinding, a sense of arrival, softens built form elements and enhances views by framing key visual corridors.

The landscaping incorporates water sensitive urban design by facilitating OSD tanks and overland flow as discussed in **Section 6.5** of this EIS and with appropriate plant species selection.

Surface finishes and materials assist the natural and Country narratives with multi-sensory elements. They have also been selected for their robustness and durability to minimise maintenance and maximise longevity.

6.9 Solar Access and Overshadowing

The proposed built form is limited to two (2) storey new buildings and these will have a minimal impact on the solar access of neighbouring developments. Shadow analysis has been prepared by Architectus **(Figure 45 - Figure 47).**

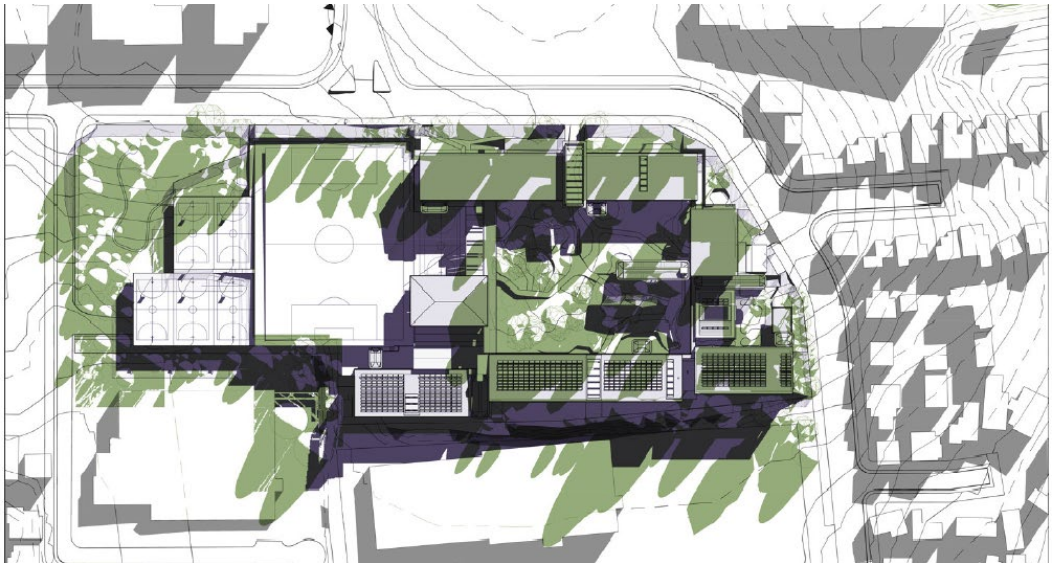

Figure 45 Solar access diagrams as at 9am on winter solstice (Source: Architectus)

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Figure 46 Solar access diagrams as at 12pm on winter solstice (Source: Architectus)

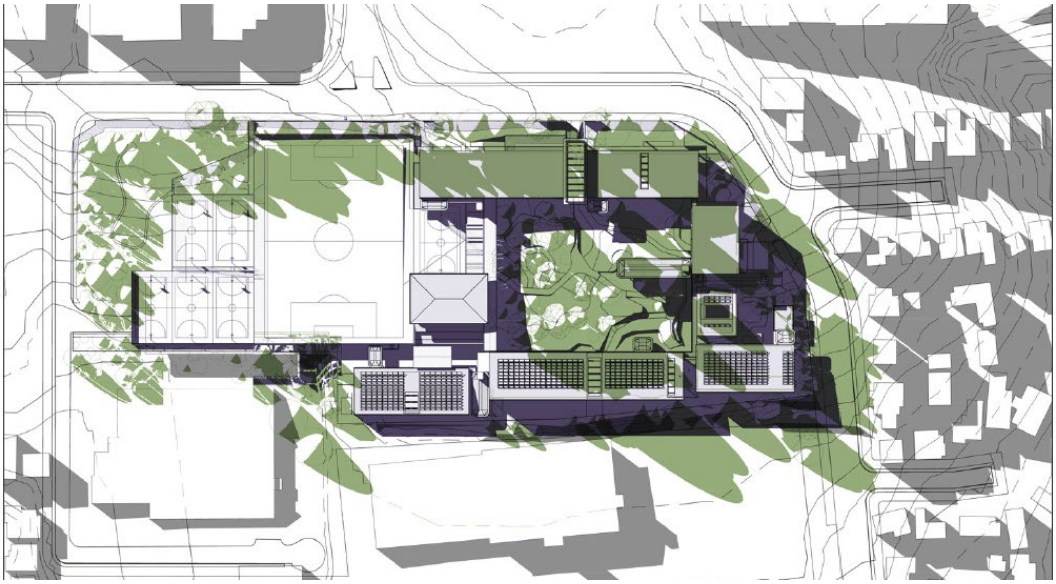

Figure 47 Solar access diagrams as at 3pm on winter solstice (Source: Architectus)

The Architectural Design Report prepared by Architectus (**Appendix G**) provides a solar radiation analysis which has informed the building design, window and wall ratios, shading strategy and façade treatments.

As documented in **Section 6.10** of this EIS, access to natural light, passive environmental design and the efficiency of HVAC systems are significant components of the ESD strategy for the proposal.

6.10 Ecologically Sustainable Development

An Ecologically Sustainable Development Report has been prepared by Steensen Varming (**Appendix M**) to assess how sustainability initiatives have been applied to the proposal and set appropriate benchmark targets including

- Exceeding NCC Section J energy efficiency requirements by 10%;
- Meeting the sustainability requirements outlined in the EFSG; and
- Registering with the Green Building Council of Australia (GBCA) for a formal 5 Star Green Star certification, under the Green Star Design and As Built v1.3 tool.

