CATHERINE FIELD PRIMARY SCHOOL

Environmental Impact Statement

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Environmental Impact Statement
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Approval for issue

Mina Suh  4 November 2019

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SIGNED DECLARATION

This Environmental Impact Statement (EIS) has been prepared in accordance with Schedule 2 of the *Environmental Planning and Assessment Regulation 2000.*

Environmental Assessment Prepared by:

Name:	Mina Suh (Planning Leader) *Master of Planning, University of Technology Sydney* *Bachelor of Arts, Cultural Anthropology, University of California (Irvine) (Hon 1), USA*
Address:	RPS Group Pty Ltd Level 13, 255 Pitt St Sydney NSW 2000
In respect of:	NSW Department of Education

Applicant and Land Details:

Applicant:	NSW Department of Education
Applicant Address:	105 Phillip Street, Parramatta NSW 2150
Land to be developed	Lot 1001 in DP1234527
Project:	Development of new public primary school to accommodate approximately 1,012 students including classrooms, open spaces and associated facilities.

I certify that I have prepared the contents of this Environmental Impact Statement and to the best of my knowledge, has been prepared as follows:

- In accordance with, and meet the minimum requirements of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*;
- All available information that is relevant to the environmental assessment of the development to which the statement relates; and
- To the best of my knowledge the information contained in this report is neither false nor misleading.

Signature: 

Name: Mina Suh

Date: 04/11/2019

EXECUTIVE SUMMARY

Purpose of this Report

This Environmental Impact Assessment (EIS) has been prepared by RPS for the NSW Department of Education (DoE) in support of State Significant Development Application (SSD) 9477 for the proposed development of New Catherine Field Primary School located at O'Keefe Drive, Oran Park.

This EIS should be read in conjunction with the Secretary's Environmental Assessment Requirements (SEARs) issued on 6 August 2018 (Appendix A), and the supporting technical documents attached at Appendix B to Appendix BB.

The Proposal

The proposed development (herein also referred to as the proposed school) involves a new public primary school that will accommodate 1,012 students. Enrolments will naturally fluctuate depending on population changes and the proposed development will be able to accommodate such fluctuations.

The primary school will consist of 44 classrooms, a hall, an administration/staff centre, library resource centre, amenities and storage, staff car parking and site services.

The proposed development is designed to accommodate the increasing population growth and educational needs of Catherine Field. The location of the primary school is consistent with the Catherine Field (Part) Precinct 'indicative layout plan' and will provide a new school that is easily accessible for the primary school aged population that is anticipated in the Precinct.

Specifically, this EIS seeks development consent for the following works at the site:

- Construction and use of a new educational establishment to accommodate approximately 1,012 students including:
    - General learning areas
    - Multipurpose hall
    - Covered Outdoor Learning Areas (COLA)
    - Administration area
    - Staff area including amenities
    - Student amenities
    - Library
    - Canteen
    - Storage
    - Assembly court
    - Landscaping
    - Pedestrian circulation
    - Vehicle circulation, bulk waste pad, staff car parking, bus zone and bicycle storage area
    - Internal open space.

The Site

The site on which the proposed development is located on O'Keefe Drive near the intersection with Banfield Drive in Oran Park within the Camden Council Local Government Area (LGA). It is located approximately 50 kilometres southwest of the Sydney Central Business District (CBD), 35 kilometres southwest of Paramatta CBD and 20 kilometres south of the proposed Western Sydney Airport.

The site is legally described as Lot 1001 in Deposited Plan (DP) 1234527. It is currently vacant and cleared of structures and vegetation with a total site area of 20,810m^2.

Assessment

This EIS assessed the proposed development under the relevant statutory planning and policy provisions and, and applicable SEARs received from the Department of Planning, Industry and Environment (DPIE, formerly the Department of Planning and Environment) issued on 6 August 2018. The key environmental considerations that have been assessed as part of this EIS are:

- Built Form and Urban Design
- Environmental Amenity
- Transport and Accessibility
- Ecologically Sustainable Development
- Social Impacts
- Heritage
- Noise and Vibration
- Contamination
- Utilities
- Drainage
- Flooding
- Bushfire
- Biodiversity
- Sediment, Erosion and Dust
- Waste Management.

As part of this assessment, related consultation with government agencies and other public authorities was completed. The proposed development meets all relevant requirements of State, regional and local policies.

As detailed within Section 6 of this EIS, the proposed development demonstrates that all applicable onsite and offsite environmental impacts have been carefully considered and addressed. Environmental mitigation measures are outlined in Section 9.

Risk assessment

An assessment of the key issues outlined above and other significant issues are identified in a risk assessment provided at Section 8. This considers baseline data, consideration of cumulative impacts and measures to avoid, minimise and offset predicted impacts.

Capital Investment Value and Planning Framework

Pursuant to Clause 15 (1) of the *State Environmental Planning Policy (State and Regional Development) 2011,* development identified under Clause 15 Education Establishments:

> *(1) Development for the purpose of a new school (regardless of the capital investment value).*
>
> *(2) Development that has a capital investment value of more than $20 million for the purpose of alterations or additions to an existing school.*
>
> *(3) Development for the purpose of a tertiary institution (within the meaning of State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017), including associated research facilities, that has a capital investment value of more than $30 million.*

As requested in the SEARs, a detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation) of the proposal is to be included as part of this EIS.

A detailed calculation of the proposed development's CIV has been provided via a Quantity Surveyors report outlined in Appendix D. This confirms:

- A CIV Calculation of $45,328,034 (ex. GST); and
- 355 estimated jobs that will be created by the future development during the construction phase of the development

Justification

The proposed development is justified for the following reasons:

- The proposed school will support Greater Sydney's rising population and reduce pressure on other neighbouring local primary schools in the Oran Park region
- The proposed school adheres to the requirements of environmental planning instruments and policies, state and local planning legislation, regulation and policies
- The proposed development addresses the issues identified within the SEARs
- The proposed development will result in minimal environmental impacts to the surrounding area and will be beneficial to the community of Oran Park
- This EIS has been assessed under the relevant statutory planning and policy provisions and addressed the applicable SEARs issued 6 August 2018
- As detailed in Section 7 of this EIS, the proposed development demonstrates that applicable onsite and offsite environmental impacts have been carefully considered and addressed. The proposed development would not result in significant environmental impacts to the surrounding environment
- Environmental mitigation measures have been proposed to reduce environmental impacts, and based on this assessment, and implementation of mitigation measures, the proposed school is warranted for approval.

SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

On behalf of the NSW Department of Education, City Plan Services requested the SEARs for the construction of the proposed school on 13 July 2018. DPIE (then Department of Planning and Environment) issued the SEARs on 6 August 2018.

Table 1 below provides the SEARs issued for the proposed development alongside a brief description of how the proposed development will achieve each requirement.

Table 1: SEARs Requirement

SEARs Requirement	Comment/Description
General Requirements	
The Environmental Impact Statement (EIS) must be prepared in accordance with, and meet the minimum requirements of, clauses 6 and 7 of Schedule 2 the *Environmental Planning and Assessment Regulation 2000* (the Regulation). Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development. Where relevant, the assessment of the key issues below, and any other significant issues identified in the risk assessment, must include: • adequate baseline data • consideration of potential cumulative impacts due to other development in the vicinity (completed, underway or proposed) and measures to avoid, minimise and if necessary, offset the predicted • impacts, including detailed contingency plans for managing any significant risks to the environment. The EIS must be accompanied by a report from a qualified quantity surveyor providing: • a detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the Regulation) of the proposal, including details of all assumptions and components from which the CIV calculation is derived • an estimate of the jobs that will be created by the future development during the construction and operational phases of the development and • certification that the information provided is accurate at the date of preparation.	The EIS has been prepared in accordance with the Secretary's Requirements and meets the minimum requirements specified in Schedule 2 of the *Environmental Planning and Assessment Regulation 2000.* The EIS includes a comprehensive assessment of the environmental risks and impacts associated with the development.
Key Issues	
The EIS must address the following specific matters: **1. Statutory and Strategic Context** Address the statutory provisions contained in all relevant environmental planning instruments, including: • *Biodiversity Conservation Act 2016* • *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* • *State Environmental Planning Policy (State & Regional Development) 2011* • *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* • *State Environmental Planning Policy No. 64 – Advertising and Signage* • *State Environmental Planning Policy No.55 – Remediation of Land* • *Sydney Regional Environmental Plan No.20 – Hawkesbury-Nepean River* • *Draft State Environmental Planning Policy (Remediation of Land)* and	Refer to Section 5.

• *Draft State Environmental Planning Policy (Environment)* *Permissibility* Detail the nature and extent of any prohibitions that apply to the development. *Development Standards* Identify compliance with the development standards applying to the site and provide justification for any contravention of the development standards.	
2. Policies Address the relevant planning provisions, goals and strategic planning objectives in the following: • NSW State Priorities • The Greater Sydney Region Plan, A Metropolis of Three Cities • Future Transport Strategy 2056 • State Infrastructure Strategy 2018 – 2038 Building the Momentum • Sydney's Cycling Future 2013 • Sydney's Walking Future 2013 • Sydney's Bus Future 2013 • Crime Prevention Through Environmental Design (CPTED) Principles • Healthy Urban Development Checklist, NSW Health • Better Placed: An integrated design policy for the built environment of New South Wales (GANSW, 2017) • Greater Sydney Commission's Western City District Plan • Camden City Council Growth Centre Precincts Development Control Plan 2017 and • Camden Development Control Plan 2011	Refer to Section 4
3. Operation • Provide details of the proposed school operations, including staff and student numbers, school hours of operation, and operational details of any proposed before/after school care services and/or community use of school facilities. • Provide a detailed justification of suitability of the site to accommodate the proposal.	Refer to Section 3.11
4. Built Form and Urban Design • Address the height, density, bulk and scale, setbacks and interface of the proposal in relation to the surrounding development, topography, streetscape and any public open spaces. • Address design quality and built form, with specific consideration of the overall site layout, streetscape and public domain upgrades, open spaces, façade, rooftop, massing, setbacks, building articulation, materials and colours. • Provide details of any digital signage boards, including size, location and finishes. • Clearly demonstrate how design quality will be achieved in accordance with Schedule 4 Schools – Design Quality Principles of State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 and the GANSW Design Guide for Schools. • Detail how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development. • Provide detailed site and context analysis to justify the proposed site planning and design approach including massing options and preferred strategy for future development. • Provide a detailed site-wide landscape strategy, including consideration of equity and amenity of outdoor play spaces, and integration with built form, security, shade, topography and existing vegetation.	Refer to Section 3.3 and Appendix B and Appendix E.

• Provide a visual impact assessment that identifies any potential impacts on the surrounding built environment and landscape including views to and from the site and any adjoining heritage items. • Address Crime Prevention Through Environmental Design Principles. • Demonstrate good environmental amenity including access to natural daylight and ventilation, acoustic separation, access to landscape and outdoor spaces and future flexibility.	
5. Environmental Amenity • Assess amenity impacts on the surrounding locality, including solar access, visual privacy, visual amenity, overshadowing and acoustic impacts. • Conduct a view analysis to the site from key vantage points and streetscape locations (photomontages or perspectives should be provided showing the building envelope and likely future development). • Include a lighting strategy and detail measures to reduce spill into the surrounding sensitive receivers. • Identify any proposed use of the school outside of school hours (including weekends) and assess any resultant amenity impacts on the immediate locality and proposed mitigation measures. • Detail amenity impacts including solar access, acoustic impacts, visual privacy, view loss, overshadowing and wind impacts. A high level of environmental amenity for any surrounding residential land uses must be demonstrated.	Refer to Section 6.2 and Appendix B and Appendix E.
6. Staging Provide details regarding the staging of the proposed development (if any)	Refer to Section 3.10
7. Transport and Accessibility Include a transport and accessibility impact assessment, which details, but is not limited to the following: • accurate details of the current daily and peak hour vehicle, existing and future public transport networks and pedestrian and cycle movement provided on the road network located adjacent to the proposed development • details of estimated total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and bicycle trips based on surveys of the existing and similar schools within the local area • the adequacy of existing public transport or any future public transport infrastructure within the vicinity of the site, pedestrian and bicycle networks and associated infrastructure to meet the likely future demand of the proposed development • measures to integrate the development with the existing/future public transport network • the impact of trips generated by the development on nearby intersections, with consideration of the cumulative impacts from other approved developments in the vicinity, and the need/associated funding for, and details of, upgrades or road improvement works, if required (Traffic modelling is to be undertaken using SIDRA network modelling for current and future years) • the identification of infrastructure required to ameliorate any impacts on traffic efficiency and road safety impacts associated with the proposed development, including details on improvements required to affected intersections, additional school bus routes along bus capable roads (i.e. minimum 3.5 m wide travel lanes), additional bus stops or bus bays • assessment of the travel needs for teachers and students on each mode of transport and associated parking / pick-up and set down areas • traffic and parking management plan demonstrating safe and orderly movement of vehicles to/from the school • details of travel demand management measures to minimise the impact on general traffic and bus operations, including details of a location-specific sustainable travel plan (Green Travel Plan and specific	Refer to Section 3.6, Section 6.4 and Appendix I.

Workplace travel plan) and the provision of facilities to increase the non-car mode share for travel to and from the site • the proposed walking and cycling access arrangements and connections to public transport services • the proposed access arrangements, including car and bus pick-up/drop-off facilities, and measures to mitigate any associated traffic impacts and impacts on public transport, pedestrian and bicycle networks, including pedestrian crossings and refuges and speed control devices and zones • proposed bicycle parking provision, including end of trip facilities, in secure, convenient, accessible areas close to main entries incorporating lighting and passive surveillance • proposed number of on-site car parking spaces for teaching staff and visitors and corresponding compliance with existing parking codes and justification for the level of car parking provided on-site • an assessment of the cumulative on-street parking impacts of cars and bus pick-up/drop-off, staff parking and any other parking demands associated with the development. The assessment must consider the impacts of any mandatory parking restrictions associated with proposed pedestrian safety facilities (such as pedestrian crossing, school crossing or similar) • an assessment of road and pedestrian safety to / from the school and adjacent to the proposed development and the details of required road safety measures and personal safety in line with CPTED • emergency vehicle access, service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times) • details of the future Secondary Road 610 and 3301 including design, responsible delivery party(ies), expected completion date and interim accessibility measures (if required) • the preparation of a preliminary Construction Traffic and Pedestrian Management Plan to demonstrate the proposed management of the impact in relation to construction traffic addressing the following: – assessment of cumulative impacts associated with other construction activities (if any) – an assessment of road safety at key intersection and locations subject to heavy vehicle construction traffic movements and high pedestrian activity – details of construction program detailing the anticipated construction duration and highlighting significant and milestone stages and events during the construction process – details of anticipated peak hour and daily construction vehicle movements to and from the site – details of on-site car parking and access arrangements of construction vehicles, construction workers to and from the site, emergency vehicles and service vehicle and – details of temporary cycling and pedestrian access during construction. <u>Relevant Policies and Guidelines:</u> • Guide to Traffic Generating Developments (Roads and Maritime Services) • EIS Guidelines – Road and Related Facilities (DoPI) • Cycling Aspects of Austroads Guides • NSW Planning Guidelines for Walking and Cycling • Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development • Standards Australia AS2890.3 (Bicycle Parking Facilities) • Roads and Maritime Services Technical Directions	
8. Ecologically Sustainable Development (ESD)	Refer to Section 3.3.4 and Appendix N.

• Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Regulation) will be incorporated in the design and ongoing operation phases of the development. • Include preliminary consideration of building performance and mitigation of climate change, including consideration of Green Star Performance. • Include a description of the measures that would be implemented to minimise consumption of resources, water (including water sensitive urban design) and energy. • Provide a statement regarding how the design of the future development is responsive to the CISIRO projected impacts of climate change. Specifically: – Hotter days and more frequent heatwave events – Extended drought periods – More extreme rainfall events – Gustier wind conditions and – How these will inform landscape design, material selection and social equity aspects(respite/shelter areas) <u>Relevant Data and Guidelines:</u> • NSW and ACT Government Regional Climate Modelling (NARCliM) climate change projections are used to inform the building design • OEH (2015) Urban Green Cover in NSW Technical Guidelines	
9. Social Impacts • Include an assessment of the social consequences of the schools' relative location and decanting activities if proposed. • Provide details on accessibility and inclusiveness of the proposal for people of differing needs and capabilities. • Identify and describe how facilities are to be shared with the community outside of school hours.	Refer to Section 7.5.
10. Heritage • Provide a statement of significance and an assessment of the impact on the heritage significance of the heritage items on the site and neighbouring the site in accordance with the guidelines in the NSW heritage manual. • Address any archaeological potential and significance on the site and the impacts the development may have on this significance.	Refer to Section 6.6 and Appendix Y.
11. Noise and Vibration • Identify and provide a quantitative assessment of the main noise and vibration generating sources during demolition, site preparation, bulk excavation, construction. Outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land. • • Identify and assess operational noise, including consideration of any public-address system, school bell, mechanical services (e.g. air conditioning plant), use of any school hall for concerts etc. (both during and outside school hours) and any out of hours community use of school facilities, and outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land. <u>Relevant Policies and Guidelines:</u> • NSW Noise Policy for Industry 2017 (EPA) • Interim Construction Noise Guideline (DECC) • Assessing Vibration: A Technical Guideline 2006 • Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning 2008)	Refer to Section 6.3 and Appendix M.
12. Contamination • Assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP 55. • Undertake a hazardous materials survey of any existing structures and infrastructure prior to any demolition or site preparation works.	Refer to Section 5.6, 5.8 and Appendix Q.

Relevant Policies and Guidelines: • Managing Land Contamination: Planning Guidelines - SEPP 55 Remediation of Land (DUAP)	
13. Utilities • Prepare an Infrastructure Management Plan in consultation with relevant agencies, detailing information on the existing capacity and any augmentation and easement requirements of the development for the provision of utilities including staging of infrastructure. • Prepare an Integrated Water Management Plan detailing any proposed alternative water supplies, proposed end uses of potable and non-potable water, and water sensitive urban design.	Refer to Section 3.8 and Appendix T.
14. Drainage • Detail measures to minimise operational water quality impacts on surface waters and groundwater. • Provide stormwater plans detailing the proposed methods of drainage without impacting on the downstream properties and environmentally sensitive areas. Relevant Policies and Guidelines: • Guidelines for development adjoining land and water managed by DECCW (OEH, 2013)	Refer to Section 3.9 and Appendix G.
15. Flooding Identify any flood risk on-site (detailing the most recent flood studies for the project area) and consideration of any relevant provisions of the NSW Floodplain Development Manual (2005), including the potential effects of climate change, sea level rise and an increase in rainfall intensity. If there is a material flood risk, include design solutions for mitigation.	The site is not identified as being on flood prone land and therefore no specific assessment was completed.
16. Bushfire Address bushfire hazard and, if relevant, prepare a report that addresses the requirements for Special Fire Protection Purpose Development as detailed in Planning for Bush Fire Protection 2006 (NSW RFS).	Refer to Section 6.9 and Appendix R.
17. Biodiversity Assessment • Identify and address the requirements of the Biodiversity Conservation Act 2016 relevant to the State significant development application. • Where a Biodiversity Development Assessment Report is not required, engage a suitably qualified person to assess and document the flora and fauna impacts related to the proposal. • If the site is within an area to which a Biodiversity Certification Order has been issued, evidence of this Order is to be provided. Where the land is subject to a Biodiversity Certification Order, evidence of this Order and the terms is to be provided. *Note: The Biodiversity Conservation Act 2016 requires that State Significant Development Applications be accompanied by a Biodiversity Development Assessment Report unless otherwise prescribed.*	Refer to Section 5.1, 6.10, and Appendix S.
18. Sediment, Erosion and Dust Controls • Detail measures and procedures to minimise and manage the generation and off-site transmission of sediment, dust and fine particles. • Site preparation, bulk excavation and construction phase erosion and sediment control and management, including all such measures as may be necessary to prevent pollution of South Creek and its tributaries. Relevant Policies and Guidelines: • Managing Urban Stormwater – Soils & Construction Volume 1 2004 (Landcom) • Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA) • Guidelines for development adjoining land and water managed by DECCW (OEH, 2013)	Refer to Section 6.11 and Appendix G.

19. Waste Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.	Refer to Section 3.7, 6.13 and Appendix W.
20. Construction Hours Identify proposed construction hours and provide details of the instances where it is expected that works will be required to be carried out outside the standard construction hours.	Refer to Section 3.10.2, Appendix K.
Plans and Documents	
The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Regulation. Provide these as part of the EIS rather than as separate documents. In addition, the EIS must include the following: • Architectural drawings showing key dimensions, RLs, scale bar and north point, including: – plans, sections and elevation of the proposal at no less than 1:200 showing indicative furniture layouts and program – illustrated materials schedule including physical or digital samples board with correct proportional representation of materials. Nominated colours and finishes – details of proposed signage, including size, location and finishes – detailed annotated wall sections at 1:20 scale that demonstrate typical cladding, window and floor details including materials and general construction quality – site plans and operations statement demonstrating the afterhours and community use strategy • Site Survey Plan, showing existing levels, location and height of existing and adjacent structures / buildings site boundaries and remnant • Site Analysis plan, including: – Site and context plans that demonstrate principles for future development and expansion, built form character and open space network – Active transport linkages with existing, proposed and potential footpaths and bicycle paths and public transport links – Site and context plans that demonstrate principles for future network, active transport linkages with existing, proposed and potential footpaths and bicycle paths and public transport links • Sediment and Erosion Control Plan • Shadow Diagrams • View Analysis/Photomontages and architectural renders, including those from public vantage points • Landscape architectural drawings showing key dimensions, RLs, scale bar and north point, including: Integrated landscape plans at appropriate scale, with detail of new and retained planting, shade structures, materials and finishes proposed including articulation of playground spaces – plan identifying significant trees and vegetation, trees or to be removed and trees or vegetation to be retained or transplanted • Design Report to demonstrate how design quality will be achieved in accordance with the above Key Issues including – architectural design statement – diagrams, structure plan, illustrations and drawings to clarify the design intent of the proposal – detailed site and context analysis – analysis of options considered including building envelope study to justify the proposed site planning and design approach	Contained throughout EIS and within Appendices.

