Environmental Impact Statement

Proposed Saints Peter and Paul Assyrian Primary School (Master Plan and Built Form Approval)

17-19 Kosovich Place, Cecil Park
Lot 2320 & 2321 DP 1223137

Prepared by Willowtree Planning Pty Ltd on behalf of Assyrian Schools Limited C/- PMDL Architecture & Design Pty Ltd

October 2018

A national town planning consultancy
www.willowtreeplanning.com.au

Document Control Table – Environmental Impact Statement

Document Reference:	Proposed Saints Peter and Paul Assyrian Primary School – EIS		
Date	**Version**	**Author**	**Checked By**
30 July 2018	1	R. Streeter	C. Wilson
6 October 2018	2	R. Streeter	C. Wilson
18 October 2018	3	R. Streeter	C. Wilson
22 October 2018	4	R. Streeter	C. Wilson

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CLAUSE 4.12(8) CERTIFICATE

Declaration Form	**Submission of Environmental Impact Statement (EIS)** prepared under the *Environmental Planning and Assessment Act 1979* Clause 4.12(8)
EIS Prepared By	
Name	**Rachel Streeter**
Qualifications	**BA (Hons) Planning**
Address	Suite 4, Level 7, 100 Walker St North Sydney NSW 2060
In Respect Of	State Significant Development – Development Application
Development Application	
Applicant Name	Assyrian Schools Limited C/- PMDL Architecture & Design Pty Ltd
Address	17/124 Walker Street North Sydney NSW 2060
Land to be Developed	17 Kosovich Place, Cecil Park ▪ Lot 2320 in Deposited Plan 1223137 19 Kosovich Place, Cecil Park ▪ Lot 2321 in Deposited Plan 1223137
EIS	An Environmental Impact Statement (EIS) is attached.
Certificate	I certify that I have prepared the contents of this EIS and to the best of my knowledge: ▪ it is in accordance with Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*, ▪ contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates, and ▪ that the information contained in the statement is neither false nor misleading.
Signature	
Name	Rachel Streeter
Qualification	BA (Hons) Planning
Date	22 October 2018

EXECUTIVE SUMMARY

This Environmental Impact Statement (EIS) has been prepared by Willowtree Planning Pty Ltd (Willowtree Planning) on behalf of Assyrian Schools Limited C/- PMDL Architecture & Design Pty Ltd (the applicant). The EIS supports State Significant Development (SSD) 9210 for the Master Plan and built form approval of Saints Peter and Paul Assyrian Primary School, and has been prepared in accordance with the Secretary's Environmental Assessment Requirements (SEARS) dated 13 April 2018.

Saints Peter and Paul Assyrian Primary School is proposed to be located on land at 17-19 Kosovich Place, Cecil Park, being legally described as Lots 2320 and 2321 in Deposited Plan (DP) 1223137. The proposed school is affiliated with the existing Saints Peter and Paul Parish church on the adjoining site at 32-40 Kosovich Place, Cecil Park, however the proposed school will be contained within its own lot and benefit from its own facilities and infrastructure.

The proposal is for a School, being a type of Educational Establishment in accordance with the Standard Instrument definitions. The proposal is classified as State Significant Development pursuant to Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). Clause 15 of Schedule 1 relates to education establishments and provides that development for the purpose of a new school (regardless of the capital investment value (CIV)) is state significant development.

The proposal includes a three (3) stream, co-educational primary school with an ultimate population of 665 students and staff. The primary school will accommodate students from Kindergarten to Year 6. Pursuant to this application, approval for the Master Plan and all built form is sought. Key components of the proposed school include:

- Site preparation works including bulk earthworks and soil remediation;
- Site infrastructure to service the school;
- Class rooms, contained within a double-storey building;
- Administration offices and staff facilities;
- Library;
- Canteen;
- Multi-purpose hall;
- Outdoor open space including play areas, a 'Civic Heart', sports courts and sports fields;
- Car parking, kiss-and-ride and driveways to service staff, parents and service vehicles;
- Landscaping including riparian planting.

Subsequent to consent for the Master Plan and built form being granted pursuant to SSD 9210, the intent is to stage construction, enabling facilities to be delivered and expanded in line with the growth in student and staff numbers.

The likely impacts of the proposal have been examined in depth, and the assessments undertaken demonstrate that all potential environmental impacts may be suitably managed. The surrounding context has been accounted for in the analysis, and the amenity of neighbouring properties has been shown to be appropriately safeguarded.

The proposal is considered appropriate for the location and should be supported by the Minister for the following reasons:

- The proposed school has been planned and designed having regard to the relevant Planning legislation and the proposed works are permissible with consent;
- Compliance with the objectives and provisions of *Fairfield Local Environmental Plan 2013* (FLEP2013) and *Fairfield Development Control Plan* (FDCP) is generally achieved;
- The proposed development exceeds the 9m FLEP2013 building height standard, however the proposed building height has been suitably justified;

- The proposal demonstrates consistency with the objectives and directions of relevant state and regional Planning policies and strategies;
- The proposal is suitable for the site as evidenced by the site analysis and various site investigations;
- The proposal responds to environmental constraints and hazards through soil remediation, the siting of built form and softscapes, design and landscaping;
- The proposal would not result in any unacceptable, long term, off-site impacts on adjoining or surrounding properties or the public domain; and
- Community consultation has been completed in accordance with the Department of Planning and Environment (DPE) Consultation Guidelines.

In summary, the development is supportable from a technical viewpoint and satisfies relevant Government policies. It provides significant benefits for a wide range of stakeholders and is in the general public interest. Further, the proposed development has addressed the individual matters listed in the SEARs and is supported and justified through accompanying technical studies.

As such, the development warrants the support of the Minister and we therefore recommend that approval be granted for Saints Peter and Paul Assyrian Primary School.

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GLOSSARY OF TERMS

TERM	***MEANING***
Applicant or Proponent	Assyrian Schools Limited C/- PMDL Architecture & Design Pty Ltd
AUD	Australian Dollars
CIV	Capital Investment Value
Council	Fairfield City Council
DCP	Development Control Plan
DPE	Department of Planning and Environment
EIS	Environmental Impact Statement
EPI	Environmental Planning Instrument
EP&A Act	*Environmental Planning and Assessment Act 1979* (as amended)
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000* (as amended)
FDCP	*Fairfield Development Control Plan*
FLEP2013	*Fairfield Local Environmental Plan 2013*
GA NSW	Government Architect NSW
GSC	Greater Sydney Commission
LEP	Local Environmental Plan
Master Plan	Proposed Master Plan subject to this application (SSD 9210)
OEH	NSW Office of Environment and Heritage
RMS	Roads and Maritime Service
SEARs	Secretary's Environmental Assessment Requirements issued 13 April 2018
SEPP	State Environmental Planning Policy
Sqm or m^2	Square metres
SREP	Sydney Regional Environmental Plan
SSD	State Significant Development
SSDA	State Significant Development Application
The school	Saints Peter and Paul Assyrian Primary School
The site	17-19 Kosovich Place, Cecil Park (Lots 2320 and 2321 in DP 1223137)
TfNSW	Transport for NSW
Willowtree Planning	Willowtree Planning Pty Ltd

PART A PRELIMINARY

1.1 INTRODUCTION

This Environmental Impact Statement (EIS) is submitted to the Department of Planning and Environment (DPE) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) in support of an application for State Significant Development (SSD). This EIS has been prepared by Willowtree Planning on behalf of Assyrian Schools Limited C/- PMDL Architecture & Design Pty Ltd, in accordance with the Secretary's Environmental Assessment Requirements (SEARS) dated 13 April 2018 (**Appendix 1**).

The SSD seeks consent for a Master Plan and all built form associated with the proposed Saints Peter and Paul Assyrian Primary School on land at 17-19 Kosovich Place, Cecil Park, being legally described as Lots 2320 and 2321 in Deposited Plan (DP) 1223137. The proposal includes a three (3) stream primary school accommodating students from Kindergarten to Year 6, with an ultimate population of 665 students and staff.

The site is currently owned by the Trustees of the Holy Apostolic Catholic Assyrian Church of the East, and the proposed school would be operated by Assyrian Schools Limited. The proposed school is affiliated with the existing Saints Peter and Paul Parish church on the adjoining site at 32-40 Kosovich Place, Cecil Park, however the proposed school will be contained within its own lot and benefit from its own facilities and infrastructure.

The proposal is for a School, being a type of Educational Establishment in accordance with the Standard Instrument definitions. The proposal is classified as State Significant Development pursuant to Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). Clause 15 of Schedule 1 relates to education establishments and provides that development for the purpose of a new school (regardless of the capital investment value (CIV)) is state significant development.

This EIS describes the site and proposed development, provides relevant background information, responds to the SEARs and assesses the proposed development in terms of the relevant matters set out in relevant legislation, Environmental Planning Instruments (EPIs) and Planning policies.

The structure of the EIS is as follows:

- **Part A** Preliminary
- **Part B** Site Analysis
- **Part C** Proposed Development
- **Part D** Legislative and Policy Framework
- **Part E** Strategic Planning Framework
- **Part F** Key Assessment Issues
- **Part G** Consultation
- **Part H** Environmental Risk Assessment
- **Part I** Management and Mitigation Measures
- **Part J** Project Justification
- **Part K** Conclusion

1.2 PROJECT TEAM

This State Significant Development Application (SSDA) has been prepared by a project team comprising the qualified experts listed in **Table 1** below.

Table 1. Project Team				
Discipline	***Consultant***	***Technical Input***	***Date***	***Appendix***
Planning	Willowtree Planning	Environmental Impact Statement	22 October 2018	
Planning	Willowtree Planning	Clause 4.6 Variation	17 October 2018	2
Planning	Willowtree Planning	DCP Compliance Table	17 October 2018	3
Planning	Willowtree Planning	Consultation Report	17 October 2018	4
Planning	Willowtree Planning	Environmental Risk Assessment	17 October 2018	5
Quantity Surveying	Wilde and Woollard	Quantity Surveyors Certificate	17 September 2018	6
Quantity Surveying	Wilde and Woollard	Detailed Cost Plan	17 September 2018	7
Survey	GeoStrata	Plan of Detail Over Lot 2317 DP1201268	31 October 2016	8
Survey	GeoStrata	Plan of Detail Over Lots 2320 & 2321 DP1223137	01 March 2017	9
Architecture	PMDL	Architectural Drawings	19 September 2018	10
Architecture	PMDL	Architectural Design Report	20 September 2018	11
Landscape	Arterra	Landscape Plans	28 August 2018	12
Traffic	McLaren	Traffic and Parking Impact Assessment	04 September 2018	13
Traffic	McLaren	Sustainable Travel Plan	06 September 2018	14
Traffic	McLaren	Construction Traffic Management Plan	04 September 2018	15
ESD	Cundall	ESD Strategy	17 July 2018	16
Energy Efficiency	Cundall	Section J Review	05 September 2018	17
Biodiversity	Molino Stewart	Biodiversity Assessment	24 September 2018	18
Biodiversity	Molino Stewart	Biodiversity Supporting Statement	20 September 2018	19
Riparian Management	Molino Stewart	Riparian Vegetation Management Plan	19 September 2018	20
Riparian Management	Martens	Riparian Zone Management Assessment	28 August 2018	21
Aboriginal Heritage	NGH Environmental	Aboriginal Cultural Heritage Assessment Report	12 October 2018	22
Noise and Vibration	SLR	Noise Assessment	30 July 2018	23
Civil Engineering	Martens	Civil Works Masterplan	11 September 2018	24
Civil Engineering	Martens	Civil Works Plan	20 September 2018	25

Table 1. Project Team				
Discipline	***Consultant***	***Technical Input***	***Date***	***Appendix***
		Stage 01		
Civil Engineering	Martens	Stormwater Management Report	20 September 2018	26
Contamination	Martens	Detailed Site Investigation	31 July 2018	27
Contamination	SESL Australia	Previous Detailed Site Investigation	June 2015	28
Remediation	Martens	Remedial Action Plan	02 August 2018	29
Contamination	Airsafe	Hazardous Materials Surveys	27 June 2018	30
Services	JHA Consulting Engineers	Electrical Infrastructure Assessment	03 September 2018	31
Services	Acor	Mechanical and Hydraulic Services Infrastructure Assessment Report and Water Management Plan	21 August 2018	32
Geotechnical and Salinity	Martens	Preliminary Geotechnical and Salinity Assessment and Pavement Thickness Design	23 August 2018	33
Wastewater	Martens	Wastewater Assessment	05 September 2018	34
Flooding	Martens	Flood Management Assessment	02 October 2018	35
Flooding	Molino Stewart	Independent Review of Flood Assessment	28 September 2018	36
Waste	Martens	Waste Management Plan	22 August 2018	37
Construction	Molino Stewart	Preliminary Construction Environmental Management Plan	09 October 2018	38
Bushfire	Australian Bushfire Protection Planners Pty Limited	Bushfire Protection Assessment	05 September 2018	39
Access	Vista Access Architects	Access Report	17 August 2018	40
Architecture	PMDL	Iterative Design Process Statement	16 October 2018	41
Architecture	PMDL	Design Quality Principles Assessment	18 October 2018	42
Architecture	PMDL	Schedule of Materials and Finishes	25 October 2018	43

1.3 THE PROPONENT

The proponent is Assyrian Schools Limited C/- PMDL Architecture & Design Pty Ltd. Refer to **Table 2** for contact details.

Table 2. Proponent Details	
Contact Name	Tim Williams
Position	Project Leader
Company Details	Assyrian Schools Limited C/- PMDL Architecture & Design Pty Ltd
Contact Details	17/124 Walker Street North Sydney NSW 2060 02 8458 5500

1.4 APPROVALS PATHWAY

Schedule 1 of SRD SEPP identifies development which is deemed to be State Significant Development. Clause 15 of Schedule 1 relates to education establishments and provides that development for the purpose of a new school (regardless of the CIV) is state significant development. The proposed new school therefore qualifies as State Significant Development.

Accordingly, this EIS has been prepared in accordance with the requirements of Part 4 of the EP&A Act, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) and the SEARs issued 13 April 2018. The Minister for Planning will be the determining authority for the project.

1.5 CAPITAL INVESTMENT VALUE

The proposed development is estimated to have a CIV of $30,727,000.00, as calculated in the Quantity Surveyors Report (**Appendices 6-7**).

1.6 JOBS CREATION

As detailed in the Quantity Surveyors Certificate (**Appendix 6**), the proposed development is estimated to generate the following jobs:

- Equivalent of 43 full time positions in consultancy and construction activities to be created for a 26 month period; and
- Approximately 45 operational jobs.

Details of job creation calculations are provided in **Appendix 6**.

1.7 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

In accordance with Section 4.22 of the EP&A Act, SEARs were issued by the Secretary of DPE on 13 April 2018 (**Appendix 1**).

Table 3 provides a detailed summary of the individual matters listed in the SEARs and identifies where each of these requirements has been addressed in this EIS and accompanying technical studies.

This EIS is also consistent with Clauses 6 and 7 of Schedule 2 of the EP&A Regulation which specifies the minimum requirements for EISs.

Table 3. Overview of how SEARs have been satisfied

Requirement	***Location in SSDA***	
	EIS	***Technical Report***
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, minimize and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment.*	This EIS has been prepared in accordance with Clauses 6 and 7 of Schedule 2 of the EP&A Regulation. An Environmental Risk Assessment is provided at **Appendix 5** and summarized in **Part H** of this EIS.	
The EIS must also 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. The report shall be prepared on company letterhead and indicate applicable GST component of the CIV;* ▪ *an estimate of jobs that will be created during the construction and operational phases of the proposed development; and* ▪ *certification that the information provided is accurate at the date of preparation.*	▪ Section 1.5 ▪ Section 1.6	▪ Appendix 6 Quantity Surveyors Certificate ▪ Appendix 7 Detailed Cost Plan

Table 3. Overview of how SEARs have been satisfied

Requirement	***Location in SSDA***	
	EIS	***Technical Report***
1. Statutory Context *– including:* *Address the statutory provisions contained in all relevant environmental planning instruments, including:* ▪ *Biodiversity Conservation Act 2016;* ▪ *State Environmental Planning Policy (State & Regional Development) 2011;* ▪ *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017;* ▪ *State Environmental Planning Policy No. 55 – Remediation of Land;* ▪ *State Environmental Planning Policy No. 64 – Advertising and Signage; and* ▪ *Fairfield Local Environmental Plans 2013.* *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*	▪ Part D	▪ Appendix 2 Clause 4.6 Variation ▪ Appendix 18 Biodiversity Assessment ▪ Appendix 19 Biodiversity Supporting Statement ▪ Appendix 27 Detailed Site Investigation ▪ Appendix 28 Previous Detailed Site Investigation ▪ Appendix 29 Remedial Action Plan
2. Policies *Addressed the relevant planning provisions, goals, and strategic planning objectives in the following:* ▪ *NSW State Priorities;* ▪ *Greater Sydney Region Plan, A Metropolis of Three Cities;* ▪ *NSW Future Transport Strategy 2056;* ▪ *State Infrastructure Strategy 2018 – 2038;* ▪ *Sydney's Cycling Future 2013;* ▪ *Sydney's Walking Future 2013;* ▪ *Sydney's Bus Future 2013;* ▪ *Crime Prevention Through Environmental Design (CPTED) Principles;*	▪ Part D ▪ Part E	▪ Appendix 3 DCP Compliance Table ▪ Appendix 11 Architectural Design Report

Table 3. Overview of how SEARs have been satisfied

Requirement	***Location in SSDA***	
	EIS	***Technical Report***
▪ *Healthy Urban Development Checklist, NSW Health;* ▪ *Better Placed – an integrated design policy for the built environment of NSW;* ▪ *Greater Sydney Commission's Western City District Plan; and* ▪ *Fairfield Citywide Development Control Plan 2013.*		
3. Operation ▪ *Provide details of the proposed school operations, including staging plan, 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 and student and staff capacity.*	▪ Section 2.4 ▪ Section 3.9 ▪ Section 3.10	▪ Appendix 10 Architectural Drawings ▪ Appendix 11 Architectural Design Report

4. Built Form and Urban Design
▪ *In consultation with the Government Architect NSW, ensure that the proposal demonstrates good design including;*
  ▪ *Addressing the height, density, bulk and scale, setbacks of the proposal in relation to the surrounding development, topography, streetscape and any public open spaces;*
  ▪ *Addressing design quality, with specific consideration of the overall site layout, streetscape, open spaces, façade, rooftop, massing, setbacks, building articulation, materials, colours and Crime Prevention Through Environmental Design Principles;*
  ▪ *Developing a design report that includes diagrams, illustrations and drawings to clarify the design intent of the proposal that clearly demonstrates 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;*
	▪ Part B
	▪ Section 4.10 Section 6.2
	▪ Section 6.3
	▪ Section 7.2
		▪ Appendix 4 Consultation Report
		▪ Appendix 10 Architectural Drawings
		▪ Appendix 11 Architectural Design Report
		▪ Appendix 12 Landscape Plans

Table 3. Overview of how SEARs have been satisfied

Requirement	***Location in SSDA***	
	EIS	***Technical Report***
▪ *Detailing how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development;* ▪ *Providing detailed site and context analysis to justify the proposed site planning and design approach;* ▪ *Providing a detailed site-wide landscape strategy.*		
5. Environmental Amenity ▪ *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;* ▪ *Detail any proposed use of the school grounds out of school hours (including weekends) and any resultant amenity impacts on the immediate locality and proposed mitigation measures.*	▪ Section 6.3	▪ Appendix 11 Architectural Design Report
6. Transport and Accessibility (Construction and Operation) *Include a transport and accessibility impact assessment, which details, but not limited to the following:* ▪ *accurate details of the current daily and peak hour vehicle, public transport, pedestrian and cycle movement and existing traffic and transport facilities provided on the road network located adjacent to the proposed development;* ▪ *an assessment of the operation of existing and future transport networks including public transport networks, and their ability to accommodate the forecast number of trips to and from the 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*	▪ Section 6.4	▪ Appendix 13 Traffic and Parking Impact Assessment ▪ Appendix 14 Sustainable Travel Plan ▪ Appendix 15 Construction Traffic Management Plan

Table 3. Overview of how SEARs have been satisfied

Requirement	***Location in SSDA***	
	EIS	***Technical Report***
of the existing and similar schools within the local area; ▪ *the adequacy of public transport, pedestrian and bicycle networks and associated infrastructure to meet the likely future demand of the proposed development;* ▪ *the impact of the proposed development on existing and future public transport infrastructure within the vicinity of the site in consultation with Council, Roads and Maritime Services and Transport for NSW and identify measures to integrate the development with the transport network;* ▪ *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;* ▪ *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 and the provision of facilities to increase the non-car mode share for travel to and from the site;* ▪ *the impact of trips generated by the development on nearby intersections, (including but not limited to the intersection of Wallgrove Road with Kosovich Place), with consideration of the cumulative impacts from other approved developments in the vicinity;* ▪ *details of any need/associated funding for, upgrades or road improvement works, if required;* ▪ *Traffic modelling is to be undertaken using SIDRA network modelling for current and future years;* ▪ *the proposed walking and cycling access arrangements and connections to public transport services;* ▪ *details of any proposed school bus routes along bus capable roads (i.e. travel*		

Table 3. Overview of how SEARs have been satisfied

Requirement	***Location in SSDA***	
	EIS	***Technical Report***
lanes of 3.5m minimum) and infrastructure (bus stops, bus layovers etc.); ▪ *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;* ▪ *details of any traffic management measures to ensure the safe and efficient operation of student pick-up/drop-off;* ▪ *measures to maintain road and personal safety in line with CPTED principles;* ▪ *the proposed car and bicycle parking provision, including end of trip facilities, which must be taken into consideration of the availability of public transport and the requirements of Council's relevant parking codes and Australian Standards;* ▪ *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 existing and proposed development;* ▪ *details of emergency vehicle access arrangements;* ▪ *an assessment of road and pedestrian safety adjacent to the proposed development and the details of required road safety measures;* ▪ *service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure*		

Table 3. Overview of how SEARs have been satisfied

Requirement	***Location in SSDA***	
	EIS	***Technical Report***
times); ▪ *in relation to construction traffic:* ▪ *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;* ▪ *details of temporary cycling and pedestrian access during construction; and* ▪ *traffic and transport impacts during construction, including cumulative impacts associated with other construction activities, and how these impacts will be mitigated for any associated traffic, pedestrian, cyclists, parking and public transport, including the preparation of a draft Construction Traffic Management Plan in line with Council's Construction Management Plan Checklist to demonstrate the proposed management of the impact.* ▪ *Relevant Policies and Guidelines:*		

Table 3. Overview of how SEARs have been satisfied		
Requirement	***Location in SSDA***	
	EIS	***Technical Report***
▪ *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* ▪ *Australia Standards AS2890.3 (Bicycle Parking Facilities)*		
7. Ecologically Sustainable Development (ESD) ▪ *Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000) will be incorporated in the design and ongoing operation phases of the development;* ▪ *Demonstrate that the development has been assessed against a suitably accredited rating scheme to meet industry best practice;* ▪ *Include a description of the measures that would be implemented to minimise consumption of resources, water (including water sensitive urban design) and energy.*	▪ Section 6.5	▪ Appendix 16 ESD Strategy ▪ Appendix 17 Section J Review
8. Social Impacts *Include an assessment of the social consequences of the schools' relative location and decanting activities if proposed.*	▪ Section 6.6	▪ Appendix 11 Architectural Design Report

Table 3. Overview of how SEARs have been satisfied

Requirement	***Location in SSDA***	
	EIS	***Technical Report***
9. Biodiversity *Assess and document the biodiversity impacts related to the proposal, by a suitably qualified person.* *Note: Notwithstanding these requirements, the Biodiversity Conservation Act 2016 requires that State Significant Development Applications be accompanied by a Biodiversity Development Assessment Report.*	▪ Section 6.7	▪ Appendix 18 Biodiversity Assessment ▪ Appendix 19 Biodiversity Supporting Statement ▪ Appendix 20 Riparian Vegetation Management Plan
10. Aboriginal Cultural Heritage ▪ *Identify and describe the Aboriginal cultural heritage values that exist across the whole area that would be affected by the development and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values must be conducted in accordance with the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH 2010), and guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011);* ▪ *Consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR;* ▪ *Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be*	▪ Section 6.8	▪ Appendix 22 Aboriginal Cultural Heritage Assessment Report

Table 3. Overview of how SEARs have been satisfied

Requirement	***Location in SSDA***	
	EIS	***Technical Report***
documented and notified to OEH.		
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 and operation, including consideration of any public address system, school bell, the design and location of waste storage facilities, time restrictions on grounds maintenance using powered equipment, time restrictions on waste collection services, 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.* *Relevant Policies and Guidelines* ▪ *Noise Policy for Industry 2017* ▪ *Assessing Vibration: A Technical Guideline 2006* ▪ *Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning 2008)*	▪ Section 6.9	▪ Appendix 23 Noise Assessment
12. Sediment, Erosion and Dust Controls *Detail measures and procedures to minimise and manage the generation and offsite transmission of sediment, dust and fine particles.* *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*	▪ Section 6.10	▪ Appendix 24 Civil Works Masterplan ▪ Appendix 25 Civil Works Plan Stage 01 ▪ Appendix 26 Stormwater Management Report

Table 3. Overview of how SEARs have been satisfied

Requirement	***Location in SSDA***	
	EIS	***Technical Report***
(EPA); ▪ *Guidelines for development adjoining land and water managed by DECCW (OEH, 2013).*		
13. 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 all existing structures and infrastructure prior to any demolition or site preparation works;* ▪ *Describe mitigation and management options that will be used to prevent, control, abate or minimise identified environmental impacts associated with the project and to reduce risks to human health and prevent the degradation of the environment;* ▪ *Include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.* *Relevant Policies and Guidelines:* ▪ *Managing Land Contamination: Planning Guidelines - SEPP 55 Remediation of Land (DUAP)*	▪ Section 6.11	▪ Appendix 27 Detailed Site Investigation ▪ Appendix 28 Previous Detailed Site Investigation ▪ Appendix 29 Remedial Action Plan ▪ Appendix 30 Hazardous Materials Surveys
14. Utilities ▪ *Prepare an Infrastructure Management Plan in consultation with relevant agencies, detailing information on the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure.*	▪ Section 6.12	▪ Appendix 26 Stormwater Management Report ▪ Appendix 31 Electrical Infrastructure Assessment ▪ Appendix 32 Mechanical and

Table 3. Overview of how SEARs have been satisfied

Requirement	***Location in SSDA***	
	EIS	***Technical Report***
▪ *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.*		▪ Hydraulic Services Infrastructure Assessment Report and Water Management Plan ▪ Appendix 34 Wastewater Assessment
15. Contributions *Address Council's Section 7.11 (formerly Section 94) Contribution Plan and/or details of any Voluntary Planning Agreement, which may be required to be amended because of the proposed development.*	▪ Section 6.13	
16. Drainage ▪ *Detail drainage associated with the proposal, including stormwater and drainage infrastructure to confirm that existing gutters and downpipes are adequate for the conveyance of storm runoff into the buildings stormwater collection system;* ▪ *Design analysis of existing building collection stormwater pipe system to confirm adequate sizing and location of pipelines currently installed to collect and control storm runoff from roof and pavement areas all the way to the recognised public drainage system;* ▪ *Identify the location and the capacity of the existing OSD system;* ▪ *Design of any upgrades to the existing stormwater drainage system if necessary;* ▪ *Detail measures to minimise operational water quality impacts on surface waters and groundwater.*	▪ Section 6.14	▪ Appendix 24 Civil Works Masterplan ▪ Appendix 25 Civil Works Plan Stage 01 ▪ Appendix 26 Stormwater Management Report

Table 3. Overview of how SEARs have been satisfied

Requirement	***Location in SSDA***	
	EIS	***Technical Report***
Relevant Policies and Guidelines ▪ *Guidelines for development adjoining land and water managed by DECCW (OEH, 2013)*		
17. Water and Soils *The EIS must assess the following features relevant to water and soils including:* ▪ *Acid Sulfate Soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map);* ▪ *Rivers, streams, wetlands, estuaries (as described in s4.2 of the Biodiversity Assessment Method);* ▪ *Groundwater and groundwater dependent ecosystems;* ▪ *Proposed intake and discharge locations;* ▪ *Background conditions for any water resource likely to be affected by the development;* ▪ *Assess the impact of the development on water quality and hydrology.*	▪ Section 6.15	▪ Appendix 20 Riparian Vegetation Management Plan ▪ Appendix 21 Riparian Zone Management Assessment ▪ Appendix 24 Civil Works Masterplan ▪ Appendix 25 Civil Works Plan Stage 01 ▪ Appendix 26 Stormwater Management Report ▪ Appendix 27 Detailed Site Investigation ▪ Appendix 28 Previous Detailed Site Investigation ▪ Appendix 29 Remedial Action Plan ▪ Appendix 33 Preliminary Geotechnical and Salinity Assessment and Pavement Thickness Design ▪ Appendix 34 Wastewater Assessment

Table 3. Overview of how SEARs have been satisfied

Requirement	***Location in SSDA***	
	EIS	***Technical Report***
		▪ Appendix 35 Flood Management Assessment ▪ Appendix 36 Independent Review of Flood Assessment
18. Flooding ▪ *The EIS should ensure the use of the latest data from Fairfield City Council's Rural Area Flood Study Ropes, Reedy & Eastern Creeks (BMT WBM, November 2013). It is prudent to consult with Fairfield City Council to ensure the latest flood data is used;* ▪ *The EIS must map the following features relevant to flooding within the vicinity of the project, as described in the Floodplain Development Manual 2005 (NSW Government 2005);* ▪ *The EIS must describe the flood assessment and modelling undertaken in determining the design flood levels for events, including as a minimum the 1 in 10 year, 1 in 100 year flood levels and the probable maximum flood (PMF);* ▪ *The EIS must model the effect of the proposed project (including earthworks) on the flood behaviour under the following scenarios:* ▪ *current flood behaviour for a range of design events as identified above;* ▪ *the 1 in 200 and 1 in 500 year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change.* ▪ *Modelling in the EIS must consider and document:* ▪ *the impact of the project on existing flood behaviour for a full range of*	▪ Section 6.16	▪ Appendix 35 Flood Management Assessment ▪ Appendix 36 Independent Review of Flood Assessment

Table 3. Overview of how SEARs have been satisfied		
Requirement	***Location in SSDA***	
	EIS	***Technical Report***
flood events including up to PMF; ▪ *the impact of the project on flood behaviour resulting in detrimental changes in potential flood affection of other properties, assets or infrastructure. This may include redirection of flow, flow velocities, flood levels, hazards and hydraulic categories;* ▪ *impacts of earthworks within the flood prone land up to the PMF level;* ▪ *whether appropriate mitigation measures require to offset potential flood risk arise from the project.* ▪ *The EIS must assess the impacts of the proposed project on flood behaviour, including:* ▪ *consistency with Councils' floodplain risk management plans;* ▪ *compatibility with the flood hazard of the land;* ▪ *compatibility with the hydraulic functions of flow conveyance in floodway and storage in flood storage areas of the land;* ▪ *whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site;* ▪ *any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the SES and relevant Councils.*		
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, recycled and safely dispose of this waste.*	▪ Section 6.17	▪ Appendix 37 Waste Management Plan

Table 3. Overview of how SEARs have been satisfied

Requirement	***Location in SSDA***	
	EIS	***Technical Report***
▪ *Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.*		
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.*	▪ Section 6.18	▪ Appendix 38 Preliminary Construction Environmental Management Plan
Plans and Documents *The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Environmental Planning and Assessment Regulation 2000. Provide these as part of the EIS rather than as separate documents.* *In addition, the EIS must include the following:* ▪ *Detail how this DA responds to the Design Quality Principles of the Education SEPP;* ▪ *Site and context plans that demonstrate a minimum of three alternate approaches to site planning which consider entrances, drop offs, building zones, carparking, open space and tree canopy* ▪ *Site and context plans that demonstrate opportunities for active transport strategies and linkages with existing, proposed and potential footpaths and bicycle paths and public transport links* ▪ *Site plans and operational statement demonstrating an indicative afterhours and community use strategy*	▪ Section 3.12 ▪ Section 4.10 ▪ Part F ▪ Part G	▪ Appendices 2-10 and 41-43

Table 3. Overview of how SEARs have been satisfied

Requirement	***Location in SSDA***	
	EIS	***Technical Report***
▪ *A summary record of consultation with the school community* ▪ *A report tabling how the proposal responds to and upholds the Design Guide for Schools and the Design Quality Principles as per Schedule 4 of the Education SEPP* ▪ *Architectural drawings (dimensioned and including RLs);* ▪ *Perspective drawings / artist impressions;* ▪ *Site Survey Plan, showing existing levels, location and height of existing and adjacent structures/buildings and boundaries;* ▪ *Site Analysis Plan;* ▪ *Stormwater Concept Plan;* ▪ *Shadow Diagrams;* ▪ *View Analysis/Photomontages, including from public vantage points;* ▪ *Landscape Plan (identifying any trees to be removed and tress to be retained or transplanted);* ▪ *Preliminary Construction Management Plan, inclusive of a Preliminary Construction Traffic and Pedestrian 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;* ▪ *Salinity Investigation Report (if required);*		

Table 3. Overview of how SEARs have been satisfied

Requirement	***Location in SSDA***	
	EIS	***Technical Report***
▪ *Acid Sulphate Soils Management Plan (if required); and* ▪ *Schedule of materials and finishes.*		
Consultation *During the preparation of the EIS you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular, you must consult with:* ▪ *Fairfield Council;* ▪ *Government Architect NSW (through the NSW State Design Review Panel process);* ▪ *Transport for NSW; and* ▪ *Roads and Maritime Services.* *Consultation with Government Architect, TfNSW and RMS 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.*	▪ Part G ▪ Section 6.12	▪ Appendix 4 Consultation Report ▪ Appendix 31 Electrical Infrastructure Assessment ▪ Appendix 32 Mechanical and Hydraulic Services Infrastructure Assessment Report and Water Management Plan
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.*	Noted. The subject SSD will be lodged with DPE within two (2) years of the issue date of the SEARs.	

Table 3. Overview of how SEARs have been satisfied		
Requirement	***Location in SSDA***	
	EIS	***Technical Report***
References *The assessment of the key issues listed above must consider relevant guidelines, policies and plans as identified.*	Noted.	

PART B SITE ANALYSIS

2.1 SITE LOCATION AND EXISTING SITE CHARACTERISTICS

The subject site is identified as 17-19 Kosovich Place, Cecil Park, being legally described as Lot 2320 and 2321 in DP 1223137.