The proposal also includes the following sustainability measures:

- **Energy and carbon** – passive design with appropriate shading and thermal performance, energy consumption reduction, efficient lighting/HVAC/appliances, and on-site PV system to generate >30% of energy needs.
- **Water Management** – efficient water fixtures, rainwater reuse, drip and demand-controlled irrigation, and drought tolerant landscaping.
- **Materials** – consideration for whole of life environmental impacts, use of responsible materials and construction waste to be diverted from landfill.
- **Emissions** – water sensitive urban design to improve waterway health by replicating the natural water cycle, storm water pollution prevention, and reducing light pollution with directional lighting so not to disturb the habitat of migratory birds and impacts the behaviour of nocturnal animals in the site vicinity.

An example of how natural light is being maximised in the library and visual arts rooms for improved amenity and reduced energy consumption is illustrated in **Figure 48**. Conversely, this employment of raked roofs is being avoided on the northern and western elevations where the sun is harshest to minimise the need for mechanical cooling.

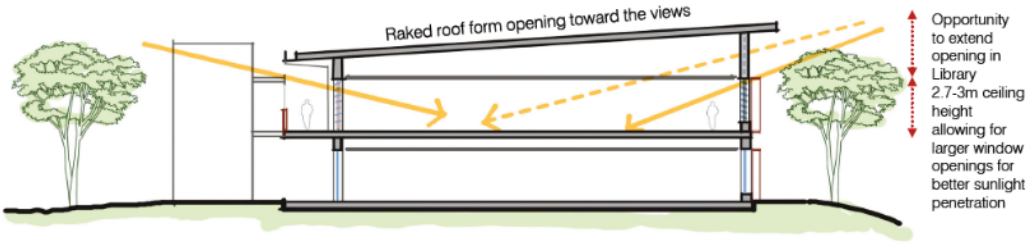

Figure 48 Passive design elements for environmental performance (Source: Architectus)

The proposal has also had consideration for the projected impacts of climate change and plans for adaptation to mitigate risks and improve resilience. Key areas of consideration are temperature increases, extreme weather events including heatwaves and storms, rainfall and drought and bushfire hazard.

As demonstrated in the ESD report, the proposal takes a holistic approach to reducing the overall environmental impact of the campus to achieve long-term sustainability.

6.11 Noise and Vibration

A Noise and Vibration Assessment has been prepared by Resonate (**Appendix P**) to outline the appropriate assessment methodology, impacts, and recommended design responses and mitigation measures for noise and vibration impacts during the construction and operational phases of the proposal. A background noise survey was undertaken in the most impacted (north eastern and south western) corners of the site with attended and unattended noise monitors as shown in **Figure 49**.

The location of loggers was selected to represent the most effected residential receivers adjacent to the site and require the most stringent acoustic requirements. Dwellings located to the east of Allambie Road are fully exposed to traffic noise and are located up to 5 metres from the road. L1 was placed to also be fully exposed to traffic noise but was placed 35 metres from the road in order to provide a quieter background noise level to create a more stringent criteria.

L2 was placed at a similar distance from Allambie Road as the residential receivers on Madison Way. The noise environment at L2 is dominated mostly by local fauna and occasional vehicles which was found to be similar to noise environment at Madison Way. The

logger was located away from any mechanical plant items. Resonate state that L2 location is accurately representative of the noise environment at Madison Way.

During the unattended noise monitoring, there was continuous rain due to the La Nina event throughout November and December 2021. The noise data collected that was not affected by rain or adverse wind conditions is considered to be sufficient to provide the existing background noise levels of the nearest residential receivers.