– visual impact assessment identifying potential impacts on the surrounding built environment and adjoining heritage items – summary of feedback provided by GANSW and NSW State Design Review Panel (SDRP) and response to this advice – summary report of consultation with the community and response to any feedback provided • Sustainability Report including outline of sustainability • Stormwater Concept Plan and Stormwater Management Plan • Flood Report prepared in accordance with Council's Flood Risk Management Policy (if required) • Preliminary Construction Management Plan, inclusive of a Preliminary Construction Traffic Management Plan detailing vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures • Geotechnical and Structural Report • Accessibility Report • Arborist Report • Waste Management Plan • Fire Safety Measures Schedule • Salinity Investigation Report • Acid Sulphate Soil management plan (if required) and • Green Travel Plan.	
Consultation	
During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups, special interest groups including local Aboriginal land councils and registered Aboriginal stakeholders, and affected landowners. You must consult with: • Camden City Council • Government Architect NSW (through the NSW SDRP process) (GANSW) • Office of Environment and Heritage (OEH) • Transport for NSW (TfNSW) and • Roads and Maritime Services (RMS) Consultation with Council, GANSW, OEH, RMS and TfNSW should commence as soon as practicable to agree the scope of investigation. The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.	See Section 7 and Appendix AA.
Further consultation after 2 years	
If you do not lodge a development application and EIS for the development within two years of the issue date of these SEARs, you must consult further with the Secretary in relation to the preparation of the EIS.	Acknowledged.
References	
The assessment of the key issues listed above must consider relevant guidelines, policies, and plans as identified.	Acknowledged.

1 INTRODUCTION

1.1 Overview

This Environmental Impact Assessment (EIS) has been prepared by RPS Group Pty Ltd on behalf of the New South Wales Department of Education (Applicant) in support of State Significant Development Application (SSD) 9477 for the proposed development of New Catherine Field Primary School.

Specifically, this EIS seeks development consent for the following works at the site:

- Construction and use of a new educational establishment to accommodate 1,012 students with the potential to cater for potential fluctuations with enrolments associated with population changes. The Proposed development will include:
    - General learning areas
    - Multipurpose hall
    - Covered Outdoor Learning Areas (COLA)
    - Administration area
    - Staff area including amenities
    - Student amenities
    - Library
    - Canteen
    - Storage
    - Assembly court
    - Landscaping
    - Pedestrian circulation
    - Vehicle circulation, bulk waste pad, staff car parking, bus zone and bicycle storage area
    - Internal open space.

1.2 Project Context and Background

The NSW Government is investing $6 billion within the next 4 years to deliver more than 170 new and upgrades to schools to support communities throughout NSW. Subsequently, existing schools across NSW are experiencing substantial enrolment pressure, resulting in overcrowding.

Oran Park is a suburb experiencing significant urban and population growth. In response, the Department of Education (DoE) has proposed a new primary school in Oran Park with flexible learning spaces and reducing pressure on other local primary schools.

On behalf of the Department of Education, City Plan Services requested the SEARs for the construction of a new Public School at O'Keefe Drive, Oran Park on 13 July 2018. The SEARs were issued by the Department, Industry and Environment (DPIE, then Department of Planning and Environment) on 6 August 2018. This EIS addresses each of the SEARs.

1.3 Report Structure

This EIS provides the following:

- **Section 1:** An introduction to the purpose of the EIS
- **Section 2:** A description of the site and surrounding context
- **Section 3:** A detailed description of the proposed development
- **Section 4:** An assessment of the proposed development against the relevant strategic planning policies
- **Section 5:** An assessment of the proposed development against the relevant statutory planning controls
- **Section 6:** An assessment of the key issues and impacts generated by the proposed development
- **Section 7:** A detailed description of the consultation undertaken with respect to the proposed development
- **Section 8:** An outline of key recommendations and mitigation measures.
- **Section 9:** Conclusion.

This EIS should be read in conjunction with the Secretary's Environmental Assessment Requirements attached (Appendix A) along with the supporting documents outlined in Section 1.4.

1.4 Project Team

Specialist consultants were engaged to assist with the preparation of this EIS, including:

Deliverable	Consultant	Appendix
Architecture	Perumal Pedavoli Architects	B
Site Survey	Kim Francis Murphy Calibre Consulting	C
Quantity Surveyors Report	MBM	D
Design Analysis Report	Perumal Pedavoli Architects	E
Landscape Drawings	Taylor Brammer	F
Civil Drawings	Northrop	G
Structural Drawings	Northrop	H
Traffic Impact Assessment	ASON Group	I
Green Travel Plan	ASON Group	J
Construction Management Plan	Hansen Yuncken	K
Construction Traffic Management Plan	ASON Group	L
Acoustic Report	Northrop	M
ESD Report	Steensen Varming	N
Aboriginal Assessment	Kelleher Nightingale	O
Geotechnical Report	JK Geotechnics	P
Contamination Report	EIS	Q
Bushfire Report	Peterson Bushfire	R
BDAR Waver Request	Narla Environmental	S
Infrastructure Management Plan	Hansen Yuncken	T
Accessibility Report	Du Chateau Chun	U

BCA Report	Group DLA	V
Waste Management Plan	Environmental management Pty Ltd	W
Water Conservation	Wollacotts	X
Heritage Report	City Plan Services	Y
Risk Management Report	Hansen Yuncken	Z
Engagement Report	Hansen Yuncken	AA
Visual Impact Statement	RPS	BB

2 THE SITE AND SURROUNDING CONTEXT

2.1 Subject Site

The proposed development is located in the suburb Oran Park on a lot bounded by O'Keefe Drive to the west, secondary roads which will undergo construction in the future to the south and east and future green space to the north. The site for the proposed development is legally described as Lot 1001 in Deposited Plan (DP) 1234527.

It is located within the Catherine Field Precinct in the local government area (LGA) of Camden and is part of the South West Priority Growth Area. The site has an area of approximately 20,810m^2 and forms an irregular rectangle shape. The site is situated approximately 50kms southwest of the Sydney Central Businesses District (CBD), 35 kms southwest of Parramatta CBD, 9km southwest of Camden Town Centre, and 12km southeast of Campbelltown CBD.

The site encompasses:

- **Existing development:** Vacant, cleared area of land devoid of structures and vegetation.
- **Gradient:** Falls from west to east consistently 1 in every 35m resulting in 4m overall across the site.
- **Access:** The site's primary access is provided from O'Keefe Drive. Other access points are proposed from the two proposed secondary roads to the south and east of the site.
- **Total Site Area:** 20,810m^2.

The site is zoned R2 Low Density Residential under the *State Environmental Planning Policy (Sydney Region Growth Centres*) *2006* (Growth Centres SEPP). The site is part of the Catherine Fields (Part) Precinct and the anticipated land use pattern under the precinct's Indicative Layout Plan is in Figure 3, including the general future surrounding road network.

Further discussion of the statutory land use and objectives are provided in Section 5.

Figure 1 Future roads and built form

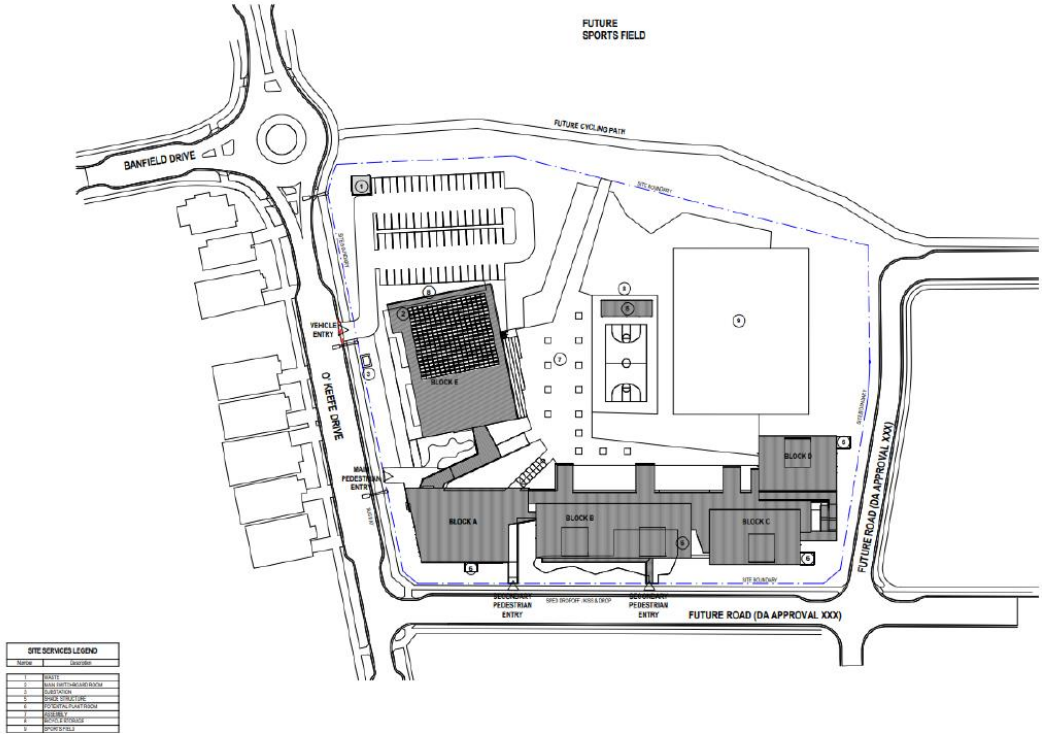
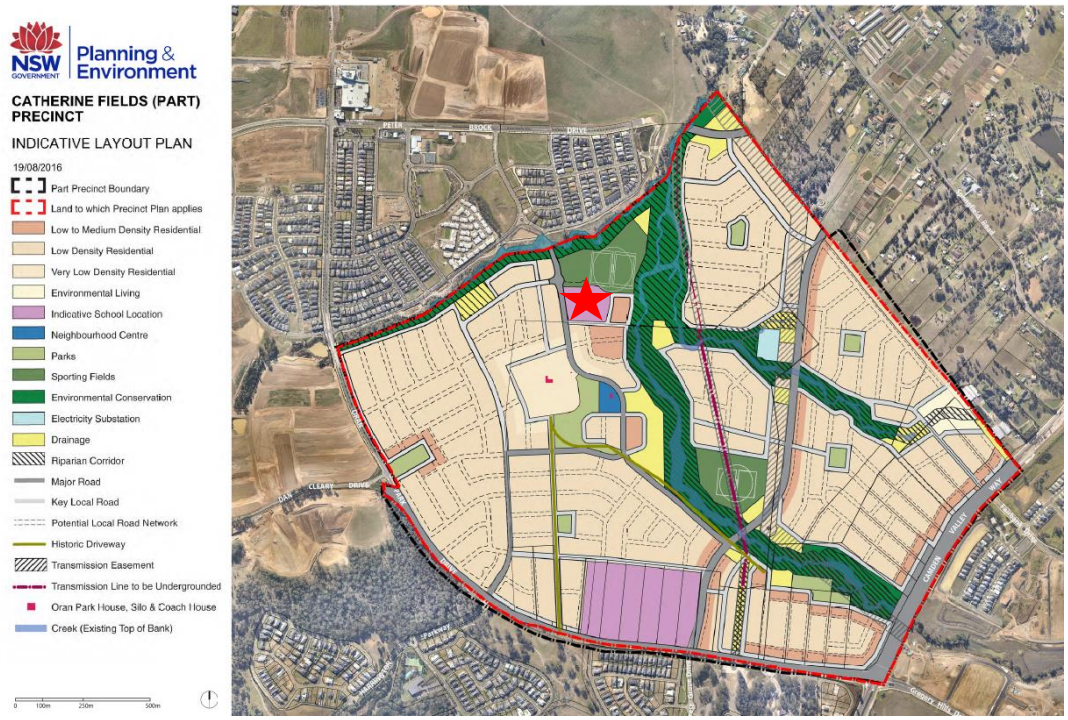


Figure 2: The site

Source: SixMaps

Figure 3: Surrounding land use context



Source: NSW Department of Planning, Industry and Environment

2.2 Existing development

The existing site forms a single allotment situated on a greenfield site. No existing building infrastructure is present. The land is vacant and cleared surrounded by low-density residential housing towards the west of O'Keefe Drive. The total site area is approximately 20,810m^2. Access to the site is via O'Keefe Drive.

Figure 4: Existing site photos

Source: Perumal Pedavoli Architects

2.3 Topography

The gradient of the land falls from west to east, with a 4m cross-fall.

The site is located in gently undulating plains within the meandering river systems of the Nepean River and its associated feeder streams. The site itself has a gentle slope towards the north-east at approximately 2-3 degrees. See Appendix C for Site Survey.

2.4 Site Access

Current access to the site is currently provided via O'Keefe Drive.

2.5 Flora and Fauna

Biodiversity Assessors from Narla Environmental carried out a biodiversity assessment of the flora and fauna values on the site on 12 September 2018. The following describes the existing flora and fauna.

2.5.1 Flora

A total of 15 flora species across the subject site. These were all common groundcovers which are typical of derived pasture and included 14 exotic herbs and grasses and one native herb.

2.5.2 Fauna

Two (2) fauna species were identified at the site. This included the Eastern Grey Kangaroo and the Australian Wood Duck. Narla Environmental identified these species as both being common, mobile grazing species which show a preference to foraging on exotic grasses.

2.6 Heritage

2.6.1 European Heritage

The subject site is not identified as a heritage item, however, it is located approximately 35m north of the boundary of the 'Oran Park' heritage item as listed on the State Heritage Register (SHR) (SHR no. 01695), within the State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (item no. 18) and the Camden Local Environmental Plan 2010 (item no. I137).

A Heritage Impact Statement (HIS) was undertaken by City Plan Services on 26th August 2019 and is attached at Appendix Y.

2.6.2 Aboriginal Heritage

On the 15 of September 2018, Kelleher Nightingale Consulting (KNC) assessed the Aboriginal cultural heritage for Oran Park South – Catherine Fields Precinct. KNC identified no aboriginal heritage exist for Oran Park South. All aboriginal heritage sites within the Catherine Fields Precinct have been destroyed in accordance with Aboriginal Heritage Impact Permit (AHIP) C0001014.

The destroyed artefacts are recorded in the Aboriginal heritage information management system (AHIMS) database.

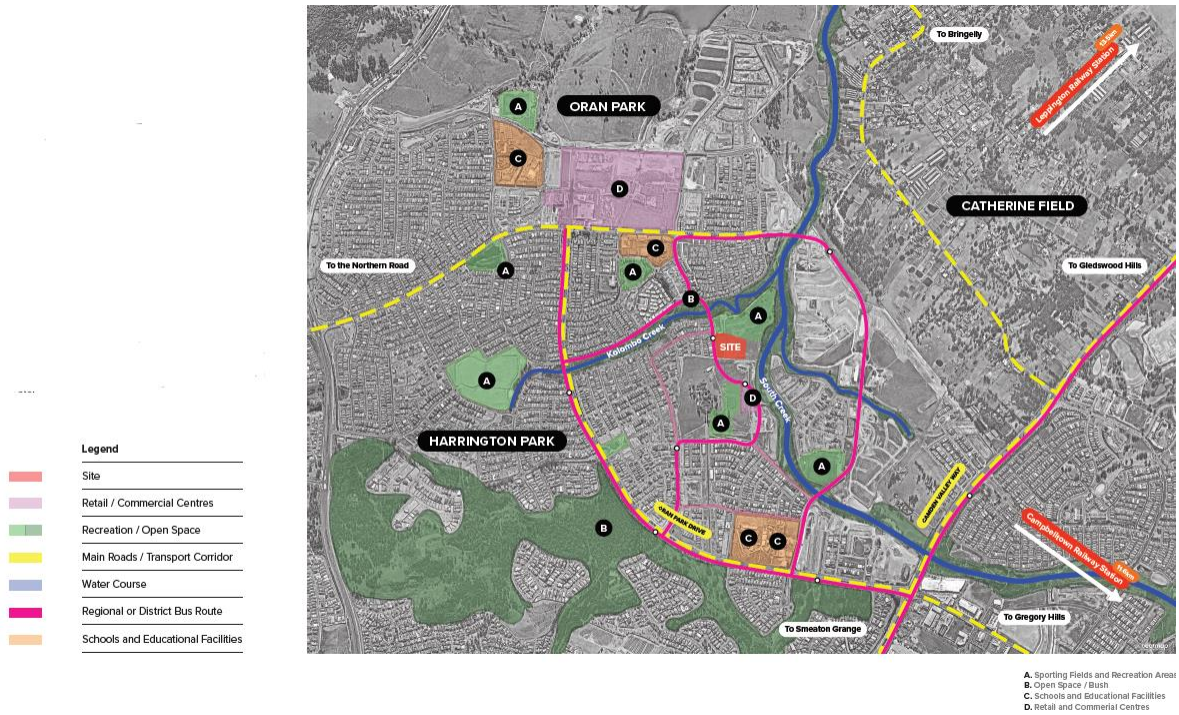
2.7 Site Context and Surrounding Development

The site is located in the northern portion of the 'Catherine Field (Part) Precinct' of the South West Growth Area. Oran Park has been one of the first priority land release areas in South West Growth Area and has rapidly developed since the completion of the new planning controls.

The land surrounding the site is predominantly semi-rural surrounding the site. However, the site is within a growth precinct undergoing significant change into a new precinct to support new housing and essential urban infrastructure to support the growth of Greater Sydney. The proposed development is part of that

essential infrastructure to provide the education infrastructure to support the existing and future community primary school education needs. Once developed, the precinct will include a neighbourhood centre, open space and conservation areas, road infrastructure, enhanced pedestrian and cycling connections as part of the Catherine Fields (Part) Precinct. The following describes the current context surrounding the site.

Figure 5: Context analysis



Source: Perumal Pedavoli Architects

- **North of site:** Towards the north of the site is a small water body inhabited by various wildlife and clusters of deciduous trees. Further north across the Catherine Field (Part) Precinct boundary lies newly developed and developing low-density residential housing in Oran Park zoned R1 General Residential. South Creek runs along the northern boundary north of the site and through the centre of the precinct. Further north-west of the site is a shopping mall 'Oran Park Podium'.

- **East of site:** Directly east of the site is generally undeveloped vacant land earmarked for future residential along with clusters of trees. South creek is situated east of the site running through the centre of the precinct.

- **South of site:** Directly south of the site is a large greenfield area of undeveloped land linked to several unclassified road. Beyond this consists of other newly developed and developing low density residential homes. Further south, there are two educational establishments, St Justin's Catholic Primary School and St Benedicts Catholic College situated along Oran Park Drive. Approximately 6km south-east of the site is Gregory Hills Town Centre.

- **West of site:** Towards the west of the site is 'Anglicare Chesalon at Oran Park' a retirement community along with several other developing low-density residential estates. Approximately 3 km to the west is the Northern Road (A9), and outer western Sydney Bypass that connects Campbelltown to Windsor.

Figure 6: View south-west from Peter Brock Drive of surrounding context

Source: City Plan Services

2.8 Transport Infrastructure

2.8.1 Rail

The site is located 8km south of Leppington Station, and 9km north-west of Campbelltown Station.

2.8.2 Bus Services

2.8.2.1 Regional Services

The South West Sector Bus Servicing Strategy (SWSBS Strategy) provides for regional services along Camden Valley Way and Oran Park Drive around the precinct.

2.8.2.2 Bus Stops

The site is currently located in close proximity to several bus stops. The following bus services are listed below:

- Route 858 – Oran Park to Leppington
  - Approximately 15-minute walk to site
- Route 850 – Narellan to Minto via Oran Park Gregory Hills and Catherine Field
  - Approximately 11-minute walk to site
- Route 896 – Campbelltown to Oran Park via Gregory Hills (Loop Service)
  - Approximately seven-minute walk to site

2.8.3 Bicycle

The existing layout of the precinct promotes cycling generally with convenient, safe connections and wide road structure throughout the local area. However, there is currently no dedicated cycleway to the site.