The site exhibits an area of 2.935ha with a street frontage to Kosovich Place to the north. Also to the north the site adjoins the existing Saints Peter and Paul Parish church, whilst to the east, south and west the site is surrounded by rural residential properties comprising grassed land, dwelling houses, detached farm buildings and farm dams. Land to the south is owned by Western Sydney Parklands Trust and leased to the Western Sydney Parklands.

In its existing state, the site is free from any structures, being undeveloped. The site comprises predominantly undulating grassed land that is free from any other vegetation or trees. A riparian corridor adjoins the site's western boundary and comprises a tributary of Ropes Creek.

Vehicular access to the site is afforded via two (2) existing concrete crossovers. Given the currently vacant state of the site, no driveways are however provided.

The site and existing development are shown in **Figures 1** and **2** below.

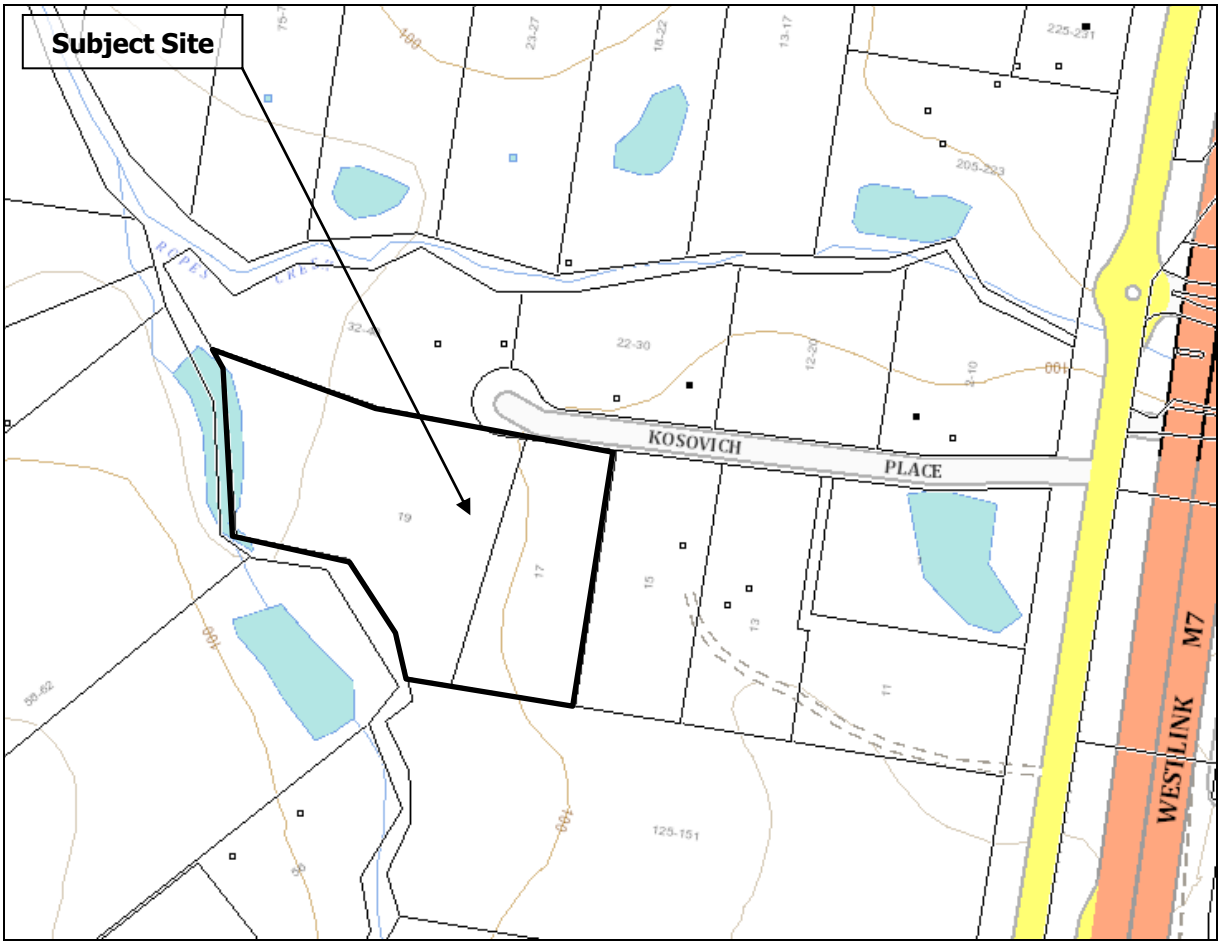


Figure 1. Cadastre Map (SIX Maps 2018)

Figure 2. Aerial View (SIX Maps 2018)

2.2 LOCAL AND REGIONAL CONTEXT

The site is located in the suburb of Cecil Park, which forms part of the Fairfield Local Government Area (LGA) in western Sydney.

The surrounding context exhibits a rural residential character, being defined by detached dwelling houses on large lots as well as productive land used for market gardening and other rural activities.

The nearest residential suburbs to the site, including Abbotsbury and Cecil Hills, are located approximately 1.7km to the east and 1.3km to the south-east, respectively. These suburbs comprise of dwelling houses in low density settings in addition to local retail and community services.

Notable features of the surrounding context include the following:

- Saints Peter and Paul Parish church on the adjoining site to the north;
- Western Sydney Parklands to the east and south; and
- Western Sydney Employment Area (WSEA) to the north.

The site is serviced by Kosovich Place, which terminates in a cul-de-sac adjacent to the site's northern boundary. Major road infrastructure in proximity of the site includes the M7 Westlink, Wallgrove Road, Elizabeth Drive and The Horsley Drive. The proposed M12 Motorway is situated to the south of the site. The site is not currently accessible by public transport.

The local and regional context is shown in **Figure 3** below.

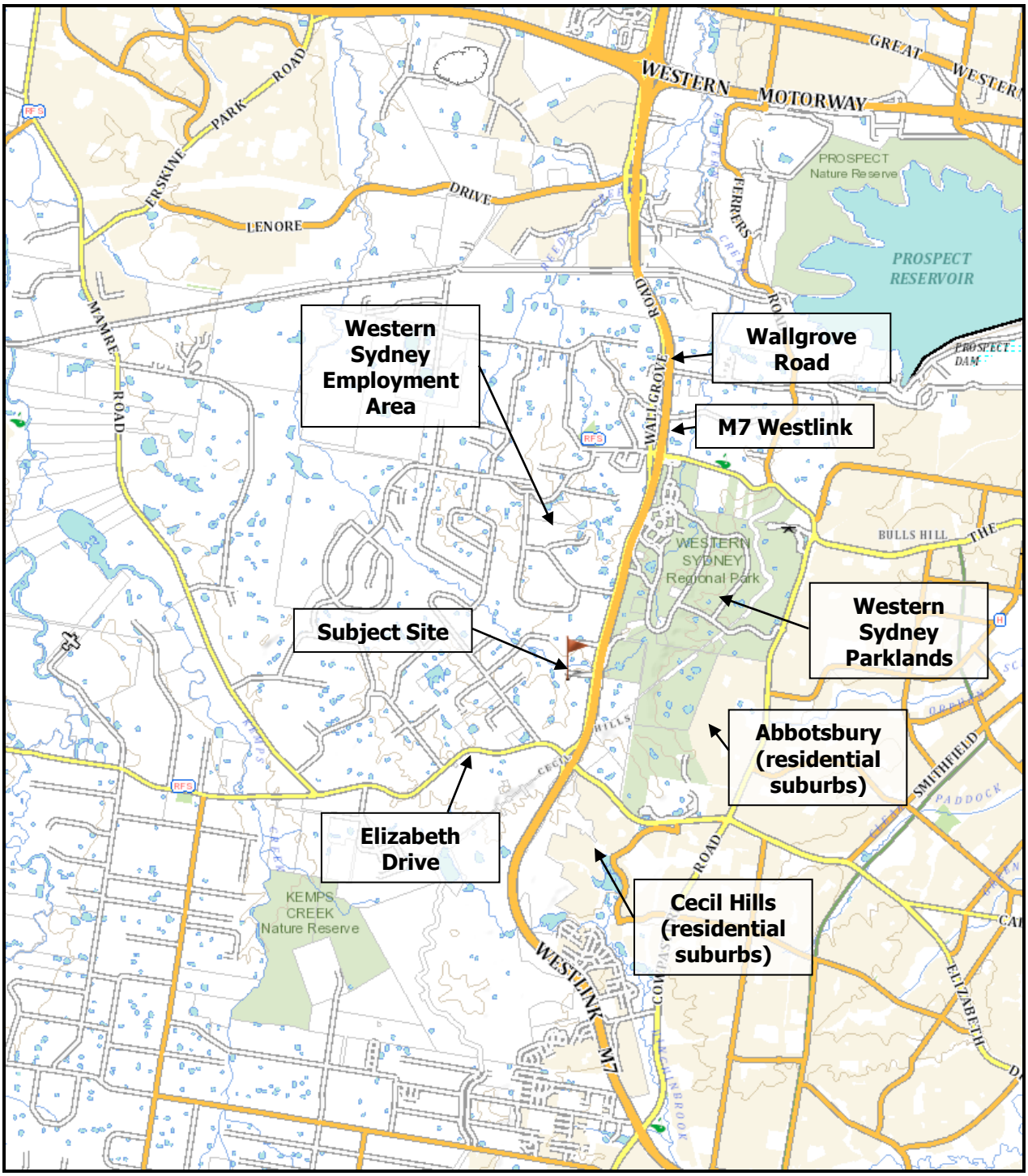


Figure 3. Local and Regional Context Map (SIX Maps 2018)

2.3 SERVICES AND UTILITIES

In principle, mains electricity and water are currently available on the site. No gas, telephone or mains sewer are currently available, and will not become available in the foreseeable future.

The following infrastructure is therefore proposed to be delivered to support the school development:

- Upgraded electricity supply including a pad-mount substation;
- Sewer Treatment Plant and wastewater irrigation field;
- Communications/data network, including NBN glass fibre cable connection to the premises;

- Stormwater management system, including OSD tanks and basins (rain gardens);
- Hydrant booster with diesel pump to increase the pressure of the mains water supply for on-site Fire Hydrants;
- Other hydraulic services including cold water connection and domestic hot water system;
- Mechanical services including heating, cooling and fresh air ventilation systems;
- Electrics, security, comms and data systems.

Further details of infrastructure provision are provided in the Electrical Infrastructure Assessment at **Appendix 31**, and in the Mechanical and Hydraulic Services Infrastructure Assessment Report and Water Management Plan at **Appendix 32**.

2.4 SITE SUITABILITY

The site is considered suitable for the proposed development for the following reasons:

- Schools are permissible on the site pursuant to the current zoning, and no amendments to the Local Environmental Plan (LEP) are required to facilitate the proposed development;
- The school would assist in meeting demand for new educational facilities in Western Sydney;
- The proposal would generate and maintain employment opportunities during both construction and operational phases;
- The design of the development has considered surrounding properties and would maintain a suitable level of amenity including with respect to solar access, visual privacy, acoustic privacy and views;
- Whilst providing important new infrastructure, the proposed school also responds to the current character of the surrounding area, as achieved through architectural and landscape design. This has been acknowledged by the Government Architect (GA) NSW;
- All potential environmental impacts of the proposal would be suitably mitigated within the site;
- The development makes suitable provision for infrastructure upgrades such that the site would be appropriately serviced;
- The site is accessible by road infrastructure which is capable of being upgraded to accommodate the school;
- The proposal would not affect any area of heritage or archaeological significance; and
- The proposal may be developed with appropriate visual amenity given its surrounding context.

The proposal is justified on the basis it is compatible with the locality in which it is proposed while having no unacceptable economic, environmental or social impact.

PART C PROPOSED DEVELOPMENT

3.1 PROPOSAL OVERVIEW

The proposal is for the construction and use of Saints Peter and Paul Assyrian Primary School, being a new, three (3) stream, co-educational primary school accommodating students from Kindergarten to Year 6, with an ultimate population of 665 students and staff.

Pursuant to this SSD, consent is sought for a Master Plan and built form, inclusive of infrastructure, services, school buildings, play areas and land uses.

Subsequent to consent for the Master Plan and built form being granted pursuant to SSD 9210, the intent is to stage construction, enabling facilities to be delivered and expanded in line with the growth in student and staff numbers.

Pursuant to this application, approval is specifically sought for Construction Stage 1 to allow for the commencement of the school development on Lot 2320 whilst Lot 2321 is being remediated. It is acknowledged that a Condition of Consent will be required to the effect that Lot 2321 must be remediated in accordance with all current legislation prior to any future development on Lot 2321 being carried out in conjunction with this approval.

Subsequent construction stages would be carried out under staged Construction Certificates (CCs).

3.2 AIMS AND OBJECTIVES OF THE PROPOSAL

The following objectives have been identified as forming the basis of the proposed development of the subject land to accommodate the proposed school:

- Deliver new educational facilities to meet the significant demand that exists in Western Sydney;
- Design the site to create a high quality teaching and learning environment for staff and students;
- Respond to the current and projected growth in the region through staged delivery of the school;
- Ensure minimal environmental impact; and
- Ensure development is compatible with surrounding development and the local context.

The site and proposed design are considered to meet the objectives of the project as it allows for development on land in proximity of key growth areas in Western Sydney.

3.3 MASTER PLAN

The Master Plan sets out the holistic vision for the ultimate development of the school. Key elements of the Master Plan are outlined in **Table 4** and an extract from the Master Plan is provided at **Figure 4**. Full details are provided in the Master Plan drawings at **Appendix 10**.

Further details of each component of the development are provided in the subsequent sections of this EIS.

Table 4. Summary of Master Plan

Master Plan Component	***Details***
Bulk earthworks	Benching and retaining walls across entire Master Plan area

Table 4. Summary of Master Plan	
Master Plan Component	***Details***
Soil remediation	Lot 2321 only
Site infrastructure	Sewer treatment plant
	Waste water irrigation field
	New substation
	Communications/data network, including NBN glass fibre cable connection to the premises
	Cold water connection
	Stormwater management system, including OSD tanks and basins (rain gardens)
	Waste and recycling facility
	Security system
	Paved pathways and access ramps
	Signage
	Hot water system
	Heating, cooling and fresh air ventilation systems
	Secure fencing
School buildings	One, two (2) storey classroom building
	Administration and staff facilities (included in classroom building)
	Library
	Canteen
	Multi-purpose hall
Outdoor open space	Civic Heart
	COLA
	Play areas (active and passive)
	Sports courts and fields
	Entry plaza
Traffic arrangements	Staff car park with 37 spaces + 2 disabled spaces
	Kiss and ride with 30 spaces + 1 dedicated emergency vehicle parking space
	Vehicle access driveway with on-site turning bulb
	Separate pedestrian entry
	Road and intersection upgrade works
Landscaping	Landscape Master Plan, including riparian planting

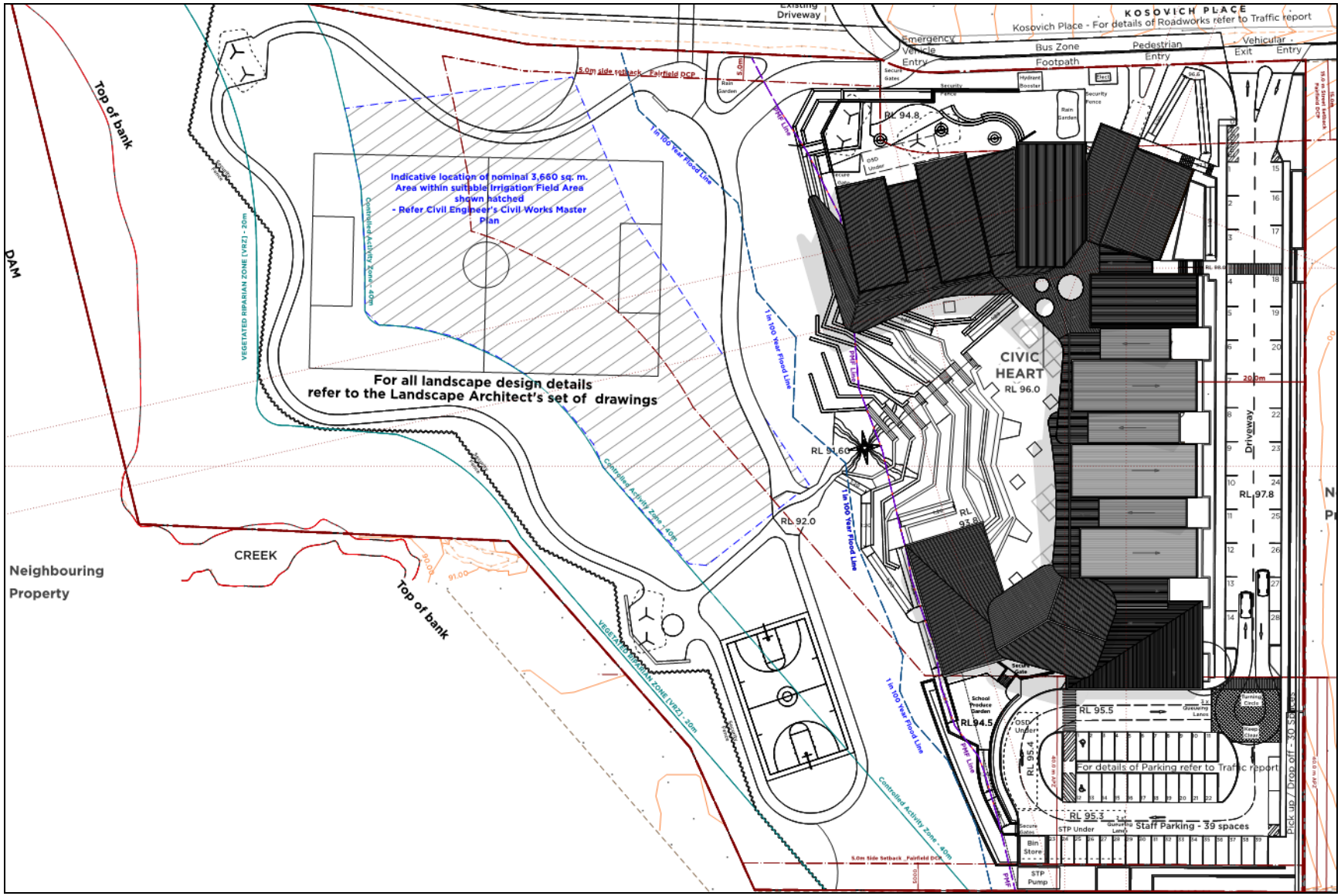


Figure 4. Master Plan (PMDL 2018)

3.4 SITE PREPARATION WORKS

Bulk earthworks are required to prepare the site for built form and ultimately use as a school. A summary of earthworks volumes is provided in **Table 5** and an extract from the Earthworks Cut-Fill Plan is provided at **Figure 5**.

Table 5. Earthworks Summary		
Volume	***Cut***	***Fill***
Stage 1 Construction		
Earthworks Volume (m³)	-16,888.318	1,459.736
Earthworks Balance (m³)	-15,428.581	-
Master Plan		
Earthworks Volume (m³)	-16,826.186	5,655.416
Earthworks Balance (m³)	-11,170.769	-

Further details of proposed earthworks are provided in the Civil Works Plans at **Appendices 24-25**.

As a prerequisite to any physical works occurring on Lot 2321, remediation is required. Accordingly, Lot 2321 will be securely fenced and provided with separate access until such time as remediation is completed. No development, other than remediation works, will be carried out on Lot 2321 and it will not form part of the school until the site verification certificate has been obtained. Full details of remediation are provided in the Remedial Action Plan at **Appendix 29**.

It is noted that, given land contamination and remediation will be completely contained within Lot 2321 and do not affect Lot 2320, the development of the school on Lot 2320 may proceed concurrently with the remediation of the adjoining site. It is acknowledged that a Condition of Consent will be required to the effect that Lot 2321 must be remediated in accordance with all current legislation prior to any future development on Lot 2321 being carried out in conjunction with this approval.

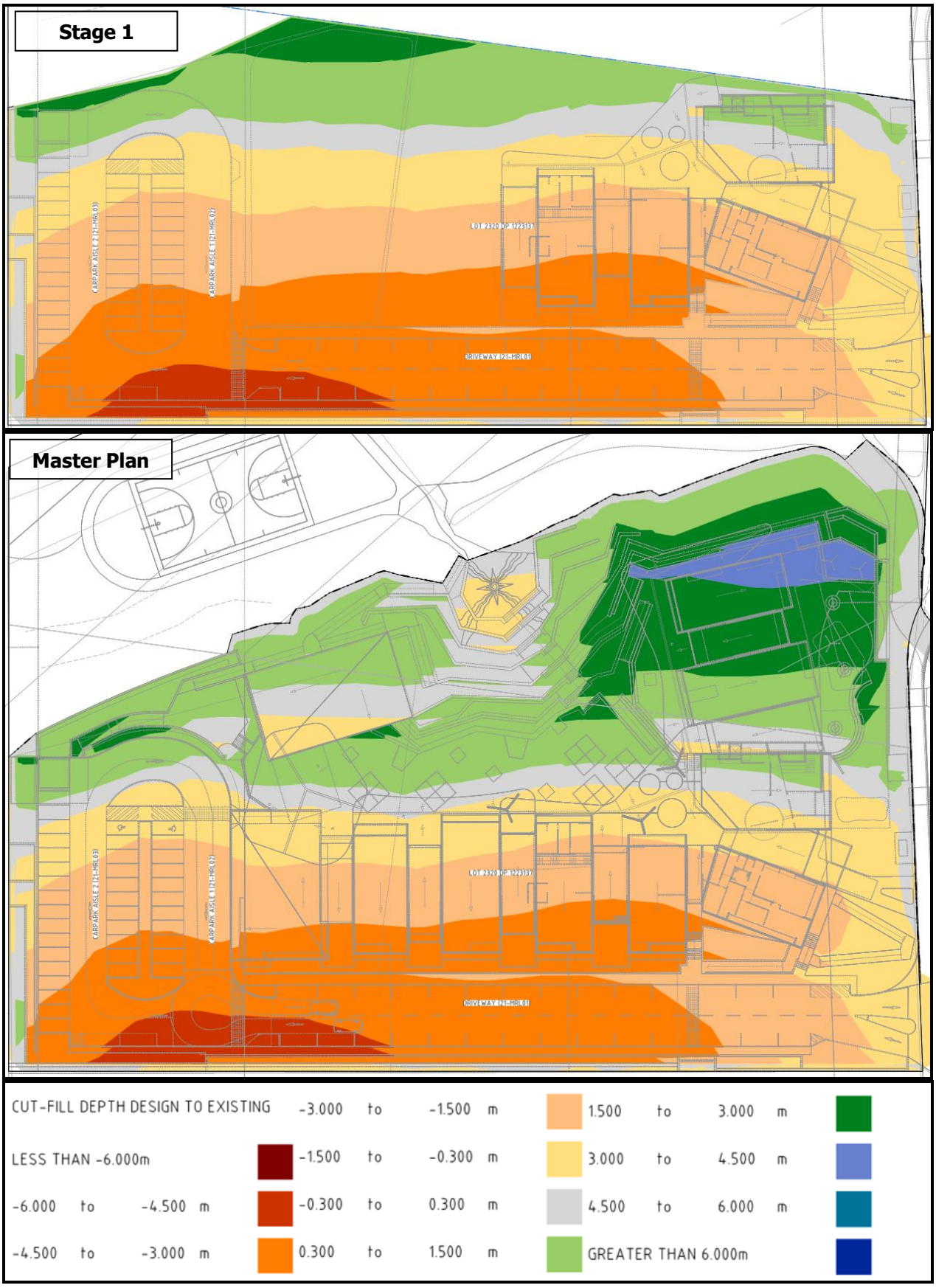


Figure 5. Earthworks Cut-Fill Plan (Martens 2018)

3.5 SITE INFRASTRUCTURE

The infrastructure and services required to support the school will be delivered in conjunction with civil works and built form development. In summary, proposed site infrastructure includes:

- Sewer treatment plant
- Waste water irrigation field
- New substation
- Communications/data network, including NBN glass fibre cable connection to the premises
- Cold water connection
- Stormwater management system, including OSD tanks and basins (rain gardens)
- Waste and recycling facility
- Security system
- Paved pathways and access ramps
- Signage
- Hot water system
- Heating, cooling and fresh air ventilation systems
- Secure fencing

Further details of infrastructure provision are provided in the Architectural Drawings at **Appendix 10**, Electrical Infrastructure Assessment at **Appendix 31**, and Mechanical and Hydraulic Services Infrastructure Assessment Report and Water Management Plan at **Appendix 32**.

3.6 BUILT FORM AND OPEN SPACE

The development particulars of the proposed built form and open space are outlined in **Table 6**.

Table 6. Built Form and Open Space Particulars

Development Particular	***Details***
Classroom (GLA) Block	Height/Storeys – two (2) storeys
	Area – 4,025m²
	Rooms include: ▪ 21 classrooms (General Learning Areas (GLAs)) ▪ Seminar rooms ▪ Shared practical areas ▪ Internal play areas ▪ Store rooms ▪ Amenities ▪ Lift
	Administration and Staff Areas, including: ▪ Reception ▪ Office work area ▪ Principal's office ▪ Deputy Principal's office ▪ Meeting room

Table 6. Built Form and Open Space Particulars	
Development Particular	***Details***
	▪ Interview room ▪ Staff room ▪ Staff study area ▪ Sick bay, accessible toilet and shower, and staff toilets ▪ Store rooms and secure store ▪ Comms room
Library	Height/Storeys – single (1) storey
	Area – 285m²
	Rooms include: ▪ Main library area and library reception ▪ Seminar rooms ▪ Bulk store room ▪ Comms room and AC plant
Canteen	Height/Storeys – single (1) storey
	Area – 55m²
Multi-Purpose Hall	Height/Storeys – two (2) storeys (including accessible toilet and store room below the COLA)
	Area – 625m²
Covered Outdoor Learning Areas (COLAs)	Adjacent to the library and hall – 195m²
	Adjacent to riparian zone – 64m²
	North-western corner of the site – 64m²
Outdoor open space	Entry plaza
	Civic Heart
	School produce garden
	Outdoor learning courtyards adjacent to GLAs
	Play areas, including separate Kindergarten play area (128m²)
	Multi-sports court, including for tennis, basketball and netball
	Sports field, including for soccer

Full details are provided in the Architectural Drawings and Landscape Plans at **Appendices 10** and **12**, respectively. Extracts from the Perspectives and Massing Models are provided in **Figures 6-10** below.

Figure 6. Perspective – Civic Heart (PMDL 2018)

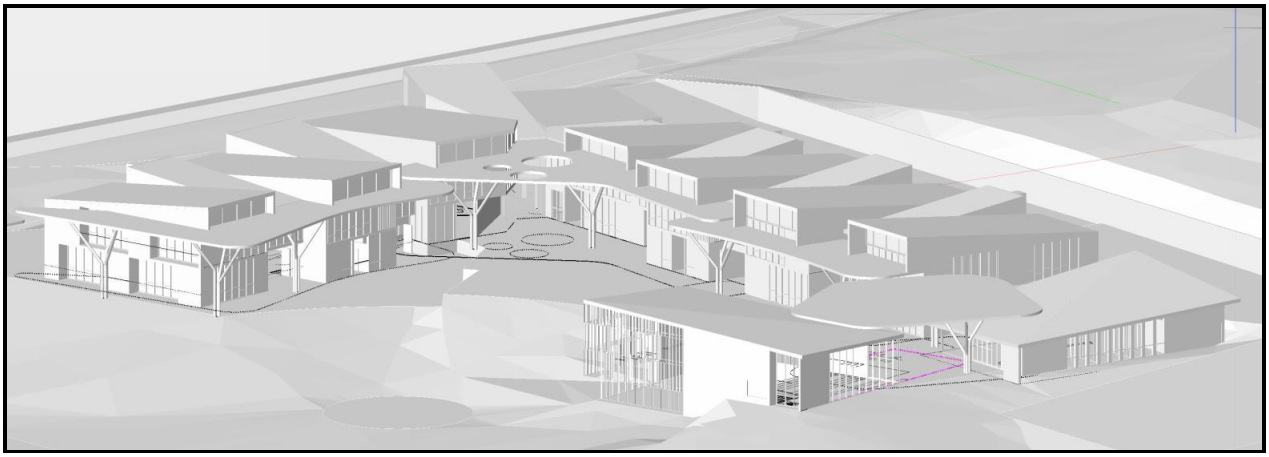


Figure 7. Massing Model – View from South-West (PMDL 2018)

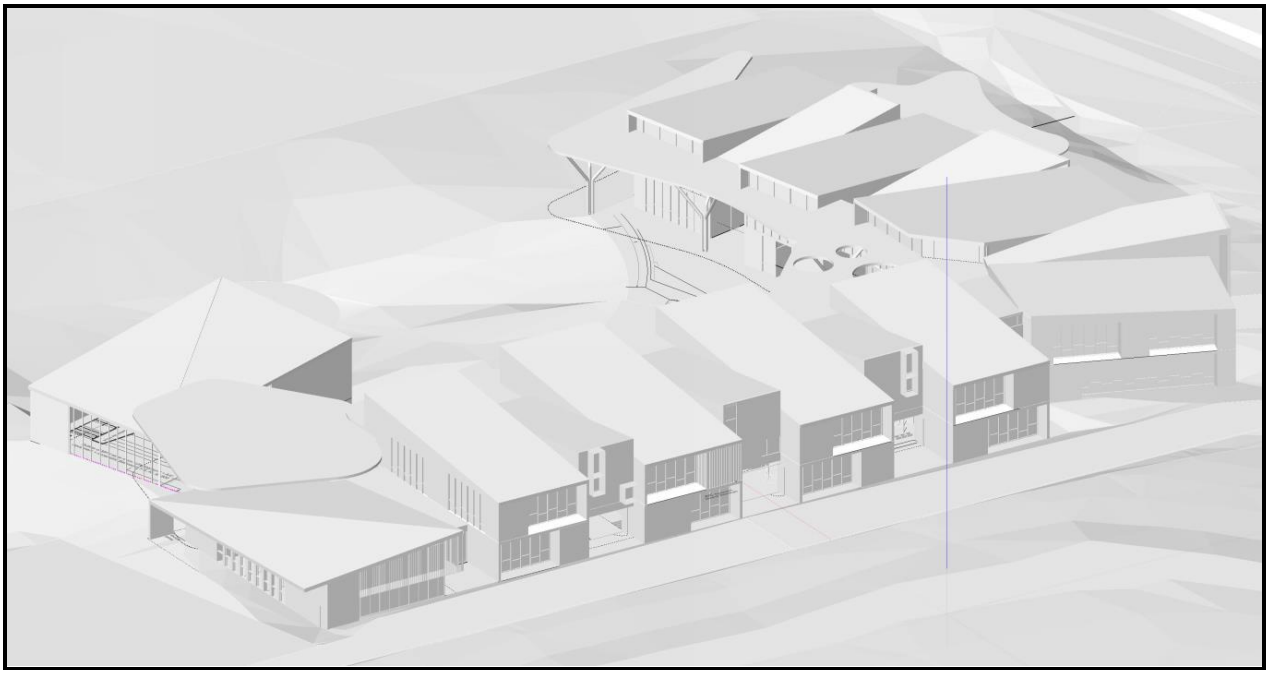


Figure 8. Massing Model – View from South-East (PMDL 2018)

Figure 9. Perspective – Kindergarten Area (PMDL 2018)

Figure 10. Perspective – Interior Practical Areas (PMDL 2018)

3.7 LANDSCAPING

Landscape works will be carried out over the entire school site to create a 'green oasis' and highly amenable learning environment. Landscaping will create useable outdoor spaces for active and passive recreation and learning activities, provide shading, enable proximity to 'nature' and contribute to an attractive visual experience.

A balance of hard and soft surfaces will support a variety of active and passive, structured and 'free' activities relating to general play, outdoor education and organised sport. Landscape design has also enabled the establishment of natural connections between the various areas of the school, and provides opportunity for future connections to be developed with the adjoining church.

Planting adjacent to the site boundaries will assist in protecting neighbouring amenity by providing visual screening and assisting in noise mitigation.

Extensive vegetation planting throughout the site will improve the biodiversity and tree canopy of the site, particularly given that in its current state it consists of completely cleared land. Riparian planting will appropriately integrate with the existing riparian corridor adjacent to the site's western boundary. This ecologically important area will be designed by the Landscape Architect in accordance with the Ecologist's Vegetation Management Plan (**Appendix 20**).

Key features of the landscape design, as shown in the Landscape Masterplan (**Appendix 12**) include:

- Level ceremonial pedestrian and visitor entry to school flanked by tree and hedge planting;
- Street frontage embellished with gardens;
- Visual focus for students entering and leaving via the drop-off area created by a feature stone-faced wall with school emblem and name, surrounded by middle-eastern feature palms;
- Vertical sundial sculpture and pavement markings within Civic Heart provides learning opportunity and visual focus;
- Cardinal marker trees set using civic scaled Hoop Pine planting to mark compass points;
- Small seating area and religious sculpture on axis of church provides opportunity for seating in lower area and potential future connection to the church;
- Broad and generous seating terraces/outdoor amphitheatre spilling down hillside in a random arrangement provide a variety of play, gathering and learning spaces, while also providing pathways from the Civic Heart to the hall and lower level playground;
- Educational food and produce garden potentially incorporating date palms, citrus trees, raised vegetable gardens, worm farm, composting facilities and chicken coop;
- Separate, secure Kindergarten play area provided with small amphitheatre seating, canopy shelters, sandpit and small lawn area;
- Outdoor, environmental learning area and shelter nestled into revegetation area;
- Revegetation of the riparian area;
- Low key decomposed granite pathway separates managed grass areas from riparian vegetation and provides for movement of students and maintenance vehicles around the site;
- Concrete vehicular path to provide all-weather maintenance and emergency access to lower open lawn and games areas;
- Shrub and small tree planting at the base of the retaining wall adjacent to the driveway to soften and provide a green outlook;
- Larger retaining wall adjacent to the driveway to eventually be covered with Ivy or Boston Ivy to create a green wall;
- Surface runoff form staff car park to be directed to rain gardens incorporated in central planting areas.

Extracts from the Landscape Plans are provided in **Figures 11-13** below.