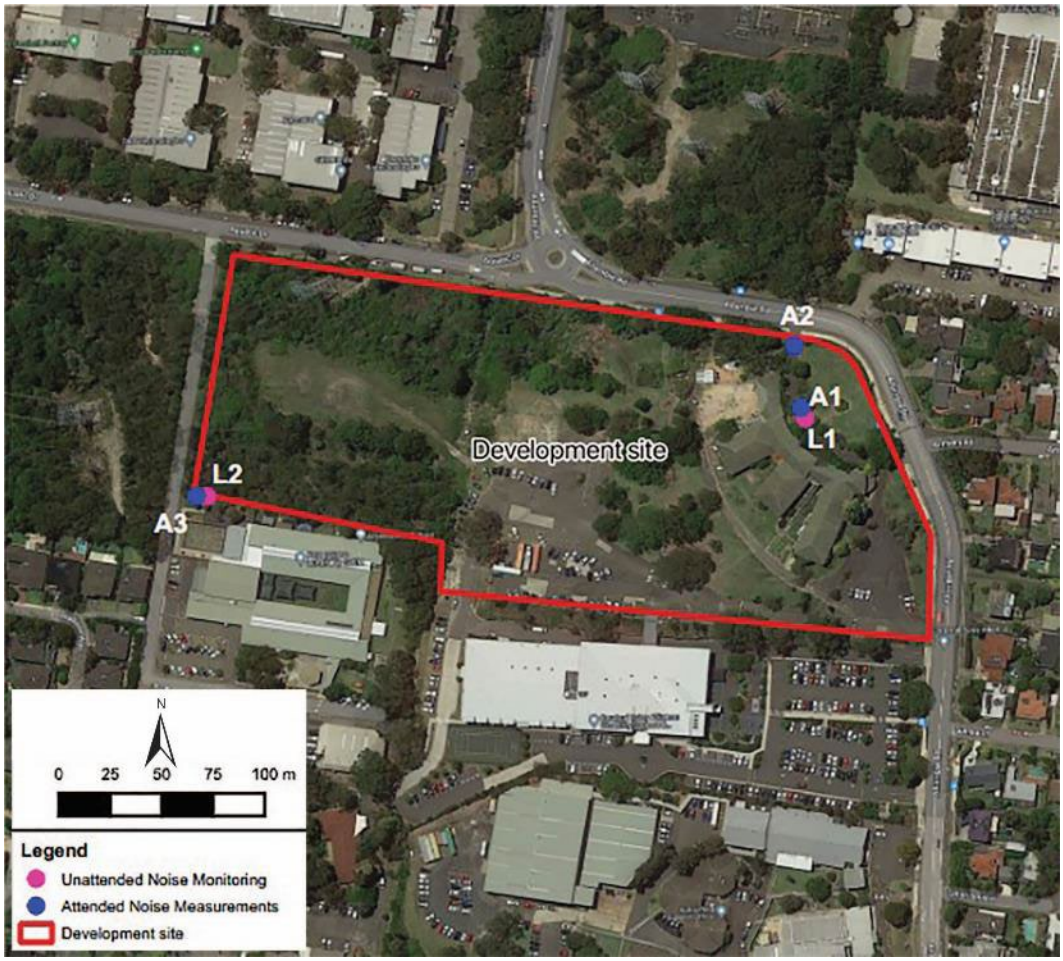

Figure 49 Noise survey locations (Source: Resonate)

The unattended noise monitoring revealed that background and ambient noise levels ranged from 30-45 dB(A) and 44-54 dB(A) respectively. The highest noise level recorded at the attended location 'A2' peaked at 82 dB(A) from traffic noise on Allambie Road. Other predominant sources of noise were other local traffic, distant traffic, local fauna and activities at the Arranounbai School.

6.11.1 Operational Noise and Vibration

Operational noise impacts from the development has been assessed through utilisation of acoustic modelling software. Potential noise impacts from the following three (3) operational scenarios were predicted at the surrounding noise-sensitive receivers:

- Noise impacts from standard operations such as noise from outdoor play areas during standard school hours;
- Noise impacts from OOSH outdoor operations such as noise from outside of school hours events located outdoors in the outdoor areas of the development site; and

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- Noise impacts from OOSH indoor operations such as noise from out-of-school-hours events located within the school's Gymnasium building (Block F) and Movement Studio/Lecture Theatre building (Block G).

Based on this assessment, it is found that noise mitigation measures will be required to ensure that the outdoor activities noise levels achieve compliance with the most stringent noise criterion at the most sensitive receivers being residential dwellings southwest of the site.

Construction of a 2.1-metre high timber lapped and capped fence along the southern and western edges of the sports courts as shown in **Figure 50** is proposed to ensure that the standard hours outdoor activities noise levels comply with the noise criteria.

Figure 50 Location of proposed 2.1 metres lapped and capped timber fence (Source: Resonate)

Though the selection and placement of speakers has not yet been determined, Resonate have modelled the acoustic impacts of a typical public address and school bell system as it might be installed on site. A total of six (6) speakers have been modelled to establish the maximum allowable sound power level of each speaker so that the public address and school bell system would achieve the NPI daytime noise criteria at the surrounding noise sensitive receivers. Appropriate design recommendations have been outlined in the Noise and Vibration Impact Assessment.

Operational noise emissions from mechanical plant and other equipment associated with the development should be designed and located to reduce potential noise impacts from the development at nearby noise-sensitive receivers. It is required that appropriate acoustic treatment options be implemented to achieve compliance with industry standards such as:

- Selection of low-noise mechanical plant and other noise generating equipment;
- Judicious location of mechanical plant and equipment with respect to nearby noise-sensitive receivers;
- Barriers/enclosures around plant rooms; and
- Silencers and acoustically lined ductwork.

The assessment has also considered road traffic noise intrusion from Allambie Road to internal areas of the school buildings and concludes that the relevant noise criteria can be achieved with windows open and with windows closed.

Resonate has conducted a noise impact assessment associated with the proposal. Based on their assessment the proposal is deemed to not cause "Offensive Noise" to neighbouring residences, subject to the implementation of recommended noise control measures. These measures most notably include:

- construction of a 2.1 metre high timber lapped and capped fence along the western and southern boundaries of the Games Court; and
- the external doors to the Movement Studio / Lecture Theatre are closed when events are being carried out in these spaces.

6.11.2 Construction Noise and Vibration

In accordance with relevant guidelines, Resonate has set a construction noise criteria to residential receivers of a maximum of existing background noise level plus 10 dB(A) during standard weekend work hours and existing background noise level plus 5 dB(A) outside of standard hours. Resonate also set a maximum noise level of 45 dB(A) to the classrooms at Arranounbai School.

Table 11 below outlines the project specific construction noise management levels. The maximum noise levels referred to relate to Equivalent Noise Level being the averaged noise level over a 15 minute period. The table refers to noise catchments areas NCA01, NCA02, NCA03, and NCA04, as shown in **Figure 51**.