3 THE PROPOSED DEVELOPMENT

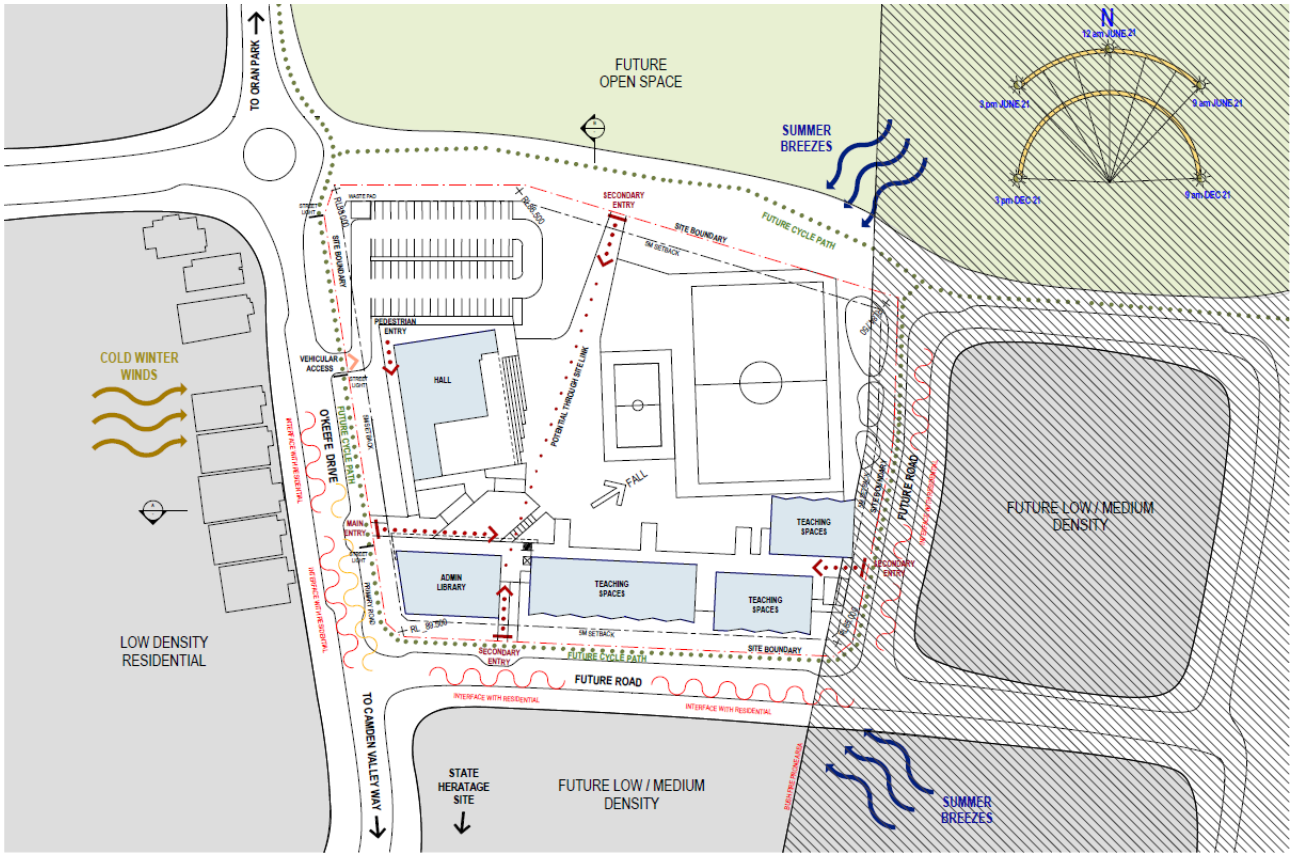
3.1 Overview

The proposed development involves a new public primary school that will accommodate 1,012 students. Enrolments will naturally fluctuate depending on population changes and the proposed development will be able to accommodate such fluctuations.

This EIS seeks development consent for the following works for the proposed development:

- Construction and use of a new educational establishment including:
  - General learning areas
  - Multipurpose hall
  - Covered Outdoor Learning Areas (COLA)
  - Administration area
  - Staff area including amenities
  - Student amenities
  - Library
  - Canteen
  - Storage
  - Assembly court
  - Landscaping
  - Pedestrian circulation
  - Vehicle circulation, bulk waste pad, staff car parking, bus zone and bicycle storage area
  - Internal open space.

Figure 7: Site analysis



Source: Perumal Pedavoli Architects

3.2 Building Design Philosophy

A Design Analysis Report has been prepared by Perumal Pedavoli Architects and is attached in Appendix E. This identifies the education and design principles that form the foundation of the design.

- The development has clear and well-defined entries, which clearly identify school and community access points. This will maximise separation between vehicles and pedestrians
- A variety of open space has been incorporated into the design to link both school and community use Aboriginal and non-aboriginal heritage history has been considered throughout the design
- Step massing has been incorporated to respect the natural slop and ensure grade entries, which will support the surrounding residential development.

3.3 Built Form and Urban Design

The proposed school buildings are situated along the corner of O'Keefe Drive and the future road to the south creating a marker for the site and signals the main entry point. The proposed development is for new school buildings, open spaces, and site and parking facilities.

New School Buildings

Five main school building multi-purpose school buildings are proposed as part of the development.

- Block A: two (2) storey building on the site that have been distributed to collect the Administration, Staff and Library in one building located at the main focal corner of the site. This being the corner of O'Keefe Drive and the future road to the south

- Block B: three (3) storey teaching building, designated special education space, collaborative learning spaces and classrooms
- Block C: three (3) storey teaching building
- Block D: three (3) storey teaching building
- Block E: one (1) storey hall, school canteen, providing shared use access directly from O'Keefe Drive

Open space and amenities

The proposed school buildings are situated at the perimeter of the site that opens towards the central open space. The main internal circulation path aligns with this face creating a clear and well-defined circulation path supported by a comprehensive site wide wayfinding strategy. The walkways are covered protecting most of the openings from the hot summer sun.

Site and parking facilities

Site planning facilities are illustrated in Figure 8: Proposed built form below. The proposed facilities provide a north-south connection through the site to the future open space in the north. The servicing of the site including sub-station and booster pumps, have been considered to ensure code compliance and well screened to achieve high design quality. The waste pad is positioned near the site boundary to ensure easy access by the garbage truck and reduce potential conflicts with students. Adjacent is the proposed 68 space carpark provided from O'Keefe Drive south of the Banfield Drive roundabout.

Figure 8: Proposed built form

Source: Perumal Pedavoli Architects

3.3.1 Height

The built form of the proposed development varies from one (1), two (2) and three (3) stories. The maximum height of proposed buildings are 14.8m that are three storeys high. The building's height allows for configuration of the school's facilities including teaching rooms and outdoor and sufficient outdoor recreation space while being sympathetic to the height of neighbouring residential properties.

3.3.2 Setback

The proposed three storey buildings have an increased setback to reduce overshadowing impacts as illustrated in Figure 9: View of entrance from O'Keefe Drive and Figure 10: Street View from O'Keefe Drive with hall . The setback assists with defusing the negative impacts of the proposed development, respecting the heritage item located south of the site.

Figure 9: View of entrance from O'Keefe Drive

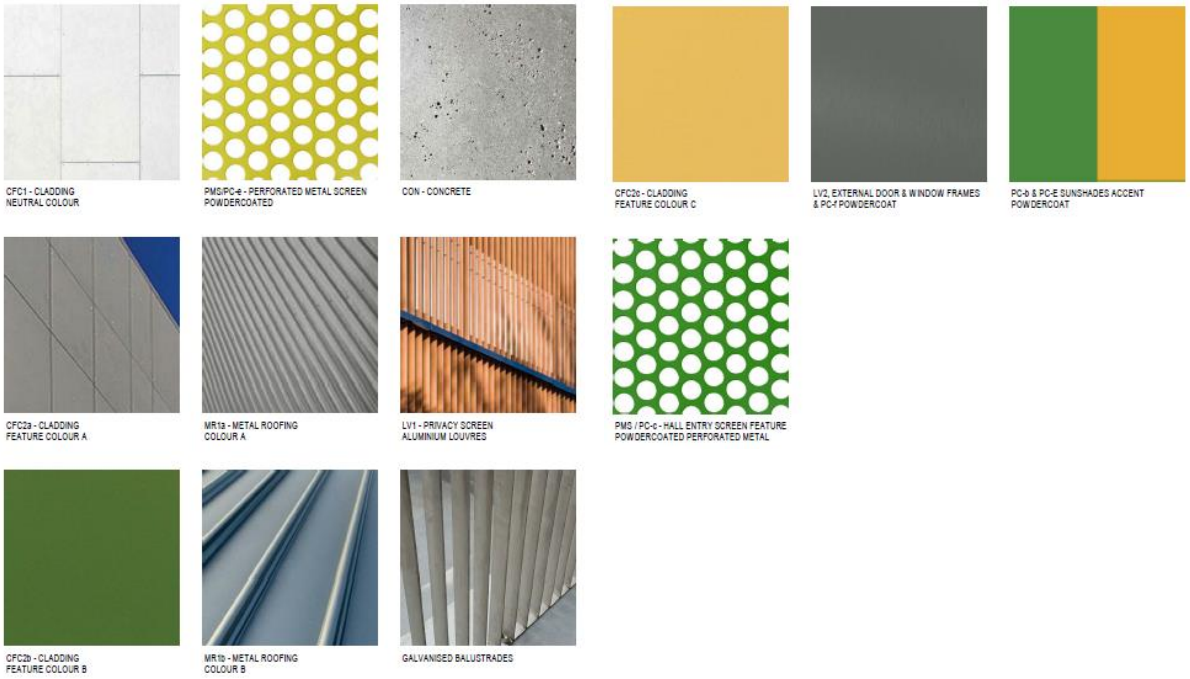
Figure 10: Street View from O'Keefe Drive with hall and main entry

Source: Perumal Pedavoli Architects

3.3.3 Material and Finishes

The proposed materials will be robust and require low maintenance. The colours selected are based on a neutral palette which incorporate highlight accent materials and colours that have been drawn upon the local setting. Materials and finishes are designed to complement the landscape and provide clear wayfinding. It will create a coherent language that will define the school and can be used to form the basis of the school branding and identity.

Figure 11: Materials and finishes



Source: Perumal Pedavoli Architects

3.3.4 Ecologically Sustainable Development

The Ecological Sustainable Development (ESD) initiatives considered for the proposed development aims to minimise environmental impacts associated with the built environment during construction and operation. To align with the definition of ESD as per Clause 7(4) of the Regulation, the development needs to incorporate sustainability aspects (including energy, water and material choice).

An ESD report was developed by Steensen Varming (See Appendix N).

The proposed school utilises a resource hierarchy approach, with emphasis on avoiding the reduction of energy, water, and materials.

- Thick coverage along western edge of site to protect from cold winter winds
- Allowance of air movement for natural ventilation for north to south Summer winds
- High solar reflectance materials and finishes and planted vegetation to mitigate heat island effect
- Low flow fixtures and low water use landscaping will be specified as a minimum
- Supported of rainwater collection and storage

- Reuse for nonportable services and irrigation
- Designated and visible areas nominated for collection, sorting and recycling
- Use of off-site construction techniques to reduce construction waste
- Preference of materials that are produced off-site, non-toxic, contain high recycled content and/or highly recyclable.

A statement that considers the CSIRO projected impacts of climate change have been outlined below.

- Hotter days and more frequent heatwave events – the proposed development uses a mixed mode of ventilation to ensure that appropriate internal conditions can be achieved, maintained as temperatures continue to rise. Passive building design features have bene incorporated to minimise the effect of increasing temperature
- Extended drought periods – rainwater harvesting, low flow fixtures and fittings will be incorporated into the design. Low maintenance landscaping that will reduce potable water consumption
- More extreme rainfall events – drainage capabilities to reduce flooding of roofs and hard surfaces
- Gustier wind conditions – considered design of windows and openings and landscape design to buffer strong winds
- Material selection – use of durable façade materials to improve thermal performance such as insulation and thermal mass.

3.4 Signage

Wayfinding signage will provide a coherent language that will define the school and be used to form the basis of New Catherine Field Primary School's branding and identity.

The entry bollard signage will identify 'Catherine Field Public School' and will be made of three overlayed metal panels, with durable long-lasting paint to conceal fittings. It will be two sided, to provide visibility from both inside and outside of the school. This will be located on the southern side of the pathway leading into the school and measure 2800mm x 6300mm x 180mm.

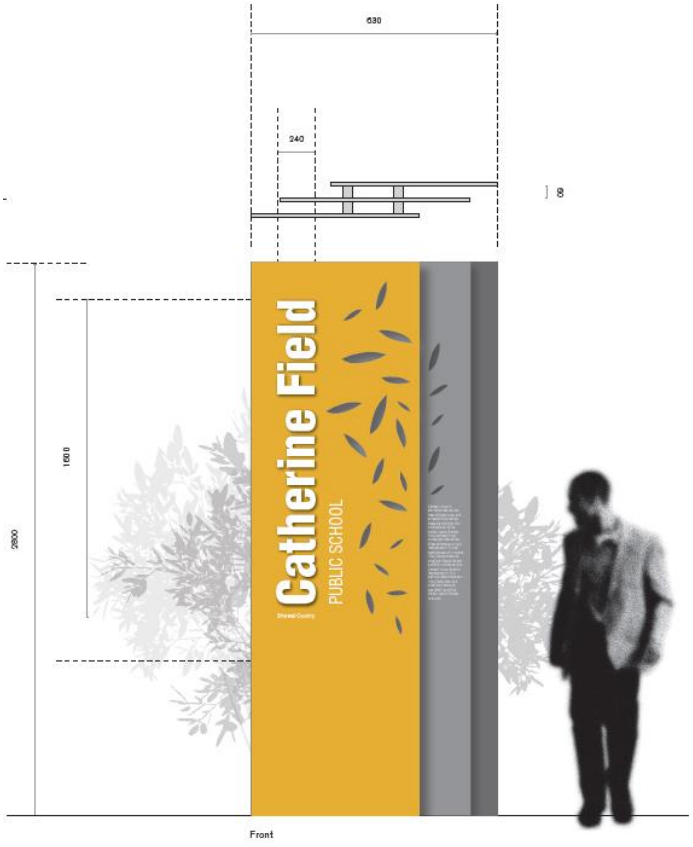
Digital signage for the proposed school is part of future works. Power and data conduits have been designed to consider signage in the future. The location has been outlined in Figure 12.

Refer to Section 5.5 of this EIS for the assessment against *State Environmental Planning Policy No 64 – Advertising and Signage* (SEPP 64).

Figure 12: Entry signage location

Source: Perumal Pedavoli Architects

Figure 13: Proposed entry sign



Source: Perumal Pedavoli Architects

3.5 Landscaping

New landscaped areas and open spaces are proposed as part of the proposed school. The landscape design has recognised the importance of the sites' Indigenous history, natural environment and water catchment (South Creek).

The Natural Environment

The integration of indigenous plant species will be referenced within the school landscape to complement the bushland visible from the site. The selection of plant species will provide a much-needed habitat for native animals in the area, additionally adding great educational value to the site. A selection of deciduous shade and screening trees have been integrated to combat the heat island effect during Summer and address the urban cooling strategies of the local and state governments.

European Heritage

It is acknowledged that the heritage building 'Oran Park House' is within close proximity and its presence provides a visual reference to the proposed development and its surroundings. The hierarchy of the vegetation strategy acknowledges the house and its heritage significance by providing an appropriate vegetated character. Appropriate marker trees that were traditionally used to identify prominent house locations in the area will be utilised as marker trees at the entry points of the site.

Indigenous Heritage

A recognition of the D'harawal people, the traditional owners of the land on which the proposed development is located and waterways adjacent to the proposed development is integrated through the selection of landscape planting. Representation and acknowledgement of the local heritage waterway is established through the incorporation of water play into the proposed development landscape with water flowing over rocks/dry creek beds feet by a hand pump within the play area. Further, the choice of planting significant native species referenced in the D'harawal Seasons of the Year stories and activities greatly embraces the indigenous heritage of the area.

Figure 14: Landscape Master Plan

Source: Taylor Brammer Landscape Architects

3.6 Transport and Accessibility

3.6.1 Vehicular Access

Access to the staff car park will be provided from O'Keefe Drive south of the Banfield roundabout via a two-way driveway. This carpark is designated to staff and students with accessible set down requirements only and will accommodate 68 spaces. Emergency and service vehicle access will be provided via the staff car park. Service vehicles will be scheduled to occur outside of school peak operating hours.

Drop-off and pick-up (DOPU) facilities will be provided in both O'Keefe Drive and Road 610. It is expected that DOPU trips would occur over a 30 to 45 minute period during school peak hours. For further detail on vehicular access and DOPU, refer to Appendix I (TIA) and Section 6.4.3 of this EIS.

3.6.2 Pedestrian Access

All roads within the proposed school will provide as a minimum, a dedicated pedestrian path on one side of the road in the immediate vicinity of the school. A shared path is also provided in O'Keefe Drive immediately adjacent to the school allowing immediate access to the school's primary and secondary access points.

3.6.3 Traffic

ASON Group has undertaken a detailed review of the RMS School Survey and based upon the most relevant school, has provided an estimated trip generation assessment. A summary of the RMS surveyed schools has been provided at Table 2 of Appendix I. Data was adopted from Harrington Street Public School as it was identified with the most similar characteristics to proposed development and is located in close proximity of the site. As such, it is estimated that the School will have the following trip generation:

- AM School peak hour: 630 vehicle trips
- PM School peak hour: 520 vehicle trips.

For more information, refer to Appendix I.

3.6.4 Parking

A car park is proposed on the north western corner of the site off O'Keefe Drive. This is proposed to include a total of 68 off-street parking spaces for the proposed development. 1 accessible carparking space will be provided for every 50 parking spaces of part thereof. Accessible car parking space for people with disabilities will be provided with appropriate dimensions of not less than 2400 mm X 5400 mm (dedicated space) with an adjacent space of 2400 mm X 5400 mm designated for loading and unloading (shared area).

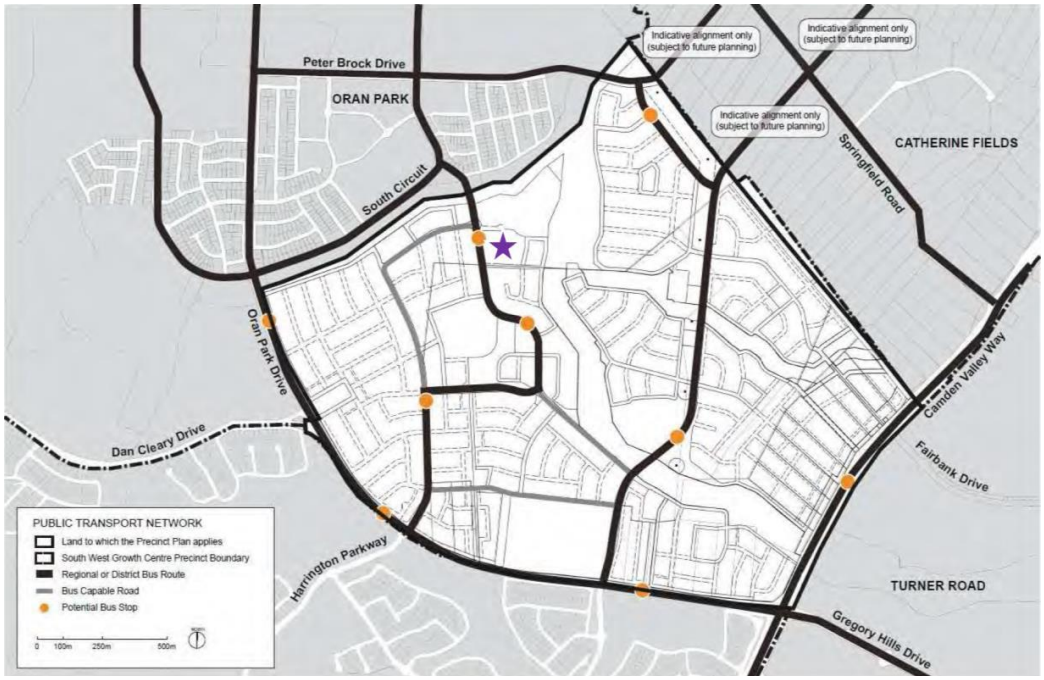
3.6.5 Rail

The proposed development is located approximately 8 km south of Leppington Station and approximately 9km north-west of Campbelltown Station. Access to Leppington Station will be provided by buses running along the future Rickard Road Transit Boulevard, while buses running along both O'Keefe Drive and Oran Park Road are expected to provide access to Campbelltown Station. Refer to Appendix I for further details.

3.6.6 Bus

The Catherine Field (Part) Precinct (CFPP) bus network includes regional, district and local routes to provide maximum coverage across the precinct. Bus stops are expected to be provided approximately every 400 m along all bus routes. Proposed is a bus stop that is directly adjacent to the proposed school.

Figure 15: District and local bus services



Although it is expected that the local and district bus services will provide the coverage and capacity required to accommodate student travel to and from the proposed development, a dedicated school bus service is considered should the demand exceed public bus capacity.

3.6.7 Bicycle

Within the vicinity of the site, a future off-road cycle path is proposed along the northern boundary of the school linking from O'Keefe Drive to the neighbouring sporting fields, adjoining to the residential areas to the east of the school. Shared paths are also provided directly adjacent to the school in O'Keefe Drive and a future secondary road on the south boundary of the site.

Further, bicycle racks will be provided for students, while bicycle parking spaces will be provided for staff. This is accompanied with end of journey facilities including showers and lockers.