Figure 11. Landscape Perspective – Civic Heart and Sundial Plaza (Arterra 2018)

Figure 12. Eyelevel Perspective of School from Kosovich Place (Arterra 2018)

Figure 13. Landscape Perspective – Overview of School from South (Arterra 2018)

3.8 TRAFFIC ARRANGEMENTS

The Master Plan and physical works make provision for vehicular and pedestrian access, car parking, student drop-off and pick-up, and service vehicles.

Access to the site for all vehicles will be facilitated from Kosovich Place via a combined ingress/egress driveway adjacent to the eastern site boundary. The creation of the access will require the construction of a new driveway crossing.

Separate pedestrian access will be provided via an internal footpath connecting the street to the main school entry, reception, administration, staff areas and classrooms. Other internal footpaths will provide safe pedestrian access from the car park and kiss-and-ride zones.

A staff car park comprising 39 spaces is proposed in the south-eastern corner of the site. Access to the car park will be facilitated via the proposed access driveway.

Kiss-and-ride spaces for 30 vehicles have been situated in a designated lane adjoining the driveway to accommodate the drop-off and pick-up of students. As noted, internal footpaths will provide safe pedestrian connections between the kiss-and-ride zone and school via marked pedestrian crossings.

Service vehicles will be accommodated by the proposed driveway. The bin room and sewer pump have been sited adjacent to the driveway turn-around loop to enable direct access for waste collection and other service vehicles.

With respect to the external road network, it is acknowledged that upgrades to Kosovich Place, Wallgrove Road, the Kosovich Place-Wallgrove Road intersection and the Wallgrove Road-Elizabeth Drive intersection, would be required to accommodate the public buses and additional traffic volumes generated in association with the school. Details of infrastructure upgrades are provided in **Section 6.12** of this EIS and in the Traffic and Parking Impact Assessment at **Appendix 13**.

Full details of traffic arrangements are provided in the Transport and Parking Impact Assessment at **Appendix 13**.

3.9 OPERATIONAL DETAILS

Details of the proposed school's operations (for the ultimate development scenario) are summarised in **Table 7**.

Table 7. Proposed Operational Particulars

Operational Particular	***Details***
Streams	Three (3) streams, Kindergarten to Year 6
Number of students	630 students
Number of staff	35 staff
Hours of operation	7:30am – 9:30pm, Monday to Friday during school terms 8:00am – 1:00pm, Saturday for sport
Out-of-hours activities	Out-of-hours activities are envisaged to include: ▪ Before and after school care; ▪ Language classes for the community; ▪ Bible classes;

	▪ Future learning activities for the community.

3.10 CONSTRUCTION DETAILS

Subsequent to consent being granted, the intent is to stage construction, enabling facilities to be delivered and expanded in line with the growth in student and staff numbers. Key components of each construction phase are summarised in **Table 8**. It is noted however that, after the completion of Construction Stage 1 and the remediation of Lot 2321, construction staging may occur in any order required by the school. Therefore the following outlines a possible option only.

Subsequent construction stages would be carried out under staged CCs.

Table 8. Construction Stages

Construction Stage	***Details***
Construction Stage 1	Remediation of Lot 2321
	Bulk earthworks over Lot 2320
	Sewer infrastructure
	OSD and rainwater infrastructure
	Electrical substation
	Fire hydrant booster
	Cold water, stormwater, rainwater, wastewater and domestic hot water systems
	Electrics, security, comms and data systems
	Construction of driveway, including associated landscaping
	30 kiss-and-ride spaces
	Construction of car park containing 39 spaces
	Partial construction of GLA block, including nine (9) GLAs (two (2) GLAs to be used for temporary library), four (4)) shared practical areas, three (3) shared seminar rooms, shared play area, administration and staff facilities, lift, sickbay, toilets, MSB and comms room
	Play area
	Road widening of Kosovich Place, bus stop/layby and new crossover for the access driveway

Table 8. Construction Stages	
Construction Stage	***Details***
Construction Stage 2 (It is noted that Stages 2 and 3 are interchangeable)	Expansion of GLA block, including six (6) further classrooms, two (2) shared practical areas, one (1) shared play area and toilets
	COLA
Construction Stage 3 (It is noted that Stages 2 and 3 are interchangeable)	Expansion of GLA block, including six (6) further classrooms, three (3) shared practical areas and toilets
	COLA and outdoor learning courtyards
Construction Stage 4 (It is noted that Stage 4 can be further staged such that each component of Stage 4 is separately delivered)	Construction of library
	Construction of canteen
	Outdoor sitting areas
	Large COLA
Construction Stage 5	Construction of multi-purpose hall
Construction Stage 6	Completion of Landscape Master Plan

Construction will be managed in accordance with the Preliminary Construction Environmental Management Plan at **Appendix 38** and Construction Traffic Management Plan at **Appendix 15**.

3.11 CONSIDERATION OF ALTERNATIVES

The site is considered suitable for the proposed school as it allows new educational facilities to be delivered in Western Sydney. The design and layout of all components of the school create a high quality learning environment whilst adequately maintaining neighbouring amenity, responding to local character and protecting the quality of the natural environment.

The options considered, and subsequently dismissed, in arriving at the current proposal included:

(a) 'Do Nothing' Scenario

This option was dismissed as the objectives of the project would not be met. If the proposal was not to proceed, essential educational services would not be delivered.

(b) Development on an Alternative Site

Consideration to alternative sites was given, however these were dismissed as the subject site resulted in the most beneficial outcomes for the following reasons:

- The proposal is located on a site where schools are permissible with consent;
- Demand for new educational facilities exists in Western Sydney, and the site is located in proximity of areas experiencing population growth;

- The site is in suitable proximity of its link high school, being St Narsai Christian College at 217 Horsley Road, Horsley Park;
- The site is suitably located to accommodate overflow students from its link primary school, being St Hurmizd Assyrian Primary School at 7-9 Greenfield Road, Greenfield Park;
- The site is suitably separated from sensitive land uses including residential accommodation and the proposal would maintain an adequate level of amenity for neighbouring properties;
- Through architectural and landscape design, the proposed development responds to the character of the local area;
- All potential environmental impacts of the proposal can be suitably mitigated within the site;
- The proposal would generate employment opportunities during both construction and operational phases;
- The site would be appropriately serviced and accessed, subject to infrastructure upgrades;
- The proposal would not affect any area of heritage or archaeological significance; and
- The proposal may be developed with appropriate visual amenity given its surrounding context.

The proposal is justified on the basis it is compatible with the locality in which it is proposed, having no unacceptable economic, environmental or social impact.

3.12 ITERATIVE DESIGN PROCESS

The project has been developed over nearly two (2) years and has considered many alternative design solutions, each responding to the original, and then the amended, brief.

This iterative design process enabled the project to respond to specialist consultants' input as it became available, feedback from government agencies and brief development and refinement with the client.

For example, an early scheme was designed as a feasibility study, sharing parking facilities with the neighbouring church, which was later rejected in order to ensure that the school project was self-reliant in every aspect whilst still remaining complementary with the facilities and spiritual offering of the parish church to the Christian community that both projects serve.

The next stage involved a feasibility design study to include an Early Learning Centre on the site in conjunction with the 3-stream Primary School. The aim here was to respond even further to the growing needs of the local community by offering pre-school facilities and learning opportunities. This was later rejected due to the limited area for building and parking on this site due to the bushfire and flood constraints and the overall two storey height limit.

At this point a whole new design approach was envisaged by responding to the 40m APZ on the southern boundary as the staff car parking area, with a long driveway along the eastern boundary offering the required kiss-and-drop facilities for the ultimate school population.

The design then developed a distinctly modular form responding to the staged construction requirements of the brief, enabling flexibility for the future staging. This was based on the client's future needs whilst also offering a speedier construction time than standard, two-storey construction, with important cost and construction time benefits.

Adaptability and flexibility-of-use regarding the various learning and public spaces was incorporated into

the detailed planning of the project prior to consultation with the GA NSW.

Feedback from the GA NSW's 'State Design Review Panel' then helped guide the project through its final iterations to a highly adaptable and flexible scheme, integrated into the hill-side and surrounded by a 'green oasis' through high-quality, landscape design and features.

Long-term sustainability, contextual respect and response to local environmental conditions have also been key design issues throughout the design process as the proposed primary school will be a central part of the future local community as this area of Western Sydney inevitably continues to grow and develop.

The collaborative design process where Architect, Landscape Architect, Planner and the whole design team all influenced the project along the path to its final design solution, is believed to be qualitatively and quantitatively fit-for-purpose for active and passive learning well into the 21st century.

Extracts from previous versions of the Masterplan are included in the Iterative Design Process Statement at **Appendix 41** to visually depict the evolution of the project as described herein.

PART D LEGISLATIVE AND POLICY FRAMEWORK

4.1 OVERVIEW OF RELEVANT LEGISLATION AND POLICIES

This section of the EIS assesses and responds to the relevant current and draft Commonwealth, State and Local planning controls and policies, including:

- ***Commonwealth Planning Context***
  - *Environment Protection and Biodiversity Conservation Act 1999*
- ***State Planning Context***
  - *Environmental Planning and Assessment Act 1979*
  - *Environmental Planning and Assessment Regulation 2000*
  - *Protection of Environmental Operations Act 1979*
  - *Biodiversity Conservation Act 2016*
  - *Biodiversity Conservation Regulation 2017*
  - *Water Management Act 2000*
  - *Rural Fires Act 1997*
  - *State Environmental Planning Policy (State and Regional Development) 2011*
  - *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017*
  - *State Environmental Planning Policy (Infrastructure) 2007*
  - *State Environmental Planning Policy No 55 – Remediation of Land*
  - *State Environmental Planning Policy No. 64 – Advertising and Signage*
- ***Local Planning Context***
  - *Fairfield Local Environmental Plan 2013*
  - *Fairfield Development Control Plan*
  - *Fairfield City Council – Indirect (Section 94A) Development Contributions Plan 2011*

Detailed consideration of this planning framework is provided in the following sections.

4.2 ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the Australian Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places, defined in the EPBC Act as matters of National Environmental Significance.

Under the EPBC Act, a person must not, without an approval under the Act, take an action that has, will have or is likely to have, a significant impact on a matter of National Environmental Significance. These matters are listed as:

- The world heritage values of a declared World Heritage property
- The ecological character of a declared Ramsar wetland
- A threatened species or endangered community listed under the Act
- A migratory species listed under the Act
- The environment in a Commonwealth marine area or on Commonwealth land

The EPBC Protected Matters report generated for the site lists five (5) threatened ecological communities, 36 nationally listed threatened species and 15 migratory species that may occur within 5km of the site.

Habitat assessment did not identify any EPBC-listed ecological communities, flora, fauna or migratory species on the site or that are likely to be impacted by the development, as documented in the

Biodiversity Assessment Report at **Appendix 18**. No CAMBA, JAMBA or ROKAMBA migratory species were found at the site. The proposal is unlikely to have a significant impact on any CAMBA, JAMBA or ROKAMBA species.

No other matters of National Environmental Significance were identified on the site. Therefore no further assessment under the EPBC Act is required.

4.3 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

The *Environmental Planning and Assessment Act 1979* (EPA&A Act) is the overarching governing document for all development in NSW. Pursuant to Section 4.36(2), the EP&A Act provides that:

> *A State environmental planning policy may declare any development, or any class or description of development, to be State significant development.*

The proposed development has been identified as State Significant Development under SRD SEPP as outlined in **Section 4.9** below.

Pursuant to Section 4.12(8), *a development application for State significant development or designated development is to be accompanied by an environmental impact statement prepared by or on behalf of the applicant in the form prescribed by the regulations.* This EIS has been prepared in accordance with the form prescribed by the EP&A Regulation.

4.4 ENVIRONMENTAL PLANNING AND ASSESSMENT REGULATION 2000

The *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) prescribes requirements for Environmental Impact Statements in Schedule 2. This EIS has been prepared in accordance with the form prescribed by the EP&A Regulation.

4.5 PROTECTION OF THE ENVIRONMENT OPERATIONS ACT 1979

Schedule 1 of the *Protection of the Environment Operations Act 1979* (POEO Act) contains a core list of activities that require a licence before they may be undertaken or carried out. The definition of an 'activity' for the purposes of the POEO Act is:

> *an industrial, agricultural or commercial activity or an activity of any other nature whatever (including the keeping of a substance or an animal).*

The proposal will not involve any activity that would require the issue of an Environmental Protection Licence.

4.6 BIODIVERSITY CONSERVATION ACT 2016 AND REGULATION 2017

The *Biodiversity Conservation Act 2016* (BC Act) seeks *to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development.*

Part 7 of the BC Act sets out requirements for biodiversity assessments and approvals under the Planning Act (meaning the EP&A Act).

Pursuant to Section 7.2(1), *development or an activity is likely to significantly affect threatened species if:*

(a) it is likely to significantly affect threatened species or ecological communities, or their habitats, according to the test in section 7.3, or

(b) the development exceeds the biodiversity offsets scheme threshold if the biodiversity offsets scheme applies to the impacts of the development on biodiversity values, or

(c) it is carried out in a declared area of outstanding biodiversity value.

Based on the Tests of Significance ('5 Part tests), the Biodiversity Assessment Report (**Appendix 18**) confirms it unlikely the proposed development will have a significant impact on any threatened species, populations or endangered ecological communities listed under the BC Act.

Additionally, as no native vegetation clearing is proposed the development does not exceed the biodiversity offsets scheme threshold. Further, the site is not mapped as a 'declared area of outstanding biodiversity value' or as having 'high biodiversity value' (NSW Biodiversity Values Map).

Pursuant to Section 7.9, an SSD *is to be accompanied by a biodiversity development assessment report (BDAR) 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.*

It is however requested that the requirement for a BDAR is waived. This owes to the lack of native vegetation or biodiversity values on the site. As documented in the Biodiversity Supporting Statement at **Appendix 19**, Molino Stewart has held discussions with OEH's Biodiversity Assessment Method (BAM) specialist, John Siedel, in relation to another proposed school development on a site with no remnant native vegetation which was also subject to the same SEARs item. Mr Siedel advised that for sites with no remnant native vegetation a BDAR prepared using the BAM would not be required. Further, as the BAM is a methodology that assesses changes in native vegetation integrity, where there is no native vegetation community present, the BAM cannot be accurately applied to generate credits. Accordingly, the Biodiversity Assessment Report concludes that a BDAR is not required.

4.7 WATER MANAGEMENT ACT 2000

The site comprises a watercourse in its western extent, being a tributary of Ropes Creek. Whilst the proposed school will not be developed on this portion of the land, some works for the purpose of remediation may be carried out within 40m of the watercourse.

Pursuant to Section 91(2) of the *Water Management Act 1997* (Water Management Act) *a controlled activity approval confers a right on its holder to carry out a specified controlled activity at a specified location in, on or under waterfront land.*

For the purposes of the Water Management Act, *waterfront land* includes land 40m inland of the highest bank of a river (inclusive of any tributary of a watercourse). A *controlled activity* means:

(a) the erection of a building or the carrying out of a work (within the meaning of the Environmental Planning and Assessment Act 1979), or
(b) the removal of material (whether or not extractive material) or vegetation from land, whether by way of excavation or otherwise, or
(c) the deposition of material (whether or not extractive material) on land, whether by way of landfill operations or otherwise, or
(d) the carrying out of any other activity that affects the quantity or flow of water in a water source.

Given that the proposal includes the carrying out of a controlled activity on waterfront land, a controlled activity approval would be required. It is noted though that whilst the proposal would constitute Integrated Development requiring referral under Section 4.46 of the EP&A Act and Section 91 of the Water Management Act, Integrated Development does not apply to State Significant Development.

4.8 RURAL FIRES ACT 1997

The site is identified as bushfire prone land (Vegetation Category 3) in Fairfield City Council's Bushfire Prone Land Map. Whilst the application would be for Integrated Development requiring referral under Section 4.46 of the EP&A Act and Section 100B of the *Rural Fires Act 1997* (Rural Fires Act), Integrated Development does not apply to State Significant Development.

Pursuant to Section 100B of the Rural Fires Act, a bush fire safety authority must be obtained prior to developing bush fire prone land for a Special Fire Protection Purpose (including a school). A bushfire safety authority may be granted by the Commissioner, and authorises development *to the extent that it complies with standards regarding setbacks, provision of water supply and other matters considered by the Commissioner to be necessary to protect persons, property or the environment from danger that may arise from a bush fire.*

As detailed in the Bushfire Protection Assessment (refer **Appendix 39** and more detailed summary in **Section 6.19.1** of this EIS), the proposed school has been designed to comply with the requirements of the Rural Fires Act, *Rural Fires Regulation 2013* (Rural Fires Regulation) and *Planning for Bushfire Protection 2006*.

4.9 STATE ENVIRONMENTAL PLANNING POLICY (STATE AND REGIONAL DEVELOPMENT) 2011

Proposals involving activities that are listed in Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP) are identified as being State Significant Development.

Clause 15 of Schedule 1 states:

15 Educational 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.

In accordance with Schedule 1 Clause 15(1), the proposed development for a new school is State Significant Development.

4.10 STATE ENVIRONMENTAL PLANNING POLICY (EDUCATIONAL ESTABLISHMENTS AND CHILD CARE FACILITIES) 2017

In September 2017, DPE released *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* (E-SEPP) with the aim of facilitating the effective delivery of education and childcare facilities across the state of NSW.

Part 4 of the E-SEPP relates specifically to schools and identifies Prescribed Zones within which development for a school may be carried out by any person with development consent. The RU4 zone within which the site is located is a Prescribed Zone for the purposes of Part 4 of the E-SEPP, and therefore the proposed development is permissible with consent.

Pursuant to Clause 35(6), *before determining a development application for development of a kind referred to in subclause (1), (3) or (5), the consent authority must take into consideration:*

(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.

The Design Quality Principles outlined in Schedule 4 relate to context, built form and landscape; sustainability, efficiency and durability; accessibility and inclusivity; health and safety; amenity; whole of

life; flexibility and adaptivity; and aesthetics. The development has been designed in accordance with the design quality principles, as detailed in the assessment at **Appendix 42**.

It is anticipated that the sharing of school facilities with the community may include before and after school care, language classes for the community, bible classes, and future learning activities for the community.

4.11 STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

State Environmental Planning Policies (Infrastructure) 2007 (SEPP Infrastructure) provides the legislative planning framework for infrastructure and the provision of services across NSW.

Schedule 3 of SEPP Infrastructure nominates 'traffic generating development' which requires referral to RMS. Educational Establishments or Schools are not expressly considered in Schedule 3 and therefore the generic threshold applies. Development *for any other purpose* on a site with access to any road requires referral to RMS if it has capacity for 200 or more motor vehicles.

The proposal incorporates 39 car parking spaces and 30 kiss-and-ride spaces. The referral threshold is therefore not triggered and referral of the application to RMS is not required pursuant to Schedule 3 of SEPP Infrastructure.

4.12 STATE ENVIRONMENTAL PLANNING POLICY (VEGETATION IN NON-RURAL AREAS) 2017

State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 aims to protect the biodiversity values of trees and other vegetation in non-rural areas, and to preserve the amenity of non-rural areas through the preservation of trees and other vegetation.

The SEPP applies to non-rural areas, meaning those zones referred to in Clause 5(1)(b). The site is zoned RU4 which is a rural zone that is *not* nominated for the purpose of Clause 5(1)(b). The provisions of the SEPP are therefore not applicable to this application.

4.13 STATE ENVIRONMENTAL PLANNING POLICY NO. 19 – BUSHLAND IN URBAN AREAS

State Environmental Planning Policy No 19 – Bushland in Urban Areas (SEPP 19) aims to protect and preserve bushland within urban areas owing to its community, aesthetic, recreational, educational and scientific values.

Given the proposal does not relate to land zoned/reserved for public open space or adjoin land zoned/reserved for such purposes, the provisions of SEPP 19 are not applicable.

4.14 STATE ENVIRONMENTAL PLANNING POLICY NO. 55 – REMEDIATION OF LAND

State Environmental Planning Policy No.55 – Remediation of Land (SEPP 55) provides a state-wide planning approach for the remediation of land and aims to promote the remediation of contaminated land to reduce the risk of harm.

Clause 7(1) of SEPP 55 requires the consent authority to consider whether land is contaminated prior to consent of a development.

A Detailed Site Investigation (**Appendix 27**) has been prepared and findings are summarised as follows:

- The current and historical uses of the site include crop production, pastoral use, grazing, residential use and market gardening. No dangerous goods are recorded as having been stored on the site.

- No land within 500m of the subject site has been identified on the list of NSW contaminated sites notified to the EPA, or listed under the Contaminated Land Management Act (1997) and the Environmentally Hazardous Chemicals Act (1985).
- Subsurface sampling of fill in the western portion of the site found that all results for tested analytes were less than the adopted SAC for HILs, HSLs, EILs and Management Limits for heavy metals, pesticides, PAH, BTEX and TRH.

- Contamination in the form of asbestos (chrysotile and amosite) in excess of the SAC and asbestos limits set by ASC NEPM, was detected in material sample ASB101 in the form of fibre cement sheeting fragments. Material sample ASB101 was collected from the soil surface from areas associated with observed fill material to the south east of the dam. Additional potential asbestos material fragments were observed in the vicinity during site walkover inspection.

- It was concluded that the site can be made suitable for a primary school through the implementation of a Remediation Action Plan (RAP) to address observed asbestos. A likely remediation strategy may involve the removal and offsite disposal of identified contaminated soil and ACM material. The RAP is to outline waste management requirements in light of any additional investigations or unexpected finds, identify additional investigations required and provide protocols for management of unexpected finds.

- Following remediation works, a validation report is required to be prepared to confirm site suitability for the proposed development.

- Prior to any soil or ACM material being removed from site, a formal waste classification assessment in accordance with NSW DECCW Waste Classification Guidelines (2014) is required.

In response to the recommendations of the Detailed Site Investigation, a RAP (**Appendix 29**) has been prepared. As part of the RAP, further investigations are required to fill the following data gaps:

- Determine the lateral and vertical extent of fill material; and
- Test inclusion impacted fill areas, to determine if soils exceed the ASC NEPM (1999, amended 2013) weight for weight (w/w) criteria for asbestos.

A data gap closure investigation is therefore proposed as the first stage of remediation, and will include:

- Test pitting across the potential fill area to confirm the lateral and vertical extent of fill material; and
- Where further intrusive investigations clearly identify inclusion impacted fill areas, or PACM fragments are observed within surface soils, testing of impacted soils to determine if soils exceed the NEPM weight for weight (w/w) criteria for asbestos.

The results of the data closure investigation are required to be added as an addendum to the Detailed Site Investigation, and any additional remediation requirements are to be addressed in an updated version of this document. The precise extent of remediation works will be refined through the data gap closure investigation.

Within the RAP an assessment of remediation options is included, with the preferred remediation strategy incorporating a combination of off-site disposal or entombment for materials with AF/FA contamination; removal, remediation or onsite burial & capping for areas with bonded ACM contamination greater than RAC but no AF/FA contamination; and burial where ACM is less than RAC limits. The applicable strategies are to be revised on completion of the data gap closure investigation. Detailed methodologies for each strategy are provided within the RAP in combination with site management plans and a contingency plan.

The area of the site requiring remediation is limited to Lot 2321, and accordingly Lot 2321 will be securely fenced and provided with separate access until such time as remediation is completed. No development, other than remediation works, will be carried out on Lot 2321 and it will not form part of the school until the site verification certificate has been obtained.

It is noted that, given land contamination and remediation will be completely contained within Lot 2321 and do not affect Lot 2320, the development of the school on Lot 2320 may proceed concurrently with the remediation of the adjoining site.

Full details are provided in the Detailed Site Investigation at **Appendix 27** and the RAP at **Appendix 29**.

4.15 STATE ENVIRONMENTAL PLANNING POLICY NO. 64 – ADVERTISING AND SIGNAGE

State Environmental Planning Policy No. 64 – Advertising and Signage (SEPP 64) aims to ensure that signage is of a high quality and compatible with the desired amenity and visual character of the area. SEPP 64 applies to all signage:

(a) that, under another environmental planning instrument that applies to the signage, can be displayed with or without development consent, and

(b) is visible from any public place or public reserve.

The proposal includes the following signage:

- School name and logo to be attached to the solid wall over the main school entrance and on the multi-purpose hall. It is noted that the school name and logo have not yet been confirmed and therefore their depiction in the Architectural and Landscape Drawings is speculative.

Pursuant to Clause 8 of SEPP 64, a consent authority must not grant development consent to an application to display signage unless the consent authority is satisfied:

(a) that the signage is consistent with the aims/objectives of the Policy, and
(b) that the signage satisfies the assessment criteria specified in Schedule 1 of SEPP 64.

These matters are addressed below.

Aims and Objectives of SEPP 64

SEPP 64 aims:

(a) to ensure that signage (including advertising):
(i) is compatible with the desired amenity and visual character of an area, and
(ii) provides effective communication in suitable locations, and
(iii) is of high quality design and finish, and
(b) to regulate signage (but not content) under Part 4 of the Act, and
(c) to provide time-limited consents for the display of certain advertisements, and
(d) to regulate the display of advertisements in transport corridors, and
(e) to ensure that public benefits may be derived from advertising in and adjacent to transport corridors.

The proposed school signage will achieve the aims and objectives of SEPP 64 as it will be integrated with the overall design of the school. The siting, design and scale of the signage will be consistent with the visual character of the new development, and, through high quality design and finish, the signage will contribute to a high level of visual amenity. The signage will effectively identify the main entry to the school, thereby contributing to a legible environment for visitors.

Assessment Criteria

The assessment criteria under Schedule 1 of SEPP 64 is addressed in **Table 9**. Based on this assessment, the proposal is considered consistent with the provisions of SEPP 64.

Table 9. SEPP 64 Assessment Criteria	
Criteria	***Proposal 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?	Yes, the proposed signage will be compatible with the character of the new school development, which has been designed to integrate with the surrounding area.
Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	Yes, as above.
2 Special areas	
Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?	No, the signage will enhance the visual amenity of the site. The signage has been designed to integrate with the overall design of the school, which in turn has been designed with respect to surrounding landscapes, natural areas and neighbouring properties.
3 Views and vistas	
Does the proposal obscure or compromise important views?	No, the proposed signage will be of a height and scale consistent with the built form on the site and will not disrupt any views or dominate views toward the site.
Does the proposal dominate the skyline and reduce the quality of vistas?	No, the proposed signage will be of a height and scale consistent with the built form on the site and will not dominate the skyline.
Does the proposal respect the viewing rights of other advertisers?	Yes, the signage will not obstruct any other signage or advertising.
4 Streetscape, setting or landscape	
Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?	Yes, the signage has been designed with respect to the proposed built form on the site to effectively identify the school entry whilst not being visually obtrusive. The proposed signage will be compatible with the character of the site and its surrounds.
Does the proposal contribute to the visual interest of the streetscape, setting or landscape?	Yes, the signage will visually define the entry to the school and create visual interest through façade articulation.
Does the proposal reduce clutter by rationalising and simplifying existing advertising?	No, there is no existing signage on the site.
Does the proposal screen unsightliness?	No, the signage will not be used as a visual screen or filter.

Table 9. SEPP 64 Assessment Criteria	
Criteria	***Proposal Compliance***
Does the proposal protrude above buildings, structures or tree canopies in the area or locality?	No, the signage will not protrude above the roof line or tree canopy.
Does the proposal require ongoing vegetation management?	No, the proposed signage will not require ongoing management.
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?	Yes, the signage will be of suitable scale and design for its intended purpose to effectively identify the school and it will be integrated with the design of the building.
Does the proposal respect important features of the site or building, or both?	Yes, the signage will be balanced with façade elements to integrate with the proposed built form. The proposed signage will not dominate the landscape or be visually obtrusive.
Does the proposal show innovation and imagination in its relationship to the site or building, or both?	Yes, the signage will be integrated with the design of the building so as to achieve a positive visual outcome.
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?	On confirmation of the name and logo to be incorporated in the signage, environmentally-sensitive lighting will be designed. This will occur prior to CC stage.
7 Illumination	
Would illumination result in unacceptable glare?	Illumination would be environmentally sensitive and would not cause any unacceptable glare.
Would illumination affect safety for pedestrians, vehicles or aircraft?	Illumination would be environmentally sensitive and would not pose a safety hazard to pedestrians, vehicles or aircraft.
Would illumination detract from the amenity of any residence or other form of accommodation?	Illumination would be environmentally sensitive and would not cause any unacceptable amenity impacts for neighbouring properties.
Is the illumination subject to a curfew?	Illumination would not be subject to a curfew but would be of environmentally sensitive design so as not to cause any unacceptable impacts.
Can the intensity of the illumination be adjusted, if necessary?	The intensity of illumination would be designed to achieve an environmentally sensitive outcome.
8 Safety	
Would the proposal reduce the safety for any	No, the proposed signage will be located within the

Table 9. SEPP 64 Assessment Criteria	
Criteria	***Proposal Compliance***
public road?	site boundaries and well set back from the street.
Would the proposal reduce the safety for pedestrians or bicyclists?	No, the proposal will not obstruct any pedestrian or cycle routes, or other infrastructure, and therefore will not negate the safety of pedestrians or cyclists.
Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?	No, the proposed signage will not obscure any sightlines from public areas frequented by pedestrians. Neither will the proposed signage obstruct any vehicle sight lines from public roads or the access driveway.

Based on the above, the proposal is considered to be consistent with the provisions of SEPP 64.

4.16 FAIRFIELD LOCAL ENVIRONMENTAL PLAN 2013

The *Fairfield Local Environmental Plan 2013* (FLEP2013) is the primary EPI applicable to the site. The relevant provisions are summarised below and in **Table 10**.

Permissibility

The site is zoned RU4 Primary Production and Small Lots pursuant to the FLEP2013 (refer Zoning Map at **Figure 14**.

The objectives of the RU4 zone are:

- *To enable sustainable primary industry and other compatible land uses.*
- *To encourage and promote diversity and employment opportunities in relation to primary industry enterprises, particularly those that require smaller lots or that are more intensive in nature.*
- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*
- *To ensure that development is sympathetic to the rural environment and minimises risks from natural and man-made hazards.*

Within the RU4 zone the following land uses are permitted *without* consent:

Environmental protection works; Home occupations

Within the RU4 zone the following land uses are permitted *with* consent:

Agricultural produce industries; Animal boarding or training establishments; Bed and breakfast accommodation; Building identification signs; Business identification signs; Car parks; Cellar door premises; Centre-based child care facilities; Community facilities; Crematoria; Dual occupancies; Dwelling houses; ***Educational establishments****; Environmental facilities; Extensive agriculture; Farm buildings; Farm stay accommodation; Flood mitigation works; Forestry; Group homes; Home-based child care; Intensive plant agriculture; Landscaping material supplies; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Respite day care centres; Roads; Roadside stalls; Rural supplies; Secondary dwellings; Veterinary hospitals; Water storage facilities*

Within the RU4 zone the following land uses are prohibited:

Any development not specified in item 2 or 3

The proposed development includes the following defined in accordance with the FLEP2013:

- School, meaning:

  a government school or non-government school within the meaning of the Education Act 1990.

  Note. Schools are a type of educational establishment

The proposed school (a type of *Educational Establishment*) is permitted with consent on the site.

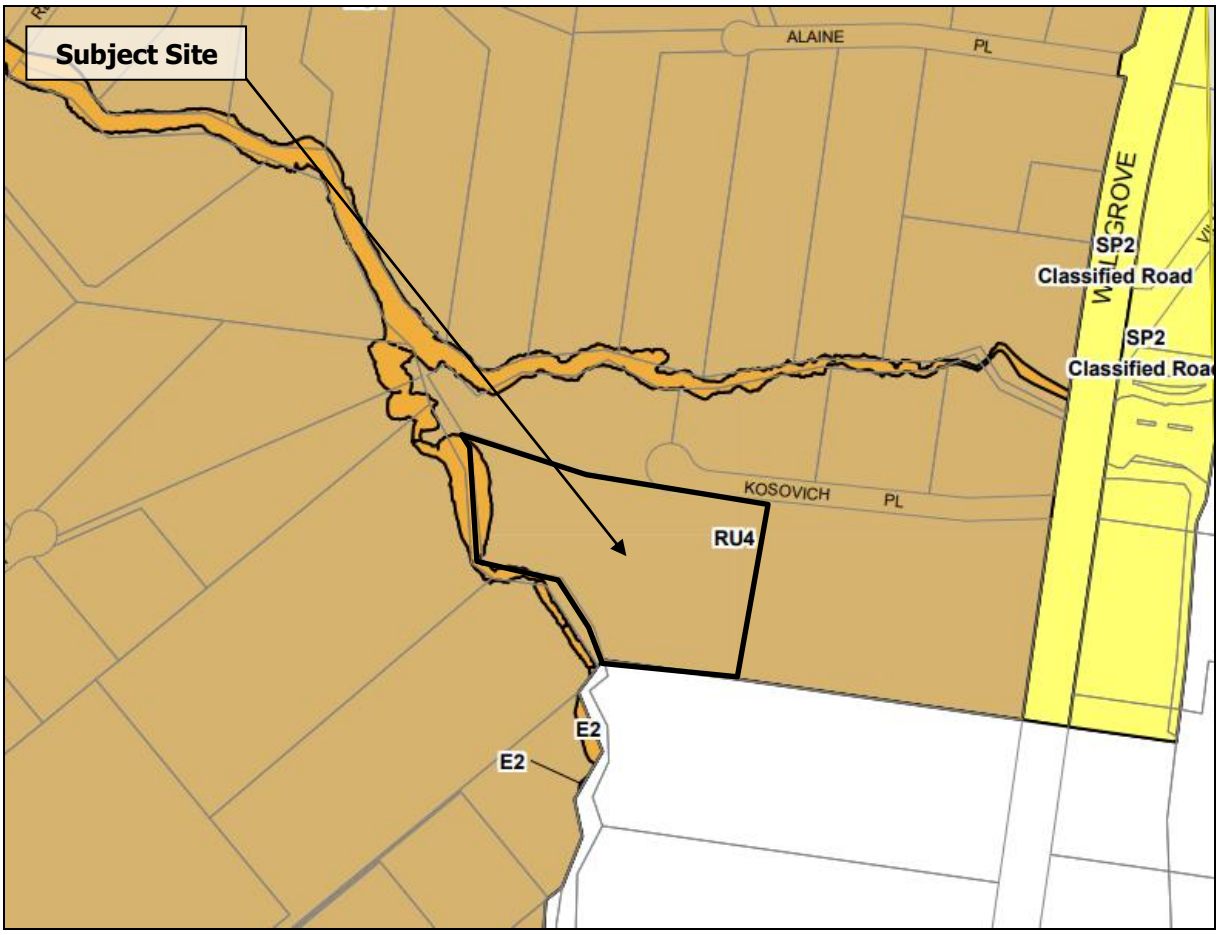


Figure 14. Zoning Map (NSW Legislation 2018)

Development Standards and other Relevant Provisions

Table 10. Permissibility and Development Standards	
FLEP2013 Clause	***Details***
Minimum Lot Size	10,000m² The proposal does not include any subdivision.
Maximum Building Height	9m The proposed buildings exhibit a maximum height of 12.8m above existing ground level, thereby exceeding the FLEP2013

Table 10. Permissibility and Development Standards	
FLEP2013 Clause	***Details***
	height control. Justification for the proposed height non-compliance is provided within the Clause 4.6 Variation at **Appendix 2**.
Maximum Floor Space Ratio (FSR)	No maximum FSR is prescribed for the site. The proposal incorporates a total of 2,960m² GFA. Over the 29,350m² site area, this equates to a 0.1:1 FSR. The density, bulk and scale of the proposed development is commensurate with the site context. The compact building footprint allows the majority of the site to be used for outdoor learning, passive and active play, and the riparian corridor.
Land Reservations	The site is not the subject of any land reservations identified in the relevant FLEP2013 map.
Heritage	The site is not identified as a heritage item or conservation area, nor is it located in proximity of any heritage items or conservation areas. Aboriginal cultural heritage is addressed within the Aboriginal Cultural Heritage Assessment Report (ACHAR) at **Appendix 22**.
Acid Sulfate Soils	The site is not identified as comprising acid sulfate soils.
Biodiversity	The western extent of the site is identified as comprising terrestrial biodiversity (**Figure 15**). Clause 6.5 requires that development is designed, sited and managed to avoid, minimise or mitigate any significant adverse environmental impact. The school is not proposed to be located on the portion of the site mapped as 'biodiversity', but rather will be located on land currently comprising cleared paddocks. No native vegetation would require clearing as a result of the development. Ecological assessment (refer Biodiversity Assessment Report at **Appendix 18**) has identified the waterways and riparian areas on the site to be highly modified. Whilst identified as areas of biodiversity and riparian corridors in the FLEP2013 maps, the updated Conservation Significance Assessment undertaken by Council has not identified any vegetation of high, moderate or low significance on the site. Additionally, no Cumberland Plain Woodland has been identified on the site, and it is unlikely that the proposed development will have a significant impact on any threatened species, populations or ecological communities listed under the TSC Act, FM Act or EPBC Act. As part of the development, riparian areas will be retained and remediated.