Table 11 Construction noise management levels

Catchment	Receiver type	Standard hours (Day)	Out-of-hours		
			Day	Evening	Night
NCA1	Residential	47 dB(A)	42 dB(A)_	37 dB(A)	35 dB(A)
NCA2	Residential	47 dB(A)	42 dB(A)_	37 dB(A)	35 dB(A)
NCA2	Education	45 dB(A)	45 dB(A)	45 dB(A)	45 dB(A)
NCA2	Commercial	70 dB(A)	70 dB(A)	70 dB(A)	70 dB(A)
NCA3	Residential	55 dB(A)	50 dB(A)	46 dB(A)	38 dB(A)
NCA4	Industrial	75 dB(A)	75 dB(A)	75 dB(A)	75 dB(A)

Vibration impacts associated with construction works have been considered across three (3) categories: human comfort (annoyance), building damage (cosmetic/structural) and sensitive equipment (scientific/medical). Of these considerations, the human comfort limits are the most stringent. Therefore, for occupied buildings, if compliance with human comfort limits are achieved, it will follow that compliance will be achieved with the building damage objectives. Having undertaken development specific investigations, Resonate have proposed maximum vibration allowances and associated mitigation measures to achieve compliance with relevant standards and best practice.

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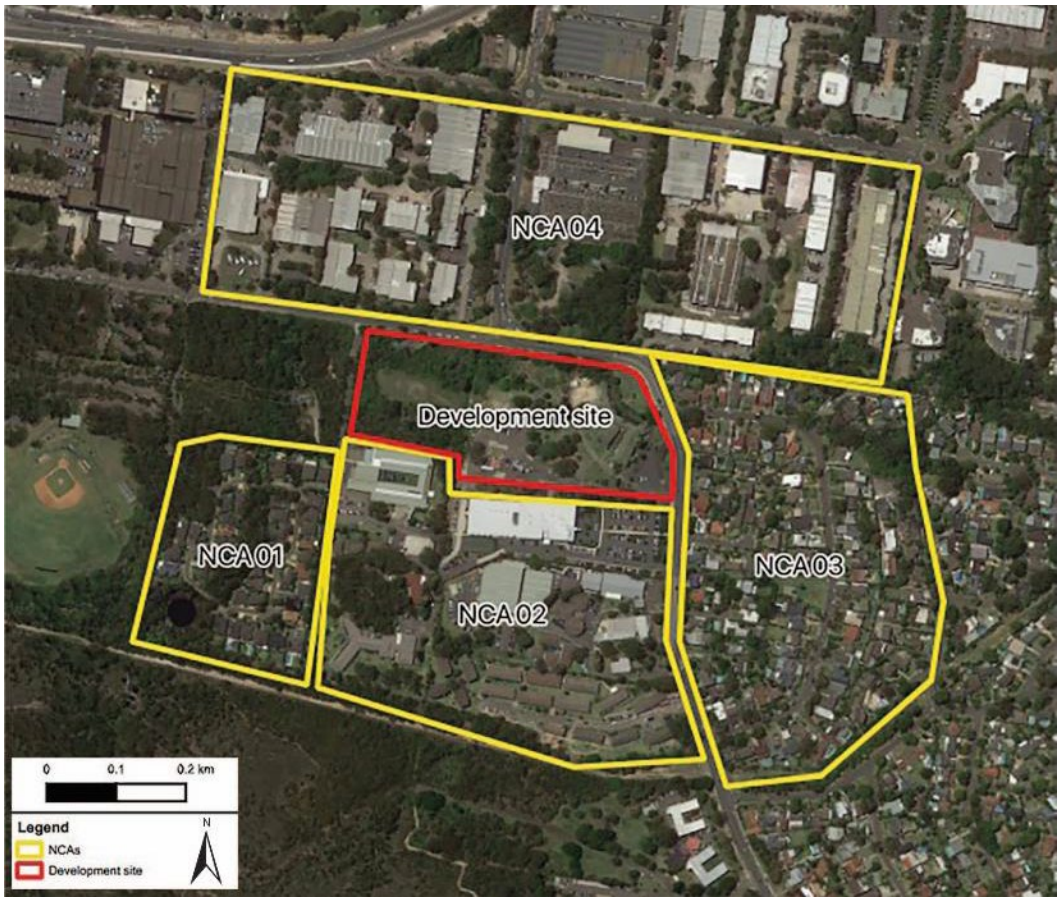

Figure 51 Noise catchment Areas (Source: Resonate)

6.12 Waste Management

6.12.1 Operational Waste

An Operational Waste Management Plan (OWMP) has been prepared by Foresight Environmental (**Appendix Y**) to help implement best practice measures for the ongoing management of waste and recycling at TFHS.

Operational waste is anticipated to include food waste, paper and cardboard, mixed recycling such as plastic, glass, steel and aluminium, as well as general waste. Various specialty waste streams are also anticipated including bulky waste (timber and metal scrap), hazardous wastes (solvents, paints and chemicals), fluoro/globe recycling, battery recycling, confidential documents and vegetation/green waste.

The volume of waste anticipated across common waste streams and the waste storage and collection facilities required are summarised in **Table 12** which demonstrates that the total waste storage capacity of 20.96m^2 proposed exceeds the minimum area required of 11.92m^2.

Specialty waste streams such as chemicals would be stored in appropriate storage cabinets and in safe storage areas and would be collected by specialist contractors directly from storage spaces.

Vegetation/green waste generated from onsite maintenance activities will be managed by grounds staff.

Battery recycling boxes will be present where deemed necessary such as copy rooms and office/study common areas. These boxes will be collected as required by a dedicated contractor.