3.7 Waste

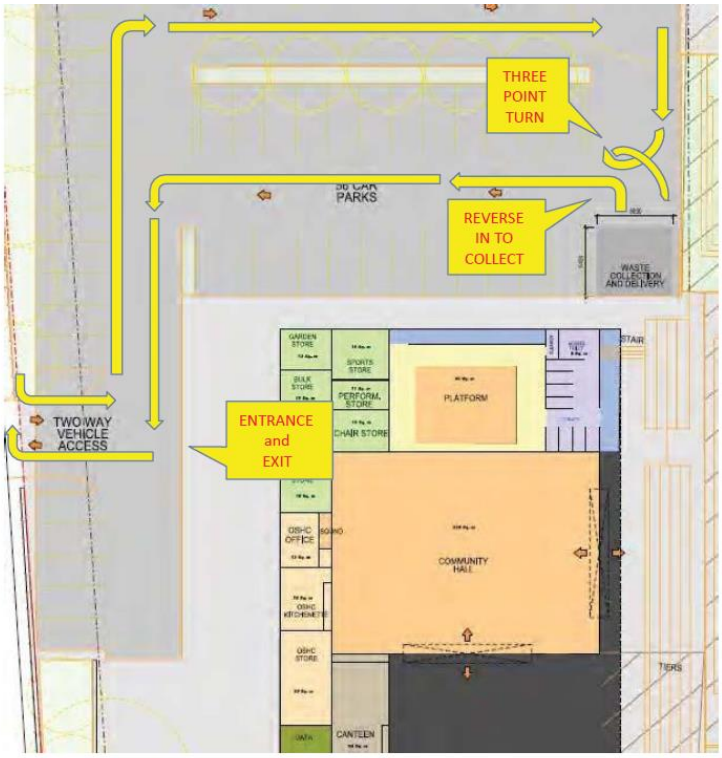
3.7.1 Construction Waste

The awarded contractor will comply with the intent of the Construction Waste Management Plan found in Appendix W to ensure waste is transported to the appropriate waste facility. The contractor will also ensure that where possible, cut and fill is reused, and where possible, other waste will be reused or recycled. It is expected that detailed management of construction waste would be incorporated into the Construction Environmental Management Plan and its sub-plans (including Construction Waste Management Plan) once the proposed development is approved, and as part of its conditions of consent.

3.7.2 Ongoing Waste

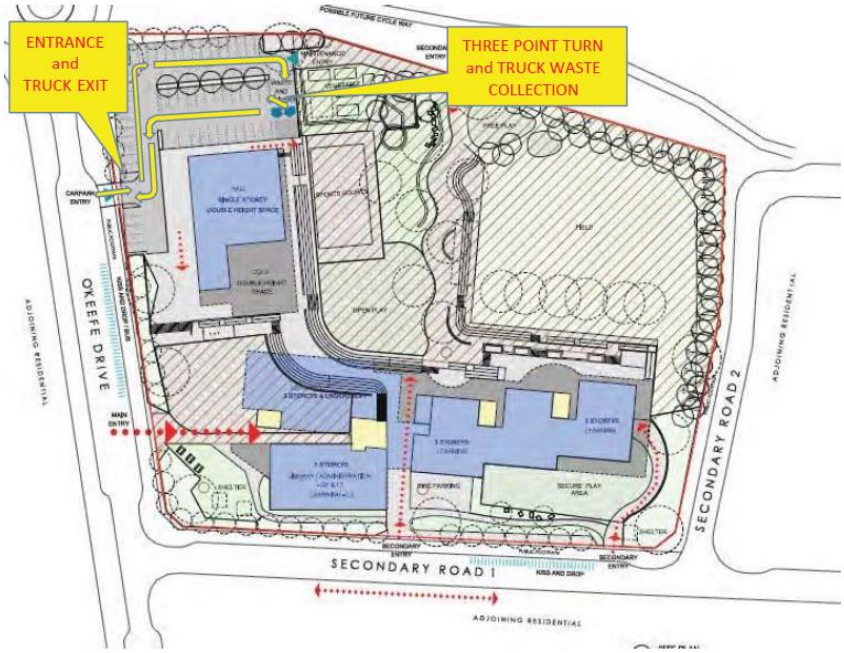
An Operational Waste Management Plan has been prepared by Environmental Management Pty Ltd in Appendix W. This report states that a waste collection point has been incorporated into the design, including a waste storage and pad area.

Figure 16: Waste collection plan



Waste vehicle trips are expected to be no more than 2 to 4 trips weekly and are to be generated outside of School peak periods. Additional service vehicle demand would generate no more than a handful of vehicle trips each day at most. Waste collection trucks will enter through the car park and will be collected from the waste collection point, shown below.

Figure 17: Waste collection points



3.8 Site Services

An Infrastructure Management Plan has been prepared by Hansen Yuncken and is attached at Appendix T. The report provides an overview of existing and required infrastructure services for the proposed development.

The report confirms that a new 1,000 kVA substation will be provided, although the final substation location and other details are subject to change.

Service and infrastructure upgrades required to the site as part of the proposed development are summarised below:

- The new substation will connect to a new main switchboard located within the Hall building. The main switchboard will supply power to sub-distribution boards located throughout the various buildings on campus. This will consist of submains cable which originate at the main switchboard and are reticulated through either a building or underground to supply power to distribution board, mechanical switchboards and other miscellaneous load centres requiring a power supply.

- A new telecommunications fibre connection will be provided to the school. A communications room / campus distributor will be provided within the administration / library buildings for the school to which the incoming telecommunications connection will be reticulated. These rooms will serve as the site main communications room from which fibre optic cable links will be established to the various building distributor provided throughout the school.

- The school will be provided with a combination of artificial and natural lighting sources. All artificial lighting proposed will be specified to achieve the energy efficiency ratings required and will be linked to the school's Building Management System (BMS). A computer monitored single point emergency exit / lighting system is proposed for the new school. Each emergency fitting will be LED and complete with backup battery.

- External lighting will be provided to nominated spaces on campus such as car parks, access roads and pedestrian pathways. It is proposed that external lighting will be controlled through a time lock and PE cell system.

- CCTV coverage will be provided in various areas such as sick bays and libraries. Alarm call buttons will be installed in various areas such as sick bays, clinics, access toilets and access showers. An intruder detection alarm system will be provided tall subsidiary exit doors to the school library.

- Ceiling and wall mounted fans will be installed in accordance with Educational Facilities Standards Guidelines (EFSG). Ceiling fans will be provided together with fan speed controllers from a recognised and approved supplier that offers equipment that has been assessed as suitable for school use.

- The proposed development will incorporate a photovoltaic solar power system. The system will be provided by a separate subcontractor. Although no subcontractor has been engaged at this stage, provisions have been made within the electrical specifications.

- An existing 150 mm diameter water main is available on the opposite side of O'Keefe Drive. The connections to water mains have not been finalised. An application is to be submitted to Sydney Water for review and approval.

- There is no sewer main available at the front of the site, however, there is an existing 375 mm sewer carrier located to the east of the site. The development will need to allow for a sewer extension from an existing sewer manhole up to the south east corner of the site. At this stage, the connection to the sewer main has not been finalised. An application will be submitted to Sydney Water for review and approval.

- An existing 50 mm diameter gas main is available located in O'Keefe Drive with a 50 mm diameter branch line installed down the future secondary road. The pressure in the main is 210 kPa. The connection for the gas main has not been finalised. An application will be submitted to Jemena for review and approval.

- The site has no formal drainage on site. All current overland flows travel towards the north eastern side of the site into a stormwater drainage pipe which drains into a bio-retention basin and discharges into South Creek, to the north of the site.

- Learning spaces such as homebases are to be served by a mixed mode ventilation strategy utilising natural ventilation for space cooling when possible. Administration and staff areas are to be naturally ventilated and heated only.

- The extent of fire services provided are wet services only and include fire hydrants, fire hose reels and portable fire extinguishers. Buildings will also be provided with a smoke detection and alarm system. Portable fire extinguishers will be installed in accordance with the requirements of the Building Code of Australia AS 2444. Generally, places of potential hazard will be provided with extinguishers, such as electrical switch room, mechanical and plant rooms.

3.9 Stormwater Management

A stormwater design report was developed by Northrop, see Appendix G. This identifies the site is not situated on flood prone land and therefore is not subject to any flooding.

The proposed school will connect to the legal point of discharge, to the on-site stormwater detention and bio-retention basin downstream of the new subdivision known as the Oran Park South Development Tranche 33. This interim basin will be constructed prior to this proposed school development. In result, additional OSD and water quality measures are not proposed as part of the proposed school. All stormwater works will be designed and installed in accordance with *Managing Urban Stormwater: Soils and Construction* "The Blue Book" 2004 (4th edition).

3.10 Staging and Construction Management

3.10.1 Construction Staging

The proposed development is to be constructed using a combination of offsite and onsite construction techniques to deliver a high-quality state of the art school while minimising construction impacts associated with onsite works as much as possible. As outlined in the Construction Traffic Management Plan prepared by ASON Group at Appendix L, the construction will be undertaken in the following stages:

Stage 1 - General earthworks and benching and the construction of temporary access will be developed. This will also form the final access way for the proposed development via O'Keefe Drive.

Stage 2 - The general construction and landscape works.

It is expected that the conditions of consent for the proposed development issued by DPIE would include conditions related to staging, that allow suitable provisions for the proposed development to prepare, submit and update strategies, plans or programs to suit construction requirements, that would be subject of approval from the Planning Secretary.

3.10.2 Construction Hours

All works will be in accordance with standard construction working hours and would be as follows:

- Monday to Friday: 7am-6pm

- Saturday: 8am-1pm.

No construction works will be undertaken on Sundays and Public Holidays.

Works outside of the hours above may be required from time to time, including delivery of machinery and materials, which would be minimised as much as possible.

3.11 School Operations

The proposed development will accommodate 1,012 students in accordance with the DoE's Educational Facilities Standards and Guidelines (EFSG), with the ability to support population changes over time and enrolment needs within the school's catchment. The proposed school will have around 56 full time staff to support school operations.

The proposed development would operate between 8 am and 5 pm Monday to Friday during school term. The design incorporates Out of School Hours facilities, which would operate between 6.30 am to 9 am and from 3 pm to 6.30 pm Monday to Friday during school term, and 7 am to 6 pm Monday to Friday during school holidays.

The joint use portion of the school hall would operate generally after 5 pm during school term, and as school and community needs arise. Exact hours for this are not yet determined and would be subject to negotiations between the school and the community/Council.

3.12 Accessibility and BCA

A BCA Design Compliance Review has been prepared by Group DLA see Appendix V. This confirms that the proposed development will accord with the relevant principles and provisions of the Building Code of Australia 2019 subject to the installation of nominated fire safety systems and compliance with Conditions of Consent.

4 STRATEGIC PLANNING CONTEXT

In accordance with SEARs, relevant strategic planning policies are addressed below in assessment of the proposed development:

- NSW State Priorities
- *The Greater Sydney Region Plan*, *A Metropolis of Three Cities*
- *Future Transport 2056*
- *State Infrastructure Strategy 2018 – 2038 Building the Momentum*
- *Sydney's Cycling Future 2013*
- *Sydney's Walking Future 2013*
- *Sydney's Bus Future 2013*
- Crime Prevention Through Environmental Design (CPTED) Principles
- *Healthy Urban Development Checklist*, NSW Health
- *Better Placed: An integrated design policy for the built environment for New South Wales* (GANSW, 2017)
- Western City District Plan
- Camden City Council Growth Centre Precincts DCP 2017
- Camden Development Control Plan 2011.

The strategic policies listed above are elaborated in further detail below.

4.1 NSW State Priorities

NSW State Priorities is the State Government's plan to guide policy and decision making across the State. The proposed redevelopment at the site is consistent with key objectives contained within the plan, including:

- **Creating Jobs:** 150,000 new jobs by 2019

The proposed development will create 355 jobs during construction and 56 full-time staff during operation Additionally, the commencement of the New Catherine Field School will increase job opportunities in teaching and administration roles.

- **Delivering Infrastructure:** Key metropolitan, regional and local infrastructure projects to be delivered on time and on budget.

The proposed development is a significant development opportunity for the state providing vital services for the local community and creating 355 construction job opportunities to support the growing population of Greater Sydney. As the North West Precinct continues to expand, the delivery of New Catherine Field Primary school will reduce enrolment pressure off existing local schools.

- **Improving education results:** Increase the proportion of NSW students in the top two NAPLAN bands by eight per cent by 2019.

The proposed development will contain special programs rooms, learning spaces within the library, and facilities for special needs students. This will provide opportunity to develop and improve on their literacy and numeracy skills.

4.2 The Greater Sydney Regional Plan, A Metropolis of Three Cities

The Greater Sydney Region Plan, A Metropolis of Three Cities aims to rebalance growth and deliver benefits to residents across Greater Sydney through implementing appropriate infrastructure, productivity and liveability guidelines.

Between 2016 and 2036, the population of infants aged 0-4 years is projected to increase by 85,000, with 333,000 more children and young people aged 5-19 than today. This strategy acknowledges there is an increase in number of children across the region, leading to pressure for access to education services. The proposed development addresses the relevant objectives of this plan below.

- **Objective 1:** The proposed development will support the three cities through delivering education infrastructure in Western Sydney. This will support the population growth in the area, and across the region.
- **Objective 2:** The proposed development will accommodate the growing population of children and respond to the residential and employment growth in Catherine Field.
- **Objective 3:** The proposed development is responded to the future needs of social and school infrastructure in Greater Sydney. It will provide a modern, and innovative learning space that will respond to the needs of a young growing population.
- **Objective 6:** The proposed development supports this objective, providing a service and infrastructure to meet the significant increase in young children. Schools are essential infrastructure, and this development will support young families in the South West Growth Area
- **Objective 7:** The proposed development will contribute to a more healthy, resilient and socially connected community. It is well placed to support a vibrant neighbourhood and will increase foot and cycle traffic within the area. North of the proposed development provides for open space and sport facilities contributing to an active healthy lifestyle.
- **Objective 14:** The proposed development provides safe walking and cycling links to the new school and encourages children to be more active through incidental exercise. As it is already close to established bike paths, residential development and bus routes, students and teachers will be encouraged to use these for active and public transport. In result, this will reduce car use and congestion on the roads.

4.3 Future Transport Strategy 2056

Future Transport 2056 sets a 40-year vision, directions and outcomes framework for customer mobility in NSW. It encompasses a suite of strategies and plans for transport to provide an integrated vision for the state.

This strategy acknowledges children are an important group of customers who need access to safe accessible transport to school. It emphasises that safety of customers is the highest priorities and continues to educate people on encouraging save behaviours within children. In addition, children will be encouraged to use active travel, and public transport.

This development supports this strategy through providing multiple bicycle storage areas across the vicinity of the site. Please refer to Section 3.6 regarding the support for active travel and public transport use.

4.4 State Infrastructure Strategy 2018 – 2038 Building the Momentum

The *State Infrastructure Strategy 2018 – 2038 Building the Momentum* plan is a 20-year strategy that sets out Infrastructure NSW's independent advice on the current state of NSW's infrastructure and the needs and priorities within the next 20 years. Their strategic objective for education in NSW is to deliver infrastructure to

keep pace with student numbers and provide modern, digitally enabled learning environments for all students.

This strategy acknowledges NSW's population is forecast to growth to over 12 million by 2056. To support this growing population, supporting infrastructure such as schools are required for a fast-growing population. Nearly 200,000 more students will be enrolled into public schools by 2036.

The proposed development responds to the population pressure through the provision of social infrastructure and building schools. This development will support a young population that will benefit from well designed, modern designed school infrastructure. It embodies this strategy by providing a variety of open and shared learning spaces combined with practical activity area to deliver a modern and innovative learning experience for children.

4.5 Sydney's Cycling Future 2013

Sydney's Cycling Future 2013 seeks to make bicycle riding a feasible transport option within Sydney by encouraging in the use of Sydney's existing bicycle network. Habit often prevents alternative use of transport. This development will support the ability for children to get to school every day using new facilities such as bicycle parking areas and future cycle ways to the Catherine Field neighbourhood precinct.

Within the vicinity of the site, shared paths are provided directly adjacent to the school in O'Keefe Drive and Secondary Road 610. Additionally, a future off-road cycle path is proposed along the northern boundary of the School, connecting O'Keefe Drive to neighbouring sporting fields and residential areas, encouraging a healthier travel option for students and teachers.

A Green Travel Plan (GTP) was prepared by ASON Group and is attached at Appendix J. The GTP is intended to encourage the use of active transport. The GTP includes mode share targets for cycling of 6% for the school's staff and 10% for students. The GTP includes a number of actions to promote active transport including:

- Establishing a travel plan coordinator, in addition to a transport coordinator, to take responsibility for ongoing review and monitoring of the GTP
- Providing a 'travel welcome pack' to new staff highlighting alternate modes of transport
- Lobbying Council/DPIE for improved cycle connection in the broader area and an updated cycle strategy
- Promotion of participation in community activities which encourage cycling such as National Ride2Work Day
- Provision and maintenance of clearly signposted bicycle parking within the site
- Provision of sufficient secure parking and 'end of journey' facilities.

4.6 Sydney's Walking Future 2013

Sydney's Walking Future 2013 aims to promote walking as an effective means of transport by encouraging the investment in creating more convenient, permeable and safer walking networks.

Walking is part of everyday life and is an integral part of Sydney's transport system. There are various barriers to walking, such as carrying heavy bags, habit and multi-destination trips, dropping children at school. As the population increases, an increased number of children in NSW will be walking. The site for the development is surrounded by newly built residential, therefore walking for some children could be used as their preferred mode of transport to school.

The proposed development supports Safety Around Schools Program, by providing a safe environment for young pedestrians, focusing on the visibility of school zone signage.

The proposed school encompasses connected and open walkways providing safe access for students to and from school. The clear open space aims to provide walkway transitions between various areas and promote easy and direct circulation, enhanced by the proposed wayfinding signage. Its conveniently located pedestrian pathways along the boundaries of the school coupled with three clear and well-defined entry points for vehicles and pedestrians contribute to delivering healthier walkable communities and decrease congestion on roads.

A GTP prepared by ASON Group and is attached at Appendix J. The GTP includes mode share targets for walking of 5% for the school's staff and 20% for students. In addition to the measures outlined for active transport in relation to cycling, The GTP includes a number of actions to promote walking including:

- Promoting participation in community activities and events such as Walk to Work Day
- Development of school-specific activities designed to get people walking with a reward for participation. The GTP provides the example of a competition to see which staff and/or student each year can get the most steps in a given time period.

4.7 Sydney's Bus Future 2013

Sydney's Bus Future 2013 plan seeks to deliver a simpler and more efficient bus service to cater to the current and future growth of Greater Sydney.

As outlined within the Traffic Impact Assessment completed ASON Group in Appendix I, local and regional bus services will be developed to provide adequate connection throughout the Catherine Field Precinct in which the school development is located. The Catherine Field Precinct Plan bus network will provide maximum coverage, in turn maximising public transport and travel choices. The coverage achieved by the proposed regional, district and local routes provide immediate access to the school, local centres and 90% of the remaining Catherine Field Precinct, establishing travel convenience and supporting the growing population. Further, bus stops are proposed directly adjacent to the school in O'Keefe Drive.

The GTP completed by ASON Group and attached at Appendix J includes mode share targets for bus travel of 3% for the school's staff and 15% for students. The GTP's action plan includes specific actions to encourage greater use of public transport such as:

- Displaying bus route maps and timetables on noticeboards, regular flyers, emails and social media
- Advocate for TfNSW to improve public transport services in response to increase development within the surrounding area
- Undertake a review to promote initiatives for staff using public transport.

As outlined within the TIA completed by ASON Group and attached at Appendix I, the school has great potential to link with the existing and proposed active transport links within the precinct. Within the vicinity of the site, shared paths are provided directly adjacent to the school in O'Keefe Drive and the future road to the south. A future off road cycle path is proposed along the northern boundary of the school linking from O'Keefe Drive to the neighbouring sports fields and then the residential areas to the east of the school.

The schools design integrates with these active transport links. The school's main entry connects to the shared pathway along O'Keefe Drive. A pathway links the school with the future cycling path to the north. The TIA confirms that bicycle racks will be provided for students. For staff, bicycle parking spaces will be provided along with end of journey facilities including showers and lockers.

In addition, the GTP prepared by ASON Group and attached at Appendix J includes a number of specific actions to encourage greater uptake of walking and cycling.

4.8 Crime Prevention Through Environmental Design (CPTED) Principles

The Crime Prevention Through Environmental Design (CPTED) guidelines are prepared by the NSW Police in conjunction with the DPIE. CPTED provides a clear approach to crime prevention and focuses on the '*planning, design and structure of cities and neighbourhoods'*.

CPTED aims to create a perception that the costs of committing crime is greater than the likely benefits. This can be conducted by applying four key strategies to limit crime. These are assessed against the proposed development in Table 9 below.

Table 2: CPTED Principles Assessment

Principle	Comment
Territorial Re-enforcement	The Site has frontage to the public domain along O'Keeffe Drive and the future roads to the south and east. In accordance with the SINSW security (SSU) requirements, the site is fenced and thus delineates ownership and access. Further, the entry points are clearly defined by built urban form and signage, encouraging access through designated entry points.
Surveillance	The proposed development emphasises strong passive surveillance with its clear circulation paths of both the public domain and the interior of the site. During weekends and after-hour periods, the site will be secured with site fencing and buildings will be fit with a Back to Base Alarm System. Additionally, external lighting for night time crime deterrence will be designed to the relevant Australian Standard & SSU requirements.
Access Control	Access to the site is controlled through the proposed fencing situated on all boundaries and gates. The fences around the boundary of the site will not restrict surveillance opportunities and will be constructed of optically permeable materials in accordance with the Education Facilities Standards and Guidelines (EFSG).
Space/Activity Management	Space and activity management is achieved through the design of the buildings orientated towards the exterior of the site, promoting the protection of the interior open space from the public domain. During school operation, students will be contained generally within the interior of the site. Graffiti resistant materials will be used wherever practicable to assist in removal.