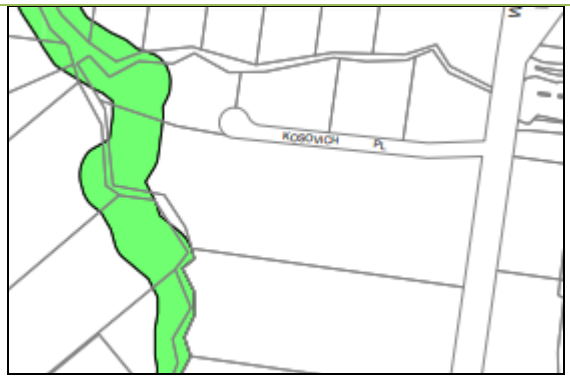
Table 10. Permissibility and Development Standards	
FLEP2013 Clause	***Details***
	 **Figure 15. Biodiversity Map (NSW Legislation 2018)**
Riparian Land	The western extent of the site is identified as comprising a riparian area (**Figure 16**). Clause 6.6 requires that development is designed, sited and managed to avoid, minimise or mitigate any significant adverse environmental impact. The school is not proposed to be located on the portion of the site mapped as 'riparian land', but rather will be located on land currently comprising cleared paddocks. No native vegetation would require clearing as a result of the development. Ecological assessment (refer Biodiversity Assessment Report at **Appendix 18**) has identified the waterways and riparian areas on the site to be highly modified. Whilst identified as areas of biodiversity and riparian corridors in the FLEP2013 maps, the updated Conservation Significance Assessment undertaken by Council has not identified any vegetation of high, moderate or low significance on the site. Additionally, no Cumberland Plain Woodland has been identified on the site, and it is unlikely that the proposed development will have a significant impact on any threatened species, populations or ecological communities listed under the TSC Act, FM Act or EPBC Act. As part of the development, riparian areas will be retained and remediated.

Table 10. Permissibility and Development Standards	
FLEP2013 Clause	***Details***
	 **Figure 16. Riparian Map (NSW Legislation 2018)**

4.17 FAIRFIELD DEVELOPMENT CONTROL PLAN

Clause 11 of the SRD SEPP provides that:

> *Development control plans (whether made before or after the commencement of this Policy) do not apply to:*
>
> *(a) State significant development*

Additionally, Clause 35(9) of the E-SEPP, which relates to schools that are permitted with consent, provides that:

> *A provision of a development control plan that specifies a requirement, standard or control in relation to development of a kind referred to in subclause (1), (2), (3) or (5) is of no effect, regardless of when the development control plan was made.*

This application is for State Significant Development, and additionally the proposed school within a Prescribed Zone is development referred to in subclause (1) of the E-SEPP. Therefore, the provisions of a DCP are not applicable.

The SEARs however establish the requirement to consider *Fairfield Development Control Plan* (FDCP) and therefore an assessment of the proposal against the relevant provisions of FDCP has been carried out in the Compliance Table at **Appendix 3**.

The proposed works are generally compliant with the relevant controls, however, where the proposal departs from certain controls, the design satisfies the objectives of the control and will result in an improved environmental or amenity outcome, achieving the objectives of, and facilitating the development.

4.18 DEVELOPMENT CONTRIBUTIONS

Fairfield City Council – Indirect (Section 94A) Development Contributions Plan 2011 applies to all land within Fairfield LGA. The site and proposed development are not specified for the purpose of Council's *Direct (Section 94) Contributions Plan 2011*, and therefore the Indirect Plan applies.

Section 94A (now Section 7.12) contributions will be calculated by Council in accordance with *Fairfield City Council – Indirect (Section 94A) Development Contributions Plan 2011.*

It is noted that the cost of widening and upgrading the length of Kosovich Place (a Council road) will be borne by the school, and will create an amenity improvement for all current and future inhabitants and users of Kosovich Place.

PART E STRATEGIC PLANNING FRAMEWORK

5.1 OVERVIEW OF RELEVANT STRATEGIC PLANS

The EIS has given consideration to relevant strategic plans and policies, including:

- *NSW State Priorities*
- *A Plan for Growing Sydney*
- *Directions for a Greater Sydney*
- *Greater Sydney Region Plan – A Metropolis of Three Cities*
- *Western City District Plan*
- *NSW Future Transport Strategy 2056*
- *State Infrastructure Strategy 2018 - 2038*
- *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 NSW*

Detailed consideration of this Strategic Planning framework is provided in the following sections.

5.2 NSW STATE PRIORITIES

Eighteen (18) state priorities are being actioned by the NSW Government to *make this state of ours even better.* The priorities have been categorised under the following headings:

- Strong budget and economy
- Building infrastructure
- Protecting the vulnerable
- Better services
- Safer communities

The proposed school on the site would achieve a number of priorities, as outlined below.

Improving Road Travel Reliability

As part of improving the overall efficiency and reliability of the state's road network, the government has prioritised making better use of existing road infrastructure and building extra road capacity.

Given the site's proximity to major new and planned road infrastructure, the proposed school would benefit from improved road travel reliability. Additionally, through road and intersection upgrades, strategic siting in proximity of the primary school's link high school, and a new school bus service, the proposal would contribute to the efficient use of the transport network and a reduced proportion of trips being made by car.

Increasing Housing Supply

To support population and housing growth, the government has emphasised the importance of building new infrastructure. The provision of a new school on the site responds to existing and projected growth in South-Western Sydney and delivers the educational infrastructure for which demand has already been demonstrated.

5.3 A PLAN FOR GROWING SYDNEY

A Plan for Growing Sydney presents a strategy for accommodating Sydney's future population growth. It balances the need for more housing, but also cultivates the creation of strong and resilient communities

within a highly-liveable city whilst protecting the natural environment and biodiversity. *A Plan for Growing Sydney* will provide a framework for strengthening the global competitiveness of Sydney, in order to facilitate strong investment and jobs growth.

A Plan for Growing Sydney has set four (4) overarching goals as its vision for Sydney:

1. *A competitive economy with world class services and transport.*
2. *A city of housing choice, with homes that meet our needs and lifestyles.*
3. *A great place to live with communities that are strong, healthy and well connected.*
4. *A sustainable and resilient city that protects the natural environment and has a balanced approach to the use of land and resources.*

These goals are guided by three (3) key principles:

- *Principle 1: Increasing housing choice around all centres and transport gateways.*
- *Principle 2: Stronger economic development in strategic centres and transport gateways.*
- *Principle 3: Connecting centres with a networked transport system.*

The proposed development would achieve the goals, principles and strategic directions of *A Plan for Growing Sydney* by:

- Providing a new school to support the education needs of Sydney's growing population, and in-turn underpinning the continued competitiveness and high standard of Sydney's economy and services.
- Supporting the delivery of a high standard of education though teaching and learning facilities designed in accordance with best practice models.
- Delivering new educational facilities in a Greenfields area of Western Sydney to meet current demand arising through new housing development.
- Upgrading infrastructure to ensure the school is connected to all essential services and highly accessible.
- Supporting the local community through providing much-needed social infrastructure in one of Sydney's key growth areas.

Further to the above, the site is located in the South-West subregion (**Figure 17**) which is the fastest growing subregion in Sydney. Investment in infrastructure and jobs, as well as the diversification of the economy, are to be catalysed by the new Western Sydney Airport. New housing and jobs will continue to be delivered.

The proposed school would align with the strategic directions of the Plan through the provision of needed educational infrastructure to support the growing communities of the subregion. Demand for educational facilities would continue to grow in accordance with ongoing housing development and job creation in Greenfields areas of Sydney's south-west.

Demonstrated by the alignment of the proposal with key strategic directions, the provision of a new primary school on the site is highly commensurate with *A Plan for Growing Sydney*.

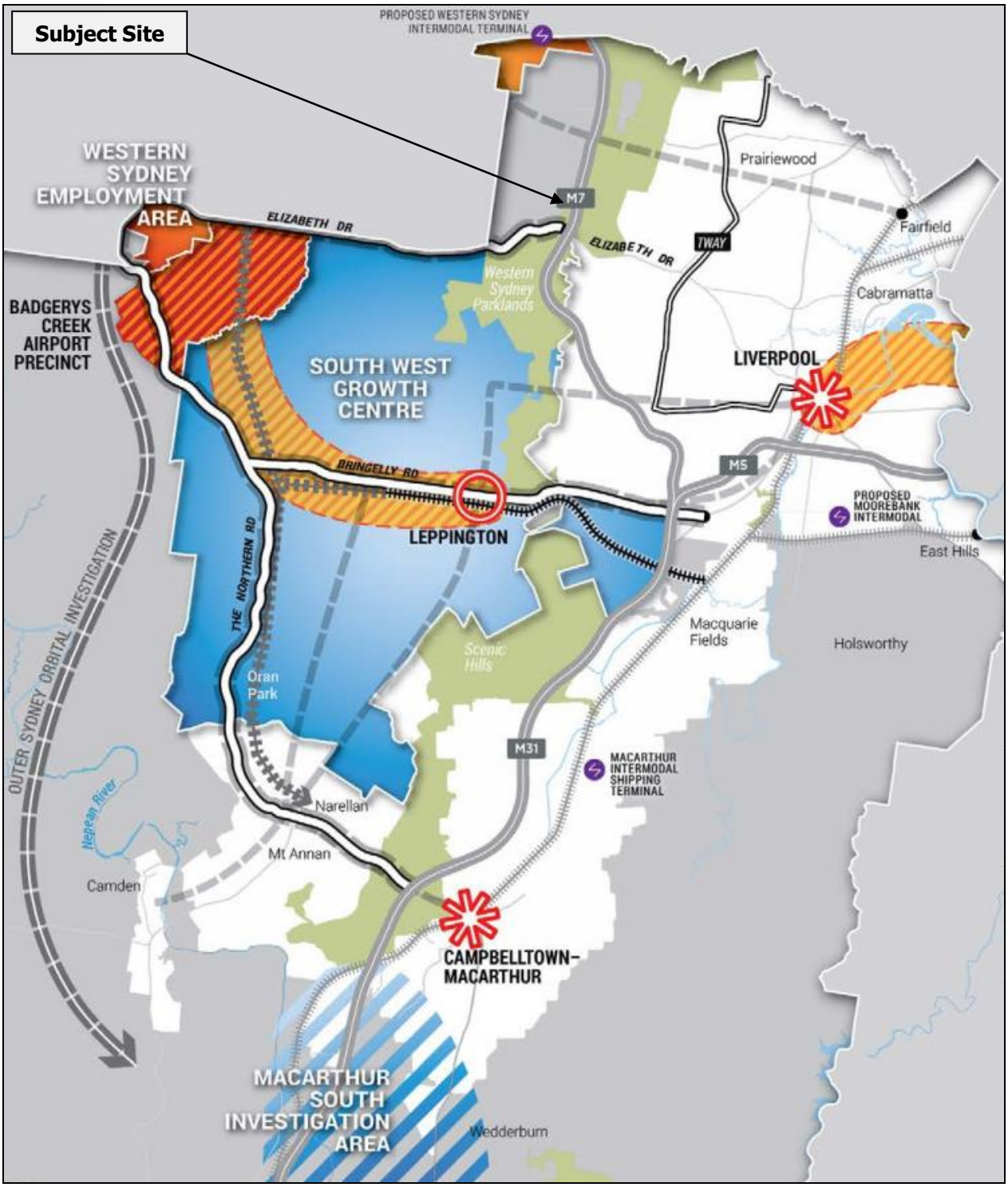


Figure 17. South-West Subregion (A Plan for Growing Sydney 2014)

5.4 DIRECTIONS FOR A GREATER SYDNEY

Directions for a Greater Sydney is the approach produced by the Greater Sydney Commission (GSC) to better integrate land use and infrastructure to deliver a more productive, liveable and sustainable Greater Sydney to 2056, ensuring it is a great place to live, for us and future generations.

The ten (10) key directions include:

- *A city supported by infrastructure*

- *A city for people*
- *Housing the city*
- *A city of great places*
- *Jobs and skills for the city*
- *A well connected city*
- *A city in its landscape*
- *An efficient city*
- *A resilient city*
- *A collaborative city*

In accordance with these directions, the proposed school would provide important educational facilities to support the growing communities of Western Sydney. In light of the continued population, housing and jobs growth projected for Western Sydney, the proposal would assist in delivering the social infrastructure required to align with this growth. Thereby the proposal would support the creation of great places in Western Sydney that provide ready connections to all the constituents of a sustainable community; housing, jobs, education, health facilities, open spaces and other infrastructure. In this regard, the proposed school would contribute to the realisation of the '30 minute city'.

Within *Directions for a Greater Sydney*, the NSW Government's commitment to supporting growth through investment in new and upgraded schools is identified. In accordance with this commitment, the school embodies place-based planning that is responsive to the needs of the local community and character of the surrounding area. The proposed school incorporates environmentally-sensitive design, represents the efficient use of land through multi-storey buildings and a layout that responds to site constraints, and comprises flexible indoor and outdoor spaces. Opportunity has also been developed for the future sharing of the school's facilities by the wider community.

5.5 GREATER SYDNEY REGION PLAN – A METROPOLIS OF THREE CITIES

The *Greater Sydney Region Plan – A Metropolis of Three Cities* was prepared by the GSC and represents an amendment to *A Plan for Growing Sydney*. The Plan outlines a vision for Sydney to 2056, defined by three (3) cities; the Western Parkland City, the Central River City, and the Eastern Harbour City. The Plan seeks to foster productivity, liveability and sustainability, to be achieved through the '30 minute city' model by which a majority of people live within 30 minutes of jobs, education, health facilities and services. The creation of the 30 minute city is to be promoted through infrastructure investment and coordinated transport and land use planning.

The ten (10) directions underpinning the Plan emphasise infrastructure delivery, increasing housing choice, creating walkable neighbourhoods and 'great places to live', supporting economic growth, and promoting environmental sustainability. Overall, the Plan aims to accommodate an additional 725,000 dwellings and 817,000 new jobs.

Within the Plan, Fairfield and the subject site are identified within the Western Parkland City, designated as an 'emerging new city' built around the Western Sydney Airport and Badgerys Creek Aerotropolis as well as the established centres of Liverpool, Greater Penrith and Campbelltown-MacArthur. The population of the Western Parkland City is projected to grow from 740,000 in 2016 to 1.1 million by 2036, and to over 1.5 million by 2056.

Within the Structure Plan for Greater Sydney (**Figures 18** and **19**), the site is identified within an urban investigation area (also refer **Figure 20**) and in immediate proximity of a committed motorway and a mass transit investigation for a potential rail connection. Urban investigation areas have been identified for the purpose of, together with existing growth areas, accommodating new urban development through a structured approach that coordinates long-term growth with transport infrastructure (in contrast to the metropolitan rural area which is to be protected from urban expansion).

The proposed new school would support the growth projected for the Western City and the new urban development identified for the Greenfields areas immediately surrounding the site. A new school on the

subject site would also contribute to the creation of the 30 minute city owing to the immediate proximity of the site to future housing, jobs and transport infrastructure.

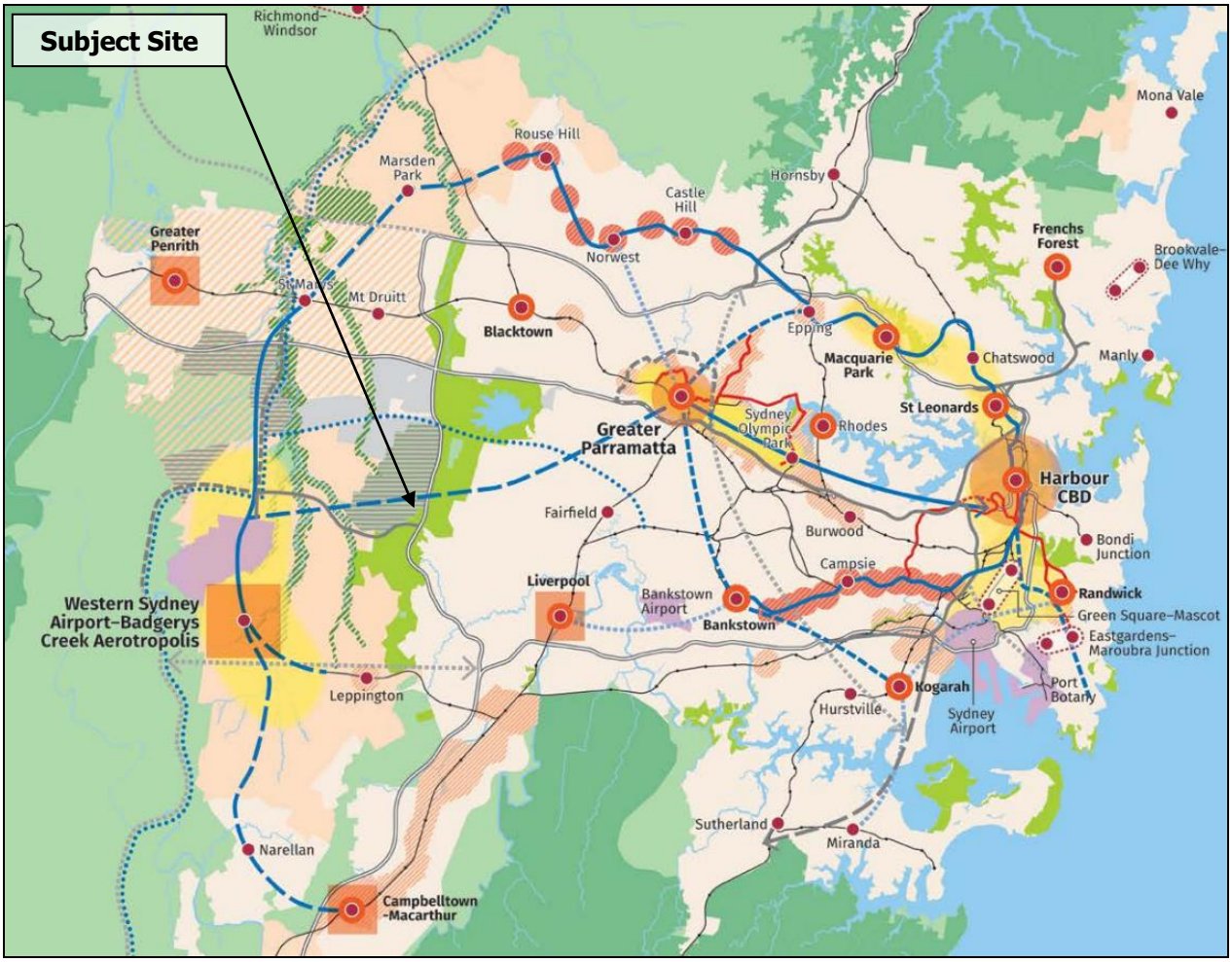


Figure 18. Greater Sydney Region Plan – Structure Plan (GSC 2017)

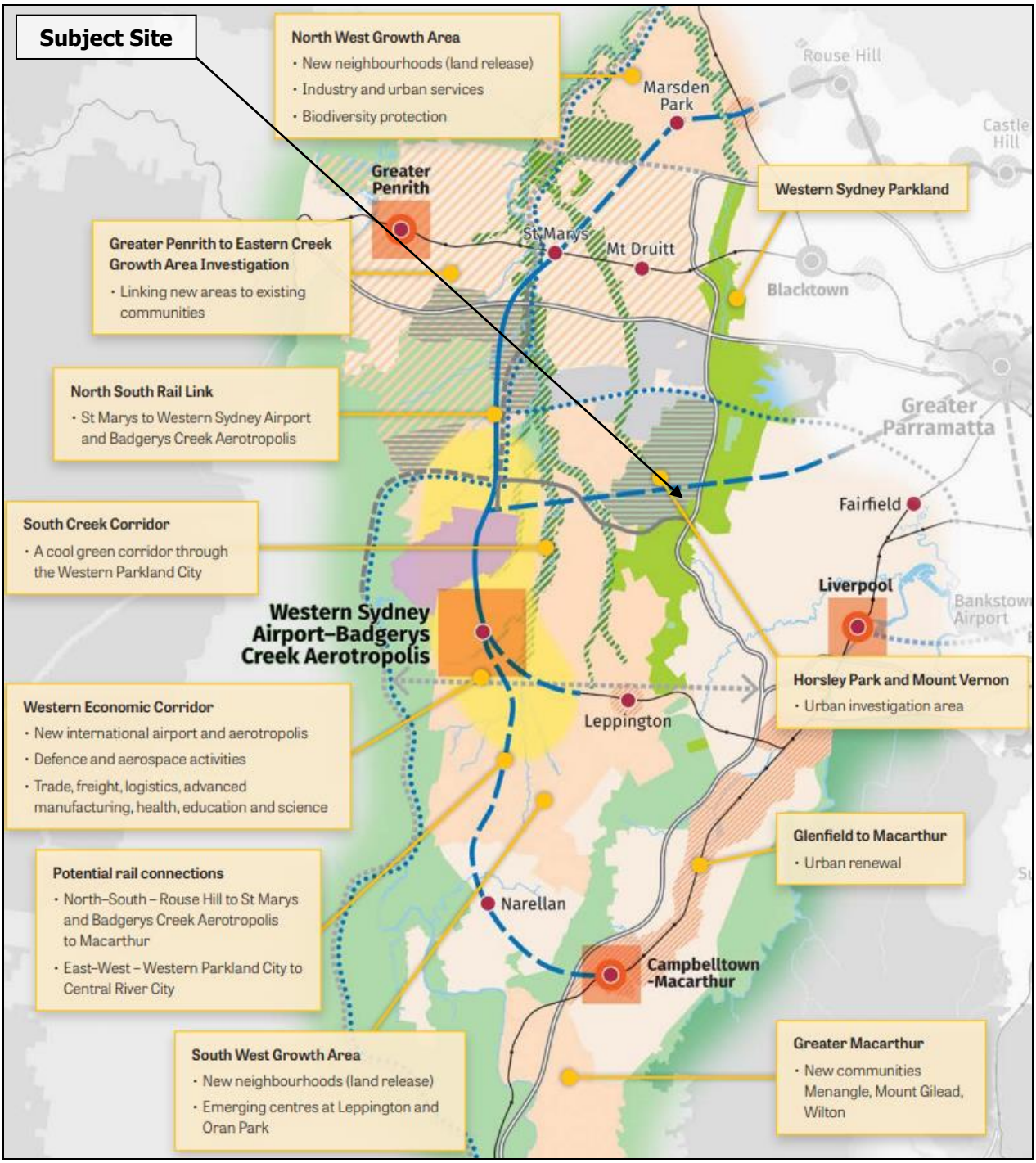


Figure 19. Greater Sydney Region Plan – Western Parkland City (GSC 2017)

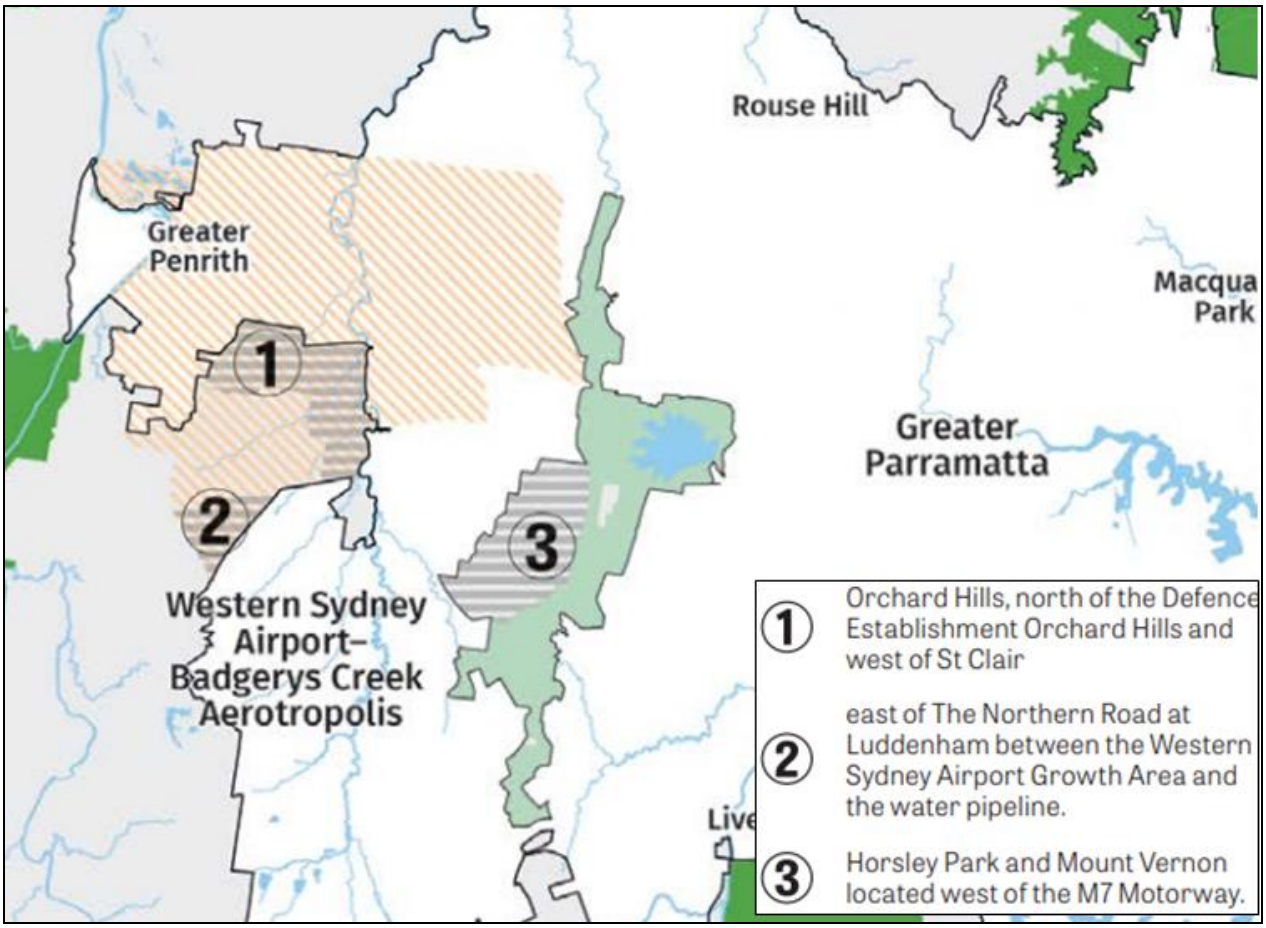


Figure 20. Greater Sydney Region Plan – Urban Investigation Areas (GSC 2017)

5.6 WESTERN CITY DISTRICT PLAN

The *Western City District Plan* forms a 20 year plan to manage growth in the context of economic, social and environmental matters. The Plan has been designed to provide a 'bridge' between regional and local level planning, and assist in the *implementation* of strategic envisioning.

The site and Fairfield are situated within the Western City District, which is envisioned as 'a unique parkland city' that also offers transport, infrastructure, services, affordable housing and open spaces. Driven by the development of Western Sydney Airport, the district will experience a transforming economy, population growth, improved transport links and new jobs. Existing and new residents of the district would benefit from more jobs, better access to services and facilities, shorter commutes and a greater diversity of homes. Overall, 464,450 additional people, 77,978 additional school students and 184,500 dwellings are projected for the Western City district by 2036, and 6,000-8,000 jobs are targeted for Fairfield by 2036.

The Plan establishes a number of priorities and actions to guide growth, development and change, relating to infrastructure & collaboration, liveability, productivity and sustainability. The priorities and actions relevant to the subject site, wider Fairfield area, and proposed development are discussed as follows.

Infrastructure and Collaboration

Additional infrastructure and services are required to support Sydney's growth, and in turn infrastructure investment will contribute to the shape and connectivity of Greater Sydney. Planning for infrastructure requires coordination across all levels of government, industry and the community.

The proposed school would contribute to the infrastructure that is being delivered by various levels of government in conjunction with population growth and the major investment in Western Sydney Airport. The development would effectively align growth with new infrastructure in accordance with Action 3, and coordinate land use and infrastructure in accordance with Action 8.

Liveability Priorities

Infrastructure and services are required to be coordinated with additional housing in the right locations to support liveability and high quality of life. The location (and co-location) of new housing, jobs and infrastructure will be guided by the 30 minute city aspiration.

In accordance with the Plan's priorities for liveability, the proposed school would provide the social infrastructure required to meet the needs of the district's growing communities. Through the provision of a new school, new housing in the area would be supported by essential educational facilities, which would also provide jobs close to where people live.

The school also presents opportunities for the future shared use of its facilities, such that it may provide far-reaching benefits to the wider community and serve as a 'social connector'. Through design that is responsive to site constraints, the proposal makes efficient use of land and also provides flexible indoor and outdoor teaching and learning spaces to accommodate a variety of activities and innovative education experiences. The location of the school in suitable proximity of its link high school is conducive to facilitating efficient access to the school and reducing the need for large families to make multiple trips for primary-aged and high school-aged students.

Productivity Priorities

The economy of the Western City District is powered by health and education industries and retail, hospitality and industrial activities including advanced manufacturing, trade and logistics, tourism and mineral resources. Economic growth and diversification are to be driven by the Western Sydney Airport. New land uses will be supported by major new transport connections.

The proposed school would provide an essential underpinning to the district's economic growth through the provision of important education infrastructure.

Sustainability Priorities

A commitment to sustainability requires the incorporation of natural landscapes in urban areas, protecting natural systems, maintaining green infrastructure, efficiently managing use of energy, water and other resources, and building community resilience. Farmland, mineral resources, bushland and parklands, must be effectively managed to complement urban development within the district. In conjunction with growth, sustainability may be fostered through improved building and precinct design and planning, efficient delivery of energy and water infrastructure, and innovative approaches to waste management.

The proposed development has been designed in accordance with principles of ESD, incorporating both active and passive design features to maximise energy and water efficiency and create highly-amenable indoor and outdoor learning environments. The layout and multi-storey design of the school make efficient use of land, particularly in response to site constraints (including bushfire and flooding). Whilst not compromising natural processes, the school effectively creates a safe and functional environment for students and staff.

Landscape design responds to topography, local character and flood characteristics in order to incorporate useable open space and natural landscapes within the school site. Extensive vegetation planting throughout the site will improve the biodiversity and tree canopy of the site, particularly given that in its current state it consists of completely cleared land. Riparian planting will appropriately integrate with, and improve the environmental quality of, the existing riparian corridor adjacent to the site's western boundary.

As noted above with respect to the *Greater Sydney Region Plan*, the site is identified within an urban investigation area. New urban development is to be concentrated in urban investigation areas (as well as existing growth areas), so that other land falling within the metropolitan rural area may be protected from 'inappropriately dispersed urban activities.' The provision of a school on the site therefore reconciles with the Plan's designation of the area for urban development.

5.7 NSW FUTURE TRANSPORT STRATEGY 2056

Future Transport 2056 presents an integrated 40 year vision and guide for transport investment in NSW. As an update of NSW's *Long Term Transport Master Plan*, *Future Transport 2056* has been developed in concert with the GSC's Sydney Region Plan, Infrastructure NSW's State Infrastructure Strategy and DPE's regional plans. The Strategy is underpinned by a suite of supporting plans.

The Strategy seeks to support a productive economy through the delivery of transport that enables businesses to reach new markets, attract new investment, while presenting more job and training opportunities. Transport is also recognised as important in the creation of liveable communities in association with its ability to transform the public domain, activate centres and unlock new commercial and housing developments, renewing existing neighbourhoods and spaces. Ensuring the efficiency of transport investments, both with respect to environmental performance and budget, is key to obtaining sustainability objectives. Productivity, liveability and sustainability are sought to be achieved by the Strategy through the mobilisation of emerging technologies and innovation.

The site would benefit from new transport infrastructure investment, including roads and rapid transit, linking areas of Western Sydney, the new Western Sydney Airport and Parramatta. Through providing a new school in an area designated for future urban development to be coordinated with major investment in transport infrastructure, the proposal promotes the attainment of the Strategy's productivity, liveability and sustainability objectives.