Table 12 Waste generation and management					
Stream	**Estimated waste volume (litres/week)**	**Bin type**	**Clearance frequency**	**Capacity (litres/week)**	**Waste storage footprint**
Paper/ cardboard	5,234	1 x 1100L 5 x 240L	3 / week 3 / week	3,300 3,600	3.82m^2
Mixed recycling	1,316	1 x 660L	3 / week	1,980	1.05m^2
Food waste	762	3 x 120L	3 / week	1,080	0.81m^2
General waste	6,811	3 x 1100L	3 / week	9,900	3.00m^2
Public place enclosures	n/a	12 x 120L	3 / week	4,320	3.24m^2
Total	**14,123**	**8,060L**		**24,180**	**11.92m^2**

Used toner cartridges will be collected by administration staff and consolidated for collection by specialty cartridge recycler (usually provided by office supplier).

The waste storage area located within the basement car park has been designed to achieve required requirements relating to ventilation, vermin control, access, noise mitigation, lighting, water supply and signage.

The OWMP concludes that the proposed waste facilities adequately cater for the projected waste generation at the school's full operation.

6.12.2 Construction Waste

A Construction Waste Management Plan (CWMP) has been prepared by Foresight Environmental (**Appendix Z**) to detail how waste and recycling associated with the construction of the new TFHS will be managed. The CWMP sets a strategy:

- To maximize the reuse and recycling of demolition materials;
- To reduce the volume of materials going to landfill;
- To maximise waste material avoidance and reuse on site;
- To ensure that where practicable, an efficient recycling procedure is applied to waste materials;
- To ensure efficient storage and collection of waste.

The waste quantities anticipated during construction are summarised in **Table 13** below.

Table 13 Estimated Construction Waste	
Material	**Volume**
Mixed residual waste	250m^3
Concrete	20m^3
Timber	10m^3
Plasterboard	8m^3
Metal	5m^3
Carpet	1m^3
Total	**294m^3**

Concrete waste will be crushed and reused on site as aggregate road base where possible. All other waste types and concrete waste that cannot be reused on site will be collected on site in skip bins or trucks in designated waste storage areas. This waste will be collected by a contractor to be sorted and re-processed at an appropriate facility and will be recycled where possible. Stockpile sizes will be minimised by regular collection and removal.

The CWMP has made a number of recommendations to achieve adequate environmental standards including:

- All waste generated during the project is assessed, classified and managed in accordance with the *Waste Classification Guidelines Part 1: Classifying Waste 2009*;
- The body of any vehicle or trailer, used to transport waste or excavation spoil from the premises, is covered before leaving the premises to prevent any spill or escape of any dust, waste or spoil from the vehicle or trailer;
- Mud, splatter, dust and other material likely to fall from or be cast off the wheels, underside or body of any vehicle, trailer or motorized plant leaving the site, is removed before the vehicle, trailer or motorized plant leaves the premises; and
- Appropriate control measures to eliminate/minimise the airborne emission of dust and fibres, such as:
  - Dust screening barrier around site and relevant areas within site.
  - Cover stockpiles.
  - Water suppression.

6.13 Social Impacts

A Social Impact Assessment (SIA) has been prepared by Mecone (**Appendix DD**) to identify, analyse and assess any likely social impacts of the proposal (both construction and operational), investigate the social equity between varies sectors of the community, and recommend mitigation and enhancement options for key identified social impacts.

The SIA has had consideration of the existing school community and the future school community as well as nearby residents, businesses, construction workers and the wider community.

The SIA finds that there will be a range of social impacts, both positive and negative, ranging from minor to transformative in severity. Some of the most significant impacts identified are:

- Improved health and wellbeing outcomes of staff and students associated with provision of a contemporary school campus with improved facilities. High-quality flexible spaces designed in consultation with key stakeholders will support improved teaching and social opportunities.
- Transformative benefits in terms of improved accessibility for people of all ages and abilities.
- Through considered landscaping and provision of play and open spaces, the new campus will contribute to enhanced physical activity, individual health and community wellbeing.
- Through provision for future shared use these benefits can be experienced by the wider community (through a shared use agreement with Council).
- The School design builds on the existing School's strengths in performance, arts and sport.
- TFHS will continue to be a hub for social connections within the local community.

- Potential for negative noise impacts during school operation hours on surrounding residents and internal school uses.
- Negative operational impacts on the surrounding traffic network during school operation hours.
- Positive impact on the community of recognising First Nations people and respecting Aboriginal elders through design and operation of the school.

The SIA concludes that:

> *"On balance, the transformative positive social impacts expected as a result of the proposed development, on the school community and the wider local community are significant. Anticipated adverse impacts on local residents are associated with the construction, relocation/transition phase and operations phases and should be managed through the implementation of targeted mitigation measures identified in this SIA and the technical reports that accompany the EIS.*
>
> *There will be major short-term and negative social impacts on the school community and local residents as the transition and relocation to the new school occurs. However, these can be mitigated with careful transition planning, management, and induction processes, together with promotion of the School Travel Plan and targeted approaches for key or vulnerable groups.*
>
> *Long term negative impacts on visual amenity and sense of place are unlikely as the revised design integrates with the surrounding development. Most residents are likely to acclimate to the school over time, particularly as the urban design and proposed built form establish a sympathetic and high-quality standard for this developing precinct.*
>
> *Some residents and community members may experience longer term negative social impacts associated with change to sense of place, increasing stress associated with changes to travel and road usage patterns. These potential disruptions to way of life, health and wellbeing should be addressed through the Transition Action Plan and Communications Strategy and an Operational Management Plan if required."*

6.14 Infrastructure and Utilities

6.14.1 Electrical and Communications

An electrical services report has been prepared by DEP (**Appendix EE**) to document the existing electrical infrastructure servicing the site, available services required for the proposal, available load capacity and design requirements for infrastructure and service upgrades.