4.9 Healthy Urban Development Checklist

The *Healthy Urban Development Checklist* (NSW Health) aim is to guide involved organisations to determine whether the proposed development promotes a sustainable and healthy outcome for the community. An increase in population growth needs to be planned for and managed to contribute positively to the health of the community.

The proposed development supports pedestrian movements which will support children walking to school or playing outside in other forms of explicit and incidental exercise. The site for this development is surrounded by newly built residential, therefore walking for some children could be incidental exercise and their preferred mode of transport to school. A cycleway is proposed on the northern side of the site in the future. This will support objectives found in the Healthy Urban Development Checklist, and promote positive health benefits to the community.

4.10 Better Placed: An integrated design policy for the built environment of New South Wales

Better Placed (GANSW, 2017) is an integrated design policy that seeks to create a clear approach for places where we work, live and play, ensuring the importance of good design as the centre of all development

processes. New development can improve quality of life for people and enhance the environment. The design of buildings, place and space that supports inclusiveness, connectivity and diversity is important to provide optimal opportunity and reduce social disparity.

The design of the proposed development will provide a vibrancy to the neighbourhood and considered the design of street frontage to ensure it provides a welcoming and accessible environment. The proposed development will be designed to be practical and purposeful, resulting in better learning and teaching outcomes, and increased productivity.

4.11 Western City District Plan

The Western City District Plan, updated in March 2018, includes a range of priorities and actions to appropriately support the strategic growth of Sydney's Western City District. The Western City District Plan (Greater Sydney Commission) identifies the following:

- Within the next 20 years to 2036, an increase of 24,950 children aged four or younger is projected, with 41 per cent of this growth located in the Camden LGA

- The NSW Department of Education estimates an extra 77,978 students will need to be accommodated in both government and non-government schools in the district by 2036.

As the figures above clearly indicated the increase of students by 2036, it is necessary to provide appropriate school infrastructure to cater to the growth. Evidently, it has been marked as a priority in the Western City District Plan that:

> *"Planning for new schools, and the use of existing schools, must respond to growth and changing demand in innovative ways such as more efficient use of land, contemporary design, greater sharing of spaces and facilities, and flexible learning spaces. Safe walking and cycling links to schools encourage young people to be more active and better connect schools with local communities."*

As outlined Planning Priority W3, facilities such as schools can be the focus of neighbourhoods. School design must consider how it contributes vibrancy to a neighbourhood, and how it can provide safe and easy access for children. Schools will require safe active transport connections which can be used by all types of people. As outlined in Planning Priority W4, to foster healthy, creative and culturally rich, socially connected communities, walkable streets are required. This will provide connections from homes, to schools, and to daily needs and facilities. The design of the development has considered pedestrian connections to residential development in the area

5 STATUTORY PLANNING CONTEXT

In accordance with SEARs, the following statutory planning policies have been considered in the assessment of the proposal:

- *Biodiversity Conservation Act 2016*
- *State Environmental Planning Policy (Sydney Region Growth Centres) 2006*
- *State Environmental Planning Policy (State & Regional Development) 2011*
- *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017*
- *State Environmental Planning Policy No. 64 – Advertising and Signage*
- *State Environmental Planning Policy No. 55 – Remediation of Land*
- *Sydney Regional Environmental Plan No. 20 – Hawkesbury-Nepean River*
- *Draft State Environmental Planning Policy (Remediation of Land)*
- *Draft State Environmental Planning Policy (Environment).*

The relevant controls contained within the statutory planning policies listed above are elaborated in further detail below.

5.1 Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* aims to maintain a healthy, productive and resilient environment for the present and future by implementing provisions, consistent with the principles of ecological sustainable development. These provisions will provide a guideline to maintaining and conserving biodiversity on a State scale.

A Biodiversity Development Assessment Report waiver was requested on 30 November 2018 by Narla Environmental (Appendix S).

Section 7.9(2) of the Biodiversity Conservation Act 2016 (BC Act) stipulates the following:

> *"Any such application is to be accompanied by a biodiversity 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. The authority of the 'Planning Agency Head' is required to determine whether a proposed development is "not likely to have any significant impact on biodiversity values" is usually delegated to Directors within the Planning Services Division."*

A site assessment was undertaken of the native vegetation and threatened species habitat values. The assessment found no native trees (native to NSW) around the site. A table outlining the significance of impacts of the development on biodiversity values is outlined in Appendix S. The proposed development requests a Biodiversity Development Assessment Report Waiver (see Section 6.10).

5.2 State Environmental Planning Policy (Sydney Region Growth Centres) 2006

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Growth Centres SEPP) sets out the provisions for development that is located within the Sydney Priority Growth Areas. Appendix 9 Camden Growth Centres Precinct Plan of the Growth Centres SEPP identifies the site of a new school. As such, development controls relating to the site are outlined in this Precinct Plan.

5.2.1 Land Zoning

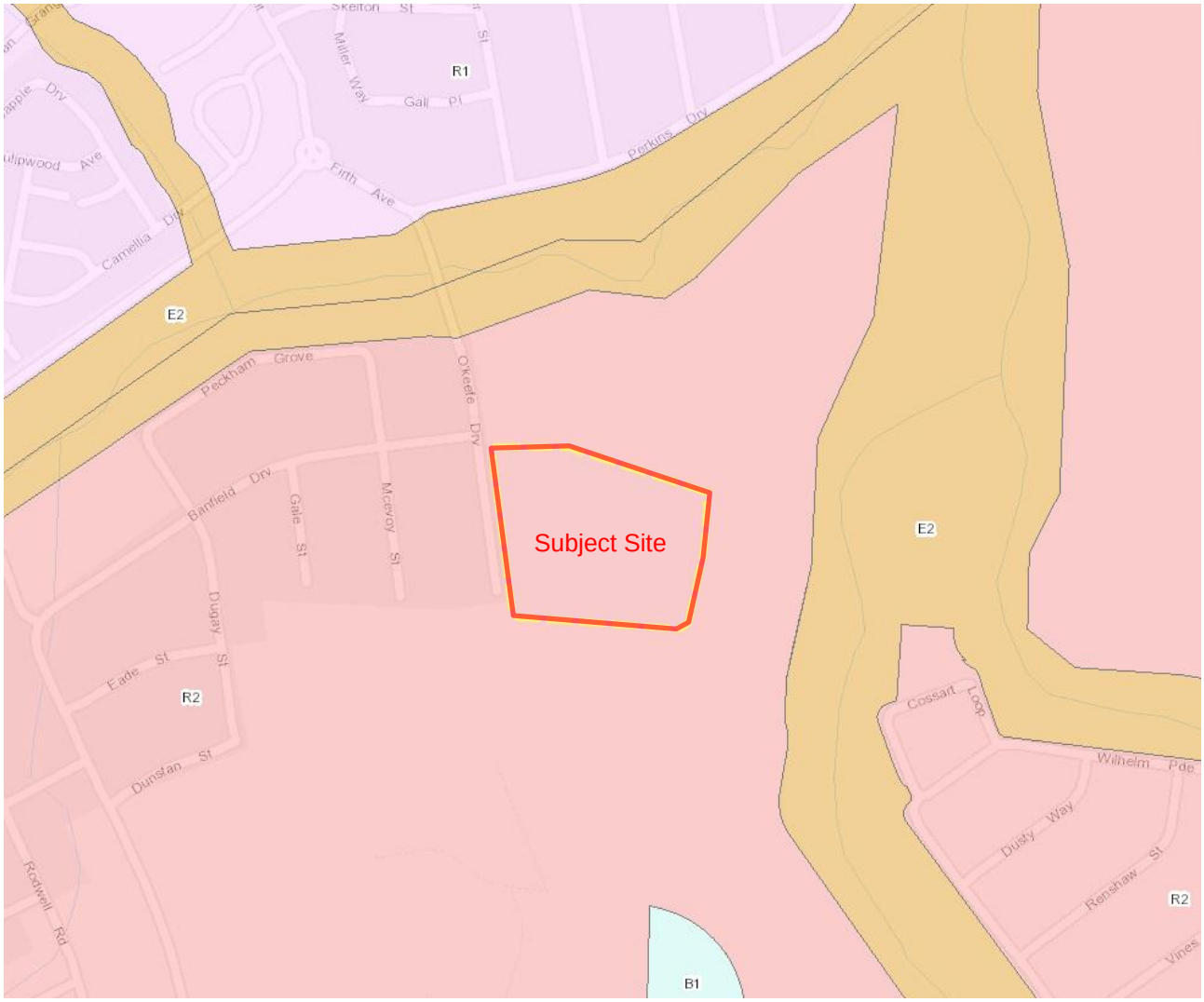
Under the Appendix 9 of the Growth Centres SEPP, the subject site is zoned R2 Low Density Residential.

Education establishments are permitted with consent on this zone. Pursuant to the Growth Centres SEPP, an educational establishment is definded as:

> *"a building or place used for education (including teaching), being:*
>
> *(a) a school, or*
>
> *(b) a tertiary institution, including a university or a TAFE establishment, that provides formal education and is constituted by or under an Act."*

The proposed development represents a school which is a permitted land use with development consent under Appendix 9 of the Growth Centres SEPP.

Figure 18: Subject site on zoning map



Source: NSW Planning Portal

5.2.2 Compliance Assessment

Table 2 below provides an assessment of the proposed development against the relevant provisions of the Growth Centres SEPP.

Table 3: Growth Centres SEPP 2006 Assessment

State Environmental Planning Policy (Sydney Region Growth Centres) 2006		
Provision	**Comment**	**Compliance**
4.3 Height of buildings (1) The objectives of this clause are as follows: (a) to establish the maximum height of buildings, (b) to minimise visual impact and protect the amenity of adjoining development and land in terms of solar access to buildings and open space, (c) to facilitate higher density development in and around commercial centres and major transport routes. (2) The height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map.	The proposed development is SSD and has a maximum height of 14.8m. The maximum height in the Height of Buildings Map is 9m. As the proposed development is SSD, these provisions are considered however full compliance is not required.	No. This non-compliance is addressed in 5.2.1 of this EIS.
4.4 Floor space ratio (1) The objective of this clause is to control the bulk and scale of buildings by setting maximum floor space ratios for development. (2) The floor space ratio for a building on any land is not to exceed the maximum floor space ratio shown for the land on the Floor Space Ratio Map.	The site is not subject to a Floor Space Ratio (FSR) under the Growth Centres SEPP. The school has been designed to ensure engaging and pleasant spaces with consideration of surrounding amenities. Ultimately the bulk and scale of the buildings are considered appropriate.	N/A
5.10 Heritage conservation (4) Effect of proposed development on heritage significance The consent authority must, before granting consent under this clause in respect of a heritage item or heritage conservation area, consider the effect of the proposed development on the heritage significance of the item or area concerned. This subclause applies regardless of whether a heritage management document is prepared under subclause (5) or a heritage conservation management plan is submitted under subclause (6).	The site is not identified as an item of heritage and is not within a heritage conservation area. The proposed development is located north of 'Oran Park', 112-130 Oran Park Drive, an item listed on the State Heritage Register and under the *Camden Local Environmental Plan 2010.* A Heritage Impact Statement (HIS) has been prepared for the proposed development and provided at Appendix Y. The HIS found that the proposed development will have a minor and acceptable impact to the nearby heritage item, with significant views and historical subdivision patterns retained. No changes to the heritage item are proposed.	Yes

5.2.3 Assessment of Building Height

The Education SEPP includes provisions for non-compliances against development standards for SSDA. The following considers the proposed development against the maximum height of buildings standards of the Growth Centres SEPP 2006.

Table 4: Consideration against Growth Centres SEPP 2006 Maximum Height of Buildings Development Standards

Clause 4.3 Sydney Region Growth Centres SEPP 2006	
Objectives	**Proposed development**
(1) The objectives of this clause are as follows:	
• (a) to establish the maximum height of buildings,	The highest the proposed development is three storeys at a maximum height of 14.8 metres.
(a) to establish the maximum height of buildings, (b) to minimise visual impact and protect the amenity of adjoining development and land in terms of solar access to buildings and open space, (c) to facilitate higher density development in and around commercial centres and major transport routes.	The varied height of the buildings is to ensure there were no high volumes at the interface with residential land uses and to respect the slope at grade entries. This is also to minimise overshadowing impacts to residential development west of the site, and there are no views over the site that will be impacted. As demonstrated by the shadow plans provided as Figures 19-21 below at no stage does the proposal result in the application result in overshadowing for greater than 3 hours on June 21 which is consistent with the requirements of the Camden Development Control Plan 2019.
(2) The height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map.	The height does exceed the maximum height shown on the Height of Buildings Map, however the volume of massing is broken down in a series of small volumes to ensure grade access points into to the school. This is also to ensure the proposed development respects the low density residential to the west.

To ensure that the maximum height of buildings of the proposed development is suitable to the surrounding context of the site, which is transforming from a semi-rural setting to a new residential and neighbourhood precinct, the design has integrated and considered the following:

- The height and distribution of volume was informed by the sites natural slope towards the north east
- The distribution of height across the site respects the neighbouring residential development to the west
- The modern architectural design will provide a high-quality built form outcome
- The proposed development will not result in overshadowing or privacy issues
- Varying the heights while not increasing bulk and scale to ensure enough green space and shared facilities for the proposed development can be provided for students to use for outdoor play.

The figures below demonstrate the overshadowing impacts from the proposed development, which generally fall within the adjoining roads and within the front setbacks to neighbouring dwellings, and has minimal impacts on nearby sensitive receivers:

Figure 19: Shadow at 21 June 9 AM

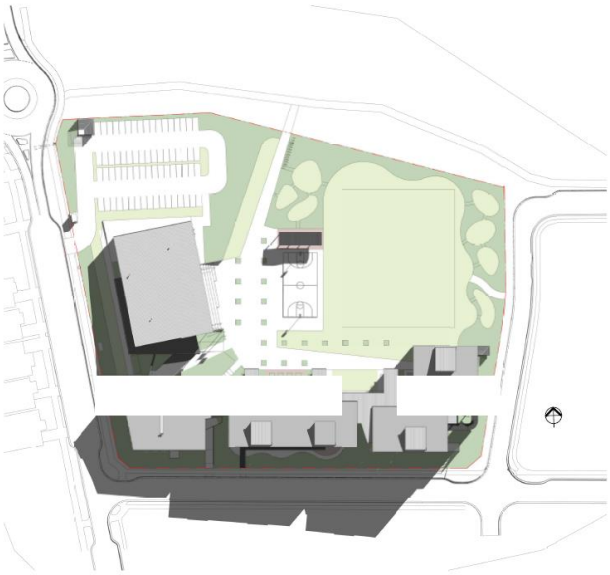


Figure 20: Shadow at 21 June 12 PM

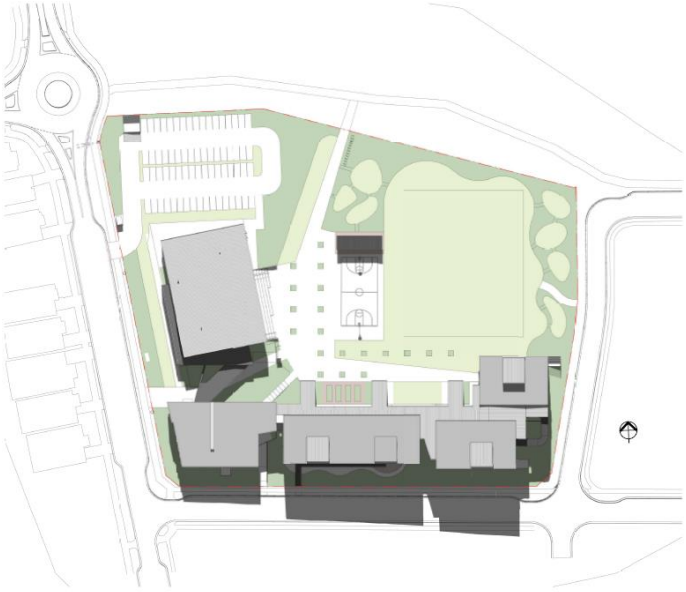
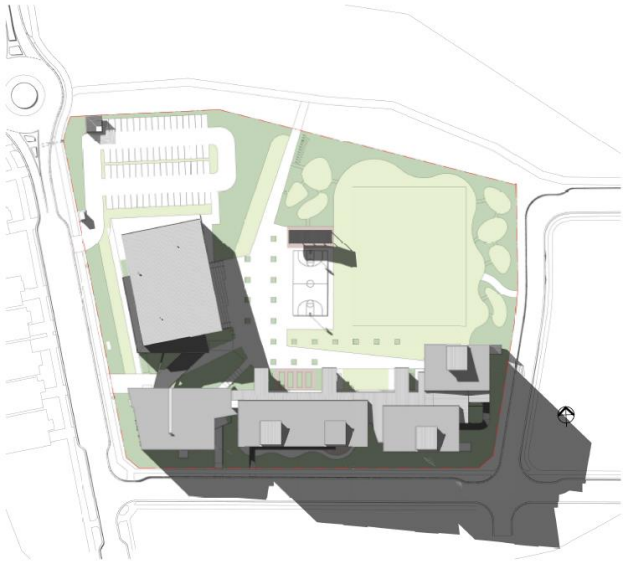


Figure 21: Shadow at 21 June 3 PM



Source: Perumal Pedavoli Architects

The proposed development provides the necessary education infrastructure identified under the indicative layout plan for the Catherine Fields (Part) Precinct to service the existing and future community. The proposed development will support the growth and liveability of the precinct as it makes its significant transition into a new neighbourhood that integrates low (to some medium density) housing, open space, conservation areas and urban infrastructure. The proposed development will form a significant part of essential community/education infrastructure for public benefit, providing high quality facilities for primary school aged children, their families and carers.

5.3 State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (State and Regional Development) 2011 identifies development types that are of state significance, or infrastructure types that are of state or critical significance. The proposed

development is defined as 'Educational establishments' under the *State Environmental Planning Policy (State and Regional Development) 2011 clause 15*:

> *(1) Development for the purpose of a new school (regardless of the capital investment value).*
>
> *(2) Development that has a capital investment value of more than $20 million for the purpose of alterations or additions to an existing school.*
>
> *(3) Development for the purpose of a tertiary institution (within the meaning of State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017), including associated research facilities, that has a capital investment value of more than $30 million.*

The proposed development is for the purpose of a new school and is a SSD in accordance with Clause 15(1), regardless of CIV.

5.4 State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017

State Environment Planning Policy (Educational Establishment and Child Care Facilities) 2017 (Education SEPP) provides state-wide planning controls for Educational Establishments. The Education SEPP came into force on 1 September 2017 and replaces the education provisions in the *State Environmental Planning Policy (Infrastructure) 2007*.

According to Clause 35(6) of the Education SEPP, the following must be taken under consideration for the proposed development to be permitted with consent:

> *(a) the design quality of the development when evaluated in accordance with the design quality principles set out in Schedule 4, and*
>
> *(b) whether the development enables the use of school facilities (including recreational facilities) to be shared with the community.*

Pursuant to Clause 35(6), the design principles are outlined in Schedule 4 of the Education SEPP and are to be considered against the proposed school development. The proposed development responds to these design quality principles in Table 4 below.

Table 5: Design Quality Principles

Design Quality Principles	Comment
Principle 1 – context, built form and landscape	The proposed development has been designed to incorporate the rich historic and local context on the land. The natural environment, water catchment and indigenous history has informed the landscape design, wayfinding approach for the school and natural material palette selected for the school. The main functions of the Administration, Library and Hall are designed to front both O'Keefe Drive and the future road to the south to create a street edge building with clearly defined entry points. This urban design element, along with the tree planting, are the elements that create a positive streetscape. The main guiding principle for the landscape design is to provide a variety of external spaces that respond to the buildings, topography and orientation linked by the site narrative. The overall form, site layout and landscape approach ensure that negative impacts for the neighbours have been mitigated.
Principle 2 – sustainable, efficient and durable	The proposed school is designed with regard to the principles of environmentally sustainable development.

	The building orientation, sun shading and passive thermal design elements are the first step to creating a sustainable building. This is further enhanced by the inclusion of a rainwater tank to be used for irrigation, solar power and the selection of long lasting, low maintenance materials. The structural system for the buildings is a mixture of concrete frame and steel framing. The benefit of these systems is that the internal walls are non-loading bearing allowing for reconfiguration in the future if deemed necessary. Together with Steensen Varming, the buildings have been optimised to facilitate good daylighting and natural ventilation. The ESD report (Appendix N) that forms part of this submission, outlines these ideas in more detail including energy conservation, water conservation and other sustainability initiatives
Principle 3 – accessible and inclusive	The site has been designed to provide an accessible ground plane with the main premise such that the buildings are all served by ramps and/or lift. The design of the open space aims to provide walkway transitions between the various areas. This creates equitable access for all users. The site layout is clear and simple, promoting easy and direct circulation. This will be enhanced by clear wayfinding signage. The signage strategy is included in Section 5.5 of this report. The layout of the various functions that can be used by the community have been designed so as to facilitate secure after hours use. The Hall and library are located at the street edge with clearly defined entries to allow easy access by the community. The open play fields are located to the north of the site and have the potential for direct access to the future sports fields to the north.
Principle 4 – health and safety	The proposed school design ensures that natural light, ventilation & acoustics are used to create healthy and safe learning/teaching environments. The school site is to be fenced at the boundary as the perimeter security. The landscaping of the site and the articulation of the fence assists with integrating the fence into the site and public domain. The school has a main entry on O'Keefe Drive that is clearly identified. There are multiple secondary entry and exit points that are needed to manage the large student numbers on the site. These points are secure and are open at the start and end of the day only. During school hours, it is understood that these gates will be locked to ensure that all visitors and students enter and leave via the main entry during school hours.
Principle 5 – amenity	The layout of the school has been designed to ensure engaging and pleasant spaces with consideration of surrounding amenities. The objective is to provide a variety of teaching and learning spaces that have access to natural light and ventilation and have good internal acoustics to facilitate comfortable learning environments. The typical learning clusters contain four homebases, a combined practical activity area with a shared learning common. This is complemented on site by special programs rooms, learning spaces within the library and facilities for special needs students. In addition, a range of outdoor learning and play spaces are provided with the aim to encourage learning from the natural environments and the buildings themselves. Some spaces are designed to be multipurpose to cater for a range of school uses as well as community use. This includes the Hall, Library and playing fields. The layout of the school provides a perimeter street edge building that encloses the main outdoor activities.