Representing the efficient use of existing and planned transport networks, the strategic siting of the primary school in proximity of its link high school is conducive to facilitating efficient access to the school and reducing the need for large families to make multiple trips for primary-aged and high school-aged students. A new school bus service would further reduce the proportion of trips made by car, and enable the school to be accessed via sustainable, active modes of travel. Measures to promote sustainable travel are incorporated in the Sustainable Travel Plan at **Appendix 14**.

5.8 STATE INFRASTRUCTURE STRATEGY 2018-2038

The *NSW State Infrastructure Strategy 2018–2038* sets out the NSW Government's infrastructure vision for the state over the next 20 years, across all sectors. It is underpinned by the *Greater Sydney Region Plan*, *Regional Development Framework* and *Future Transport 2056*. The Strategy focuses on achieving sustainable growth in the NSW population and economy by aligning investment in infrastructure with the way we build our communities and achieve innovation in service delivery.

The Strategy seeks to:

- Better integrate land use and infrastructure
- Deliver infrastructure to maximise value for money
- Optimise asset management
- Make our infrastructure more resilient
- Improve digital connectivity
- Use innovative service delivery models

In accordance with the objectives of the Strategy, the proposal would deliver school infrastructure in an area experiencing significant population growth. The continued growth of Western Sydney would therefore be supported by the infrastructure required to attain local amenity.

The design of the school has accounted for natural hazards and site constraints, including flooding and bushfire, so as to ensure the longevity of the asset and safety of future users. Through providing opportunities for the future shared use of school facilities by the wider community, the proposed school would also optimise the efficiency of the asset's management and represents an innovative model of service delivery. This is also achieved through adaptive design that allows for the flexible use of indoor and outdoor spaces and fosters creative and innovative teaching and learning models.

The related NSW Government publication on 'Building Schools and Skills' emphasises investment in schools to provide more student places and classrooms across the state to accommodate the current and expected surge in enrolments. Specifically, through the 'School Assets Strategic Plan' the NSW Government is:

- *Ensuring that our schools can flexibly accommodate increasing student numbers with school expansions and modular buildings;*
- *Involving the community in new approaches to planning. Instead of upgrading education infrastructure one school at a time, we are collaborating with the community to determine how best to distribute students and deliver new and upgraded facilities within an area or region;*
- *Making it easier for school infrastructure projects to start by streamlining the approvals process in a new education-based State Environmental Planning Policy; and*
- *Investigating how we can better harness innovative technologies and equip our education facilities for the digital age.*

The proposed new school would accommodate 630 additional student numbers in the area, in specific response to the needs expressed by the local community. The proposed school would provide modern, technologically-equipped, energy-efficient and flexible facilities. Accordingly the proposal would support the unique requirements of the school's diverse student-base, be conducive to best-practice teaching and learning models, and accommodate emerging, innovative techniques.

5.9 SYDNEY'S CYCLING FUTURE 2013

Sydney's Cycling Future presents a new direction in the way we plan, prioritise and provide for cycling in Sydney. The Plan came into force to reflect the change in culture where individuals were using bicycles as a more frequent mode of transportation.

Although the importance of promoting sustainable modes of travel is acknowledged, the viability of accessing the proposed school site by bicycle is currently compromised by the surrounding road network. Wallgrove Road is a busy regional road and does not incorporate a cycle lane or any other cycling-related infrastructure. To encourage cycling to school would therefore compromise student safety.

In response, alternative modes of travel would be required to facilitate the journey-to-school, including public buses and car-pooling.

5.10 SYDNEY'S WALKING FUTURE 2013

Sydney's Walking Future 2013 was introduced by Transport for NSW to implement measures to encourage walking, making it a more convenient, better connected, and safer mode of transport. The actions set out in the Plan aim to make walking the transport of choice for quick trips under 2km and assist individuals in accessing public transport.

The appropriateness of promoting walking to school would however be compromised by safety concerns related to the condition of the surrounding road network. Wallgrove Road does not provide any footpaths, crossings or other pedestrian infrastructure, and therefore does not provide an environment in which walking would be either safe or enjoyable.

Additionally, the existing population catchments to be serviced by the school are not situated within walking distance of the subject site. The future development of the site's immediate surrounds in

accordance with the 'urban development areas' designated by the *Greater Sydney Region Plan* and *Western City District Plan* would however increase the viability of promoting walking in the future.

The establishment of new school bus and public transport services in the area would however facilitate access to the school by sustainable transport modes. The origin of these services (being in the residential areas close to where students live) would potentially be conducive to students walking to bus stops. Therefore, in connection with bus services and investment in pedestrian infrastructure in residential areas, walking could be promoted as a component of the journey-to-school.

5.11 SYDNEY'S BUS FUTURE 2013

Sydney's Bus Future 2013 was introduced by the NSW Government as a long-term plan to redesign Sydney's bus network to meet customer needs now and into the future.

The site is not currently serviced by public bus services, however to support sustainable travel modes it is proposed to establish a dedicated school bus service. Presently, a school bus service links the proposed school's link high school (St Narsai Christian College) to Prairiewood via surrounding suburbs. Potential has been identified to extend this route to also service the proposed primary school.

The location of the proposed school in suitable proximity of its link high school is therefore key to facilitating efficient access to the school and reducing the need for large families to make multiple trips for primary-aged and high school-aged students. By providing a combined bus service for the primary and high schools, primary-aged students would be able to use the same bus service as older siblings travelling to the high school.

5.12 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN PRINCIPLES

The Crime Prevention Through Environmental Design (CPTED) guidelines were prepared by the NSW police in conjunction with DPE. CPTED provides a clear approach to crime prevention and focuses on the 'planning, design and structure of cities and neighbourhoods'. The main aims of the policy are to:

- Limit opportunities for crime;
- Manage space to create a safe environment through common ownership and encouraging the general public to become active guardians; and
- Increase the perceived risk involved in committing crime.

The guidelines provide four (4) key principles to limit crime, being:

- Surveillance;
- Access Control;
- Territorial re-enforcement; and
- Space/activity management

Principle 1 – Surveillance

The attractiveness of crime targets can be reduced by providing opportunities for effective surveillance, both natural and technical.

- The proposed development orientates active areas such as building entrances, learning precincts and ground floor open space towards surrounding roads, driveways, pedestrian paths, car parking areas and deep-soil landscaping;
- The proposed development utilises low-level landscaping in appropriate locations to ensure there is no obstruction of surveillance opportunities; and
- External security lighting will enable the maintenance of sight-lines and surveillance after dark.

Principle 2 – Access Control

Access control can be defined as physical and symbolic barriers that are used to 'attract, channel or restrict the movement of people'.

- During and after school hours, access would be allowed via secure access points only;
- The design of the built form incorporates in-built access control through, for example, building elevations and retaining walls, avoiding the need for excessive fencing; and
- Directional signage and design features would facilitate legibility and direct all site-users to the appropriate access points and areas of the school.

Principle 3 – Territorial Reinforcement

- The provision of boundary treatments will emphasise the separation between the private and public realm; and
- Well maintained planters, gardens and pavers will indicate the development is well-used and cared for to reduce criminal activity.

Principle 4 – Space Management

- Space management strategies to be implemented include activity coordination, site cleanliness, rapid repair of vandalism, rapid removal of graffiti and the replacement of decayed physical elements;
- On the ground level, pathways and planters will be well maintained;
- Continued repairs and maintenance will discourage vandalism;
- High quality materials, varied façade treatments and landscaping along boundaries will assist in discouraging vandalism and graffiti.

Accordingly, through the integration of CPTED in design, the school has been planned to prevent crime.

5.13 HEALTHY URBAN DEVELOPMENT CHECKLIST, NSW HEALTH

The *Healthy Urban Development Checklist* was released by NSW Health to assist in the understanding of health issues relative to urban development plans and proposals, with the aim of promoting healthy communities and lifestyles across NSW. The document is primarily aimed towards officers of NSW Health to provide an understanding of the Planning system and the manner of assessing and providing input into development plans and proposals with consideration to numerous health-related checklist items.

The proposed development is considered to be consistent with the *Healthy Urban Development Checklist* as applicable to design and planning for schools, for the following reasons:

- The proposed school incorporates significant areas of useable outdoor space conducive to a variety of active and passive, structured and 'free' activities relating to general play, outdoor education and organised sport. Physical activity and incidental exercise would therefore be promoted for students during school hours.

- In the future, the potential sharing of the school's facilities would extend these benefits to the wider community.

- Although the school is not currently accessible by walking or cycling, the introduction of a school bus service would enable students to access the school via active travel modes. In connection with bus services and investment in pedestrian infrastructure in residential areas, walking could be promoted as a component of the journey-to-school. By encouraging parents and carers of younger students to car-pool and older students to utilise the school bus service, car trips would be reduced.

- The proposal would provide vital social infrastructure needed to support the sustainability, amenity and functionality of Western Sydney's growing communities.

- The future shared use of school facilities would allow the school to function as a 'social connector' for the wider community, fostering social cohesion.

- The architectural design of the school integrates flexibility and adaptability, allowing indoor and outdoor spaces to be used for a variety of purposes by a variety of user-groups with diverse needs.

- Similarly, the design and layout of the school would create healthy environments in which to teach and learn with spaces benefitting from natural ventilation, excellent daylight, glare control, acoustic and thermal comfort.

- The overall health of the environment would be supported through the design of the development in accordance with principles of ESD, incorporating both active and passive design features to maximise energy and water efficiency.

- Landscape design incorporates, and maximises views of, natural landscapes. Extensive vegetation planting throughout the site and within the riparian corridor would promote access to nature for students, the health benefits of which are widely recognised.

Accordingly, the proposed school would support the health of future students and teachers, the wider community and the environment.

5.14 BETTER PLACED – AN INTEGRATED DESIGN POLICY FOR THE BUILT ENVIRONMENT OF NSW

Better Placed is the NSW Government Architect's integrated design policy for the built environment of NSW. It seeks to provide a clear approach to underpin good design in architecture, public places and environments, to realise positive outcomes for the places people live, work and play, both now and into the future. Good design is recognised as producing social, environmental and economic benefits.

The following seven (7) distinct objectives have been created to define the key considerations in the design of the built environment:

- Better fit – contextual, local and of its place
- Better performance – sustainable, adaptable and durable
- Better for community – inclusive, connected and diverse
- Better for people – safe, comfortable and liveable
- Better working – functional, efficient and fit for purpose
- Better value – creating and adding value
- Better look and feel – engaging, inviting and attractive

The design of the school has responded to these objectives, as described in the following paragraphs.

Better Fit

Good design in the built environment is informed by and derived from its location, context and social setting. It is place-based and relevant to and resonant with local character, and communal aspirations. It also contributes to evolving character and setting.

The design of the school has been informed by its context, both existing and future. Landscape design in particular is integral to enabling the site to integrate with the currently rural character of the immediate surrounds. Vegetation planting adjacent to the site boundaries will soften views toward the site, riparian planting will enhance the environmental quality of the corridor in the site's west, and more than half of the site will be retained as open space.

Simultaneously, the school responds to the rapidly changing character of Sydney's south-west which is experiencing significant population and housing growth. It is this transformational character of the surrounding context that generates the need for a new primary school. In the future, the immediate surrounds of the site are similarly anticipated to exhibit a changing character, noting that the area has been designated for future urban development by the *Greater Sydney Region Plan* and *Western City District Plan*. Land immediately adjoining the site boundary forms part of Western Sydney Parklands and has been identified for business purposes.

As well as responding to the physical attributes of its context, the school respects the diversity of the local communities, including established and newly-arriving members. In particular, the surrounding suburbs within Fairfield LGA are defined by a broad spectrum of cultural backgrounds, including Assyrians arriving as both refugees and economic immigrants. The in-built flexibility incorporated in the design of the school's indoor and outdoor spaces promotes adaptability in order to support a wide range of needs, now and into the future.

Of importance, the area was originally inhabited by the Darug people and therefore the Aboriginal cultural and heritage elements of the area's context should also be acknowledged. This is sought to be achieved through a display in the main entrance of the foyer of the school (subject to approval by elders of the local Aboriginal community).

Better Performance

Environmental sustainability and responsiveness is essential to meet the highest performance standards for living and working. Sustainability is no longer an optional extra, but a fundamental aspect of functional, whole of life design.

The proposed development has been designed in accordance with principles of ESD, incorporating both active and passive design features to maximise energy and water efficiency and create highly-amenable indoor and outdoor learning environments. These features include:

- Natural ventilation with additional mechanically-assisted fresh air flow
- Heat recovery
- Well-sealed and highly insulated building
- Maximum daylight access achieved through building depths, three (3) dimensional spatial relationships and high-level operable skylights
- Thermal comfort
- Acoustic attenuation
- Solar glare control integrated into façade design
- Rainwater collection, storage and recycling
- Locally-sourced, low-maintenance, fit-for-purpose, sustainable building materials
- Sustainable construction methods

The layout and multi-storey design of the school make efficient use of land, particularly in response to site constraints (including bushfire and flooding). Whilst not compromising natural processes, the school effectively creates a safe and functional environment for students and staff. The site and surrounding area have been designated for new urban development in the *Greater Sydney Region Plan* and *Western City District Plan,* and thereby the proposed development avoids encroachment on land intended to be protected as part of the metropolitan rural area.

Landscape design responds to topography, local character and flood characteristics in order to incorporate useable open space and natural landscapes within the school site. Extensive vegetation planting throughout the site will improve the biodiversity and tree canopy of the site, particularly given that in its current state it consists primarily of cleared land. Riparian planting will appropriately integrate with, and improve the environmental quality of, the existing riparian corridor adjacent to the site's western boundary.

Further, the proposed new school supports social sustainability through the provision of essential educational facilities for the area's growing communities. The proposed school would provide modern, technologically-equipped, energy-efficient and flexible facilities. Accordingly the proposal would support the unique requirements of the school's diverse student-base, be conducive to creative and innovative teaching and learning models, and accommodate emerging, innovative techniques. Through providing opportunities for the future shared use of school facilities by the wider community, the proposed school would also multiply the social benefits offered by the investment.

Better for Community

The design of the built environment must seek to address growing economic and social disparity and inequity, by creating inclusive, welcoming and equitable environments. Incorporating diverse uses, housing types and economic frameworks will support engaging places and resilient communities.

As described above with respect to social sustainability, the proposed school would support the diverse sectors of the surrounding communities through an inclusive enrolments policy, flexible learning spaces and adaptable programs. Through architectural design, the school integrates flexibility and adaptability, allowing indoor and outdoor spaces to be used for a variety of purposes by a variety of user-groups with diverse needs.

The future shared use of school facilities would allow the school to function as a 'social connector' for the wider community, fostering social cohesion and providing wide-ranging benefits beyond the immediate student-base.

Better for People

The built environment must be designed for people with a focus on safety, comfort and the basic requirement of using public space. The many aspects of human comfort which affect the usability of a place must be addressed to support good places for people.

The proposed school has been designed to provide a highly amenable environment of flexible indoor and outdoor spaces for students, staff and, potentially in the future, the wider community. The design and layout of the school would create healthy environments in which to teach and learn with spaces benefitting from natural ventilation, solar access, glare control and thermal comfort. Significant areas of useable outdoor space and innovative landscape design would support a variety of active and passive, structured and 'free' activities relating to general play, outdoor education and organised sport. The school would therefore support the holistic wellbeing of its users.

The accessible design of the school would also ensure that its spaces are useable by all people, without discrimination owing to any unique physical needs. The incorporation of CPTED principles in design will similarly support the safety and security of all site-users, including those members of society whom may be considered more vulnerable.

Better Working

Having a considered, tailored response to the program or requirements of a building or place, allows for efficiency and usability with the potential to adapt to changes over time. Buildings and spaces which work well for their proposed use will remain valuable and well-utilised.

The proposed school would provide modern, technologically-equipped, energy-efficient and flexible facilities. Accordingly the proposal would support the unique requirements of the school's diverse student-base, be conducive to best-practice teaching and learning models, and accommodate emerging, innovative techniques.

The proposal would also present opportunities for shared use of its facilities by the wider community, thereby enhancing the efficiency and functionality of the investment.

Better Value

Good design generates ongoing value for people and communities and minimises costs over time. Creating shared value of place in the built environment raises standards and quality of life for users, as well as adding return on investment for industry.

The value associated with the proposed development would be multiplied through planning and design such that the school provides needed social infrastructure that is also energy efficient and designed in accordance with principles of ESD. The social and economic benefits associated with the school would be secured now and into the future through the incorporation of flexible and adaptive spaces suited to a variety of users (including the wider community through future shared use of school infrastructure), innovative teaching models and emerging technologies.

Better Look and Feel

The built environment should be welcoming and aesthetically pleasing, encouraging communities to use and enjoy local places. The feel of a place, and how we use and relate to our environments is dependent upon the aesthetic quality of our places, spaces and buildings. The visual environment should contribute to its surroundings and promote positive engagement.

The architectural design of the school creates an aesthetically-pleasing environment defined by visual interest created through façade modulation, varied roof forms, design features and landscaping. The scale of various elements has considered users (for example by providing lower scales in the kindergarten area) to ensure spaces 'feel' comfortable and are enjoyable to use.

Outside, landscape design has defined a number of active and passive recreational areas, and promotes the 'channelling' of movement through the site.

Overall, the design and planning of the school have focused on the creation of a 'sense of place' with each of the spaces, though diverse, complementary and contributary to a cohesive school identity.

Whilst focusing on the school as a 'place', it has also been considered in light of the surrounding context. As described above with respect to 'better fit', the school seeks to respond to local character, past, current and future. Through attention to landscape design, riparian planting, views to and from the site, architectural design and the particulars of the infrastructure investment, the school will effectively integrate with its context.

Robust, long-lasting construction materials, low energy use, water and waste recycling, and future sustainable energy production on-site, will ensure the low maintenance and running cost of the school.

PART F KEY ASSESSMENT ISSUES

6.1 OVERVIEW

The proposed Master Plan and built form have been designed with respect to the operational requirements of Assyrian Schools Limited in order to provide high standard, adaptable and sustainable educational facilities to meet the demonstrated needs of the Western Sydney region's growing population. The planning and design of the proposed school has been closely informed by environmental site constraints, the existing and desired future character of the surrounding area, and the amenity of nearby properties.

These key considerations, together with the requirements of the SEARs, have been incorporated into the built form, urban design and landscaped scheme for the school. Key assessment items are addressed in the following sections of this EIS.

6.2 BUILT FORM AND URBAN DESIGN

The proposal demonstrates good design including with respect to built form, architectural expression, urban design, landscaping and overall site layout. This 'good design' has been developed in conjunction with the NSW State Design Review Panel process (refer details of consultation in **Part G** of this report) and has been acknowledged by the Government Architect (GA) NSW. Expressly, the GA NSW provided the following commendation:

> *The panel strongly support the project strategy and design approach to organise school facilities around a civic heart with a scale and character which is informal and approachable, and use building form to respond to passive energy principles. We commend the 'single building' approach to the site rather than a 'village' of disparate buildings. We commend the highly skilled and thorough responses made to previous advice provided which have generally resulted in positive moves.*

An assessment of the proposed development relative to the site context is provided below.

6.2.1 BUILDING ENVELOPE

The height, density, bulk, scale and setbacks of the proposal respond to the surrounding context, including in relation to surrounding development, topography, streetscape and other features of the public domain.

The two (2) storey form of the buildings generally complies with the 9m height limit applicable to the site pursuant to FLEP2010, thereby representing a height consistent with that intended for the area and enabling the built form of the school to integrate with surrounding development, the streetscape and its environment. Canopy trees proposed to be planted will extend above the height of the roofline, thereby assisting the scale of the development to integrate with its landscape.

The overall appearance of the density, bulk and scale of the development has been managed through façade articulation, appropriate massing of different building elements, the equitable treatment of level changes to create appropriate transitions across the grounds, and landscaping to soften the appearance of built form. In particular, roof levels and the scale of building elements has considered the perspectives of future users (including small children) so as to create an environment that is 'friendly', relatable and unintimidating.

Street and boundary setbacks respond to FDCP, the required APZs and the vegetated riparian zone. The proposed setbacks enable the site to maintain a sympathetic street presence with built form being softened by landscaping, adequate separation from adjoining properties so as to maintain neighbouring amenity, and compliant separation from hazards and sensitive environments (including bushfire prone land and the riparian corridor).

It is also noteworthy that precedence for non-rural/residential development of a similar scale within the street has been previously established by the church on the adjoining site.

The proposed building envelope, complemented by appropriate siting, architectural design and landscaping, thereby provides a positive contribution to the site, streetscape and surrounding area. This is achieved whilst ensuring the school is capable of meeting the operational brief and providing a functional, highly-amenable learning environment for future students.

6.2.2 SITE LAYOUT

The site layout, including the positioning of entries/access points, buildings, play areas, driveways, car parking and other infrastructure, responds to the characteristics of the site and surrounding context as well as to the functional requirements for the school's operations.

As detailed further in **Section 6.2.8** below, key considerations informing the proposed site layout include bushfire prone land and required APZs, flood lines, contamination, the riparian corridor, topography, the existing and future character of the surrounding area, neighbouring amenity, and the amenity of the school for its student and staff.

The layout and design of open spaces have been planned as part of the integrated landscape strategy proposed to be implemented across the entirety of the school site. A diversity of open spaces would support a variety of active and passive, structured and 'free' activities relating to general play, outdoor education and organised sport. Further details of the landscape strategy are provided in **Section 6.2.9** below.

6.2.3 ARCHITECTURAL EXPRESSION

The architectural expression of the built form creates visual interest, forms the impression of a 'welcoming' environment, simultaneously contributes to high levels of amenity and environmental performance for the school, and responds to local character.

Building articulation, which contributes to positive aesthetics and creates a 'human' scale to the development, has been achieved through the application of contrasting render and face brick textures in facades, glazing, appropriate massing of different building elements, clearly defined building entries, modulated canopies and alternating skillion roof forms. The GA NSW expressed support for 'the overall composition of the northern façade' and 'the articulation of classroom spaces as separate building volumes linked by enlarged corridors'.

A neutral and minimalistic approach has been adopted with respect to materiality, in order to create a school that complements its surrounds and is recessive within its landscape setting. The GA NSW recognised the 'elegant expression of the restrained material palette.'

The incorporation of passive energy principles within building and façade design has similarly been commended by the GA NSW. Notably, shading devices, natural lighting and natural ventilation have been integrated in the architectural design of the building, avoiding the need for additional applied elements.

6.2.4 URBAN DESIGN

Further to the above, the proposed school delivers a high quality urban design outcome, achieved through architecture and landscaping that is attentive to the spaces between buildings and the relationship of individual elements with the site overall. Similarly, consideration of the street, riparian corridor and adjoining properties, has contributed to the school providing a positive interface with its surrounds.

In particular, the school will uplift the streetscape through the provision of an architecturally-designed school set within landscaped grounds, on a site that was previously unused land. The school would create an appropriate street address through the orientation of buildings and openings to overlook the street, clearly defined building entries, highly articulated facades and the appropriate treatment of level changes.

Generous street setbacks comprising significant vegetation planting would soften the appearance of the built form.

6.2.5 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

The Crime Prevention Through Environmental Design (CPTED) guidelines were prepared by the NSW police in conjunction with DPE. CPTED provides a clear approach to crime prevention and focuses on the 'planning, design and structure of cities and neighbourhoods'. The main aims of the policy are to:

- Limit opportunities for crime;
- Manage space to create a safe environment through common ownership and encouraging the general public to become active guardians; and
- Increase the perceived risk involved in committing crime.

The guidelines provide four (4) key principles to limit crime, being:

- Surveillance;
- Access Control;
- Territorial re-enforcement; and
- Space/activity management

Principle 1 – Surveillance

The attractiveness of crime targets can be reduced by providing opportunities for effective surveillance, both natural and technical.

- The proposed development orientates active areas such as building entrances, learning precincts and ground floor open space towards surrounding roads, driveways, pedestrian paths, car parking areas and deep-soil landscaping;
- The proposed development utilises low-level landscaping in appropriate locations to ensure there is no obstruction of surveillance opportunities; and
- External security lighting will enable the maintenance of sight-lines and surveillance after dark.

Principle 2 – Access Control

Access control can be defined as physical and symbolic barriers that are used to 'attract, channel or restrict the movement of people'.

- During and after school hours, access would be allowed via secure access points only;
- The design of the built form incorporates in-built access control through, for example, building elevations and retaining walls, avoiding the need for excessive fencing; and
- Directional signage and design features would facilitate legibility and direct all site-users to the appropriate access points and areas of the school.

Principle 3 – Territorial Reinforcement

- The provision of boundary treatments will emphasise the separation between the private and public realm; and
- Well maintained planters, gardens and pavers will indicate the development is well-used and cared for to reduce criminal activity.

Principle 4 – Space Management

- Space management strategies to be implemented include activity coordination, site cleanliness, rapid repair of vandalism, rapid removal of graffiti and the replacement of decayed physical elements;
- On the ground level, pathways and planters will be well maintained;

- Continued repairs and maintenance will discourage vandalism;
- High quality materials, varied façade treatments and landscaping along boundaries will assist in discouraging vandalism and graffiti.

Accordingly, through the integration of CPTED in design, the school has been planned to prevent crime.

6.2.6 DESIGN QUALITY PRINCIPLES (E-SEPP)

The Design Quality Principles outlined in Schedule 4 of the E-SEPP relate to context, built form and landscape; sustainability, efficiency and durability; accessibility and inclusivity; health and safety; amenity; whole of life; flexibility and adaptivity; and aesthetics. The development has been designed in accordance with the design quality principles, as detailed in the assessment at **Appendix 42**.

6.2.7 INTEGRATION OF SERVICES

Services have been integrated into the design of the school so as to contribute to the presentation of a cohesive development.

Specifically, air conditioning and other mechanical services form integrated components of the façade design and as such are effectively concealed from view. The electrical substation, fire hydrant booster and all fencing have been coordinated with the landscape scheme for the site and resultantly are 'green screened' by planting that contributes to the vegetated character of the school.

The co-location of the bin room and sewer pump adjacent to the car park minimise the visual impact and screening structures associated within this infrastructure. The siting of this infrastructure away from the street, buildings and play areas, together with its integration with landscaping, also assist in achieving an appropriate visual outcome. By situating the bin room and sewer pump adjacent to the driveway, appropriate access for service vehicles will be ensured.

The undergrounding of the sewage treatment zone adjacent to the southern site boundary and car park will avoid any visual impact being incurred in association with this infrastructure.

The location of the kiss-and-ride facilities adjacent to a retaining wall will assist in minimising any potential noise disturbance for neighbours associated with the short, twice-daily school drop-off and pick-up.

6.2.8 SITE PLANNING AND DESIGN APPROACH

The planning and design of the school directly respond to the characteristics of the site and surrounding context. As documented in the Site Analysis Plan (**Appendix 10**), throughout this report, and in the multiple investigations undertaken (**Appendices 11-40**), key considerations that have directed the adopted approach to the planning and design of the development include:

- Bushfire – the site is subject to 40m APZs from the southern boundary and edge of the vegetated riparian zone. Buildings have been sited outside of the APZs. Further details of bushfire are provided in **Appendix 39**.

- Flooding – the site is affected by the 1 in 100 year flood line and the PMF line. Buildings have been sited outside of the flood zone and cut/fill in the flood zone will be minimised. Further details of flood mitigation are provided in **Appendices 35-36**.

- Contamination – asbestos-containing fill was identified in the western portion of the site (limited to Lot 2321). No development, other than remediation works, will be carried out on Lot 2321 and it will not form part of the school until the site verification certificate has been obtained. Further details of contamination and remediation are provided in **Appendices 27-29**. It is noted that, given land contamination and remediation will be completely contained within Lot 2321 and do

not affect Lot 2320, the development of the school on Lot 2320 may proceed concurrently with the remediation of the adjoining site.

- Riparian corridor – a riparian corridor adjoins the site's western boundary. No works will be carried out within the riparian corridor other than for the purpose of planting to improve the environmental quality of the riparian ecosystem. Further details relating to the riparian corridor are provided in **Appendices 20-21**.

- Topography – the site exhibits steeply-sloping topography (falling from RL100.90 in the south-eastern corner of the site to RL89.07 in the north-western corner of the site). Cut and fill is therefore required to create a flat building pad appropriate for the school development. Cut and fill has been effectively balanced and level changes across the site have been managed through landscape treatment. Cut/fill in the flood zone will be minimised.

- Westerly sun – the proposed buildings and Civic Heart exhibit a westerly orientation in response to the contours and the vista towards the Blue Mountains. To mitigate the hot afternoon sun, integrated shading systems have been incorporated in the design of building facades, roof forms and landscape elements. Further details are provided in **Appendices 10-11**.

- Existing character of surrounding area – the immediate surrounds of the site currently exhibit a rural character. This is responded to through landscape design. Vegetation planting adjacent to the site boundaries will soften views toward the site, riparian planting will enhance the environmental quality of the corridor in the site's west, and more than half of the site will be retained as open space, creating a 'green oasis' in an otherwise denuded landscape.

- Desired future character of surrounding area – the school responds to the rapidly changing character of Sydney's south-west which is experiencing significant population and housing growth. The immediate surrounds of the site are similarly anticipated to exhibit a changing character, noting that the area has been designated for future urban development by the *Greater Sydney Region Plan* and *Western City District Plan*. Land immediately adjoining the site boundary forms part of Western Sydney Parklands and has been identified for business purposes.

- Neighbouring amenity – the school is suitably separated from sensitive residential development and planting adjacent to the site boundaries will assist in protecting neighbouring amenity by providing visual screening and assisting in noise mitigation.

Full details of how the development responds to each of these matters is provided in the corresponding appendix referenced above.

6.2.9 LANDSCAPE STRATEGY

The landscape strategy for the school encompasses the entire site and intertwines with the built form to create flexible indoor and outdoor environments that jointly contribute to the high standard and amenity of the educational establishment.

Landscape works will be carried out over the entire school site to create a 'green' and highly amenable learning environment. Landscaping will create useable outdoor spaces for active and passive recreation and learning activities, provide shading, enable proximity to 'nature' and contribute to an attractive visual experience.

A balance of hard and soft surfaces would support a variety of active and passive, structured and 'free' activities relating to general play, outdoor education and organised sport. Landscape design has also enabled the establishment of natural connections between the various areas of the school, and provided opportunity for future connections to be developed with the adjoining church.

Planting adjacent to the site boundaries will assist in protecting neighbouring amenity by providing visual screening and assisting in noise mitigation.

Extensive vegetation planting throughout the site will improve the biodiversity and tree canopy of the site, particularly given that in its current state it consists primarily of cleared land. Riparian planting will appropriately integrate with the existing riparian corridor adjacent to the site's western boundary. This ecologically important area will be designed by the Landscape Architect in accordance with the Ecologist's Vegetation Management Plan (**Appendix 20**).

Key features of the landscape design, as shown in the Landscape Masterplan (**Appendix 12**) include:

- Level ceremonial pedestrian and visitor entry to school flanked by tree and hedge planting;
- Street frontage embellished with gardens;
- Visual focus for students entering and leaving via the drop-off area created by a feature stone-faced wall with school emblem and name, surrounded by middle-eastern feature palms;
- Vertical sundial sculpture and pavement markings within Civic Heart provides learning opportunity and visual focus;
- Cardinal marker trees set using civic scaled Hoop Pine planting to mark compass points;
- Small seating area and religious sculpture on axis of church provides opportunity for seating in lower area and potential future connection to the church;
- Broad and generous seating terraces spilling down hillside in a random arrangement provide a variety of play, gathering and learning spaces, while also providing pathways from the Civic Heart to the hall and lower level playground;
- Educational food and produce garden potentially incorporating date palms, citrus trees, raised vegetable gardens, worm farm, composting facilities and chicken coop;
- Separate Kindergarten play area provided with small amphitheatre seating, canopy shelters, sandpit and small lawn area;
- Outdoor and environmental learning area nestled into revegetation area;
- Revegetation of the riparian area;
- Low key decomposed granite pathway separates managed grass areas from riparian vegetation and provides for movement of students and maintenance vehicles around the site;
- Concrete vehicular path to provide all-weather maintenance and emergency access to lower open lawn and games areas;
- Shrub and small tree planting at the base of the retaining wall adjacent to the driveway to soften and provide a green outlook;
- Larger retaining wall adjacent to the driveway to eventually be covered with Ivy or Boston Ivy to create a green wall;
- Surface runoff from staff car park to be directed to rain gardens incorporated in central planting areas.

Further details of the landscape strategy for the site are provided in the Landscape Plans at **Appendix 12**.

6.3 ENVIRONMENTAL AMENITY

The proposed development has been designed to minimise and mitigate potential impacts on the amenity of the surrounding environment. Key considerations include:

- Solar access and overshadowing;
- Acoustic impacts;
- Visual privacy;
- Views;
- Wind impacts; and
- Amenity impacts associated with use out of school hours.

Overall, the proposed development secures a high level of amenity for the school whilst maintaining the amenity of surrounding sites. Detailed review of potential amenity impacts associated with the development is provided in the following sections.

6.3.1 SOLAR ACCESS AND CONTROL

The site is not immediately adjoined by any residential dwellings and therefore the proposal will not cause any overshadowing impacting on existing development on surrounding land. Shadow Studies confirm there will not be any shadows cast by the school buildings on any adjacent property (refer Shadow Studies within the Architectural Drawings at **Appendix 10**).

With respect to the amenity of the school itself, buildings have been designed and orientated to benefit from natural light. To mitigate westerly afternoon sun, integrated shading systems have also been incorporated in the design of building facades, roof forms and landscape elements. The architectural project has incorporated 'passive solar design principles' from the outset of the design process.

6.3.2 ACOUSTIC IMPACTS

A high level of acoustic amenity will be achieved for nearby residential receivers and for the school itself, as confirmed through the Noise Assessment (**Appendix 23**) prepared by SLR.

Noise emissions associated with the operation of the school would be acceptable on the following bases:

- For mechanical plant, it is expected that a design compliant with the NPfI daytime noise limit would be readily achievable (subject to detailed review being undertaken when mechanical plant selection, location and design have been finalised to determine if additional acoustic controls will be required).

- For the school hall, the required sound insulation rating of Rw 42 would be achieved using standard building constructions and materials, however the control of low frequency noise breakout and noise breakout via any glass elements or ventilation openings would require judicious consideration during the detailed design stage. It is expected, however, that a compliant design for all activities in the School Hall building would be readily achievable.