Transmission lines

Underground 11kV distribution cables owned by Ausgrid run under the site from north to south. The site also contains 33kV overhead transmission cables owned by Ausgrid which run through the site from north to south. Both lines will be diverted underground within a new easement through the site.

The north-eastern corner of the site is traversed by 132kV transmission lines operated by Ausgrid with one (1) pylon tower located on the site. These will be retained in place. Required safety clearances will be achieved between finished ground levels, buildings, vegetation and construction activities and the transmission lines.

Electricity supply

DEP have calculated that the new school campus will draw demand for up to 1,384kVA. It was determined that two (2) x 800kVA kiosk substations would be required to service this demand. The kiosks will be located adjacent to Allambie Road.

Mains power will be supplemented with a 99kW solar PV system will be installed on the roof of Blocks C, D and E.

Communications

The site is serviced by telecom pits and pipes which run under Allambie Road, owned and managed by NBN Co. and Telstra.

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6.14.2 Hydraulics

A hydraulic services report has been prepared by Erbas (**Appendix FF**) to assess the hydraulic servicing of the proposal which include fire hydrant systems. The findings of the report can be summarised as follows:

- **Cold water services** – the site has access to two water mains of differing sizes and pressure profile, one from the north east corner of the site (superior pressure) and the other from the south west. To attain a consistent pressure from the supplying main of 350kPa to all fixtures a pressure pump is recommended. This pump set would likely be located within the carpark storage areas underneath the proposed playing fields.
- **Hot water services** – Details are to be confirmed at a future design stage with input from the engineering and sustainability teams. Preference will be given to single system flow and return reticulation to serve multiple areas.
- **Gas services** – Natural gas is available to the site via a 40mm medium pressure main located on the northern boundary.
- **Sewer, drainage and vents** – The existing sewer connection is anticipated to be retained in place. All other existing new sewer drainage will reticulate to serve the proposed buildings. The new sewer drainage will connect to new waste fixtures and reticulate to the existing sewer connection on the south eastern corner at the boundary of the site. A new sewer overflow relief gully will be provided, and the sewer system shall include connections to all plumbing fixtures and equipment including associated traps, vents and fittings. Drainage vents will extend to roof and terminate through roof to atmosphere within each building. Condensate drainage will be provided to collect condensate from mechanical plant within the plant room areas and any split indoor AC units.
- **Rainwater, catchment and reuse** – Rainwater falling on open and non-trafficable roof catchments will be directed to rainwater storage tanks around the site to be targeted for reuse in line with the sustainability initiatives for the site.
- **Fire hydrant system** – A new fire hydrant booster assembly, fire hydrant pump and reticulated pipework to be installed as required to serve the proposed buildings. The associated booster assembly is located adjacent to the principal vehicular entry as required by the performance standard.
- **Fire hose reel services** – Fire hose reel coverage can be achieved by ensuring all areas of the floor on which it serves can be adequately reached by hydrants with a 36m hose length and four (4) meters nozzle spray, where the hose extends at least one (1) meter into the room it is covering.
- **Fire sprinkler protection** – A sprinkler system is required for the underground car park. A separate Booster will be required adjacent to the hydrant booster, and a fire hydrant and fire sprinkler pump room is required.

The above assessment finds that the site is suitable for development, having regard to utility servicing.

6.15 Other Environmental Issues

An assessment of other environmental issues associated with the proposed development is provided in **Table 13**.

6 Assessment of Impacts

Table 14 Assessment of Other Environmental Issues	
Issue	**Assessment Findings**
Building Code of Australia (BCA)	As evidenced by the BCA and Access Assessment Report prepared by Blackett Maguire + Goldsmith (**Appendix I**), the proposed development can readily achieve compliance with the Building Code of Australia.
Accessibility	The present school is extremely dependant on stairs to access many teaching and other ancillary spaces. The new campus has been designed to provide equitable access for all users with minimal requirements for the use of stairs. A BCA and Access Assessment Report prepared by Blackett Maguire + Goldsmith (**Appendix I)** reviewed the proposal against the relevant Australian Codes and Standards under the Commonwealth Disability Discrimination Act (DDA) and the Building Code of Australia (BCA), and provides advice as to how to improve access for all people. Blackett Maguire + Goldsmith finds that appropriate accessibility outcomes can be achieved subject to the implementation of recommendations and mitigation measures outlined in the report.
Crime Prevention Through Environmental Design	A detailed CPTED Assessment has been carried out in the Architectural Design Report at **Appendix G**, which outlines that the proposed development has been designed having regard to the CPTED principles. The proposed includes the following crime prevention initiatives: • Surveillance – the proposal promotes strong natural surveillance of both the public domain and interior of the site through placement of administration facilities, placement and design of windows, walkway and paths, and an external lighting strategy. Video surveillance is also proposed as detailed in the Electrical Services report at **Appendix EE**; • Territorial re-enforcement – fencing, landscaping, built form and signage to distinguish between the public and private domain. Perimeter fencing has been designed with a separate security line for spaces accessible to the community outside of school hours; • Intruder detection – A detection system comprising of passive infrared detectors, reed switches, terminal keypads, lockable enclosures, a duress alarm system, interfaces for remote monitoring and battery backup will be installed throughout all buildings. • Access control – electronic access control will be provided to all perimeter gates and nominated building entries and will include audio-visual intercoms, gate control panels, motorised gates, electromagnetic locks, card readers, and a battery backup. • the proposed development will utilise physical barriers, including fencing, gates, built form and landscaping to provide access control. Symbolic barriers will be utilised including signage, landscaping, waste servicing areas and natural direction of pedestrian traffic to the administration office.
Wind Impacts	The proposed development is limited to two (2) storeys in height and therefore a wind environmental assessment is not required by the SEARs and is not considered necessary.
Aircraft Noise	The site is not distinctly affected by aircraft noise.
Air Quality	The potential risks to receptors from air emissions from the construction of the proposed development is considered to be low and can be appropriately managed by appropriate mitigation measures (**Appendix E**).
Staging	Construction and occupation staging is not proposed.