	This has the benefit of protecting the amenity of the local neighbourhood and the safety of the students.
Principle 6 – whole of life, flexible and adaptive	The design of the site is based on the urban design and sustainability principles described in the points above. The key factors that ensure a building can be used well into the future are; • Long lasting, low maintenance materials to ensure its use stands up to the impacts associated with school buildings, • Framed construction that allows the internal walls to be reconfigured in the future to adapt to future learning requirements and finally, • Providing a variety of learning spaces that have good amenity for the uses teachers, students & community.
Principle 7 - aesthetics	The proposed school is designed to provide an articulated and dynamic built form. The buildings are designed to clearly articulate entry points, reinforcing connection to the neighbourhood and its wider context. The learning buildings have an articulated façade that provides a subtle playfulness towards the street. This is accentuated with the use of accent colours that are drawn from the colours derived by the research in preparing the site narrative. These ideas, combined with the passive environmental principles described above, produces an aesthetic that is both dynamic yet responsive to climate and context. The combination of the building forms and landscape setting will provide a sense of identity for the neighbourhood.

5.5 State Environmental Planning Policy No. 64 - Advertising and Signage

The *State Environmental Planning Policy No 64 – Advertising and Signage* (SEPP 64)applies to all signage that can be displayed with or without development consent and is visible from any public place or public reserve.

The proposed development will have a school entry sign (2800m x 630mm x 180mm).

Under clause 13 of SEPP 64, the proposed development's signage is to be assessed against the assessment criteria pursuant to Schedule 1 of SEPP 64. An assessment against relevant criteria of the proposed signage has been undertaken in Table 5 below.

Table 6: Schedule 1 Assessment Criteria

Schedule 1 Assessment Criteria		
Criteria	**Comment**	**Compliance**
1 Character of the area • Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located? • Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	The proposed signage is minor in scale and provide an opportunity for a Dharwal Welcome to country message or other interpretative information. The colours proposed for the sign are supportive of the surrounding environment and incorporate leaf pattern graphics referencing the importance of environment and indigenous past.	Yes
2 Special areas • Does the proposal detract from the amenity or visual quality of any environmentally	The proposed signage will use colours drawn from the design of the proposed development. It will not detract from	Yes

Schedule 1 Assessment Criteria		
sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?	amenity and will be complementary to the surrounding environment	
3 Views and vistas • Does the proposal obscure or compromise important views? • Does the proposal dominate the skyline and reduce the quality of vistas? • Does the proposal respect the viewing rights of other advertisers?	The proposed signage does not obscure or compromise important views. It also will not dominate skyline, reduce quality of vistas. The proposed development is located in a low residential area and is not in the vicinity of other advertisers.	Yes
4 Streetscape, setting or landscape • Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape? • Does the proposal contribute to the visual interest of the streetscape, setting or landscape? • Does the proposal reduce clutter by rationalising and simplifying existing advertising? • Does the proposal screen unsightliness? • Does the proposal protrude above buildings, structures or tree canopies in the area or locality? • Does the proposal require ongoing vegetation management?	The proposed signage is designed to be in proportion with the proposed development, therefore is appropriate for the site setting. It is sympathetic to the streetscape and surrounding landscape. The proposed signage will positively contribute to the visual interest of the streetscape and provide clear identification of brand and clear direction for students and teachers. The proposed signage is not in the vicinity of existing advertising. The proposed signage does not protrude above buildings, structures or tree canopies, and does not require vegetation management.	Yes
5 Site and building • Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located? • Does the proposal respect important features of the site or building, or both? • Does the proposal show innovation and imagination in its relationship to the site or building, or both?	The proposed signage is scaled with the proposed development. It will not be higher than the walls of the proposed development. The proposed signage is modern and clearly identifies the school, using graphics that contribute broadly to the site aesthetics.	Yes
6 Associated devices and logos with advertisements and advertising structures • Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?	The proposed signage does not have any safety devices, or platforms or lighting devices. It will act as a way-finding tool to identify the letters 'Catherine Field Public School'.	Yes
7 Illumination • Would illumination result in unacceptable glare? • Would illumination affect safety for pedestrians, vehicles or aircraft? • Would illumination detract from the amenity of any residence or other form of accommodation? • Can the intensity of the illumination be adjusted, if necessary? • Is the illumination subject to a curfew?	No illumination will be required for both signage therefore this clause is not applicable	N/A
8 Safety	The proposed signage will not reduce safety on public roads, or for pedestrians	Yes

Schedule 1 Assessment Criteria	
• Would the proposal reduce the safety for any public road? • Would the proposal reduce the safety for pedestrians or bicyclists? • Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?	or bicyclists. It will also not reduce safety by obscuring sightlines from public areas.

5.6 State Environmental Planning Policy No. 55 - Remediation of Land

The *State Environmental Policy No 55 – Remediation of Land* (SEPP 55) provides a state-wide planning approach to the remediation of contaminated land. Contaminated land is defined in SEPP 55 and the EP&A Act as:

> *Contaminated land means land in, on or under which any substance is present at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment.*

Pursuant to Clause 7(1) of SEPP 55, consent authority must not grant consent to a development application unless it has considered whether the land is contaminated.

A Phase 2 Environmental Site Investigation was undertaken by Environmental Investigation Services on 21 December 2018 and is attached at Appendix P. The results indicate that the site is suitable for the proposed development with relatively low potential for contamination-related unexpected finds during proposed development works.

The groundwater assessed found elevated concentrations of copper, zinc, nickel and cadmium. The assessment concludes that these elevations are not considered to represent a significant ecological risk for the following reasons:

- Elevated concentrations of heavy metals in the groundwater are most likely a regional issue as no significant elevations of these heavy metals were detected in the soil samples analysed. There was therefore no indication of a point source of contamination on site
- These elevated heavy metal concentrations are often encountered in urban groundwater as a result of leaking water infrastructure and surface water runoff
- The significant earthworks associated with the subdivision to the west and up gradient of the site may have impacted local groundwater quality. The groundwater and the receiving water body could be considered to be disturbed system.

The assessment suggests that there would be no linkage of contaminants to humans as groundwater will not be used as a resource at the site. The assessment recommends that if in the event that groundwater seepage management or dewatering is required for development, additional testing of groundwater may be required. Dewatering and/or groundwater disposal approvals should be sought from relevant authorities.

The assessment identified saline conditions at the site which warrant management but does not preclude the development proceeding. Further investigations for salinity will be undertaken as part of detailed design, the matter can be conditioned to ensure that these investigations occur.

5.7 Sydney Regional Environmental Plan No. 20 - Hawkesbury-Nepean River

The *Sydney Regional Environmental Plan No. 20 – Hawkesbury-Nepean River* (SREP 20) aims to protect the environment of the Hawkesbury-Nepean River system by ensuring that the impacts of future land use are considered in a regional context; the SREP 20 applies to the Camden LGA.

The proposed development will not have any adverse environmental impacts on an environmentally sensitive area, areas of high scenic quality, wetland areas, areas of high cultural heritage or impact the water quality of the Hawkesbury Nepean River. The proposed development will contribute to careful management of water quality by employing stormwater initiatives as outlined within the Civil Documentation in Appendix G.

5.8 Draft State Environmental Planning Policy (Remediation of Land)

DPIE is currently undertaking a review of SEPP 55 and has publicly exhibited a proposed new Remediation of Land SEPP. DPIE will next identify further steps in consultation and plan making which will include further consultation with stakeholders.

New provisions which are proposed to be added in the new Remediation of Land SEPP include:

- Requiring all remediation works that is to be carried out without development consent, to be reviewed and certified by a certified contaminated land consultant
- Categories remediation work based on the scale, risk and complexity of the work
- Require environmental management plans relating to post-remediation management of sites or ongoing operation, maintenance and management of on-site remediation measures (such as a containment cell) to be provided to council.

The Environmental Site Investigation undertaken by Environmental Investigation Services on 21st December 2018, and attached at Appendix P, found that the site is suitable for development and that there was relatively low potential for contamination-related unexpected finds during proposed development works.

If unexpected finds are uncovered and remediation is required, remediation works will be reviewed and certified by a certified contaminated land consultant.

5.9 Draft State Environmental Planning Policy (Environment Permissibility)

A new proposed *State Environmental Planning Policy (Environment Permissibility)* has been proposed by DPIE to combine seven existing SEPPs including SREP 20, into a simple, modern and accessible instrument. The proposed SEPP (Environment) aims to deliver a planning framework that maintains and improves environmental protections in existing SEPPs through:

- Consolidating existing state level planning provisions into a single instrument
- Providing a flexible format capable of being expanded and amended to cater for future needs
- Reflects and coincides with other legislation and environmental planning instruments
- Maintains and improves environmental protections in existing SEPPs.

The significance of these changes to the proposed development would be to encourage proper management, development and conservation of the Hawkesbury-Nepean River and any implications the proposed development might have on the surrounding environment. It will provide a smoother and clearer guideline in maintaining the existing natural environment to the proposed development.

5.10 Camden City Council Growth Centre Precincts Development Control Plan 2017

Camden City Council Growth Centre Precincts Development Control Plan (DCP) establishes planning, design and environmental objectives and controls to provide guidance for developments within Camden LGA. It is to be read in conjunction with the Growth Centres SEPP and Appendix 9 Camden Growth Centres Precinct Plan under the Growth Centres SEPP.

In accordance with Clause 11 of the *State Environmental Planning Policy (State and Regional Development) 2011,* the application of Development Control Plans (DCP)s are excluded when assessing SSD projects. The proposed school has been assessed in the interest of provided a comprehensive application, and to fulfil the obligations of the proposed school under the issued SEARs for the project.

Table 6 below provides assessment against the provisions of the Camden City Council Growth Centre Precincts DCP.

Table 7: Camden City Council Growth Centre Precincts DCP 2017– Precinct Planning Outcomes

2.0 Precinct Planning Outcomes		
Provision	**Comment**	**Compliance**
2.2 The Indicative Layout Plan	The overall site plan outlined in Appendix B identifies the road network, public transport routes, open space, drainage networks, and locations of the development. The site is consistent with the Precinct's Indicative Layout Plan as the site is established as a school location.	Yes
2.3 Site Analysis		
2.3.1 Flooding	The site is not situated on flood prone land and therefore is not subject to any flooding.	Yes
2.3.2 Water cycle management	An on-site stormwater detention (OSD) and water quality has been considered and incorporated into the design of the proposed school. This is incorporated into the design of a basin downstream of the new subdivision known as the Oran Park South Development Tranche 33. In result, additional OSD and water quality measures are not proposed as part of the proposed school. An ESD Strategy has been developed to consider a sustainable water strategy, see Appendix N. Detailed design will further outline reuse for non-potable services and irrigation. A rainwater tank has been considered into the proposed school design and will reticulate to all gardens and oval areas via hose taps and inground connections.	Yes
2.3.3 Salinity and soil management	The site is located in an area where soil and groundwater salinity may occur. However, Appendix P outlines the recommended management of salinity and soils on the site. Further investigations for salinity will be undertaken as part of detailed design.	Yes
2.3.4 Aboriginal and European heritage	There are no present Aboriginal items found on site (refer to Appendix O).	Yes

2.0 Precinct Planning Outcomes		
	It is acknowledged that there is a heritage site located approximately 35m south of the site. The proposed development does not impact the heritage site. Appropriate management has been identified in Appendix Y.	
2.3.5 Native vegetation and ecology	The site is vacant cleared land that does not contain any native vegetation or trees (refer to Appendix S).	Yes
2.3.6 Bushfire hazard managements	The site is located on the vegetation buffer zone of bushfire prone land. No buildings are proposed to be developed within the buffer zone. Appropriate bushfire hazard management measures have been identified in Appendix R.	Yes
2.3.7 Site contamination	No potential risks associated with contamination exists on site. No remediation is required. Should there be any unexpected finds, appropriate measures are detailed in Appendix Q.	Yes
2.3.8 Development on and adjacent to electricity and gas easements	The proposed development is not situated on electricity and gas easements. Thus, not applicable.	Yes
2.3.9 Noise	An Acoustic Report (Appendix M) has considered potential noise and vibration impacts from the proposed development. Recommended noise mitigation measures are detailed at Appendix M.	
2.3.10 Odour assessment and control	There are no known odour sources on the land.	Yes
2.3.11 Air quality	The proposed development is for a primary school consisting of school buildings, general learning areas and associated amenities. Thus, the proposed development will not affect the air quality.	Yes
2.4 Demolition	No demolition is proposed on site. There are no existing buildings.	Yes
2.5 Crime Prevention through Environmental Design	The proposed development encompasses and applies the CPTED principles to the design of the building.	Yes
2.6 Earthworks	All earthworks are to be carried out in accordance with council requirements. There are no potential risks associated with contamination.	Yes

Table 8: Camden City Council Growth Centre Precincts DCP 2017 – Development in Residential Areas

4.0 Development in Residential Areas		
Provisions	**Comment**	**Compliance**
4.1 Site Responsive Design		
4.1.1 Site analysis	A site analysis plan is provided at Appendix E illustrating the proposed buildings, existing	Yes

4.0 Development in Residential Areas		
	features, locality, and constraints and opportunities of the site.	
4.1.2 Cut and fill	The proposed finished surface levels are outlined in the Cut and Fill Plan in Appendix G.	Yes
4.1.3 Sustainable building design	The proposed development has been designed to reduce energy and water use, waste and considering locally sourced, recycled materials to ensure sustainable building design. Appropriate strategies have also been applied to ensure natural ventilation through the buildings.	Yes
4.1.4 Salinity, solicity and aggressivity	A contamination report has been prepared at Appendix Q illustrating the appropriate mitigation measures. Further investigations for salinity will be undertaken as part of detailed design	Yes
4.4 Other development in residential areas		
4.4.1 General Requirements 1. Site analysis information as required by clause 4.1.1 is to be submitted with all applications for non-residential development in residential zones.	The Site Analysis can be found at Appendix E. Appendix E will be submitted in conjunction with this EIS.	Yes
2. Except as provided for in the specific controls below, non-residential development on residential zoned land is to be located on allotments that have a frontage width of greater than 15 metres.	The site allotment has a frontage width of approximately 138m. This width is greater than 15m.	Yes
3. Non-residential development on residential zoned land is to comply with the requirements of clause 4.1 and clauses 4.2.9 & 4.2.10 of this DCP in relation to residential amenity and sustainable building design.	This development complies with Clause 4.1, and a site analysis plan has been provided, found in Appendix B to identify: • The proposed building in relation to site boundaries There is no existing vegetation and trees on site. • Contours and existing levels of the land in relation to buildings; • Proposed roads; • Location and uses of buildings on sites adjoining the land This development complies with clause 4.2.9 & 4.2.10. An Acoustic Report and Design Analysis Report has been provided at Appendix M & E identifying: • fencing does not deter from the vibrant streetscape nature • adequately ensures privacy to private open areas • design minimises visual and acoustic impacts on adjoining properties.	Yes
4. For all non-residential development, the controls relating to lots with frontages greater than 15 metres in the following clauses of this DCP apply: • Clause 4.2.3 Front setbacks; • Clause 4.2.4 Side and rear setbacks; • Clause 4.2.5 Dwelling height, massing and siting; and • Clause 4.2.8 Garages, site access and parking	The proposed development has been designed to ensure increased setback to decrease negative impact on adjoining neighbourhoods. The proposed maximum number of storeys for the development is 3 storeys with maximum dwelling height of 14.8m. Dwelling height justified in Section 3.3.1 of this report. A step down massing has been designed to respect the slope and ensure at grade entries.	Yes

4.0 Development in Residential Areas

	Vehicle access integrated on O'Keefe Drive. No garages are proposed. Car parking is in accordance with Camden Council standards, please see Transport Impact Assessment in Appendix I.	
5. Non-residential development is not permitted on battleaxe allotments	The site is not a battleaxe allotment.	Yes
6. The maximum site coverage of buildings is 60% of the total site area.	The maximum site coverage of buildings does not exceed 60% of the total site area.	Yes
7. The minimum landscaped area for non-residential development is 20% of the total site area of the allotment.	The landscaping of the proposed development exceeds 20% of the total site area.	Yes
8. Provision of car parking for non-residential uses will be assessed by Council on an individual basis, and with reference to standards that apply elsewhere in the Local Government Area, that may establish relevant parking requirements, but must be sufficient to meet demand generated by staff and visitors.	Car parking references standards that apply to Camden Council, please see Transport Impact Assessment in Appendix I which confirms the parking will meet the demand generated by staff and visitors. Car parking is located on the north western corner of the site.	Yes
9. Where a non-residential use is proposed as part of, or in association with, a dwelling (e.g. a home business): • Parking and storage areas are to be located behind the building façade or be screened from view from the street by landscaping and set back at least 1 metre from the front property boundary. • Parking and storage areas are not to encroach on the private open space or landscaped area of the dwelling.	N/A	N/A
10. Where there is an inconsistency between the general requirements of this clause and the specific controls in clauses 4.4.3 to 4.4.6 the specific controls prevail	N/A	N/A
11. Council will have particular regard to the effects of non-residential development in the residential zones. Council will consider whether: • the proposed development will be out of character with surrounding residential development, particularly in relation to the height and/or scale of any proposed buildings; • the proposed development will contribute to an undesirable clustering of that type of development, or non-residential uses in general, in the area; • an undesirable effect on the amenity of the surrounding area will be created; • the proposed use will draw patronage from areas outside of the surrounding neighbourhood, and the extent to which that patronage might impact on the amenity of residents through factors such as traffic generation, noise or the overall scale of the non-residential use; • a noise nuisance will be created; • the development will generate traffic out of keeping with the locality; • adequate facilities are provided for the purposes of parking, loading and deliveries;	The proposed development is permitted on R2 Low Density Residential zone. The design forms a narrative that unite the building forms to create a learning campus that acknowledges the history and local site context of the area. Adequate parking facilities are provided within the proposed development. Noise and traffic impacts associated with the development are assessed at section 6.3 of this EIS. Further, the school has been designed to meet relevant accessible guidelines to ensure legibility and wayfinding of the site.	Yes

4.0 Development in Residential Areas		
• adequate provision is made for access by disabled persons		
12. Non-residential development in residential zones should be similar in bulk, scale, height and siting to the surrounding buildings.	The buildings in the proposed development are broken down into articulated blocks to avoid a continuous large building, reducing bulk and scale within the surrounding vicinity. For further details, please refer to section 3.3 of this EIS.	Yes
13. Finishes, materials, paving and landscaping are to be consistent with those of surrounding residential development.	A neutral colour and material palette with some accent colour tones is utilised to compliment the surrounding neighbourhood.	Yes
14. Storage of materials and equipment is to be contained within internal storage areas or outdoor storage areas that are suitably screened, fenced and landscaped.	Storage areas proposed throughout the site has been designed to ensure they are well screened by landscaping and away from main active spaces.	Yes
4.4.4 Educational Establishments and Places of Worship 2. Places of public worship and educational establishments are preferably to be located on land with frontage to a collector road. Corner sites are preferred.	The School is located on a site with a frontage to O'Keefe Drive, a collector road that currently runs in a north-south direction. Additionally, the school is located on a corner site.	Yes
3. In assessing applications, Council will consider the following: • the privacy and amenity of adjoining developments; • the need and adequacy for provision of buffer zones to surrounding residential development; • urban design; • location; • the size of the land where the development is proposed; • traffic generation and the impacts of traffic on the road network and the amenity of nearby residents; • the availability of parking; • the scale of buildings and their capacity; and • hours of operation and noise impacts.	Appropriate materials and finishes such as Aluminium Louvres along with landscaping are utilised in the design to ensure for adequate privacy and amenity of adjoining developments. The size of the land provides sufficient space for open space learning and recreational activities for students. Recommendations on traffic generation impacts are outlined in section 7.3 of this EIS. The local streets have the capacity to accommodate the estimated vehicle trips. Car parking references standards that apply to Camden Council, please see Transport Impact Assessment in Appendix I.	Yes
4. A traffic and transport report/statement is to accompany the Development Application addressing the impact of the proposed development on the local road system and defining car parking requirements.	A Transport Impact Assessment has been prepared detailing relevant access, traffic and parking characteristics of the school and potential impacts associated. Please refer to Appendix I for more details.	Yes
5. A landscape plan and associated documentation is to be submitted with the Development Application identifying existing vegetation and community plant species and/or existing design elements of the site layout, and the proposed landscaping treatment of the development.	A Landscape plan has been prepared detailing the existing and proposed landscaping design elements. Please refer to Appendix F for more details.	Yes
6. Car parking spaces shall be provided on site in accordance with Table 4-12 of the Camden Growth Centres DCP 2017. Car parking requirements for places of public worship and educational establishments, unless the applicant can demonstrate to the satisfaction of Council that lower rates of parking are reasonable for the particular development.	Car parking will be provided on-site in accordance with the school parking requirements detailed in the Campbelltown Growth Centre Precinct DCP (CGCP DCP), noting that the Camden Growth Centres DCP does not include such rates. In this regard, a total of 68 parking spaces will be provided, which provides compliance with the CGCP DCP requirements.	Yes

4.0 Development in Residential Areas		
7. For certain uses, the provision of overflow parking may be necessary particularly where such developments incorporate halls used for social gatherings. Overflow parking areas could be provided on open grassed areas and need not be formally sealed or line-marked. Proposed overflow parking areas are to be clearly shown on plans submitted with the Development Application.	N/A	N/A
8. Development must be designed to minimise the possibility of noise impacts to the occupants of adjoining or neighbouring dwellings.	The general layout of the school has been designed to locate high potential noise activities away from residential dwellings.	Yes
9. Where it is likely that a development may cause an adverse noise impact on nearby residential areas, an Acoustic Report will be required to be submitted to council with the Development application,	Noise generated within the school's internal spaces will be typically low, with noise within the communal spaces and indoor activities expected to be higher than other spaces. An Acoustic Report has been prepared at Appendix M detailing appropriate noise mitigation measures.	Yes
10. Development must comply with Office of Environment and Heritage noise guidelines in clause 4.2.9	Development will be managed in accordance with the NSW Office and Environment & Heritage noise guidelines. Refer to Appendix M for further details.	Yes
11. Where appropriate, buffers should be put in place to limit noise impacts on the surrounding area.	Landscaping has been proposed around the boundary of the site acting as a buffer to mitigate potential noise impacts.	Yes
12. Sources of noise such as garbage collection, machinery, parking areas and air conditioning plants are sited away from adjoining properties and screened/ insulated by walls or other acoustic treatment. Noise levels are not to exceed specified limits at the most affected point of the property boundary.	An Acoustic Report has been prepared at Appendix M, detailing that the noise and vibration criteria outlined in the report will be met following the completion of the proposed works.	Yes
13. The general hours of operation for places of public worship and educational establishments are between 7am and 9pm.	The general hours of operation for the School will operate between 7am and 9pm.	Yes
14. Variation to the approved hours of operation may be approved by Council subject to other requirements or a merit assessment.	Varied operation hours of the School have not been proposed.	N/A

6 KEY ASSESSMENT ISSUES

The following key issues pursuant to SEARs have been assessed, with impacts recognised and mitigation measures proposed where necessary.