- The predicted noise associated with the school bell and PA system would comply with the applicable daytime noise limit of 49 dBA LAeq(15minute).

- Whilst waste collection and lawn mowing may exceed the 49 dBA LAeq(15minute) noise limit by 4 dBA, an exceedance of that magnitude would not be considered significant, particularly given their infrequent occurrence. Additionally, these noise sources would not normally be considered 'offensive' in the context of the POEO Act as they would already be occurring in the vicinity of the nearest receptors to the school. Nonetheless, it would be reasonable to restrict these activities to standard daytime hours in order to further minimise the likelihood of disturbance or annoyance to nearby receptors.

- In relation to children in outdoor play areas, the likelihood of significant noise emissions being observed at nearby residences would be minimised through:
    - screening provided by buildings separating outdoor play areas from the nearest receptors;
    - the outdoor area would generally be used for only short periods throughout the day;
    - the outdoor area would be used only within school hours; and
    - the ambient noise at the nearby residences is relatively high due to the M7 Motorway which would provide a degree of 'masking' of playground noise.

- General use of classrooms, administration facilities and amenities would be acoustically insignificant and unlikely to be audible at nearby residences.

- Noise associated with the car park and pick-up/drop-off zones (including starting a car engine and a car door closing) would generally be of very short duration and therefore low impact when observed over an assessment period. Such emissions would usually be considered in relation to

sleep disturbance criteria for the night-time period, however given the school would not operate during the night-time period, sleep disturbance impacts would not be relevant.

Acoustic amenity for residential receivers would also be safeguarded during the construction phases of the development in accordance with the following:

- Predicted construction noise levels would not exceed 75 dBA (allowing for cumulative operation of multiple plant items at the same time). Consequently, the 'highly noise affected' criterion under the *Interim Construction Noise Guideline* is not expected to be exceeded.

- Without further mitigation, the NML would be exceeded by up to 10 dBA at the nearest residential receptor, however this would only occur for short periods with noise levels to frequently be lower. It is common and often unavoidable for the NMLs to be exceeded in situations where construction activities occur in the vicinity of sensitive receptors.

- Best practice mitigation measures may be implemented where reasonable and feasible.

- With respect to vibration, the anticipated construction activities would not include blasting or piling and are not considered significant sources of ground-borne vibration given the separation distance from the nearest sensitive receptors (at least 70m).

For the school itself, the level of noise reduction from traffic and aircraft noise required to achieve compliance with AS 2107, AS 2021 and RNP classroom criterion, would be readily achieved with standard building construction.

The weakest element of the school buildings, with regard to acoustic performance, will be the windows and doors. Generally, the windows and doors must be closed to achieve compliance with the selected indoor noise objectives. This does not preclude the use of natural ventilation however, where natural ventilation is to be provided for facades facing the M7 Motorway, the ventilation opening must be selected such that the overall composite sound insulation of the facade is not unduly compromised.

Further details of noise and vibration, including project-specific criteria and assessment outcomes, are provided in **Section 6.9** of this report and **Appendix 23**.

6.3.3 VISUAL PRIVACY

Given there are no residential or other sensitive developments located within close proximity of the site boundaries, the proposed school will not result in any overlooking now or in the future. Of note, the site falls to the west and thereby the primary outlook of the site takes in the school playground, riparian corridor and rural land.

6.3.4 VIEWS

The site is situated within an area that is currently relatively 'unbuilt', thereby minimising the number of views that could potentially be impacted by the school development. Of note, the area is not considered to comprise any significant views, but does offer general rural 'outlooks'. On this basis, the proposed development would not result in any view obstruction, but would be visible in outlooks toward and over the site.

To ensure the school provides an appropriate visual outcome, it has been designed and sited to specifically respond to the existing and future character of the surrounding area. Landscape design in particular is integral to enabling the site to integrate with the currently rural character of the immediate surrounds. Vegetation planting adjacent to the site boundaries will soften views toward the site, riparian planting will enhance the environmental quality of the corridor in the site's west, and more than half of the site will be retained as open space.

The school buildings have been located below the brow of the hill so as to avoid impacts on views from properties to the west towards the school site.

In the future, the immediate surrounds of the site are anticipated to exhibit a changing character, noting that the area has been designated for future urban development by the *Greater Sydney Region Plan* and *Western City District Plan*. Land immediately adjoining the site boundary forms part of Western Sydney Parklands and has been identified for business purposes. Accordingly the delivery of the school responds to the rapidly changing character of Sydney's south-west which is experiencing significant population and housing growth.

Overall, the proposed architectural expression, building envelope, site layout, and landscape strategy, provide a positive visual contribution to the site, streetscape and surrounding area.

6.3.5 WIND IMPACTS

As shown in the Site Analysis Plan within the Architectural Drawings at **Appendix 10**, prevailing winds affecting the site include hot and dry north-westerly Summer winds and cold south-westerly Winter winds. The buildings and outdoor areas have been designed and orientated accounting for prevailing wind directions.

6.3.6 OUT OF HOURS USE

The proposed development, through flexible and adaptive design, presents opportunities for the future shared use of school facilities outside of school hours. It is anticipated that the sharing of school facilities with the community may include before and after school care, language classes for the community, bible classes, and future learning activities for the community.

Whilst the amenity impacts associated with any future out of hours use of school facilities would be considered in greater detail in conjunction with any relevant future application, it is generally considered that no unacceptable impacts would arise. As described in the above sections, no residential or other sensitive developments are located in close proximity to the site boundaries, and thereby adequate separation would be maintained to avoid overshadowing, noise transmission, overlooking, view loss or wind effects.

6.4 TRANSPORT AND ACCESSIBILITY

6.4.1 OPERATIONAL TRAFFIC

A Traffic and Parking Impact Assessment (**Appendix 13**) has been prepared by McLaren to detail traffic-related requirements, arrangements and impacts associated with the new school. Key items are addressed in the following subsections.

Car Parking and Kiss-and-Drop

Based on FDCP2013 car parking rates for schools, one space per employee plus one space per ten Year 12 students is required. For the proposal, this equates to a requirement for 12 car parking spaces for Stage 1 and 35 spaces for the final development. All car parking, as well as kiss-and-drop spaces, will be accommodated within the site boundaries and delivered as part of Stage 1. Specifically, the following will be provided:

- 30 kiss and drop spaces;
- 39 parking spaces for staff and disabled visitors (including 2 disabled parking spaces);
- Internal queueing areas for up to 44 additional vehicles without affecting the efficacy of the kiss and drop operations of the site.

As well as complying with FDCP2013 car parking rates, the suitability of the proposed parking, kiss-and-drop and queuing arrangements has been determined based on surveys of the associated St Hurmizd

Primary School. Based on the assumptions developed through surveys, the following provides a summary of the utilisation of kiss-and-drop spaces and maximum queue lengths. The results demonstrate that the parking demands of the development and all queuing can be accommodated within the site.

Table 11. Queuing Analysis		
Phase	***Estimated Vehicles in Kiss-and-Drop Spaces***	***Estimated Queue Vehicles***
Stage 1 Development		
Prior to pick up	30	5
During pick up	3	0
Final Development		
Prior to pick up	30	36
During pick up	7	0

To ensure the proposed kiss and drop facilities operate with high levels of efficiency and safety, the following management practices will be implemented:

- Traffic control by school staff at internal pedestrian crossing locations;
- Traffic control by school staff to direct queued vehicles into vacant kiss and drop spaces;
- Organisation of students into general kiss and drop areas by year-group to speed pick-up operations;
- Assistance of school staff to load vehicles with children and bags.

All car parking and vehicular circulation areas have been designed in accordance with relevant Australian Standards.

Bicycle Parking

Considering the lack of bicycle facilities surrounding the school and the considerable distance from the school to residential centres, there is likely to be a very low or no use of bicycles to travel to and from the site and the omission of bicycle storage from the site would be acceptable. Further FDCP2013 does not nominate rates for bicycle storage facilities.

Servicing and Loading

FDCP2013 does not provide requirements for loading facilities for Schools. Therefore, the provision of on-site loading and servicing facilities has been based on the typical requirements of a Primary School.

Access and loading facilities have been designed to accommodate vehicles up to a 12.5m length Heavy Rigid Vehicle. Swept path testing has been undertaken to demonstrate that the design can accommodate the forward entry and exit of a Heavy Rigid Vehicle.

A separate, gated access from Kosovich Place will also offer an emergency access path for ambulance use if required. A dedicated Emergency Vehicle parking space has also been provided.

Garbage collection will occur within the site outside of peak school hours, usually once or twice per week.

Road and Pedestrian Safety

The design of the school effectively separates pedestrian and vehicle movements along Kosovich Place and within the school boundaries. Safety is promoted through the following design measures:

- All vehicular and pedestrian facilities are designed to meet the relevant Australian Standards.
- Clear sight lines have been considered in the design of all driveways and pedestrian crossing locations, including the height of proposed landscaping.

- Light vehicles are able to enter and depart the site without conflicting with queued or manoeuvring buses. This is achieved through the design and location of the indented bus bay with sufficient length to contain up to four buses.
- Entering and exiting vehicles are separated by a median between the two-way driveway lanes.
- Two pedestrian crossings are proposed and will be controlled by school staff to facilitate the safe crossing of the internal road during kiss and drop hours.
- A pedestrian pathway connects directly to the footpath adjacent to the indented bus bay area.
- Considering the relative isolation of the site and the inclusion of sufficient parking on the site to contain all kiss and drop operations, any pedestrians exiting the site on foot are unlikely to walk along Kosovich Place or cross the path of any vehicles entering or leaving the site.
- A 40km/h school zone speed restriction will be implemented along Kosovich Place during peak school drop-off and pick-up times.

Based on the above, the design passively ensures the safety of both drivers and pedestrians and no road safety measures are necessary.

Traffic Generation

Considering the location of the school and the poor access to public transport, a School Bus service is proposed in order to reduce the number of students and staff who will drive to and from school. Based on surveys of the associated St Hurmizd Primary School, families in the community have 1.85 children on average, which can be conservatively assumed as the average vehicle occupancy. In addition to the above assumptions, a conservative 80% student private vehicle use rate has been assumed for the completed school.

The resulting estimated AM and PM peak hourly traffic generations are provided in **Table 12**.

Table 12. Estimated Traffic Generation

Type	***Trips***	***Direction***
Stage 1 Development		
Staff AM	12	12 in, 0 out
Student AM	227	113 in, 113 out
Total AM	**239**	**125 in, 113 out**
Staff PM	12	0 in, 12 out
Student PM	227	113 in, 113 out
Total PM	**239**	**113 in, 125 out**
Final Development		
Staff AM	35	35 in, 0 out
Student AM	544	272 in, 272 out
Total AM	**579**	**307 in, 272 out**
Staff PM	35	0 in, 35 out
Student PM	544	272 in, 272 out
Total PM	**579**	**272 in, 307 out**

The surrounding road network, the routes to and from the site, school catchment areas and Journey to Work data as provided by the NSW Bureau of Transport Statistics, have been examined and the following trip assignment assumed:

- AM Traffic to the Site:
  - 30% from the north via The Horsley Drive:
    - 20% from the east;
    - 10% from the west.
  - 70% from the south via Elizabeth Drive:
    - 50% from the east;
    - 10% from the west;
    - 10% from the south (via the M7 exit).

- AM Traffic from the Site:
  - 40% to the north:
    - 35% to the east at The Horsley Drive;
    - 5% to the west at The Horsley Drive.
  - 60% to the south
    - 55% to the east at Elizabeth Drive;
    - 5% to the west at Elizabeth Drive.

The above distribution is reversed in the PM when parents will typically be returning from their place of work to collect their child and then driving home.

Traffic Impact and Intersection Performance

Based on SIDRA modelling of the intersections of M7 Exit/Elizabeth Drive, Wallgrove Road/The Horsley Drive, Wallgrove Road/Kosovich Place and Wallgrove Road/Villiers Road, the existing (2018) and future (2028) intersection performances have been assessed and the following summary is provided:

- Other than the intersection of Elizabeth Drive and Wallgrove Road, all surrounding intersections are operating satisfactorily at Level of Service (LoS) C or better during the AM and PM peak periods. This represents adequate performance.
- The intersection of Elizabeth Drive and Wallgrove Road is nearing its existing capacity in the weekday PM peak, with a LOS of D.

Future road upgrades that may affect the traffic conditions surrounding the proposed school include:

- An upgrade of the Wallgrove Road/The Horsley Drive intersection, including an added lane to the eastern approach to the intersection.
- The new M12 Motorway, however whilst RMS has been contacted to provide comment on the impacts of the M12 Motorway on Wallgrove Road and the intersection of Elizabeth Drive and Wallgrove Road, to date no response has been received.

Based on the estimated traffic generation and trip assignment summarised above, applied to existing traffic volumes, SIDRA modelling has provided the following results:

- Stage 1 Development:
  - There is a minor increase to approach delays at each of the intersections modelled, but no change in LOS is predicted.
  - This modelling has been completed with the assumption of a "No Right Turn" restriction at the intersection of Kosovich Place/Wallgrove Road.

- Final Development:
  - Traffic associated with the proposed school will not substantially change the operation of the intersections surrounding the site and all intersections will remain at their present LOS other than the intersection of Elizabeth Drive/Wallgrove Road in the PM peak hour, which is predicted to operate with a LOS of E.
  - This assessment has adopted the 10-year (2028) projected traffic volumes based on the growth volumes provided by RMS. The planned upgrades to the intersection of The Horsley Drive/Wallgrove Road have also been accounted for.

Additionally, the modification of the Elizabeth Drive/Wallgrove Road intersection to include a high angle left turn slip lane would provide additional capacity at the intersection. As shown through further SIDRA analysis, with the addition of a left turn slip lane on the northern approach to the intersection, the LOS of the intersection will be D in both peak hours, a decrease in average delays when compared to the predicted operation of the intersection in 2028 (without the proposed school).

Based on the data received to date from the RMS, it is therefore suggested that such an upgrade should be performed to the intersection prior to the opening of the completed school. However, analysis should

be undertaken with the latest traffic volumes and projections nearer to the time of construction of the final stage of the school to confirm that such an upgrade is necessary, as there may be significant reductions in the traffic using the Elizabeth Drive/Wallgrove Road intersection after the construction of the M12 Motorway.

Proposed Infrastructure Works

To provide suitable facilities and capacity within the road network, a number of improvements are proposed as follows:

- Road widening of Kosovich Place to 7.0m width from the intersection of Wallgrove Road to the boundary of the site and 10m from the driveway to the termination of the street. This road widening will enable bus access and provide sufficient width for up to four buses to pick up or drop off passengers without interrupting traffic flow along the street. It has been advised by the bus operator, Transit Systems, that the existing turning bulb is sufficient to facilitate U-turns by buses.

- Pedestrian footpaths will be constructed along the frontage of the site to Kosovich Place to provide safe passage for pedestrians to and from the bus zone. Considering that all parent kiss and drop operations will be undertaken on-site, no formal footpath is necessary other than along the frontage of the site.

- The following parking restrictions should be implemented to ensure parking does not occur in locations that will compromise traffic flow:
  - "Bus Zone" signage, which acts as a "No Stopping" restriction with buses excluded;
  - "No Stopping" signage around the circumference of the turning bulb;
  - "No Stopping - 8:00 AM-9:30 AM and 2:30 PM-4:00 PM" signage is proposed along the southern side of Kosovich Place to ensure that two-way passing will be maintained at all school drop-off and pick-up times.

- Intersection works to Kosovich Place/Wallgrove Road to include a CHR treatment. Traffic modelling demonstrates that the intersection will perform satisfactorily with the proposed layout.

- Intersection works to Elizabeth Drive/Wallgrove Road involving the addition of a high-angle slip lane to the northern approach to the intersection. The necessity of this treatment should be confirmed prior to the issue of a Construction Certificate for the final stage of the school, as it is expected that the traffic projections will change. Traffic modelling demonstrates that the intersection will perform satisfactorily with the proposed layout.

Sustainable Travel Plan

A Sustainable Travel Plan (**Appendix 14**) has also been prepared by McLaren to advise parents and employees of sustainable and alternative transport options, with the overall objective to shift travel from private cars to collaborative or public transport options.

Owing to the relative isolation of the site from residential catchments and the nature of the surrounding road network (namely Wallgrove Road which has an 80km/h speed limit, no bicycle lanes and no pedestrian paths), it is not recommended that walking or cycling to school should be promoted.

Whilst the site is not currently serviced by public transport, it is intended that a school bus service be established to provide transport to and from the school. Consultation has been undertaken with the local operator, Transit Systems, to achieve this outcome.

Therefore, viable travel modes for students and staff include private car or public bus (once services are established).
Travel mode surveys of the associated St Hurmizd Assyrian Primary School reveal a very low use of buses (3% mode share to school and 4% mode share from school). St Hurmizd is however located in a

suburban area and is not as isolated as the proposed Saints Peter and Paul Assyrian Primary School. Through the implementation of the Sustainable Travel Plan, the proposed school will achieve a higher usage of buses. Unlike in the case of St Hurmizd, the buses servicing the subject site will be shared with St Narsai Assyrian College, the associated High School. Older siblings will be able to look after their brothers and sisters at the proposed school, increasing the attractiveness of the bus service, particularly for older primary school children.

Additionally, the following actions are recommended to promote the use of shared transport options:

- Develop a map showing shared transportation routes to the school (include school bus service and car-poolers who have capacity);
- Put up a notice board with leaflets and maps showing the main shared transport routes to and from the school;
- Prepare a Transport Access Guide (TAG) for the site;
- Prepare and distribute a map of the home postcodes of all students and staff (adjusted appropriately for protection of private information) who currently drive to school to allow for efficient scheduling of carsharing;
- Set up a carpooling database and group message chat;
- Priority parking for carpooling vehicles;
- Produce a group within a carsharing application such as 'GoKid – Kids Carpool Organizer' which allows parents to organise carpooling with families they know and trust (or a group message chat for all the families which live in a certain suburb/area to discuss carpooling options).

Through the implementation of the Sustainable Travel Plan, the following targets for travel mode split are sought to be achieved.

Table 13. Targeted Transport Mode Split

Mode of Transport	***Usage Rate***				
	Estimated Travel Mode	***After 1 Year***	***After 3 Years***	***After 5 Years***	***After 10 Years***
Staff					
Private Car	99%	97%	95%	92%	90%
Bus	1%	2%	2%	3%	5%
Car Pool	0%	1%	3%	5%	5%
Students					
Private Car	95%	92%	88%	83%	78%
Bus	5%	7%	10%	15%	20%
Car Pool	0%	1%	2%	2%	2%

Further reductions may be possible with the implementation of further initiatives by the school in response to feedback and the results of annual travel mode surveys.

6.4.2 CONSTRUCTION TRAFFIC

A Construction Traffic Management Plan (CTMP) (**Appendix 15**) has been prepared by McLaren to address the first and final stages of the school construction. A separate CTMP will be required to be prepared for the intermediate construction stages, as appropriate at the time.

During Stage 1, vehicular access to the site will be facilitated via a two-way driveway from Kosovich Place at the north-eastern corner of the site (refer **Figure 21**). The vehicular crossing shall be constructed to accommodate the swept paths of a 12.5m length Heavy Rigid Vehicle (HRV). All vehicles will enter and exit the site in a forward direction, with sufficient turning area provided on-site.

All deliveries and loading operations will be completed within the boundaries of the site, with no work zone needed or proposed. Parking for all vehicles associated with the site development will also be accommodated within the site boundaries.

A truck washing area will be provided to remove excess sediment from all vehicles prior to leaving the site and to prevent the accumulation of sediment in Kosovich Place. The existing crossover providing access to, and exit from, Lot 2321 will be widened to allow truck access for the decontamination works (refer **Figure 21**).

The site is well connected to the surrounding state network and minimal traversal of residential streets is required. Wallgrove Road is an approved 25m/26m B-Double route, and swept paths confirm that appropriate access to Kosovich Place from Wallgrove Road is provided. Sufficient sight distances are also provided at the intersection in both directions, meaning that the use of the intersection by construction vehicles is of low risk.

Construction traffic generated by the development is relatively low, with 10-15 weekly deliveries by construction vehicles (12.5m HRV) and 1-10 daily waste truck arrivals. The traffic generation associated with construction staff is unknown, however, considering the proximity of the site to the State Road network, it is not expected that the traffic generated by construction activities will exceed the capacity of the road network.

Traffic Control Plans will not be required for construction, on the following grounds:

- Entry to and exit from the site will be completed in a forward direction;
- No work zone is required or proposed;
- The entry/exit points of the site are on a quiet road with very few traffic or pedestrian movements.

Any need for Traffic Control Plans to support construction stages proposed to occur once the school is operational, would be assessed as part of the future CTMPs.

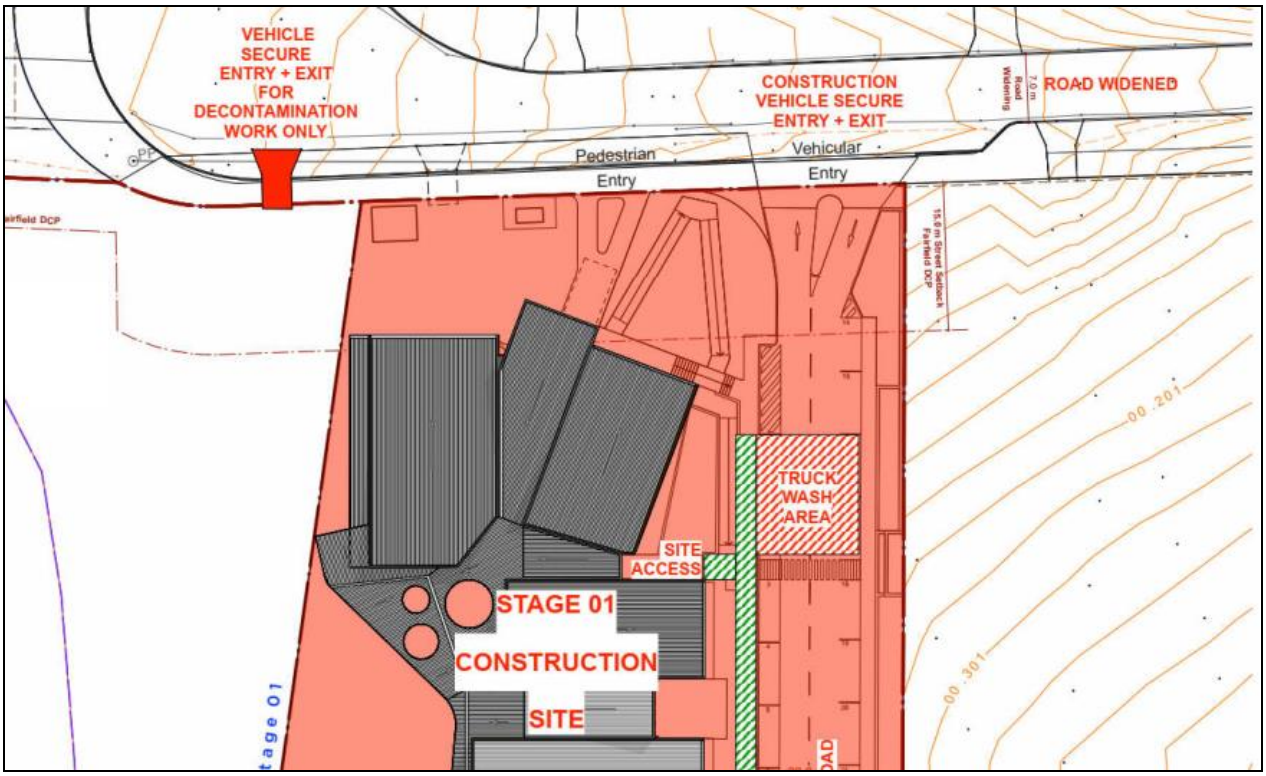


Figure 21. Stage 1 Construction Access (McLaren 2018)

6.5 ECOLOGICALLY SUSTAINABLE DEVELOPMENT

An Ecologically Sustainable Development (ESD) Strategy (**Appendix 16**) has been prepared by Cundall to specifically address ESD principles, Industry Best Practice for sustainable primary school design, and measures to conserve resources.

As summarised below, the proposed development achieves the ESD Principles defined in Clause 7(4) of Schedule 2 of the EP&A Regulation:

- Precautionary Principle – The project presents no threat of serious or irreversible environmental damage. The project will deliver ecological restoration and habitat creation to improve the site, implement climate change adaptation principles, and apply industry best practice ESD initiatives.

- Inter-Generational Equity – The buildings will provide healthy internal and external environments for teaching students today and in the future. The landscaping principles of ecological restoration and habitat creation will deliver benefit to current and future generations.

- Conservation of Biological Diversity and Ecological Integrity – The site is currently of low ecological value. The landscape design will enhance the biological diversity and ecological integrity of the site.

- Improved Valuation, Pricing and Incentive Mechanisms – The design and operation of the school will reduce energy and water consumption and greenhouse gas emissions. Life Cycle Costing will be used throughout the design process to justify capital investment and reduce ongoing impacts.

As per the assessment contained within the ESD Strategy (**Appendix 16**), the school will be developed and constructed to a standard equivalent to a 4 star Green Star Design & As Built v1.2 rating (representing Industry Best Practice in sustainable design and construction).

A range of measures will be implemented to minimise the consumption of energy, water and resources, and to enhance health & wellbeing and biodiversity. A summary of recommended initiatives is provided below:

- Energy and Greenhouse Gas Emissions:
    - Passive design, including insulation exceeding NCC Section J, shading, high performance glazing and natural ventilation;
    - Exceed energy efficiency requirements of NCC Section J;
    - LED lighting with occupancy sensors;
    - Mechanical ventilation with heat recovery;
    - Energy efficient fans, equipment and appliances;
    - Staff and student education on methods to reduce energy consumption;
    - Minimise landscape lighting; and
    - Renewable energy in the form of photovoltaic panels, potentially building integrated.
- Water:
    - Water efficient fixtures and fittings;
    - Roof water for landscape irrigation;
    - Sewerage treated and used to irrigate sports field;
    - Tree planting to intercept and slow stormwater runoff;
    - OSD tanks and bio basins (rain gardens); and
    - Large areas of the site retained as impervious surfaces, supporting natural infiltration.
- Materials and Waste:
    - Permanent construction rather than temporary demountable classrooms, in order to minimise material consumption and waste;
    - Prioritise recycled, low embodied energy, and durable materials;
    - Apply life cycle assessment principles during material selection;
    - Balance cut and fill on site (as far as possible);

    - Decomposed granite pathways to minimise concrete, allow infiltration and demarcate native restoration areas to minimise spread of weeds or exotics into riparian zone;
    - Student education on good recycling principles;
    - Separation of waste streams;
    - On-site composting; and
    - Waste Minimisation Plan during construction.
- Land and Nature:
    - Trees and soft landscaping around buildings;
    - Plant native and endemic species along the riparian corridor to restore nature and habitat values;
    - Strip, collect, ameliorate and reuse all existing topsoils to achieve good growing media rather than import soils from off-site;
    - Peripheral fields over-seeded with native grass species or hardy low water use grasses to move to a lower water use and native plants rather than imported species; and
    - On-site food growing garden, supporting composting, food production and education.
- Health and Wellbeing:
    - Classrooms provide healthy learning environments through natural ventilation (with potential for mechanical ventilation boost), passive design for thermal comfort, CO2 sensors, natural light, views, and acoustic design;
    - Landscape design to facilitate outdoor learning and physical activity; and
    - Low off-gassing materials.
- Climate Risk and Adaptation:
    - Buildings located above PMF line;
    - Bushfire management plan; and
    - Plant selection prioritising hardy, low-water use species that are suitable to the position and climate, in order to minimise maintenance inputs and the need for replacements.

The ESD Strategy concludes that the proposed development can incorporate best practice ESD initiatives and will exceed minimum requirements for ecologically sustainable development.

To support the energy efficiency of the school, a Section J Review (**Appendix 17**) has also been prepared by Cundall. The purpose of the report is to identify compliance with NCC 2016 Section J DTS Energy Efficiency requirements (Parts J1, J2 and J3).

Within the Section J Review, minimum requirements for building fabric, external glazing and building sealing are identified. The DTS window thermal performance requirements under Part J2 indicate that extremely high-performance glazing may be required. It is therefore recommended that some design changes are made to improve thermal performance of the fabric, such as improved shading or reduced extent of glazing. Alternative compliance via the JV3 modelling pathway will also be considered.

6.6 SOCIAL IMPACTS

The school will initially alleviate over-population of their link primary school in Greenfield Park, targeting families for whom the new school location would be more convenient. The location of the school en-route to the link high school will enable younger siblings to travel to and from the new primary school by bus with their older siblings at the high school (St Narsai Assyrian College, Horsley Park).

The proposed school, specifically through its location in a future growth area of Western Sydney and proximity to its link primary school and high school, would provide important social infrastructure to service the region's growing population and relieve pressure on existing schools which are over-capacity.

6.7 BIODIVERSITY

A Biodiversity Assessment Report (**Appendix 18**) has been prepared by Molino Stewart Pty Ltd to investigate the native flora and fauna present on the site, describe the direct and indirect impacts of the proposal, and nominate methods to avoid, minimise and mitigate impacts. The assessment has been carried out in accordance with the NSW Office of Environment and Heritage (OEH) guidelines, FLEP2013

and FDCP. The report also addresses the legislative requirements to assess the impacts of the proposed development on threatened species, populations or communities listed under the BC Act, FMA Act and the EPBC Act.

Based on relevant legislation, policies, existing mapping, and field surveys, the existing environment of the site is described as follows:

- In the maps produced through the Conservation Significance Assessment process in conjunction with Fairfield City Council's *Fairfield Biodiversity Strategy 2010*, no vegetation of high, medium or low significance is identified on the site.
- In the FLEP2013 maps, the western extent of the site is identified as comprising a riparian area and terrestrial biodiversity. The waterway on the site that joins Ropes Creek is highly modified and cleared. Ropes Creek would be classified as a second order stream and accordingly a 20m Vegetated Riparian Zone (VRZ) would be required on either side of the waterway (based on DPI's *'Guidelines for riparian corridors on waterfront land'*). Management of the VRZ would be subject of a Vegetation Management Plan (VMP).
- No areas within the site are mapped as having 'high biodiversity value' as identified on the NSW Biodiversity Values Map.
- The site is not a declared Area of Outstanding Biodiversity Value (AOBV).
- Native vegetation mapping for the Cumberland (NPWS 2002) did not map any native vegetation communities as occurring on the subject site.
- Field survey found that the vegetation on the majority of the site consists of exotic grassland with pasture grass and weeds and very few native species. There are no mature native trees within the proposed development area.
- The Critically Endangered Ecological Community (CEEC) Cumberland Plain Woodland is not present on the site.
- Seven (7) NSW listed threatened flora species and two (2) endangered flora populations have been previously recorded within 10km of the site. No threatened flora species or populations were recorded on the site during survey. No threatened flora species or populations are expected to occur on the site.
- 34 NSW listed threatened fauna species have been previously recorded within 10km of the site. The only threatened fauna species recorded on the site during survey were three (3) microbat species (all vulnerable). The site is devoid of the preferred habitat of the Cumberland Plan Land Snail and no evidence of this species was found during targeted surveys. Due to the lack of habitats present within the proposed development area, it is considered unlikely that any other threatened fauna will be impacted by the works.
- With respect to fish habitat, only sections of Ropes Creek well downstream of the site are mapped as Key Fish Habitat by NSW DPI. The Fairfield Biodiversity Strategy (2012) states that there are no records of species listed as threatened under the FM Act from the Fairfield LGA. Given the above factors, the site is not expected to provide habitat for any threatened aquatic species listed under the FM Act.
- The EPBC Protected Matters report generated for the site lists five threatened ecological communities, 36 nationally listed threatened species and 15 migratory species that may occur within 5km of the site. No EPBC listed ecological communities, flora, fauna or migratory species were detected on the site or considered likely to be impacted by the development based on habitat assessment. No CAMBA, JAMBA or ROKAMBA migratory species were found at the site. The proposal is unlikely to have a significant impact on any CAMBA, JAMBA or ROKAMBA species. No other NES matters occur on the site and no further assessment under the EPBC Act is required.
- A search of the GDE Atlas database indicated that there are no groundwater dependent ecosystems mapped for the study site.

Further to describing the existing environment of the site, the Biodiversity Assessment proceeds to detail an impact assessment. The following summarises the outcomes of the impact assessment:

- The action proposed does not constitute any key threatening process. Whilst the development of the site has potential to increase key threatening processes affecting the riparian area through

weed and pathogen spread, this would be controlled through the initial removal of existing weeds during the carrying out of earthworks, the implementation of a VMP and specific weed and pathogen control measures during construction.

- Given there will be no clearing of native vegetation (including trees or understorey) and no earthworks along the watercourse, potential for direct impacts is very limited. As the development area does not comprise any mature trees, an Arborist Report is not required.
- Loss of habitat will be avoided through the maintenance of the riparian vegetation and waterways (which provide the best quality habitat near the site). An area of logs within the development area may be relocated to the riparian area to provide on-ground habitat.
- Due to the lack of fauna habitats within the development area, injury of fauna during construction is considered unlikely.
- Potential indirect impacts include:
    - Any potential hydrological impacts downstream of the dam are expected to be minor and will be controlled through mitigation measures including implementation of a Soil and Water Management Plan during construction and a Stormwater Management Plan and Wastewater Management Plan for long term operational water management.
    - Potential sedimentation during earthworks and construction will be controlled through implementation of an Erosion and Sediment Control Plan and Soil and Water Management Plan during construction.
    - During construction, loss of potentially hazardous substances into the adjacent environment will be controlled through mitigation measures.
    - Wastewater from the school when operational will be managed in accordance with the Wastewater Assessment, relevant legislation and guidelines, to minimise the risk of effluent run-off and possible downslope environmental impacts. The OSSM will be subject to an operational monitoring and inspection schedule.
    - Riparian vegetation along the waterways will be retained and rehabilitated, thus retaining any existing connectivity. The proposal does not require any clearing of native vegetation and no area of potential habitat will become fragmented or isolated as a result of the proposal.
    - Potential weed and pathogen spread would be controlled through the initial removal of existing weeds during the carrying out of earthworks, the implementation of a VMP and specific weed and pathogen control measures during construction.
    - To avoid the disturbance of fauna, school buildings and access roads will be located away from the riparian areas. Due to the disturbed and isolated nature of the site, less mobile/territorial species are less likely to occur on the site (being the types of species most susceptible to the impacts of increased human activity on the site).
- Assessments of Significance in accordance with Section 7.3 of the BC Act for impacts on threatened microbat species, the Cumberland Plain Land Snail and the RFEF EEC concluded that the development will not have a significant impact on any species listed under the NSW BC Act.
- The EPBC Act does not require Commonwealth approval for the proposal as the matter is not a controlled action because it will not have a significant effect on a Matter of National Environmental Significance.
- The development does not comprise impacts prescribed as additional biodiversity impacts to which the BOS applies as outlined in Section 6.1 of the BC Regulation. This is due to the small scale and nature of the proposed school development, lack of threatened species or ecological community habitat on the development site, and the control measures proposed for potential indirect impacts.
- There is very limited potential for cumulative biodiversity impacts as no clearing of native vegetation or riparian habitat is proposed. The proposal will not increase fragmentation or isolation of habitat, with riparian corridors to be retained. Implementation of the VMP will improve the vegetation condition and habitat quality in the riparian areas.