6.16 Suitability of the Site for Development

An assessment of the suitability of the site for the proposed development is carried out in **Table 14**.

Table 15 Assessment of Suitability of the Site for Development	
Issue	**Assessment Findings**
Geotechnical	A Geotechnical Investigation Report has been prepared by Tetra Tech Coffey (**Appendix Q**) to document and interpret the results of site investigations and to make recommendations regarding earthworks, retaining structures, footings and other engineering details. The site was generally found to consist of:

6 Assessment of Impacts

Table 15 Assessment of Suitability of the Site for Development	
Issue	**Assessment Findings**
	• Topsoil - sandy and silty clay; • Fill - clay, sandstone gravel, and building rubble; • Residual – hard clay and soft bedrocks; and • Bedrock – grained sandstone with siltstone bands. Based on geotechnical conditions, the proposal will have foundations comprising a combination of at-grade slab, shallow footings and piles.
Groundwater	There is an ephemeral creek which traverses the north western portion of the site. The source of ephemeral first order creeks are located on the slopes to the east and the south of the site. The Geotechnical Investigation Report (**Appendix Q**) documents that groundwater inflows were not observed during the drilling of boreholes, test pits and rock coring.
Acid Sulphate Soils	The Geotechnical Investigations Report prepared by Tetra Tech Coffey (**Appendix Q**) notes, "*A review of the Office of Environment and Heritage, Electronic Soil Profiling Maps (eSPADE) V2.1 [1] indicates that the site is in an area of no known occurrence of Acid Sulfate Soils*".
Contamination	Demolition of the existing McLeod House located in the north eastern corner of the site is being removed in accordance with development approval DA2011/1633. A Preliminary Hazards Analysis prepared by GHD (**Appendix S**) and DSI prepared by Tetra Tech Coffey (**Appendix T**) have identified the likelihood of contamination on site as follow: • Anthropogenic materials were observed in subsurface fill materials broadly across the site, generally including bricks, tile fragments, clay pipes, scrap steel and PVC. • Slight sewage odours also were noted in subsurface soils in borehole BH08 (residual soil >3m bgl) and test pit TP01 (fill material >1.4m bgl). • Asbestos was not observed in subsurface soils across the site, however confirmed Asbestos containing material was identified in pipe lagging (at the toe of the fill embankment in the western portion of the site and fragments of confirmed Asbestos containing material in localised areas surrounding McLeod House. Additional unexpected finds of Asbestos containing material may be present at the site in surface and subsurface soils. • ACM and carcinogenic polycyclic aromatic hydrocarbons have been detected locally within the site and have the potential to pose health risks to construction workers during site development, and users of the school following development where such materials remain exposed in surface soil. • Fill material contains various contaminants of potential concern that pose potential risks to landscaping established in this material as part of the development of the site.

Coffey concludes that the site can be made suitable for the proposed development as per the requirements of the Resilience and Hazards SEPP subject to three (3) recommendations pertaining to gas monitoring, and preparation of RAP and a CMP.

A Landfill Gas and Groundwater Monitoring Report was prepared by Aurecon Australasia (**Appendix U).** It found that there is low risk of exposure to hazardous ground gases on site.

A RAP has been prepared by Aurecon (**Appendix W**). The RAP outlines a strategy to achieve EPA endorsed guidelines for contaminated land, minimise human health and environmental risks, manage hazardous fill materials including asbestos and to render the site suitable.

The RAP outlines appropriate controls and mitigation requirements associated with:

- Site access;
- Surface water, erosion and sedimentation;
- Stockpiles;
- Air quality;
- Dust and particulates;

- Noise;
- Waste;
- Waste transportation;
- Hazardous building materials;
- Underground services;
- Tree and vegetation preservation;
- Performance monitoring;
- Contingency planning; and
- Complaints reporting and resolution.

A CMP has been prepared by Johnstaff (**Appendix X**). The CMP brings together relevant matters for consideration during construction including site management, operating hours, traffic management, noise and vibration, odour control, tree protection, stormwater management, waste management and dust control.

Erosion and sediment control measures have been recommended by Enstruct in their Civil Engineering Report (**Appendix R).**

An Unexpected Finds Procedure has been prepared by Aurecon (**Appendix V**) to be implemented during preparation and construction works for the proposal.

The above assessment and implementation of associated mitigation measures finds that the site is suitable for development, having regard to subsurface conditions and contamination.

6.17 Contributions

Northern Beaches Section 7.12 Contributions Plan 2021 applies to the site. The proposed works are not subject to a specific exemption to the levy specified in Section 21.5 of the Plan.

The proposal seeks to facilitate the relocation of the existing TFHS as a consequence of State and Local strategic planning decisions that seek to utilise the current TFHS campus for a new Town Centre.

As part of the proposal, SINSW will provide significant upgrades to local roads and footpaths including the signalisation of intersection at Aquatic Drive and Allambie Road, a pedestrian crossing, and the widening of existing shared paths, as well as providing a new sports field, sports courts and facilities for community uses.

Section 7.12(1) of the EP&A Act states that:

> *A consent authority **may** impose, as a condition of development consent, a requirement that the applicant pay a levy of the percentage, authorised by a contributions plan, of the proposed cost of carrying out the development.*

Despite the provisions of the adopted plan, the Minister (or DPE delegate), as the consent authority, has the discretion of whether or not to impose a Section 7.12 contribution levy.