- Built Form and Urban Design
- Environmental Amenity
- Noise and Vibration
- Transport and Accessibility
- Social Impacts
- Heritage
- Contamination
- Flooding
- Bushfire
- Biodiversity
- Sediment, Erosion and Dust Control
- Geotechnical and Salinity
- Waste
- Cumulative Impacts.

6.1 Built Form and Urban Design

The proposed development's layout includes breaks between volumes to provide visual articulation as well as increased external wall area allowing for an increase in daylight and ventilation opportunities. The proposed development utilises the building form and landscape to provide a positive streetscape setting. The massing of the form is broken down into a series of smaller volumes that assist the fall of the land with the objective of providing on grade access points into the school.

The material and finishes complement the landscape and are based on a neutral palette with selected highlight accent materials and colours, reflecting a modern school design.

The landscape design acknowledges the history and the local site context as an integral part of the site planning. It provides spaces that encourage interaction between learning areas, equal access to all areas of the site, and a strong sense as a communal hub. The design provides a modern free play area, balance logs, adventure play, nature play and play spaces for younger or special needs children. It also incorporates shade through trees and sails, and alongside the built form, provides a positive streetscape setting.

6.2 Environmental Amenity

6.2.1 Solar Access and Overshadowing

Built form has the potential for overshadowing on neighbouring properties and future neighbouring development. The proposed development has carefully considered the massing of the built form to mitigate this potential impact. The proposed development has considered solar access.

Shadow diagrams for 9am, 12pm and 3pm during winter solstice have been prepared by Perumal Pedavoli, see Appendix B.

- Any future development south east of the proposed development will not be affected by overshadowing and will have minor overshadowing impacts during 3pm. However, there is no residential development in this area

- Any future development to the south will have minor overshadowing impacts during 12pm. Some overshadowing impacts may occur during 9am and 3pm, however there is no residential development in this area

- Residential development west of the site will not be affected by the proposed development, therefore will receive continual access to sunlight.

Overall, there are no significant overshadowing impacts caused to adjoining residential sites.

6.2.2 Privacy

Built form has the potential for impacting privacy on neighbouring properties and future neighbouring development. The proposal has carefully considered this through the orientation, appropriate setbacks and landscape designed.

The proposed development will provide no unreasonable privacy impacts because:

- The school is bounded by roads on three boundaries (west, south and east) and a future sporting field to the north. The proposed school buildings are to be well setback from the site boundaries. The buildings will be setback a minimum of 5.34 metres from the boundary. This will ensure that privacy levels are maintained between school buildings and residential properties on the opposite sides of O'Keefe Drive and the two future roads at the site's southern and eastern boundaries

- Planting will be provided between the school buildings and the site boundary, enhancing privacy between the school and neighbouring residential properties

- The school's communal hall is oriented toward the centre of the school ensuring visual privacy to neighbouring residential properties on the opposite side of O'Keefe Drive

- Outdoor recreational areas are positioned facing towards the future sports field to the north of the site. The school's buildings provide a buffer between the outdoor recreation and neighbouring properties opposite O'Keefe Drive and the future road to the south of the school. A wide buffer of tree planting will provide visual privacy to properties to the east of the school.

6.2.3 Visual Amenity

A Visual Impact Assessment has been undertaken by RPS detailing the potential impacts on the surrounding built environment and adjoining heritage item, see Appendix BB. The proposed development includes a combination of two to three storey buildings. The highest point of the proposed school is on Block B and C which are oriented southwards. The maximum height is worked into the natural ground line and the proposed new ground line, working with existing topography to maximise learning facilities while minimising visual impacts.

The setbacks proposed along all boundary lines, which then are fronted by local roads, ensure that separation from nearly residential receivers is maximised. New plantings along the site boundary and material selection for building construction will ensure that the proposed school provides positive visual amenity to the existing context, which is dominated by low density dwellings, greenfield development and infrastructure construction.

Building articulation, colour selection and modern architectural design is considered well-integrated with the existing landscape. The proposed development's design has been developed and refined in consultation

with GANSW and Council, who provided valuable feedback to ensure that the proposed school delivers positive visual amenity and design qualities.

Figure 22: View from O'Keefe Drive

Figure 23: View of Entrance from O'Keefe Drive

6.3 Noise and Vibration

It is anticipated the construction and operation of the proposed development has the potential to generate noise and vibration. The proposed development has carefully considered this through an Acoustic Report

prepared by Northrop Consulting Engineers on 29th August 2019. It is attached at Appendix M. The report identifies nearby sensitive receivers and noise sources with potential to impact neighbouring development. These noises included the following:

- Noise from mechanical plant, PA system and school bells
- Noise emissions from use of school facilities out of hours
- Students' external and sporting activities
- Vibration from the development
- Waste removal truck noise
- Traffic and carpark noise.

The surrounding area includes completed residences to the west of the development and areas to the south and west of the site which are to be developed with residences in the future. Both unattended and attended noise measurements were conducted to measure the existing noise levels at the site. The report identifies the recommended approach for managing the construction and operation noise to be generated by the proposed development.

6.3.1 Operational Noise

Key findings from the assessment include:

- Traffic noise levels from O'Keefe Drive is currently low. A 5dB allowance will be incorporated into the design of the school facade and glazing to allow for future increases in traffic movements
- Mechanical plant will be acoustically treated to achieve the Project Noise Level criteria. The project Noise Trigger Level criteria at the nearest affected residence are 50LAeq during the day, 43LAeq during the evening and 38LAeq during the night
- Public Address (P.A.) systems and electric school bells shall be calibrated such that the Project Noise Trigger Level criteria at the nearest affected residence are 50LAeq are not exceeded during their operation
- Noise generated within the school's internal spaces will be typically low, with noise within the communal spaces and indoor activities expected to be higher than other spaces
- General students outdoor activities are not anticipated to exceed the Project Noise Trigger Level criteria of 50LAeq during the day at the nearest affected residence
- All vibration generating equipment (such as mechanical plant) and activities (basketball court) will be vibration isolated such that the vibration transmission does not exceed the recommended levels as specified in the NSW Office of Environment & Heritage "Assessing Vibration: A Technical Guideline 2006" at the neighbouring residences and within the school, following completion of the school
- In regards to Waste Removal, the assessment identifies that the façade of the nearest residence at O'Keefe Drive is approximately 80 metres from the waste pickup location. The noise for waste removal is predicted at 68dB(A). The predicted noise level inside a bedroom at the residence facade is 58dB(A) with window opened and 43dB(A) with window closed. The assessment refers to NSW Road Noise Policy (2011) and research on sleep disturbance to date which concludes that maximum internal noise levels of below 50-55 dB(A) are unlikely to awaken people from sleep and that one or two noise events per night, with maximum noise levels of 65-70 dB(A), are not likely to affect health and wellbeing significantly. The assessment recommends that waste collection be carried out after 7am to minimise sleep disruption at the nearest residence on O'Keefe Drive

- The operation of the new car park is expected to increase the background noise due to increased vehicular activity. Based on the movement of 17 cars over a 15 minute period, the operation of the car park is expected to generate noise levels in the order of 74dBw(A) in the carpark t an average distance of 20 metres from the car park to nearest residence, the predicted noise level at just outside the nearest residence is 40dB(A) which is below the daytime (7am-6pm) Project Noise Tigger Level of 50dB(A) at the nearest residence. For the night-time (10pm-7am) period, based on the movement of 1 car over a 15 minute period, the operation of the car park is expected to generate noise levels in the order of 62dBw(A) in the carpark. At an average distance of 20 metres from the car park to nearest residence, the predicted noise level contribution at just outside the nearest residence is 28dB(A) which is below the night-time (10pm-7am) Project Noise Tigger Level of 38dB(A) at the nearest residence.

6.3.2 Construction Noise

An assessment of the likely construction noise impacts has been undertaken by Northrop Consulting Engineers see Appendix M. The daytime 'rated background noise level' (RBL) at the nearest residence at O'Keefe Drive is 45dB(A). The assessment identifies that construction noise levels at the residential boundary of 55dBLAeq or less is acceptable during the construction periods.

All practicable measures will be undertaken to reduce noise arising from construction and will not exceed the limits set out by the Environmental Protection Authority (EPA). No machine work will occur approved outside the working hours unless additional approval has been requested.

6.4 Transport and Accessibility

The proposed development has the potential to generate traffic and related congestion during construction and operation. The proposal has carefully considered this through incorporating on-site parking and a Traffic Impact Assessment (TIA) prepared by ASON Group on 5th September 2019, and is attached at Appendix I.

6.4.1 Car Parking

The TIA notes that the Camden Growth Centres DCP does not provide provisions for parking for schools, however, the parking rates within the Camden DCP are the same as those provided within the Campbelltown Growth Centres DCP. The TIA therefore uses a rate of:

- One (1) space per staff member; plus
- One (1) space per 100 students.

Using this rate, the TIA estimates a total of 66 required parking spaces. The school is proposed to provide a total of 68 off-street parking spaces, which is deemed compliant with the Camden DCP, Campbelltown Growth Centres DCP which, in the opinion of ASON Group, would also equally apply to the Campbelltown Growth Centres DCP. ASON Group have also completed a Green Travel Plan (GTP), attached at Appendix J, which is designed to encourage the use of active transport modes and in turn reduced reliance on motor vehicles.

6.4.2 Parking During Construction

A Construction Traffic Management Plan has been prepared by ASON Group on 5 September 2019 and is attached at Appendix K.

During the construction of the proposed development, it is intended that contractor and construction vehicle parking will be accessed via the designated construction gate. No construction vehicles will be permitted on the public roadway, in result reducing the minimal parking demand. Contractors will be encouraged to carpool or utilise public transport to further reduce the minimal parking demand.

6.4.3 Vehicle and Pedestrian Access

ASON Group's TIA (Appendix I) has utilised data from other similar primary schools and applied it to proposed development demand for the PM school peak pick-up demand. The on-street set down space

available immediately adjacent to the School will provide more than enough capacity to meet the peak drop off and pick up demand in morning and afternoon school peak periods.

The provision of DOPU space in Road 610 could provide the capacity required to accommodate the peak demand with an estimated peak queue of 33 vehicles, or a length of approximately 200m.

6.4.4 Public Transport

Bus stops will be provided in O'Keefe Drive immediately adjacent to the school. There area a number of actions outlined within ASON Group's GTP which are aimed at encouraging use of public transport.

6.4.5 Active Transport Option

A shared pedestrian and cyclist path is provided on O'Keefe Drive, immediately adjacent to the school. The school's main entrance connects to this path. In addition, a pathway links the school with the future cycling path to the north. The TIA confirms that bicycle racks will be provided for students. For staff, bicycle parking spaces will be provided along with end of journey facilities including showers and lockers.

In addition, the GTP prepared by ASON Group and attached at Appendix J includes a number of specific actions to encourage greater uptake of walking and cycling.

6.4.6 Green Travel Plan

A Green Travel Plan (GTP) was prepared by ASON Group on 2 September 2019 and is attached at Appendix J. The GTP's objectives are to encourage the use of active transport and reduce the reliance upon private motor vehicle journeys. The GTP sets mode share targets for students and staff. An action plan is proposed to encourage alternate modes of transport and includes the following:

- Establishment of a travel plan co-ordinator, in addition to transport co-ordinator to provide review and monitoring of the GTP and communicate directions with parents and staff
- Provision of a 'travel welcome pack' for newly employed staff highlighting alternate modes of transport
- Preparation of a Transport Access Guide
- Lobbying Council/DPIE for improved cycle connections and updated cycle strategy
- Promotion of active transport community activities and events such as Ride2Work Day and Walk to Work Day
- Provision and maintenance of clearly signposted bicycle parking within the site in addition to end of journey facilities
- Communication of public transport route maps and timetables to students and staff
- Advocating for TfNSW to improve public transport services in response to increased development within the surrounding area
- Review of initiatives to promote staff car-pooling.

6.4.7 Construction Traffic

A Preliminary Construction Traffic and Pedestrian Management plan has been developed by ASON Group, see Appendix L.

Access to the site during the construction will be via the location of future connections to O'Keefe Drive. This is the shortest route between local and regional road networks, therefore reducing the traffic impacts during construction. An on-site parking area will be provided within the future car parking area so access is undertaken in a forward direction.

Light traffic generation is expected during construction. It is expected that the volume of traffic will not exceed the proposed operational volumes, therefore generating far less traffic when the proposed school is in operation.

Construction hours are likely to be the following:

- Monday to Friday 7am-6:00pm
- Saturday 8am-1:00pm.

No works will be undertaken on Sundays and Public holidays.

Construction staff will arrive and depart during these periods. Heavy vehicles would arrive outside of the peak periods, therefore, not contribute to the estimated peak hour volumes. The estimated construction traffic flows for the proposed construction activities would not result in adverse impact on the operational capacity of the surrounding road network.

6.4.8 Operation Traffic

Based on what are considered to be very conservative trip rates in the context of the site within the CFPP, the School is estimated to generate up to 630vph in the AM school peak and 520vph in the PM school peak; the majority of these trips will be generated to and from the on-street set down areas. With specific regard to the potential impact of these trips:

- The local intersections have significant spare capacity by which to accommodate these trips while continuing to operate with only moderate delays
- The on-street set down space available immediately adjacent to the School provides more than enough capacity to meet the peak drop-off and pick-up demand in both the AM and PM school peak periods.

6.5 Social Impacts

The proposed development has anticipated an increase in enrolments across the Camden LGA, and Greater Sydney and will alleviate pressure of surrounding schools. It will provide modern facilities and in result a high-quality learning environment for students. The proposed development is sensitive to neighbouring properties and has incorporated elements of the natural environment through complimentary materials and finishes. The proposed development will generate positive benefits for the Camden LGA, and the neighbouring residential community. The following social impacts have been outlined below. The proposed development will:

Provide opportunity for 1,012 students (with the potential to cater to support potential fluctuations with enrolments and population increase) with modern teaching and learning facilities with a mix of learning and play facilities. This will enable the best teaching outcomes, and as a result, better opportunities for young children in the area;

- Provide 355 jobs when the school is in construction
- Provide 56 full-time equivalent staff
- Alleviate enrolment pressures in neighbouring schools, and support the projected population growth of the Western District
- Provide future bicycle and walking routes to encourage incidental exercise to support a healthy lifestyle for students and teachers
- Inclusiveness is reflected in the diversity of teaching spaces and play areas for all ages and learning abilities such as:

  - Pedestrian access pathways designed to comply with AS1428-maximum path grades at 1:20 or less
  - Wheelchair seating spaces provided in areas where fixed seating is available complying with Australian Standards
  - A lift which will provide access to all storeys of the building
  - Tactile and braille signage
  - All accessible facilities will be designed and constructed with appropriate selection and placement of fixtures and fittings to meet all types of needs.

- Designed in accordance with CPTED, Education SEPP Design principles and in consultation with Government Architect NSW.

As a result, the proposed school will provide opportunities for community collaboration, shared use outside of school hours and complement the existing neighbourhood and natural environment. The proposed school has the potential to provide more shared facilities into the future.

6.6 Heritage

As the site is located within the vicinity of a heritage item, the proposed development has the potential to visually impact the heritage listed site and items. The design of the proposed development is sensitive towards the heritage items and landscape. This has been considered through the materials and finishes of the proposed development. The potential impacts posed on these heritage items through the preparation of A Heritage Impact Statement (HIS) by City Plan Services on 26th August 2019 attached at Appendix Y. Overall the report finds the proposed development will result in minor and acceptable impact to the heritage significance of the nearby heritage item ‘Oran Park’.

The proposed development will maintain significant views to and from Oran Park, and contribute to new opportunities for aesthetic and historical appreciation by future staff, students and visitors of the school As the proposed development will occur 35 metres north, of and at a lower elevation to the ‘Oran Park’ heritage item, and separated by a new road and fencing, no direct additions and alterations to the heritage item will occur.

The proposed development demonstrates compliance with the relevant local and state planning controls regarding heritage conservation.

6.7 Contamination

The proposed development has low contamination occurring on the site, therefore the possibility to be situated on land that poses potential contamination sources and contaminants of concern is low. A soil and groundwater contamination assessment has been undertaken by Environmental Investigation Services. The report has been prepared to address SEPP 55 – Remediation of Land (refer to Appendix Q) to assess the potential remediations measure that may need to be undertaken. In summary the report outlines:

There are relatively low potential for contamination related finds to occur on the site during construction. Unexpected finds would typically be identified by visual or olfactory indicators.

In result, the site is considered suitable for the proposed development. A salinity management plan should be prepared once a contractor is awarded. In the event there are unexpected finds of contamination the following recommendations should be considered:

- All work in the immediate vicinity should cease and temporary barricades should be erected to isolate the area
- A suitably qualified contaminated land consultant should be engaged to inspect the find and provide advice on the appropriate course of action.

Any actions should be implemented and validated to demonstrate that there are nonacceptable risks to the receptors.

6.8 Flooding

A Concept Stormwater Design Report has been prepared by Northrop and is attached at Appendix G. It is concluded that the site is not situated on flood prone land and therefore is not subject to any flooding. This is based on Northrop's review of the following:

- Calibre's Tranche 33 Stage 1 Stormwater Management Report (referring to the proposed residential subdivision east of the school site;
- Brown's Water Cycle Management and Flooding Report (Catherine Fields Precinct), dated August 2013; and
- Discussions with Camden City Council's Engineering Officer Mr Greg Cattarin.

6.9 Bushfire

The site is situated on bushfire prone land, thus is subject to potential fire hazards impacts. The bushfire prone vegetation affecting the site lies to the east, greater than 80m from the boundary of the site. A Bushfire Assessment was undertaken by Peterson Bushfire on 30 September 2018.

The assessment outlines that a small portion of the eastern boundary of the school site is affected by the '100m Vegetation Buffer' pursuant to the Camden Bushfire Prone Land Map. All buildings will have an APZ to the riparian forest and E2 zone to the north and east that exceeds the minimum requirements. Further, the surrounding infrastructure such as roads and electrical supply also comply with 'Planning for Bushfire Protection 2006'.

The assessment concludes the proposed development complies with the provision of *Planning for Bushfire Protection 2006* subject to the adoption of several recommendations including:

- Proposed landscaping should comply with the principles listed within Appendix 5 of PBP
- Block D and the portion of the covered walkway within the affected area are to be designed and constructed in accordance with BAL-12.5 of AS 3959. NSW has a variation to AS 3959 that is to be applied to BAL-12.5 construction specifications. The variation can be found in the Planning for Bushfire Protection Addendum Appendix 3 May 2010
- Hydrants are to be installed to achieve compliance with AS 2419.1 – 2005 Fire Hydrant Installations - System Design, Installation and Commissioning (AS 2419)
- Any gas services are to be installed and maintained in accordance with AS/NZS 1596-2008 The storage and handling of LP gas (Standards Australia, 2008).