To support the development of the site, the following mitigation measures are prescribed by the Biodiversity Assessment:

- VMP in accordance with the requirements of the NSW Office of Water *'Guidelines for vegetation management plans on waterfront land'* for the full extent of the riparian area;

- Landscape Master Plan that integrates with the VMP;
- An Erosion and Sediment Control Plan and Soil and Water Management Plan that meet the requirements of the *'Managing Urban Stormwater, Soils and Construction Guidelines (the Blue Book)'*;
- A Stormwater Management Plan to manage volumes and quality of water discharge to the waterways and riparian area. Volumes and quality of discharge are to match pre-development conditions as closely as possible;
- On site actions prior to commencement of earthworks/clearing/construction, including 'no-go' zones, protective fencing, personnel-inductions, fauna checks prior to works, relocation of logs, and installation of erosion and sediment controls;
- Weed, pathogen and pollution controls during construction phases; and
- Any lighting required near the riparian areas is to be low spill type lighting.

The mitigation measures recommended by the Biodiversity Assessment are also included in **Part I** of this EIS.

The Biodiversity Assessment concludes that *the development proposed will have minimal biodiversity impacts, subject to the implementation of the controls and mitigation measures recommended in this report.*

On the basis of this assessment and conclusion, it is requested that the requirement for a BDAR under the BC Act is waived. This owes to the lack of native vegetation or biodiversity values on the site. As documented in the Biodiversity Supporting Statement at **Appendix 19**, Molino Stewart has held discussions with OEH's Biodiversity Assessment Method (BAM) specialist, John Siedel, in relation to another proposed school development on a site with no remnant native vegetation which was also subject to the same SEARs item. Mr Siedel advised that for sites with no remnant native vegetation a BDAR prepared using the BAM would not be required. Further, as the BAM is a methodology that assesses changes in native vegetation integrity, where there is no native vegetation community present, the BAM cannot be accurately applied to generate credits. Accordingly, the Biodiversity Assessment Report concludes that a BDAR is not required.

Further to the above and in direct response to the recommendations of the Biodiversity Assessment, a Riparian Vegetation Management Plan (**Appendix 20**) has been prepared by Molino Stewart to guide weed removal and revegetation of cleared land on the western portion of the site, in order to manage and enhance remnant riparian vegetation.

The riparian area to be revegetated within the property will be managed as two different Vegetation Management Areas (VMAs), being:

- Woodland area to be replanted with trees and shrubs; and
- Dam area where aquatic weeds will be removed and replanting of eastern bank with groundcovers undertaken. As part of the dam is on the adjacent property, replanting is only required to take place on the sections within the subject property.

These VMAs are shown in **Figure 22**.

The overall approach to vegetation management on the site will follow the DEC Guidelines of "Retain, protect and manage" and is outlined below in order of priority:

- Retain and protect remnant vegetation. Although there is no remnant vegetation on the development site, there is vegetation located on the site to the north.
- Regenerate native vegetation where it is impacted by weeds or other low level disturbance.
- Revegetate the site where there are cleared areas or where assisted regeneration techniques do not prove effective.

Weed control within the riparian area will be undertaken using a staged approach incorporating three levels of treatment:

- Primary weed clearance; followed by
- Secondary treatment or follow-up; and finally
- Maintenance weeding.

The VMP establishes a target to reduce weed cover to less than 10% cover within Year 1 and 5% by end of Year 2.

With respect to revegetation, the VMP lists locally-occurring, native species of tree, mid-storey and groundcover plants. Plants to be used in revegetation of the woodland area are to be characteristic of River-Flat Eucalypt Forest within Fairfield LGA, whilst plants to be used in the dam area are to be characteristic of Freshwater Wetlands that adjoin River-Flat Eucalypt Forest.

Site-based recovery actions for the Cumberland Plain Land Snail are also to be implemented in accordance with the OEH 'Action Toolbox'.

Further details, including for management, monitoring and reporting, are provided in **Appendix 20**.

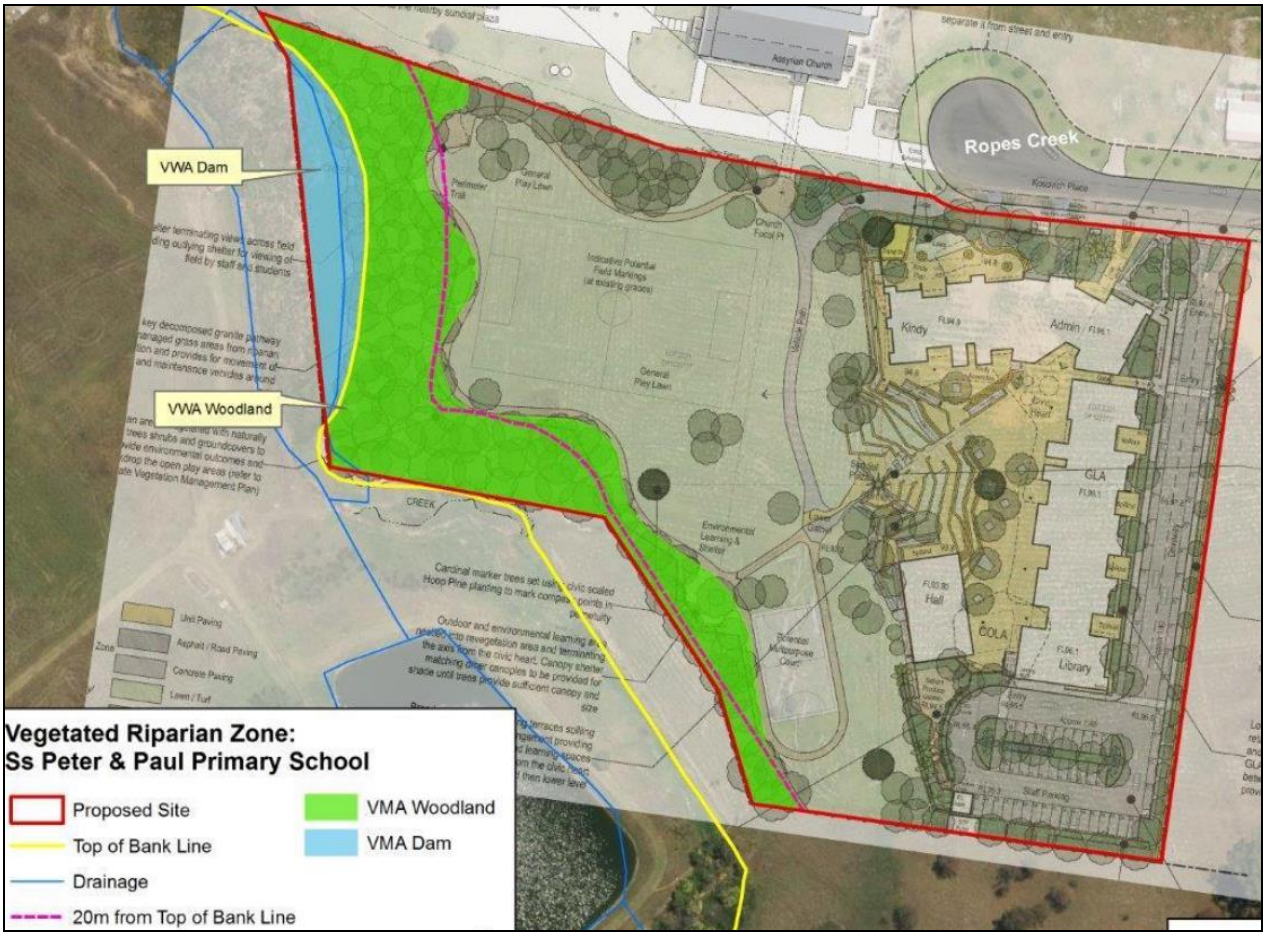


Figure 22. Vegetation Management Areas (Molino Stewart 2018)

6.8 ABORIGINAL CULTURAL HERITAGE

An Aboriginal Heritage Cultural Assessment Report (ACHAR) has been prepared by NGH Environmental (NGH) and is provided at **Appendix 22** to investigate and examine the presence and significance of any Aboriginal heritage on the site.

An extensive search of the Aboriginal Heritage Information Management System (AHIMS) identified four (4) previously-recorded Aboriginal sites within 1km of the site, however no AHIMS sites were identified within the area to be affected by the proposal.

Consultation with Aboriginal stakeholders was undertaken in accordance with Clause 80C of the *National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* following the consultation steps outlined in the (ACHCRP) guide provided by OEH. The consultation process carried out is summarised as follows:

- Stage 1 – A letter was sent to the Deerubbin Local Aboriginal Land Council (LALC) and various statutory authorities (including OEH), an advertisement was placed in the local newspapers seeking registrations of interest from Aboriginal people and organisations, and a further series of letters was sent to 60 other organisations identified by OEH. As a result of this process, 22 groups contacted NGH to register their interest in the proposal.

- Stage 2 – An Assessment Methodology sent to the Registered Aboriginal Parties (RAPs) and other Aboriginal stakeholders named by OEH. The document invited comments regarding the proposed methodology and sought any information regarding known Aboriginal cultural significance values associated with the subject area and/or any Aboriginal objects contained therein. Comments received regarding the methodology were positive, with no amendments sought by any of the RAPs. No response regarding cultural information was received.

- Stage 3 – Four (4) RAPs (Deerubbin LALC, Darug Aboriginal Cultural Heritage Assessments, Didge Ngunawal Clan and Darug Custodian Aboriginal Corporation) were invited to participate in a site inspection and archaeological survey. On the organised day of fieldwork, Darug Custodian Aboriginal Corporation informed NGH that they were no longer able to attend, reducing the number of RAPs on site to three (3).

- Stage 4 – In October 2018 a draft version of this ACHAR was forwarded to the RAPs and a timeframe of 28 days was requested for the receipt of responses.

The survey undertaken located no new heritage sites, and taking into consideration the flood zone and the level of European land use activities in the area, the archaeological potential of the site is considered to be low-nil. Subsurface archaeological potential is also likely to be low-nil, as background research and the site visit suggest the site has been significantly disturbed by farming practices and contains areas of fill.

The scientific significance of the site is considered overall to be low with limited scientific opportunities for further research. The disturbed nature of the landscape from the heavy agricultural and urban use of the area, the flood zone, and the likely disturbed nature of any subsurface deposits within the development footprint, negate further assessment through excavation or analysis of spatial patterning.

The true cultural and social value of Aboriginal sites can only be determined by local Aboriginal people. As a general concept, all sites hold cultural value to the local Aboriginal community. An opportunity to identify cultural and social value was provided to the RAPs through the process described above, however no social or cultural values associated within the project area were identified.

As there are no previously-recorded AHIMS sites within the project area, and no sites identified during the site survey, mitigation measures including salvage, detailed recording or changes to the design footprint will not be necessary. As described above, the proposal area is located on a site of historical ground disturbance, minimising the potential for both surface and subsurface artefacts.

The ACHAR provides the following recommendations:

- This area does not require further investigation and the proposed construction works can proceed with caution.
- As a State Significant Development, an AHIP would not be required if works were to uncover Aboriginal material. However, during construction in the unlikely event that previously undiscovered Aboriginal finds are identified, works in the vicinity of the find should cease and a qualified archaeologist/heritage consultant called in to inspect the find and provide recommendations before proceeding.

- In the unlikely event that human remains are discovered during construction, all work must cease. OEH, the local police and the appropriate LALC should be notified. Further assessment would be undertaken to determine if the remains are Aboriginal or non-Aboriginal.
- Further archaeological assessment would be required if the proposal extends beyond the area of the current investigation. This would include consultation with the RAPs for the project and may include further field survey.
- Continued consultation with the RAPs for the project should be undertaken if there are any major changes in project design or scope, further investigations or finds.

In accordance with these recommendations, an ongoing relationship between the proposed school and the local Aboriginal community will be encouraged.

6.9 NOISE AND VIBRATION

A Noise Assessment (**Appendix 23**) has been prepared by SLR to assessed noise emissions resulting from the construction and operational phases of the school, as well as noise ingress to the school.

Noise Emissions – Operational

Noise emissions associated with the school include construction, air-conditioning plant, school bell and PA system, waste collection, maintenance using powered equipment, music performances in the School Hall, and students in outdoor play areas. General use of classrooms, administration facilities and amenities would be acoustically insignificant and unlikely to be audible at nearby residences. Noise associated with the car park and pick-up/drop-off zones (including starting a car engine and a car door closing) would generally be of very short duration and therefore low impact when observed over an assessment period. Such emissions would usually be considered in relation to sleep disturbance criteria for the night-time period, however given the school would not operate during the night-time period, sleep disturbance impacts would not be relevant.

Accounting for the above, the following project-specific noise criteria for the nearest rural-residential receivers has been established. This noise criteria is applicable to mechanical plant noise, school hall noise emissions, school bell and PA system, waste collection, and maintenance using powered equipment.

Table 14. Noise Criteria

Area Classification	***Period***	***Intrusive Criteria***	***Amenity Criteria***
Residential – Rural	Day (7am-6pm Mon-Sat, 8am-6pm Sun & public holidays)	49 LAeq(15minutes)	50 LAeq(15minutes)
	Evening (6pm-10pm)	51 LAeq(15minutes)	45 LAeq(15minutes)

To achieve this criteria with respect to mechanical plant, the maximum Sound Power Level (SPL) allowed for mechanical plant items (combined) would be 96 dBA. If plant with higher noise output is required, screening and/or judicious positioning of the plant (eg using buildings to interrupt line-of-sight to residences) may effectively provide noise reductions of the order of 10-15 dB. A detailed review should be undertaken when mechanical plant selection, location and design have been finalised to determine if additional acoustic controls will be required, however it is expected that a design compliant with the NPfI daytime noise limit would be readily achievable.

With respect to the school hall, music performances are expected to be the activity that generates the most significant noise emissions with an overall noise level of 97 dBA LAeq. To comply with the evening noise criteria, the building constructions would need to achieve a sound insulation rating of Rw 42. This rating would be achieved using standard building constructions and materials, however the control of low frequency noise breakout and noise breakout via any glass elements or ventilation openings would require judicious consideration during the detailed design stage. It is expected, however, that a compliant design for all activities in the School Hall building would be readily achievable.

With respect to the school bell, PA system, waste collection and maintenance using powered equipment, noise generation would be infrequent and short-term. Accounting for sound pressure levels, duration of activity, distance to nearest residences, screening by school buildings and associated noise reduction, predicted activity noise levels are summarised in **Table 15**.

Table 15. Predicted Noise Levels – School Activities

Activity	***Activity Noise Level (dBA LAeq,15min at nearest residence)***
School Bell	27
PA System	34
Waste Collection	53
Maintenance (Lawn Mower)	53

The predicted noise associated with the school bell and PA system would comply with the applicable daytime noise limit of 49 dBA LAeq(15minute).

Whilst waste collection and lawn mowing may exceed the noise limit by 4 dBA, an exceedance of that magnitude would not be considered significant, particularly given their infrequent occurrence. Additionally, these noise sources would not normally be considered 'offensive' in the context of the POEO Act as they would already be occurring in the vicinity of the nearest receptors to the school. Nonetheless, it would be reasonable to restrict these activities to standard daytime hours in order to further minimise the likelihood of disturbance or annoyance to nearby receptors.

It is noted that the noise criteria summarised in **Table 14** and assessment carried out do not account for children in outdoor play areas. This owes to no established criteria existing for children playing, and associated levels of noise being difficult to quantify owing to the inevitable variability of the sources (the children) and their locations. The noise level generated during recess and lunch periods may vary according to the following factors:

- the number of children with in the play area;
- the level of noise made by each student;
- the louder events are not capable of being sustained over an extended period; and
- the location of the students relevant to the residences.

For the proposed school, the likelihood of significant noise emissions being observed at nearby residences would be minimised through screening that is provided by buildings separating outdoor play areas from the nearest receptors. The following factors will also further reduce the likelihood that outdoor play area noise would be considered unacceptable or offensive when observed at the residences:

- the outdoor area would generally be used for only short periods throughout the day;
- the outdoor area would be used only within school hours; and
- the ambient noise at the nearby residences is relatively high due to the M7 Motorway which would provide a degree of 'masking' of playground noise.

On the basis of the above, no further investigation of noise from outdoor play areas has been undertaken.

Noise and Vibration Emissions – Construction Phases

For the construction phases of the development, the following noise management levels have been identified based on the *Interim Construction Noise Guideline*.

Table 16. Construction Noise Management Levels At Residences

Construction Period	***NML, dBA LAeq(15minutes)***
Standard day time construction hours (7am-6pm Mon-Fri, 8am-1pm Sat)	Noise affected RBL: 54 dBA
	Highly noise affected: 75 dBA LAeq
Outside of standard day time construction hours	Noise affected RBL – Evening: 51 dBA

Table 16. Construction Noise Management Levels At Residences	
Construction Period	***NML, dBA LAeq(15minutes)***
(if required)	Noise affected RBL – Night: 48 dBA

Based on sound power levels of plant/equipment and minimum separation distances between the school boundary and residential receptors, predicted construction noise levels would not exceed 75 dBA (allowing for cumulative operation of multiple plant items at the same time). Consequently, the 'highly noise affected' criterion is not expected to be exceeded.

Without further mitigation, the NML would be exceeded by up to 10 dBA at the nearest residential receptor, however this would only occur for short periods with noise levels to frequently be lower. It is common and often unavoidable for the NMLs to be exceeded in situations where construction activities occur in the vicinity of sensitive receptors. As a result of the exceedances, the construction contractor will be required to use all reasonable and feasible noise mitigation and management measures to reduce noise generation and impacts at nearby receptors.

For construction, the following best practice mitigation measures may be implemented where reasonable and feasible:

- Undertake noisy works after 9:00 am when disruption to residences would be less likely.
- Trucks delivering goods to site must not wait on Kosovich Place or idle.
- Trucks being loaded on-site must not idle.
- Maximising the offset distance between noisy plant items and nearby noise sensitive receptors, particularly fixed plant such as generators and compressors.
- Use noise screening for fixed plant where practicable.
- Avoiding the coincidence of noisy plant working simultaneously close together and adjacent to sensitive receptors.
- Minimising consecutive works in the same locality.
- Orienting equipment away from noise sensitive receptors.
- Mobile plant and vehicles may be fitted with broadband non-tonal ('quacker') or volume self-adjusting type reverse alarms.
- Carrying out loading and unloading away from noise sensitive receptors.
- Schedule respite periods, particularly when long periods of noisy activities occur.
- Control noise from all plant and equipment through selection of low-noise plant/equipment where possible, and fitting efficient silencers and low noise mufflers to plant/equipment.

With respect to vibration, the anticipated construction activities would not include blasting or piling and are not considered significant sources of ground-borne vibration given the separation distance from the nearest sensitive receptors (at least 70m). Perceptible vibration at the nearest sensitive receptors is very low and therefore further assessment is not required.

Noise Ingress

Sources of noise ingress include the M7 Motorway and aircraft using the proposed Western Sydney Airport. To meet the objectives of AS 2107 and AS 2021, external building façades would need to be constructed to achieve the recommended internal noise levels summarised in **Table 17**.

Table 17. AS 2107 Recommended Internal Design Sound Level – Educational Buildings	
Type of Occupancy / Activity	***Internal Design Sound Level***
Road Traffic Noise	
Teaching spaces/single classroom (Primary Schools)	35-45 dBA LAeq (This is consistent with the RNP criterion of 40 dBA LAeq(1hour) for school classrooms 'when in use')
Professional and Administrative Offices	35-40 dBA LAeq
Offices	40-45 dBA LAeq
Aircraft Noise	

Table 17. AS 2107 Recommended Internal Design Sound Level – Educational Buildings	
Type of Occupancy / Activity	***Internal Design Sound Level***
Schools and Universities – Libraries and study areas	50 dBA LAmax
Schools and Universities – Teaching areas and assembly areas	55 dBA LAmax
Commercial buildings, offices and shops – Private offices and conference rooms	55 dBA LAmax

In relation to traffic, noise monitoring results show that the maximum hourly road traffic noise level at the potentially worst-affected building facade was 56 dBA LAeq(1hour). Therefore, the school facade construction would be required to achieve a noise reduction of 16 dBA to achieve the RNP classroom criterion and AS 2107 (recommended range midpoint) value of 40 dBA. That level of noise reduction would be readily achieved with standard building construction.

The weakest element of the school buildings, with regard to acoustic performance, will be the windows and doors. Generally, the windows and doors must be closed to achieve compliance with the selected indoor noise objectives. This does not preclude the use of natural ventilation however, where natural ventilation is to be provided for facades facing the M7 Motorway, the ventilation opening must be selected such that the overall composite sound insulation of the facade is not unduly compromised. In addition, a mechanical ventilation with heat recovery system is proposed for all teaching and working spaces which allows windows to be closed but fresh air intake to be maintained.

In relation to aircraft, the site is located outside of the ANEC 20 contour. In the context of AS 2021, this means that the site is acceptable for use as a school, without conditions. The site also lies well outside the 60-65 dBA LAmax contour for all scenarios. Therefore, the facade construction would be required to achieve a maximum noise reduction of up to 15 dBA to achieve the lowest relevant AS 2021 design objective of 50 dBA, although the exact value would be lower. That level of noise reduction would be readily achieved with standard building constructions.

6.10 SEDIMENT, EROSION AND DUST

As detailed in the Civil Works Plans at **Appendices 24-25**, sediment and erosion controls will include:

- Sediment fencing;
- Earth bank with geotextile lining for upstream stormwater diversion;
- Earth bank for site storm water diversion;
- Mesh and gravel inlet filter;
- Straw bale filter;
- Designated stockpile locations; and
- Stabilised site access with shaker pad.

Measures to mitigate off-site impacts associated with the development are also addressed in **Appendix 26**.

6.11 CONTAMINATION

A Detailed Site Investigation (**Appendix 27**) has been prepared by Martens to supplement the previous Detailed Site Investigation that was carried out by SESL Australia in 2015. The objectives of the report are to assess identified areas of potential contamination, target areas of environment concern (AECs) not previously assessed, and determine the suitability of the site for the proposed school development.

The findings of the Detailed Site Investigations are summarised as follows:

- The current and historical uses of the site include crop production, pastoral use, grazing, residential use and market gardening. No dangerous goods are recorded as having been stored on the site.

- No land within 500m of the subject site has been identified on the list of NSW contaminated sites notified to the EPA, or listed under the Contaminated Land Management Act (1997) and the Environmentally Hazardous Chemicals Act (1985).

- Subsurface sampling of fill in the western portion of the site found that all results for tested analytes were less than the adopted SAC for HILs, HSLs, EILs and Management Limits for heavy metals, pesticides, PAH, BTEX and TRH.

- Contamination in the form of asbestos (chrysotile and amosite) in excess of the SAC and asbestos limits set by ASC NEPM, was detected in material sample ASB101 in the form of fibre cement sheeting fragments. Material sample ASB101 was collected from the soil surface from areas associated with observed fill material to the south east of the dam. Additional potential asbestos material fragments were observed in the vicinity during site walkover inspection.

- It was concluded that the site can be made suitable for a primary school through the implementation of a Remediation Action Plan (RAP) to address observed asbestos. A likely remediation strategy may involve the removal and offsite disposal of identified contaminated soil and ACM material. The RAP is to outline waste management requirements in light of any additional investigations or unexpected finds, identify additional investigations required and provide protocols for management of unexpected finds.

- Following remediation works, a validation report is required to be prepared to confirm site suitability for the proposed development.

- Prior to any soil or ACM material being removed from site, a formal waste classification assessment in accordance with NSW DECCW Waste Classification Guidelines (2014) is required.

In response to the recommendations of the Detailed Site Investigation, a RAP (**Appendix 29**) has been prepared by Martens. As part of the RAP, further investigations are required to fill the following data gaps:

- Determine the lateral and vertical extent of fill material; and
- Test inclusion impacted fill areas, to determine if soils exceed the ASC NEPM (1999, amended 2013) weight for weight (w/w) criteria for asbestos.

A data gap closure investigation is therefore proposed as the first stage of remediation, and will include:

- Test pitting across the potential fill area to confirm the lateral and vertical extent of fill material; and
- Where further intrusive investigations clearly identify inclusion impacted fill areas, or PACM fragments are observed within surface soils, testing of impacted soils to determine if soils exceed the NEPM weight for weight (w/w) criteria for asbestos.

The results of the data closure investigation are required to be added as an addendum to the Detailed Site Investigation, and any additional remediation requirements are to be addressed in an updated version of this document. The precise extent of remediation works will be refined through the data gap closure investigation.

Within the RAP an assessment of remediation options is included, with the preferred remediation strategy incorporating a combination of off-site disposal or entombment for materials with AF/FA contamination; removal, remediation or onsite burial & capping for areas with bonded ACM contamination greater than RAC but no AF/FA contamination; and burial where ACM is less than RAC limits. The applicable strategies are to be revised on completion of the data gap closure investigation. Detailed methodologies for each strategy are provided within the RAP in combination with site management plans and a contingency plan.

The area of the site requiring remediation is limited to Lot 2321 (refer **Figure 23** which provides an extract from the RAP), and accordingly Lot 2321 will be securely fenced and provided with separate access until such time as remediation is completed. No development, other than remediation works, will

be carried out on Lot 2321 and it will not form part of the school until the site verification certificate has been obtained.

It is noted that, given land contamination and remediation will be completely contained within Lot 2321 and do not affect Lot 2320, the development of the school on Lot 2320 may proceed concurrently with the remediation of the adjoining site.

Full details are provided in the Detailed Site Investigation at **Appendix 27** and the RAP at **Appendix 29**.

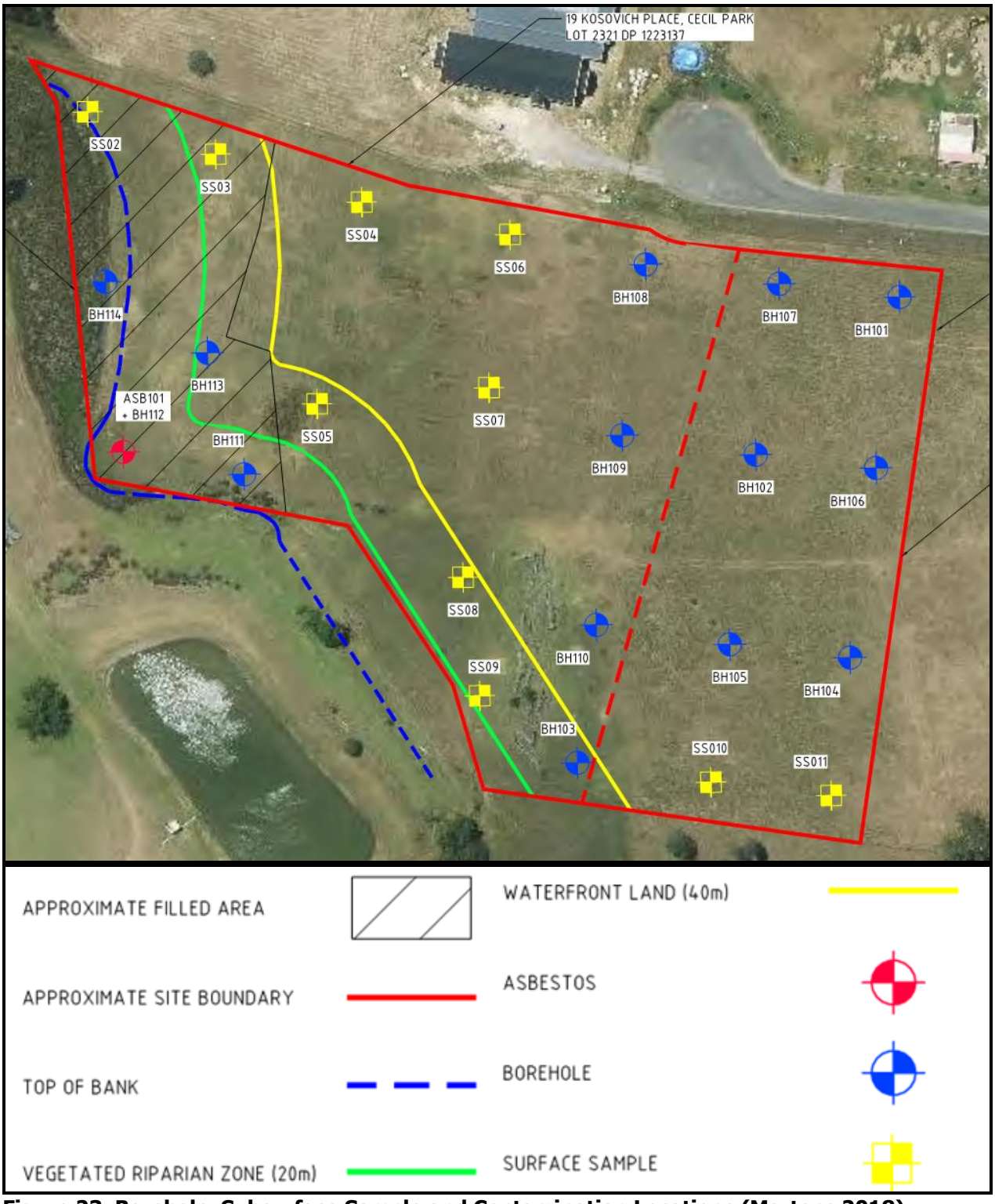


Figure 23. Borehole, Subsurface Sample and Contamination Locations (Martens 2018)

Further to the above, a Hazardous Materials Survey (**Appendix 30**) has been prepared by Airsafe to determine the location, extent and condition of hazardous materials including asbestos, lead and PCBs in soil.

A detailed inspection found no hazardous materials in the designated area of the site.

Care should be taken during all future excavation works. If suspect materials are encountered, work should cease in the area until the material has been analysed by qualified personnel. Airsafe recommends that an Unexpected Finds Protocol be implemented in relation to any potential unexpected finds of asbestos containing materials.

6.12 UTILITIES

Details of the existing, required and proposed utilities, services and infrastructure for the site are provided in the Electrical Infrastructure Assessment and Integrated Water Management Plan at **Appendices 31** and **32**, respectively.

6.12.1 ELECTRICAL INFRASTRUCTURE

An Electrical Infrastructure Assessment (**Appendix 31**) has been prepared by JHA Consulting Engineers and details the required initiatives to provide suitable electrical power to the proposed school (and for its construction).

Existing electrical services in the vicinity of the site include high and low voltage infrastructure along the southern side of Kosovich Place within public land road reserve as an overhead conductor network arrangement. An existing pole mounted substation adjacent to Lot 2319 provides low voltage supplies to the surrounding lots. No existing underground networks or assets have been indicated along Kosovich Place. The two (2) lots comprising the proposed school site do not have existing electrical infrastructure supplies.

To support the development of the site, new electrical infrastructure will be required and is proposed to be delivered in the form of a single consolidated electrical supply arrangement for all stages. Accordingly, a new padmount substation is proposed to be installed on site, adjacent to the site boundary and Kosovich Place (refer **Figure 24** for location). The location of the substation has been informed by the following considerations:

- Direct vehicular and personnel access to the padmount substation from public space without the need of a right-of-way path to enter the site.
- Direct access to new Endeavour Energy high voltage cabling proposed for installation within the Kosovich Place road verge for substation connection, without the need of easements encumbering private land.
- Minimisation of site ground impacts for easement zones over Endeavour Energy assets.

To enable the installation of the proposed padmount substation, it is anticipated the existing high voltage network will need to be extended along Kosovich Place, potentially for the extent back to Wallgrove Road. This would involve excavation along the southern Kosovich Place verge for installation of new conduits and cables.

It is noted that Endeavour Energy is the electricity supply authority for the area, and accordingly all electrical infrastructure works are to be undertaken in accordance with Endeavour Energy requirements and network standards. All electrical supply arrangements are dependent on Endeavour Energy review and approvals during both the design and construction phases of the project.

Other electrical services included as part of the school development include:

- Main switchroom, to be located in front of the administration building and within 20m of the substation;

- Distribution boards, for supply of general power, lighting, mechanical services and other equipment;
- Lighting, incorporating a proprietary lighting control system;
- Emergency and exit lighting; and
- Capacity for later installation of a photovoltaic system (not proposed at this stage).

Details of other site infrastructure are provided in the following subsections and in the Electrical Infrastructure Assessment at **Appendix 31**.