Noting the significant upgrades to local infrastructure including roads, footpaths and community spaces that would be provided by the proposal, and noting the works are wholly associated with the relocation of an existing school to provide the existing site for alternative development purposes, it would not be considered reasonable to impose a Section 7.12 contribution condition on any approval for this SSD.

6.18 Public Interest

In accordance with Section 4.15(1)(e) of the EP&A Act, the proposed development is in the public interest as it:

- Will meet the current and future education demands for residents of Frenchs Forest, Allambie and the surrounding catchment area;
- Provides joint use facilities for recreation, creativity and educational use;
- Facilitates the delivery of a new Frenchs Forest Town Centre in line with State and local government planning;
- Will provide high quality learning and teaching spaces with flexible layout arrangements and durable finishes ensuring the proposal operates as a long-life, high utility and low maintenance educational establishment;
- Has been designed in accordance with the visions, objectives and expectations of the community, the Department of Education and design experts;
- Incorporates appropriate design and urban design analysis to ensure the best design outcome is achieved for the site, students and surrounds in the interests of all stakeholders for the long-term;
- Is permissible in the land use zones and is generally consistent with relevant planning controls and legislation;
- Will minimise the potential for environmental amenity impacts through both the construction and operational phases;
- Achieves appropriate environmental performance outcomes in relation to acoustic amenity, traffic movements, stormwater drainage and waste management;
- Protects the highest value vegetation and biodiversity on site where practicable and implements a program of ongoing custodianship of the natural environment;
- Will be provided with adequate connection to necessary infrastructure and servicing to ensure the development operates smoothly at full capacity; and
- Is capable of meeting the deemed to satisfy provisions of the BCA and the spirit and intent of the DDA.

7 Justification of Project

7.1 Economic Impacts

The proposed relocation of The Forest High School is essential to allow the development of the Frenchs Forest Town Centre as envisaged by the Frenchs Forest 2041 Place Strategy, to deliver 5,360 new dwellings and 2,300 new jobs in and around the current school site.

The proposal will also directly create 163 construction jobs (as confirmed by the Quantity Surveyors Report **Appendix H**). The operation of the new high school campus will, at full capacity, employ 120 Full Time Equivalent staff.

The project has weighed up budget cost benefits for the efficient allocation of public money.

There are further economic benefits in the ongoing social and educational outputs of the proposed new high school campus with superior learning, development, sporting, recreation, cultural and accessibility outcomes for students and the community more broadly. These benefits are detailed in the SIA (**Appendix DD**).

7.2 Environmental Impacts

The environmental impact of the proposal has been assessed in detail in **Section 6** of this report.

7.3 Social Impacts

The project will have an overall public benefit to the local community as detailed in the Social Impact Assessment prepared by Mecone (**Appendix DD**). TFHS will continue to provide essential education and community infrastructure in state-of-the-art facilities.

7.4 Statutory Compliance

An assessment of the proposal against the relevant statutory planning considerations as summarised in **Appendix C** and in **Section 4** of this EIS.

Whilst parts of some of the proposed buildings exceed the height of building control under the LEP the proposed two storey building forms with some architectural roof treatments are considered to be appropriate as they are generally consistent with the character of the surrounding area and achieve acceptable amenity outcomes in terms of visual impact, overshadowing, privacy and view sharing.

7.5 Community Views

The project team has carried out consultation in accordance with the SEARs including with community and public authorities. The process and outcome of this consultation is provided in **Appendix D** and **Section 5** of this EIS.

7.6 Impact Mitigation

Environmental impacts of the proposal have been assessed and are capable of mitigation to achieve acceptable levels of impact subject to a number of measures being adopted, as set out in the assessment material supporting this EIS. Mitigation measures proposed under this project are summarised at **Appendix E**.

8 References

Better Placed Design Guide for Schools, Government Architect NSW, 2018.

North District Plan, Greater Sydney Commission, 2018.

Connecting with Country Draft Framework to improve planning, design, and delivery of built environment projects in NSW, Government Architect NSW, 2021.

Draft Greener Places Design Guide, Government Architect NSW, 2020.

Environmental Design in Schools, Government Architect NSW, 2018.

Future Transport Strategy 2056, Transport for NSW, 2021

Greater Sydney Region Plan: A metropolis of three cities, Greater Sydney Commission, 2018.

Greener Places, Government Architect NSW, 2020.

Healthy Urban Development Checklist, NSW Health, 2009.

NSW Planning Guidelines for Walking and Cycling, Transport for NSW, 2021.

NSW Road Noise Policy, NSW Department of Environment, Climate Change and Water, 2011.

NSW State and Premier's priorities, Department of Premier and Cabinet, 2019.

Social Impact Assessment Guidelines for State Significant Projects, Department of Planning and Environment, 2021.

Staying Ahead: State Infrastructure Strategy 2022-2042, Infrastructure NSW, 2022

Sustainable Transport, Green Building Council of Australia, 2015.

Sydney's Bus Future 2013 –simpler, faster, better bus services, Transport for NSW, 2013.

Sydney's Cycling Future 2013 - Cycling for everyday transport, Transport for NSW, 2013.

Sydney's Walking Future 2013 – Connecting people and places, Transport for NSW, 2013.

Towards 2040 Local Strategic Planning Statement, Northern Beaches Council, 2020.

Waste Classification Guidelines Part 1: Classifying Waste, NSW Environment Protection Authority, 2009.