6.10 Biodiversity

6.10.1 Biodiversity Assessment Report Waiver

Biodiversity Assessors from Narla Environmental carried out a biodiversity assessment of the flora and fauna values on the site on 12 September 2018. The assessment found that the proposed development will not impact upon any area of remnant, native vegetation.

The subject site does not hold potential threatened species or ecological communities. A Biodiversity Development Assessment Report Waiver (see Appendix S) is requested as part of this application

Despite the site not identifying potential threatened species or ecological communities, the proposed school has carefully considered the existing site and its biodiversity value. The findings are discussed below.

The site was cleared of all native vegetation before 2002, and in result no native vegetation remains on the site. It now comprises of exotic dominated grassland, typical to the urban environment. There are no threatened species or ecological communities found on the subject site. The derived grasslands provide foraging grounds for common mobile fauna species such as the Australian Woodland Duck, and Eastern grey Kangaroo. However, the site will not be significant or important to this mobile, wide ranging common species.

6.11 Sediment, Erosion and Dust Control

Construction of the proposed development has the potential to cause stormwater, erosion and sediment runoff into adjacent watercourses during construction. The proposed development has carefully considered recommendations and statutory requirements to mitigate these potential impacts.

Sediment and Erosion Controls will be in accordance with Statutory Requirements, 'Blue Book' Managing Urban Stormwater Soils and Construction' Produced by the Department of Housing and Councils Policies.

To minimise soil erosion hazards the following recommendations were outlined in the Civil Drawings Specification Notes by Northrop in Appendix G. These could be incorporated:

- constructing temporary stabilized site access, with a shake down and wash pad
- Installation of temporary sediment fencing and barriers
- Implementation of sediment control measures
- Construction will consider weather, in particular windy and dry weather and ensure large unprotected areas are kept stabilised and noise to keep dust under control
- Any sand used in concrete curing will be removed as soon as possible and within 10 working days from placement
- Water shall be prevented from entering the permanent drainage systems unless the catchment has been stabilised and/or likely any sediment has been filtered out
- Temporary soil and water management structures to be removed after the lands are protected, and stabilised and rehabilitated
- Allow for grass stabilisation of exposed areas during construction
- If temporary sediment basins are required, safe batter slopes must be implemented in accordance with the Geotechnical Report prepared by JK Geotechnics, Appendix P].

Erosion and sediment controls are to be inspected to ensure they are operating effectively.

6.12 Geotechnical and Salinity

The proposed development is suitable for the site as evidenced by the Geotechnical Fieldwork Investigation in Appendix P. This report investigated the condition of the land, providing appropriate recommendations to mitigate these potential impacts.

6.12.1 Geotechnical

A geotechnical fieldwork investigation was carried out on the 4, 5 and 8 October 2018 and a report has been prepared by JK Geotechnics. The findings of the investigation indicated that the site is underlain by sedimentary rocks consisting of shale, carbonaceous claystone and laminate.

6.12.2 Salinity

The site is located in an area where soil and groundwater salinity may occur. Salinity can affect the longevity and appearance of structures as well as causing adverse horticultural and hydrological effects. The report identifies that the local council has guidelines relating to salinity issues which should be checked for relevance for this project.

Further investigations will be undertaken as part of detailed design of the proposed school.

6.13 Waste

The proposed development will unequivocally generate waste during construction and operation stages. The waste generated places potential impacts on the environment to which is to be disposed of in appropriate manner. These impacts are carefully considered below through the preparation of a Waste Management Plan.

6.13.1 Construction Waste

A Construction Waste Management Plan (CWMP) has been prepared by Environmental Management Pty Ltd (refer to Appendix W). It is estimated that the construction waste management will be split into two stages:

- Excavation
- Construction.

It is estimated that 1,100 tonnes of excavated materials have been proposed for reuse on the site. Most of the construction materials will be recycled (1,265m^3) and 212m^3 will be disposed of through a licensed landfill.

All waste will be co-mingled and taken for onsite separation and reuse and recycling except pallets an reels. Liquid waste will be sent to landfill for processing.

It is expected that detailed management of construction waste would be incorporated into the CWMP once the proposed development is approved, and as part of its conditions of consent.

6.13.2 Operational Waste

An Operational Waste Management Plan (OWMP) has been prepared by Environmental Management Pty Ltd (refer to Appendix W). It is estimated that the proposed development will produce approximately 4,432 litres of waste per week, and 2,200 litres of recycling per week. This would include:

- General Waste (food scraps, napkins, scraps from the canteen)
- General recycling (paper, mixed plastic 1-7), plastic bottles, cardboard, mixed metals, aluminium cans).

It is proposed general waste would be held in 4 x 1,100L, 7 x 660L or 18 x 240L garbage bins. It is proposed general recycling would be held in 2 x 1,100L or 4 x 660L, or 9x 240L garbage bins. Bins will be located around the school and correctly labelled to ensure waste is collected in separate bins.

Both would be cleared weekly and will be collected before 8am and after 4pm to minimise noise impacts to adjoining neighbours. A waste collection point has been incorporated into the design of the proposed development to allow for easy access. It has considered waste storage and pad areas which is found in Appendix W.

It is expected that detailed management of operation waste would be incorporated into the OWMP once the proposed development is approved, and as part of its conditions of consent.

6.14 Cumulative Impacts

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

A search of the Department of Planning and Environment Major Projects Register and Camden Council Development Application Register in July 2019 was undertaken for Catherine Field and the surrounding Oran Park region. No projects were identified that would be likely to result in cumulative impacts, due to identified impacts of the proposed development, on the surrounding area or sensitive receptors.

7 CONSULTATION

As outlined in the SEARS, consultation with the relevant local, State or Commonwealth Government authorities, service providers, community groups, special interest groups including local Aboriginal land council and registered Aboriginal stakeholders, and affected landowners is required. Key stakeholders that were consulted with are described below.

7.1 Camden City Council

Camden Council were provided an update on the project on the 19 July 2019This aimed to ensure that the design was aligned with Council to provide a positive outcome for both the community and the School. A summary of comments from Council are outlined below.

- Step massing of the buildings
- Drop off zones and traffic management plan
- Drainage
- Car parking numbers
- Potential joint use of car park
- Setbacks, articulation and landscape design.

Overall, Council was supportive of the design of the proposed school. It is expected consultation with Council will continue throughout the project. Stakeholders who attended the meeting are outlined in Appendix AA.

7.2 Government Architect NSW

Government Architect NSW (GANSW) were consulted throughout the project to ensure design principles were established. An initial State Design Review Panel (SDRP) meeting was held on the 13 June 2018. A status update meeting occurred on 13 June 2019, a pre-briefing in preparation for SDRP occurred on 24 July 2019, and the final SDRP occurred on the 31 July 2019. Detailed responses to GANSW feedback from the SDRP is in the Design Analysis Report, in Appendix E. In result, GANSW were generally supportive of the design development of the proposed school as it aligns with the Education SEPP Design Principles. Stakeholders who attended the meeting are outlined in Appendix AA.

7.3 Office of Environment and Heritage

As outlined in Appendix S, there is no flora or fauna of high biodiversity value. It is assumed Office of Environment and Heritage (OEH) was consulted when the SEARs for the proposed development was submitted. No formal feedback has been provided at this stage, however it is expected consultation with OEH will be undertaken during the EIS assessment stage.

7.4 Transport for NSW

It is assumed Transport of NSW (TfNSW) was consulted when the SEARs for the proposed development was submitted. No formal feedback has been provided at this stage, however it is expected consultation with TfNSW will continue throughout the public exhibition stage of this project. In addition, ASON Group has initiated consultation recently with TfNSW regarding the proposed development.

7.5 Roads and Maritime Services (RMS)

It is assumed RMS consulted when the SEARs for the proposed development was submitted. No formal feedback has been provided at this stage, however it is expected consultation with TfNSW will continue throughout the public exhibition stage of this project. In addition, ASON Group has initiated consultation recently with TfNSW regarding the proposed development.

8 RISK ASSESSMENT

The assessment of the key issues in Section 6 have been identified in the below risk assessment using *Australian Standard AS4369.1999 Risk Management and Environmental Risk Tools*. The Risk Assessment Matrix illustrates how the residual environmental impacts of a proposal are assigned. It provides an indicative ranking of potential residual impacts after the mitigation measures are implemented as follows:

The significance of impact is assigned a value between 1 and 5 outlined in:

- The receiving environment
- The level of understanding of the type and extent of impacts
- The likely community response to the environmental consequence of the project.

The manageability of environmental impact is assigned a value between 1 and 5 based on:

- The complexity of mitigation measures
- The known level of performance of the safeguards proposed
- The opportunity for adaptive management.

The sum of the values assigned provides an indicative ranking of potential residual impacts after the mitigation measures are implemented.

Figure 24: Risk assessment matrix

Significance of impact	Manageability of impact				
	5 Complex	4 Substantial	3 Elementary	2 Standard	1 Simple
1 – Low	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)	2 (Low)
2 – Minor	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)
3 – Moderate	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)
4 – High	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)
5 – Extreme	10 (High)	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)

In accordance with the SEARs, the ERA addresses the following significant risk issues:

- the adequacy of baseline data
- the potential cumulative impacts arising from other developments in the vicinity of the Site
- measures to avoid, minimise, offset the predicted impacts where necessary involving the preparation of detailed contingency plans for managing any significant risk to the environment.

An additional overall project risk report has been developed, see Appendix Z.

Table 9: Risk Assessment

Item	Phase	Potential Environmental Impacts	Proposed Mitigation Measures and/or Comment	Significance of Impact	Manageability of impact	Residual impact
Key: **C – Construction** **O – Operation**				Low Medium High	1-5	
Built Form and Urban Design	O	• Visual impact of the development • Visual impact of the development when viewed from State Heritage items	• Incorporating appropriate measures to minimise visual impact of development.	O – 2	O-2	O - 4 (low/medium)
Surrounding Environmental Amenity	O	• Impact on privacy of neighbouring properties • Potential overshadowing of neighbouring properties	• The building has been designed to ensure minimal overshadowing of neighbouring properties. • Design inputs have been applied to ensure maximum privacy on neighbouring properties.	O – 2	O – 2	O - 4 (low/medium)
Transport and Accessibility	C + O	• Increase in construction traffic on local roads • Increase in traffic and parking on local roads	• Ensure appropriate road/street signs are displayed • A Construction Traffic Management Plan is to be followed during the construction phase of the project to minimise traffic impacts arising from construction traffic. • The existing public roads will not be adversely impacted, and parking is allocated via on-site parking areas.	C-3 O- 2	C- 2 O- 1	C – 5 (low/medium) O – 3 (low)
Noise and Vibration	C + O	• Increased noise and vibration • Increased noise levels of the school	• Following Construction Noise and Vibration mitigation measures as per the Conditions of Consent • Appropriate selection of activity within hours of construction and operation	C – 3 O – 1	C- 2 O – 2	C – 5 (low/medium) O – 3 (low)
Air Quality	C	• Increased dust during construction • Potential for reduced quality in air	• Develop an air and water strategy CEMP • Where practical implement wet processes in construction methods • Monitor weather conditions	C3	C -2	C – 5 (low/medium)

	and water during construction

9 RECOMMENDATIONS AND MITIGATION MEASURES

A range of mitigation measures are proposed to reduce the potential environmental and social impacts of the proposed development. The following table provides a summary of the mitigation measures proposed to be undertaken as part of the proposed development.

Table 10: Mitigation Measures

Item	Potential Impact	Mitigation Measures
Solar Access and Overshadowing	Overshadowing on neighbouring properties and future neighbouring development	1. Despite there being minimal solar access and overshadowing impacts, building finishes and materials must not be designed to result in glare that causes discomfort or threatens safety of pedestrians or drivers.
Privacy and Visual Amenity	Potential visual and acoustic privacy impacts on surrounding and future residents.	Implementation of noise mitigation measures found in the Acoustic Impact Assessment provided in Appendix M.
Noise, Vibration and acoustics	Noise generated during construction and operation of the school.	2. Construction Noise and Vibration Management Plan (CNVMP) must be prepared for the proposed development by a suitably qualified expert 3. A noise monitoring program should be carried out by a qualified person after the school is in full occupation; 4. Noise associated with the operation of the school must not exceed 5dB(A) above the background noise level 5. All practicable measures will be undertaken to reduce noise arising from construction and will not exceed the limits set out by the Environmental Protection Authority (EPA). No machine work will occur approved outside the working hours unless additional approval has been requested. 6. External speaker and bells should be designed to minimise noise impacts, and faced away from residential development

Item	Potential Impact	Mitigation Measures
Transport and Accessibility	Over generation of traffic and related congestion and parking issues during construction and operational phases. Potential safety issues relating to movement of construction vehicles.	**<u>During construction:</u>** 7. Planning is to be undertaken of all appropriate routes to travel to and from the site. 8. Discussions are to be undertaken with Council, and RMS to identify roads of interest to be assessed in order to quantifiably measure the condition of the road before and after construction. 9. Options are to be provided for workers to carpool to and from site. 10. Gates to and from the site are to be locked at all times outside of construction hours. 11. The CTMP is to be continually reviewed to identify any shortfalls and develop an updated action plan to address said issues. 12. It is proposed to complete the work in the shortest reasonable duration to reduce the impact on roads. 13. Traffic Control Plans (TCPs) are to be prepared for all works undertaken in order to improve road safety. 14. Prior to travel, drivers must be made aware of the Driver Code of Conduct (within the CTMP), which is to be handed to all construction employees 15. Public roads and access points must not be obstructed by any materials, vehicles, skips or the like. 16. All loads travelling to and from the site shall be covered at all times. 17. Notification of any adjoining residents or businesses will be undertaken prior to construction. It is proposed that all affected properties will be notified at least 14 days in advance of any impacts (including road closures), 18. Appropriate approvals must be obtained prior to construction in the relevant area from private residences, road authorities, utility providers and any other stakeholder requiring preapproved access. **During operation:** 19. Prepare a Framework Travel Plan (FTP) to inform the future Green Travel Planning for the development. 20. Prepare a Traffic and Parking Management (TPM) Plan outlining the strategies to provide for efficient operations on and off site. The TPM Plan is to include strategies relating to: the use of the staff car park; the use of the Drop Off Pick Up (DOPU) areas; Bus loading and unloading; and Safe Routes to Schools measures.
Social Impacts		21. Design implements CPTED, Education SEPP Design principles 22. Continuous engagement with the community throughout the construction of the proposed development 23. Utilising a consultation/complaints register throughout the project 24. Encouraging active transport initiatives during the construction and operation of the proposed development
Heritage	Impact to potential heritage sites and items.	**Aboriginal heritage** 1. All persons involved in initial ground works should receive a cultural heritage induction 2. A ‘Finds Procedure’ to be put in place should Aboriginal sites be identified during construction works. This should be developed by a suitably experienced member of the Aboriginal community or a qualified archaeologist **Non-Aboriginal heritage** 25. If unexpected heritage items or archaeological remains are encountered during construction, work is to cease and mitigation and management measures are to be followed in accordance with the applicable legislation 26. A ‘Finds Procedure’ to be put in place should Non-Aboriginal Heritage be identified during construction works. This should be developed by a qualified archaeologist.

Item	Potential Impact	Mitigation Measures
Contamination	Disturbed and contaminated ground water.	27. If contamination is found, all work in the immediate vicinity should cease and temporary barricades should be erected to isolate the area 28. A suitably qualified contaminated land consultant should be engaged to inspect the find and provide advice on the appropriate course of action 29. Any actions should be implemented and validated to demonstrate that there are no unacceptable risks to the receptors 30. If contamination is discovered on the site, a Site Audit Report and Statement must be prepared by an EPA accredited site auditor. This site audit will verify if land is suitable for the use proposed as part of the works. 31. Any new information come to light during construction works which has the potential to alter previous findings about site contamination, must immediately be notified and work must cease
Flooding		32. The site is not situated on flood prone land and therefore is not subject to any flooding.
Bushfire	Potential of fire hazard.	33. Proposed landscaping should comply with the principles listed within Appendix 5 of *Planning for Bushfire Protection 2006* (PBP). 34. Hydrants are to be installed to achieve compliance with *AS 2419.1 – 2005 Fire Hydrant Installations – System Design, Installation and Commissioning* (AS 2419). 35. Block D and the portion of the covered walkway within the affected area are to be designed and constructed in accordance with BAL-12.5 of AS 3959. NSW has a variation to AS 3959 that is to be applied to BAL-12.5 construction specifications. The variation can be found in the Planning for Bushfire Protection Addendum Appendix 3 May 2010. 36. Any gas services are to be installed and maintained in accordance with *ASNZS 1596-2008 The storage and handling of LP gas* (Standards Australia 2008)
Biodiversity		37. While the site does not contain vegetation or biodiversity value, some measures will be implemented to reduce impacts where possible through a CEMP
Sediment, Erosion and Dust Control	Impacts from stormwater, erosion and sediment runoff into adjacent watercourse;	**Prior to construction:** 38. Installation of a 1.8m high chain wire fence covered with geo-textile filter fabric, to the perimeter of the work site area, where required; 39. The use of sediment diverting methods to minimize sediment in Council's stormwater drainage network using sandbags around kerb inlet pits and geo-textile filter fabric around drop inlet pits; 40. The provision of a sediment basin towards the perimeter of the site for which stormwater runoff shall be channelled and treated during construction; Indicative locations for stockpiling; and 41. The provisions of a temporary truck wash down facility to service vehicles existing the site during the construction stage. **During construction:** 42. Erosion and sediment control measures must be implemented until such time all ground disturbed by the works has been stabilised and rehabilitated so that it no longer acts as a source of sediment. 43. A Construction Soil and Water Management plan be compiled by a suitably qualified expert in consultation describing all erosion and sediment controls to be implemented during construction
Geotechnical and Salinity		44. A CEMP plan must be complied with and developed by a suitably qualified expert. 45. In the event that groundwater seepage management or dewatering is required for development, additional testing of groundwater will be required. Dewatering and/or groundwater disposal approvals should be sought from relevant authorities. 46. If unexpected finds are uncovered and remediation is required, remediation works will be reviewed and certified by a certified contaminated land consultant.

Item	Potential Impact	Mitigation Measures
Drainage		47. Water shall be prevented from entering the permanent drainage systems unless the catchment has been stabilised and/or likely any sediment has been filtered out;
Construction Waste		48. Reduce the amount of waste material produced on the project by ensuring that only enough materials required to perform the works are ordered 49. Any excess materials from particular work areas are to be retained and incorporated into other work areas where practical 50. Encourage “just in time” delivery of construction materials (minimum storage on site) to reduce the potential of loss / waste due to damage prior to usage 51. Use recycled materials where it is reasonably practical 52. Minimise the use of packaging materials and recycle packaging materials where possible 53. Waste concrete to be sent to a concrete recycling plant where possible 54. Separate removed native vegetation from general construction waste, mulched and stockpiled for re‑use 55. Non‑recyclable general waste will be disposed of at an approved waste disposal facility 56. Removal of hazardous materials and disposal at an approval waste disposal facility in accordance with the requirements of the relevant legislation, codes, standards and guidelines, prior to the commencement of any building works 57. Asbestos removal must consider the requirements of the Protection of the Environment Operations (Waste) Regulation 2014
Operational Waste	Excess in waste generation	58. An Operational Waste Management Plan (OWMP) should be developed to consider recycling methods and options to reduce waste and targets for reduction of waste disposal, and recycling. 59. A valid and current contract with a licensed contractor for waste and recycling collection to be maintained

10 SUMMARY AND CONCLUSION

10.1 Conclusion

This Environmental Impact Statement has been prepared in support of the proposed new Catherine Field Primary School.

The proposed development has the following objectives:

- Support Greater Sydney's rising population and reduce pressure on other neighbouring local primary schools
- Successfully engage with stakeholders to ensure the best outcomes for students and staff
- Ensure the proposed development is undertaken in a safe manner, adhering to work health and safety legislation.

This EIS has been assessed under the relevant statutory planning and policy provisions and addressed the applicable SEARS issued 10 August 2018.

As detailed in Section 8 of this EIS, the proposed development demonstrates that applicable onsite and offsite environmental impacts have been carefully considered and addressed. The proposed development would not result in significant environmental impacts to the surrounding environment.

Environmental mitigation measures have been proposed to reduce environmental impacts, and based on this assessment, and implementation of mitigation measures, the proposed development is warranted for approval.

Appendix A Secretary's Environmental Assessment Requirements

Appendix B Architectural Drawings

Appendix C Site Survey Plan

Appendix D Quantity Surveyors Report

Appendix E Design Analysis Report

Appendix F Landscape Analysis Report

Appendix G Civil Drawings

Appendix H Structural Drawings

Appendix I Transport Assessment

Appendix J Green Travel Plan

Appendix K Construction Management Plan

Appendix L Construction Traffic Management Plan

Appendix M Acoustic Report

Appendix N ESD Report

Appendix O Aboriginal Assessment

Appendix P Geotechnical Report

Appendix Q Contamination Report

Appendix R Bushfire Report

Appendix S BDAR Waiver Request

Appendix T Infrastructure Management Plan

Appendix U Accessibility Report

Appendix V BCA Report

Appendix W Waste Management Plan

Appendix X Water Conservation

Appendix Y Heritage Report

Appendix Z Risk Management Report

Appendix AA Stakeholder Engagement

Appendix BB Visual Impact Assessment