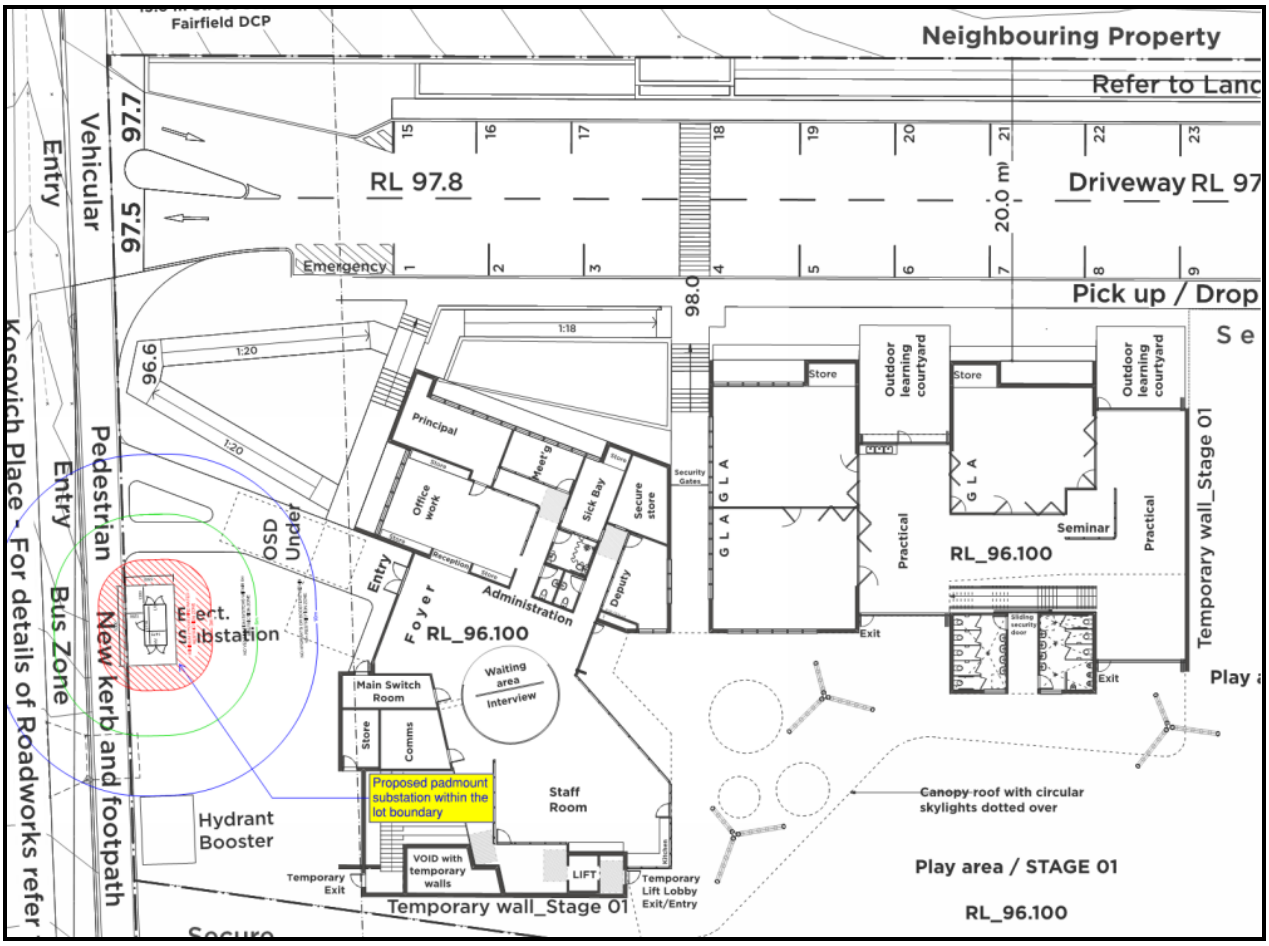


Figure 24. Proposed New Padmount Substation Location (JHA 2018)

6.12.2 COMMUNICATION SERVICES

New Telstra/NBN lead-in communication infrastructure will be incorporated into the design and construction phases of the development as follows:

- Communication services infrastructure lead-in conduits shall be provided to pits located along the footpath.
- Three (3) x 100mm underground conduits will be provided to each pit located on Kosovich Place to allow provision for up to three (3) carriers to the main communication room serving the entire School.
- The communication room is proposed to be located within close proximity to the office administration areas to serve the entire school campus.
- Each building will have its own dedicated communication building distributor rack with a tie link back to the campus distributor.
- Communication cupboards are proposed to be centrally located within each building serving network and security equipment serving all data outlets within a 90m cable route length.

- Wireless access points to be spaced at minimum 10 meter intervals to provide suitable coverage throughout the building.

Further details are provided in the Electrical Infrastructure Assessment at **Appendix 31**.

6.12.3 SECURITY SERVICES

An electronic access control system will regulate access to personnel entrances, vehicle entrance, administration facilities and the communications room. Security monitored alarm points will be provided for all access-controlled doors, all external doors and internal doors to the ground floor bathroom facilities (for secure out of hours operation). A CCTV system is to be provided throughout the external areas only, with an emphasis on building perimeter security only (not internal spaces). CCTV surveillance will be provided to all after-hours access and perimeter points.

Further details are provided in the Electrical Infrastructure Assessment at **Appendix 31**.

6.12.4 FIRE SERVICES

An automatic fire and smoke detection and alarm system will be provided in accordance with the BCA. The system will be capable of interfacing with other services such as mechanical services, lift services and security systems.

Further details are provided in the Electrical Infrastructure Assessment at **Appendix 31**.

6.12.5 MECHANICAL, HYDRAULIC AND WATER MANAGEMENT SERVICES

A Mechanical and Hydraulic Services Infrastructure Assessment Report and Water Management Plan (**Appendix 32**) has been prepared by Acor.

Within the report, details are provided in relation to the following mechanical services:

- Ventilation;
- Air conditioning;
- Amenity area exhausts;
- Service room exhausts; and
- Building materials and thermal envelopes.

Details are also provided with respect to the following hydraulic services:

- Cold water;
- Hot water;
- Sanitary plumbing and drainage;
- Stormwater;
- Trade waste drainage;
- Fire hydrant services; and
- Fire hose reel service.

Applications for the required Sydney Water approvals will be submitted at the relevant times.

The location of water supply infrastructure is shown in **Figure 25**.

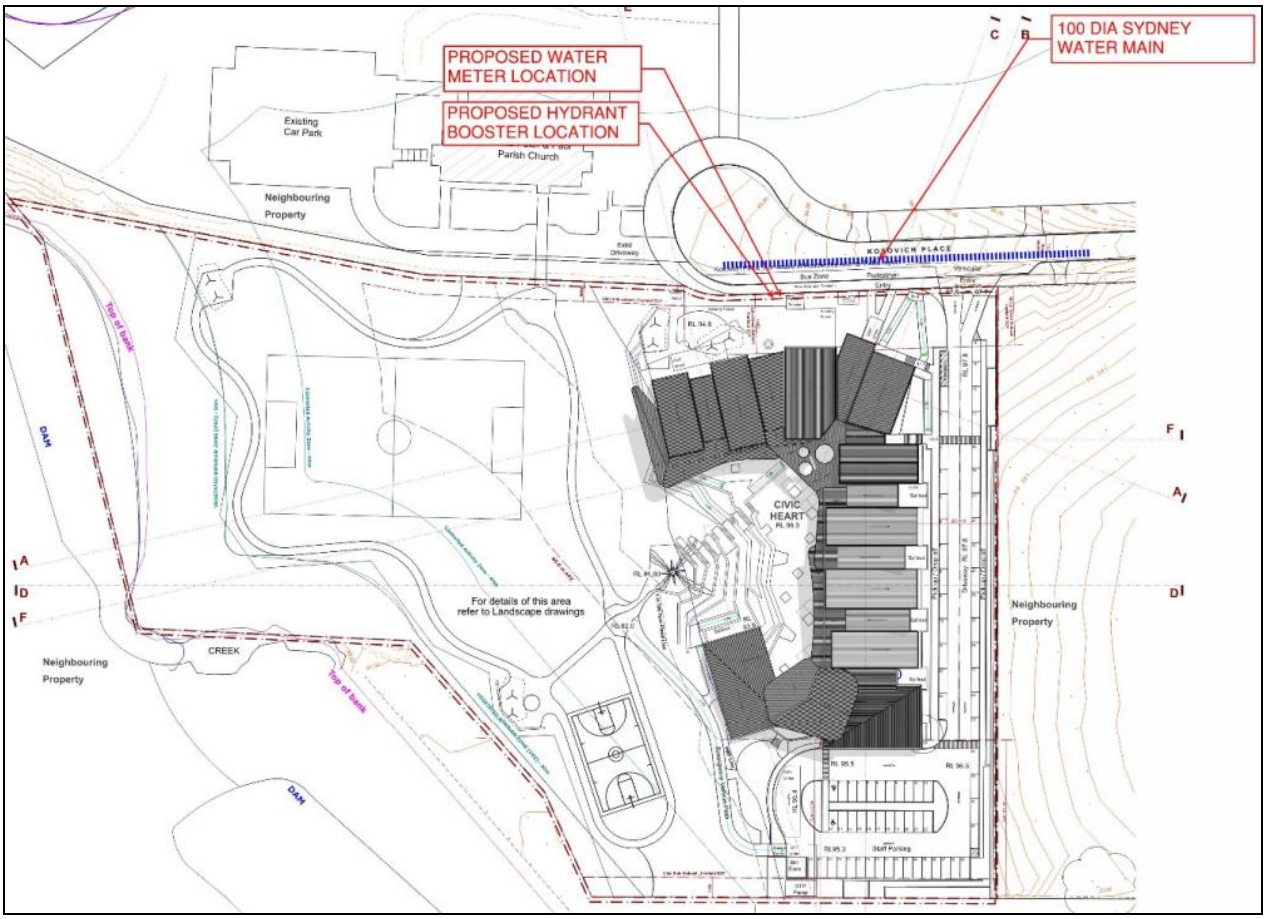


Figure 25. Water Supply Plan (Acor 2018)

6.12.6 WATER MANAGEMENT

It is noted that Item 14 of the SEARs also stipulates the requirement for an Integrated Water Management Plan. Relevant matters are addressed in the Stormwater Management Report at **Appendix 26** and Wastewater Assessment at **Appendix 34**, and are further discussed in **Sections 6.14** and **6.15** below, in conjunction with drainage, water and soils.

6.13 CONTRIBUTIONS

Fairfield City Council – Indirect (Section 94A) Development Contributions Plan 2011 applies to all land within Fairfield LGA. The site and proposed development are not specified for the purpose of Council's *Direct (Section 94) Contributions Plan 2011*, and therefore the Indirect Plan applies.

Section 94A (now Section 7.12) contributions will be calculated by Council in accordance with *Fairfield City Council – Indirect (Section 94A) Development Contributions Plan 2011.*

6.14 DRAINAGE

A Stormwater Management Report (**Appendix 26**) has been prepared by Martens to address water quality, water quantity and drainage for the proposed school.

The proposed stormwater treatment system for the site employs roof water capture and reuse, as well as at source controls. Individual stormwater quality improvements devices (SQIDS) include:

- 139kL rainwater tank located under the Civic Heart paved area to collect runoff from designated roof areas. Collected water to be reused for landscape irrigation.

- Pit and pipe biofiltration basins to convey stormwater. Stormwater exceeding the biofiltration basin treatment capacity shall overtop the proposed extended detention depth and bypass untreated stormwater to the proposed pit and pipe network.

MUSIC model results indicate that the water quality objectives (being compliance with OEH's *Guidelines for Developments* (2013) and Fairfield Council's *Stormwater Management Policy* (2017)) will be met by the proposed water quality treatment systems. The proposed management system is consistent with the principles of Water Sensitive Urban Design (WSUD) as the proposed treatment strategy utilises 'at source' controls rather than relying solely on end-of-line structures. This approach is considered the most appropriate for the site and will provide an appropriate outcome for receiving environments.

With respect to water quantity, the proposed drainage system comprises a pit and pipe network, with runoff to be conveyed to a water quality treatment or OSD system prior to discharging offsite. Two (2) OSD tanks are proposed as part of the Stage 1 development (combined volume of 208m³), with a third OSD tank proposed to be provided in Stage 2 (total combined volume of 233m³). DRAINS models have been prepared for the 5 and 100 year ARI storm events, whilst hydraulic modelling shall be completed at detailed design stage to comply with Fairfield Council's *Stormwater Management Policy* (2017) and AS 3500.3.

Further details of stormwater management are provided in the Stormwater Management Report and Civil Works Plans at **Appendices 24-26**.

6.15 WATER AND SOILS

Further to stormwater management which has been addressed in **Section 6.14** above, the following subsections provide an overview of matters relating to geotechnical items, salinity, riparian zone management and wastewater. Flooding is separately addressed in **Section 6.16** of this EIS.

6.15.1 GEOTECHNICAL AND SALINITY

A Preliminary Geotechnical and Salinity Assessment and Pavement Thickness Design (**Appendix 33**) has been prepared by Martens.

Groundwater

Based on NSW DPI-Water online groundwater bore mapping, groundwater at the site is expected to be encountered at approximately 66.0 mAHD, or deeper. The drainage depression on the western boundary, dam to the west and presence of Ropes Creek north of the site suggest that an ephemeral or perched groundwater table may be shallow.

Based on site investigations, groundwater was not encountered in any borehole up to 4.0 mBGL. Ephemeral perched groundwater may occur near the soil/rock interface as a result of heavy rainfall events.

Potential Geotechnical Hazards

In relation to slope instability, no apparent evidence of former or existing land or slope instability was observed onsite. In any case, appropriate foundation and retaining wall design will be required to manage potential slope stability risks as a result of the proposed development.

With respect to surface movement, medium and possibly heavy clay soils, which are potentially highly reactive soils, were encountered in the eastern section of the site. Buildings founded on these soils may experience foundation movements unless appropriate foundation design and management of soil moisture content conditions is carried out to limit excessive shrink/swell of soils and resultant differential foundation movements.

Excavation in some areas will likely encounter rock, particularly if extending past 2.5 mBGL. Appropriate foundation design will be required to ensure all footings are founded on similar foundation conditions to limit differential movements, particularly where structures are located in areas with varying soil depths.

Salinity

The *Map of Salinity Potential in Western Sydney* (Department of Infrastructure, Planning and Natural Resources (DIPNR), 2002) indicates the site to be in an area with moderate to high salinity potential, and in close proximity to an area with known salinity.

Based on the findings of site investigations, potential for broad scale salinity processes to impact the site has been assessed as follows:

Table 18. Potential for Broad Scale Salinity Processes

Key Salinity Process	***Potential at Subject Site***
Localised concentration of salinity	Low to medium: ▪ No evidence of localised concentration of salt was observed at the time of investigation. ▪ Potential for waterlogged soil due to clayey soils.
Shale soil landscapes	Low to medium: ▪ The site is underlain by low permeable clays. ▪ No observable evidence of impeded surface vegetation growth and surface soil erosion. ▪ No shallow sub-surface water encountered.
Deep groundwater salinity	Low to medium: ▪ Groundwater was not encountered in all boreholes. ▪ However, the site is underlain by clays facilitating capillary action. ▪ Proposed structures are to be constructed with appropriate drainage measures installed.
Deeply weathered soil landscape	Low to medium: ▪ No depositional soils. ▪ However possible deeply weathered residual soils.

Laboratory test results indicate all sub-surface materials are classified as non-saline.

Based on Sulphate and PH test results, the exposure classification for buried concrete structures is 'A1' in accordance with AS3600 (2009).

Preliminary Pavement Thickness Design

A preliminary pavement thickness design has been undertaken for the proposed new access road in accordance with *Policy 4-515 Specification for Roadwork and Drainage* (Fairfield City Council, 2011) and *Guide to Pavement Technology Part 2: Pavement Structural Design* (Austroads, 2012).

An Equivalent Standard Axles (ESA) value of 5x105 was adopted for design of the private access road in accordance with Council specifications.

A CBR value of 3.0 is recommended for the preliminary design of proposed pavements. However, if material of inferior quality is uncovered during excavation, lower CBR values may be applicable and pavement material thickness designs may need to be revised. Additional CBR testing is recommended to

provide a better indication of subgrade conditions across proposed pavement areas, considering final design alignments and levels, and / or to provide statistical means to support a higher CBR design value. The additional testing may be undertaken at Construction Certificate stage.

A preliminary pavement thickness design for the private access roads is presented in **Table 19.**

Table 19. Preliminary Pavement Thickness Design (Rural Residential Local Road, CBR 3.0)	
Layer	***Thickness (mm)***
Thin bituminous surfacing (AC10)	45
Base (DGB20)	150
Sub-base (DGS40)	315
Total pavement thickness	510

Site-Specific Geotechnical Recommendations

Site specific recommendations are as follows:

- *Shallow footings, such as pad footings or strip footings may be adopted for lightly loaded structures, provided they are founded on at least very stiff or hard clay. An allowable bearing of capacity of 150 kPa may be adopted if founding in very stiff clay.*

- *We recommend adopting deepened footings for the large buildings, such as bored cast in-situ piles or piers used to extend footing through unsuitable soils and into rock. Based on the varying depths of residual soil and very low to low strength weathered rock encountered, we recommend founding all footings on at least medium strength shale to achieve uniform foundation conditions and limit differential settlement. An allowable bearing capacity of 1500 kPa may be adopted if founding in medium strength shale.*

- *Excavations which are >0.75 m deep may be battered back at maximum temporary and permanent grades of 1V:2H and 1V:3H respectively. Where steeper grades are proposed, temporary or permanent support / retaining systems are required.*

- *A preliminary site classification of 'H1' should be adopted (in areas where there is no fill) for design of lightly loaded shallow footings founding in clay, and a classification of 'S' if founding in rock, in accordance with AS 2870 (2011). This classification is subject to the recommendations presented in this report, CSIRO guidelines (CSIRO BTF 18, 2003), the design of footings in accordance with the relevant Australian Standards, and the following conditions:*

    - *Footings extend through all unsuitable foundation materials such as topsoil, uncontrolled fill, root affected soils, silt and soft or firm clay and very loose and loose sand.*
    - *Provision of adequate drainage of surface and sub-surface water to limit soil moisture variations impacting on foundation conditions.*
    - *Footings are unlikely to be impacted by the presence of environments that could lead to exceptional foundation material movements, such as existing or future trees or surface/sub-surface water accumulation.*

Additionally, as part of the Construction Certificate design and documentation process, the following should be undertaken:

- *Boreholes and rock coring at footing locations to confirm/modify/develop design assumptions.*
- *Further laboratory testing of rock, such as point load testing, to assess rock strength.*
- *Preparation of a filling and earthworks specification plan for the site earthworks.*
- *Review of final design details by a senior geotechnical engineer.*

Full details are provided in the Preliminary Geotechnical and Salinity Assessment and Pavement Thickness Design at **Appendix 33**.

6.15.2 RIPARIAN ZONE

A Riparian Zone Management Assessment (**Appendix 21**) has been prepared by Martens to address the management requirements for the existing drainage and riparian zones on the site.

The watercourse and associated riparian zone are described as follows:

- An unnamed mapped tributary of Ropes Creek drains north through an online dam, near to the western boundary of the site.
- The tributary is ephemeral, with no water other than the dam at the time of inspection.
- According to Strahler, the watercourse as mapped on 1:25 000 topographic map is considered second order, receiving overflow from several farm dams located on upstream properties to the south.
- Reach 1 is a grassed shallow (0.5 m – 1.0 m) wide (approximately 4.0 m) depression with a single willow tree.
- Reach 2 is narrower (2.5 – 3.5 m) and more deeply incised (1.5 – 2.5 m), and is heavily vegetated with typha.
- The watercourse, as well as overland flow, drain to the online dam, which forms part of the north western site boundary. Vegetation within the dam consists of dense typha, and water hyacinth, which is considered an aggressive weed.
- Upstream of the site, the drainage line is heavily vegetated with willows, privet, and other invasive weed species.
- The watercourse is characterised as a highly degraded rural drainage depression which presently maintains minimal riparian values.

In accordance with NSW DOI Water (2012) guidelines, 20m Vegetation Riparian Zone (VRZ) widths are to be adopted either side of the creek, resulting in a total riparian corridor width of 40m (plus channel width).

NSW DOI Water (2012) guidelines enable certain works and activities to occur on waterfront land and within the 20 m riparian corridors for second order watercourses.

A Controlled Activity Approval will be required for any works within 40 m of the highest bank of the watercourse, including remedial contamination works.

Any required in-channel works shall use soft engineering methods and be completed in accordance with NSW DOI Water (2012) *Guidelines for Instream Works on Waterfront Land*.

The following recommendations are provided for riparian zone management:

- Development should be restricted to areas outside the recommended VRZ except works and activities outlined by the Riparian Corridor Matrix in NSW DOI Water (2012) guidelines, or in accordance with the averaging rule.
- A Controlled Activity Approval is required under Section 91 of the *Water Management Act 2000* for all works within 40 m of a mapped watercourse.
- A site survey which accurately identifies the entire watercourse 20 m VRZ and 40 m waterfront land from top of bank should be undertaken, under the guidance of an appropriate environmental consultant, prior to final Construction Certificate design.

Additionally, a Riparian Vegetation Management Plan (**Appendix 20**) has been prepared by Molino Stewart to guide weed removal and revegetation of cleared land on the western portion of the site, in order to manage and enhance remnant riparian vegetation. Further details of the Vegetation Management Plan are provided in **Section 6.7** of this EIS, which specifically addresses biodiversity.

6.15.3 WASTEWATER

A Wastewater Assessment (**Appendix 34**) has been prepared by Martens to assess the wastewater requirements and options for the school development. It is noted that the site has no existing wastewater infrastructure.

A potential short-term design solution for Stage 1 of the development would be to install an onsite effluent pump out system, in anticipation of connection of the site to a Sydney Water reticulated sewer in the future or conversion to a sewage treatment plant (STP) and onsite effluent management for the ultimate development. This 'Stage 1 option' would comprise the following components:

- 50 kL wastewater collection tank. This would allow for approximately one week's storage capacity for the ultimate design population (approximately 17 school days storage for Stage 1 only) and allow for the expected volume of sludge.
- Automated high water emergency and pump-out warning system operated via float switches.
- Submersible pump and 50mm effluent transfer main to 50mm Camlock fitting located to suit pump out tanker.

In the long-term, this option is however unlikely to be viable compared to an onsite wastewater management system, as the frequency and cost of pump-out will increase as the site population increases (from approximately once a week to 2-3 times a week).

Accordingly, wastewater from the ultimate development is proposed to be treated by a secondary STP, comprising the following components:

- Treatment capacity of 8.8 kL/day.
- A flow balancing storage of 12.5 kL capacity and effluent storage of 87.5 kL capacity, to provide wet weather storage.
- These may be housed in separate storages within the same tank (minimum 100 kL capacity).
- The pumpout tank built in Stage 1 may be used to house the STP or be cleaned and converted to become part of the flow balancing / effluent wet weather storage systems.

Based on analyses of the proposed wastewater generation rates, the soil's effluent absorption capacity and availability of suitable land for effluent application, the recommended option for re-use of secondary treated effluent is sub-surface irrigation comprising a field with a minimum area of 3,660 m² (refer **Figure 26** for indicative location of irrigation field). As available areas of the site are proposed to be used for student activities, sub-surface irrigation is required to prevent possible effluent-human interaction. The sub-surface irrigation shall also minimise the risk of effluent run-off and possible downslope environmental impacts.

Requirements for system maintenance, monitoring and inspections, together with full details of the wastewater assessment, are provided in **Appendix 34**.

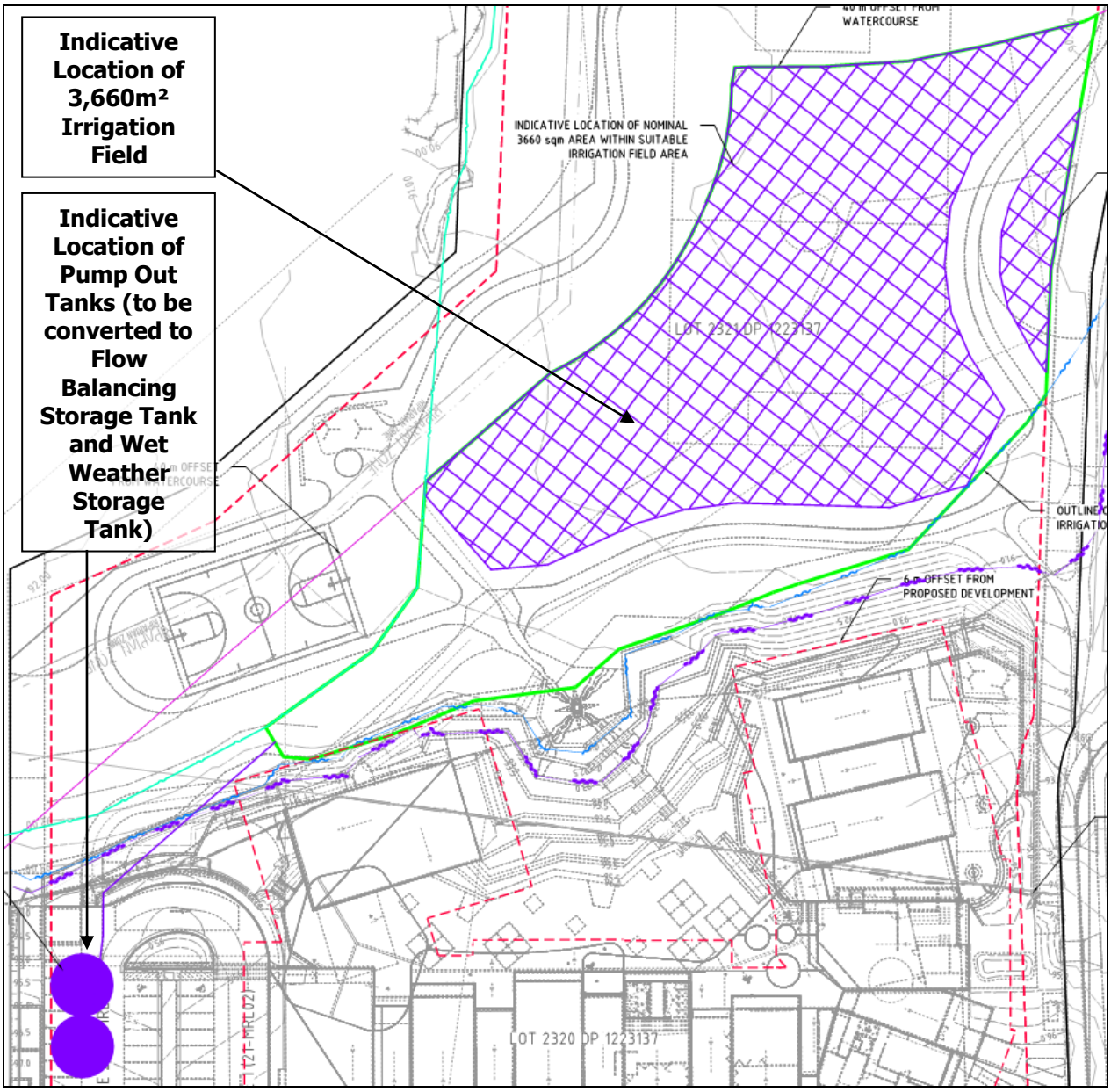


Figure 26. Wastewater Management (Martens 2018)

6.16 FLOODING

A Flood Management Assessment (**Appendix 35**) has been prepared by Martens to determine the flood extents affecting the site and assess the proposed development for compliance with the flood requirements under FDCP2013.

The assessment has included review of Fairfield City Council's *Rural Area Flood Study: Ropes, Reedy & Eastern Creeks Final Report* (BMT WBM, November 2013) to confirm mapped flood extents of the 1 in 20 year ARI, 1 in 100 year ARI and PMF events. As shown in the extract from Council's mapping at **Figure 27**, the site is affected by the 1 in 20 year ARI, 1 in 100 year ARI and PMF events and has areas within the Low, Medium and High Risk Flood Precincts.

Based on Council's mapping, all areas above the PMF flood level are outside of the three (3) flood risk precincts. Accounting for the proposed earthworks, all buildings, pedestrian access, vehicle access and car parking areas, will be above the PMF level and therefore outside of the mapped flood risk precincts. Some areas of the Low and Medium Risk Flood Precincts are proposed to be used as recreational areas. No development is proposed within the High Risk Flood Precinct.

Based on Council's Flood Planning Certificate and model, peak flood levels (mAHD) for the site and downstream lot are summarised in **Table 20.**

Table 20. Peak flood levels (mAHD) from Council Flood Planning Certificates and Model

Flood Event	***Planning Certificate Flood Level (mAHD)***		***Flood model peak flood level (mAHD)***	
	Lot 2317 DP 1201268 (11 Kosovich Place)	***Downstream Lot Lot 2314 DP 1133688 (32-40 Kosovich Place)***	***Southern Boundary Site***	***Boundary of site and Lot 2314 DP 1133688***
1 in 20 Year ARI	88.5-92.1	85.1-89.3	92.1	89.3
1 in 100 Year ARI	88.5-93.0	85.4-90.1	93.0	90.1
PMF	89.2-100.6	88.1-90.9	93.6	90.9

The extent of development works proposed within the current 1 in 100 year ARI extents on the site is limited to a minor amount of fill (approximately 15m³) and cut (approximately 17m³), resulting in a very minor increase in flood storage volume. Therefore, no adverse impact on flood conditions on adjacent sites will result. The extents of the 1 in 100 year ARI and PMF peak flood on the site will be slightly altered, as shown in **Figure 28**.

As noted above, all school buildings, car park and access are located above the PMF level and therefore outside all mapped flood risk precincts. While the school is therefore not strictly subject to them, the FDCP2013 controls for school development within a Low Flood Risk Precinct, have nonetheless been considered. With respect to the proposed recreational areas, compliances with the FDCP2013 controls for recreation areas located in Low Flood Risk and Medium Flood Risk precincts is demonstrated in Table 5 of the Flood Management Assessment.

Within the report, reference is also made to the restrictive covenant which was placed on Lot 2321 as part of DA 51.1/2016 for subdivision to create the current lot layout. Condition 21 of DA 51.1/2016 states:

> *No development within the meaning of the Environmental Planning Assessment Act 1979, as amended, shall be effected upon the lot hereby burdened unless the unauthorised fill, potential contamination and flooding issues have been determined and resolved and satisfactory arrangements have been made with the relevant service authorities for the provision of water supply, electricity and telephone.*

Fairfield City Council is empowered to release, vary or modify the covenant without consent provided that any such action be made and done in all respects at the cost and expense of the person(s) requesting such release, variation or modification.

This covenant may potentially impact on flood management works, should they be required on Lot 2321. The site earthworks are designed to mitigate any potential flood impacts on the development, whilst also preventing any adverse flooding effects (notably increased levels, velocity, etc) on adjoining property from the loss of floodplain storage.

Finally, the Flood Management Assessment provides the following recommendations for detailed design:

- Further flood assessment works may be required, including a detailed flood emergency and evacuation plan for the school.
- All flood mitigation measures, including finished floor levels of habitable buildings, will need to be integrated with the final stormwater management design for the school, as well as any riparian management and rehabilitation works that may be included in development consent conditions.

An independent review of the Masterplan and Flood Management Assessment has also been carried out by Molino Stewart (**Appendix 36**). The independent review confirms that:

- The minor amounts of cut and fill proposed will have no detrimental impacts on flood levels on neighbouring properties.
- All buildings, car parks and access will be on land above the PMF and will not be directly or indirectly impacted by flooding.
- Only the recreational areas of the school grounds will be within the low and medium flood risk precincts on the site and would meet the development standards set out in the Fairfield City DCP 2013.
- As the school will be occupied for less than 20% of the hours in any year (eight hours per day, five days per week, 40 weeks per year), the probability of a flood occurring when the school is occupied would be one fifth the probability of the flood. For example the 5% average exceedance probability (AEP) flood (the 20 year average recurrence interval (ARI) flood) would have a 1% chance of occurring when the school is occupied. As the recreational areas of the school are only normally used for a fraction of the school day and not at all during inclement weather, there is only an extremely remote probability that any students would be in areas which are flood prone when a flood occurs. This risk can be managed by a simple flood emergency response plan for the school.

Accordingly, the proposed school development has been confirmed as suitable for the site with respect to flooding.

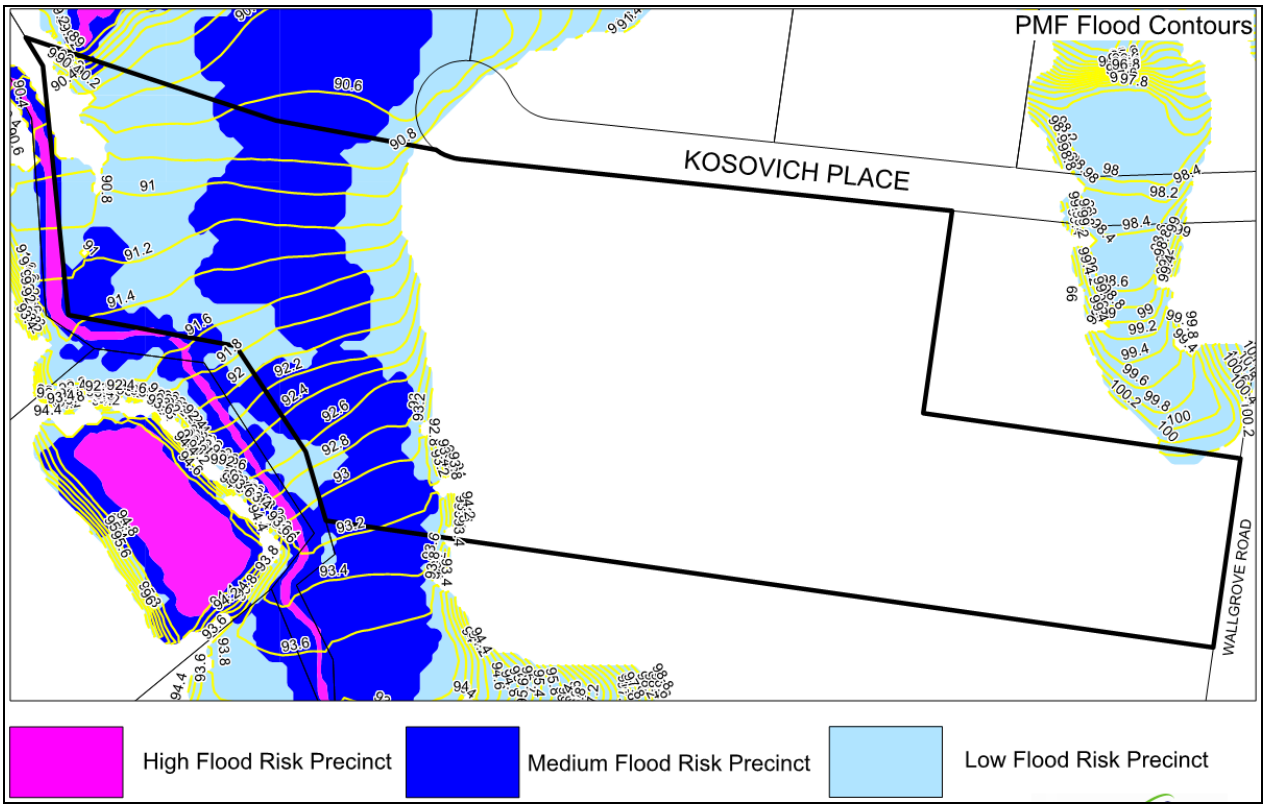


Figure 27. PMF Flood Contours (Fairfield City Council 2017)

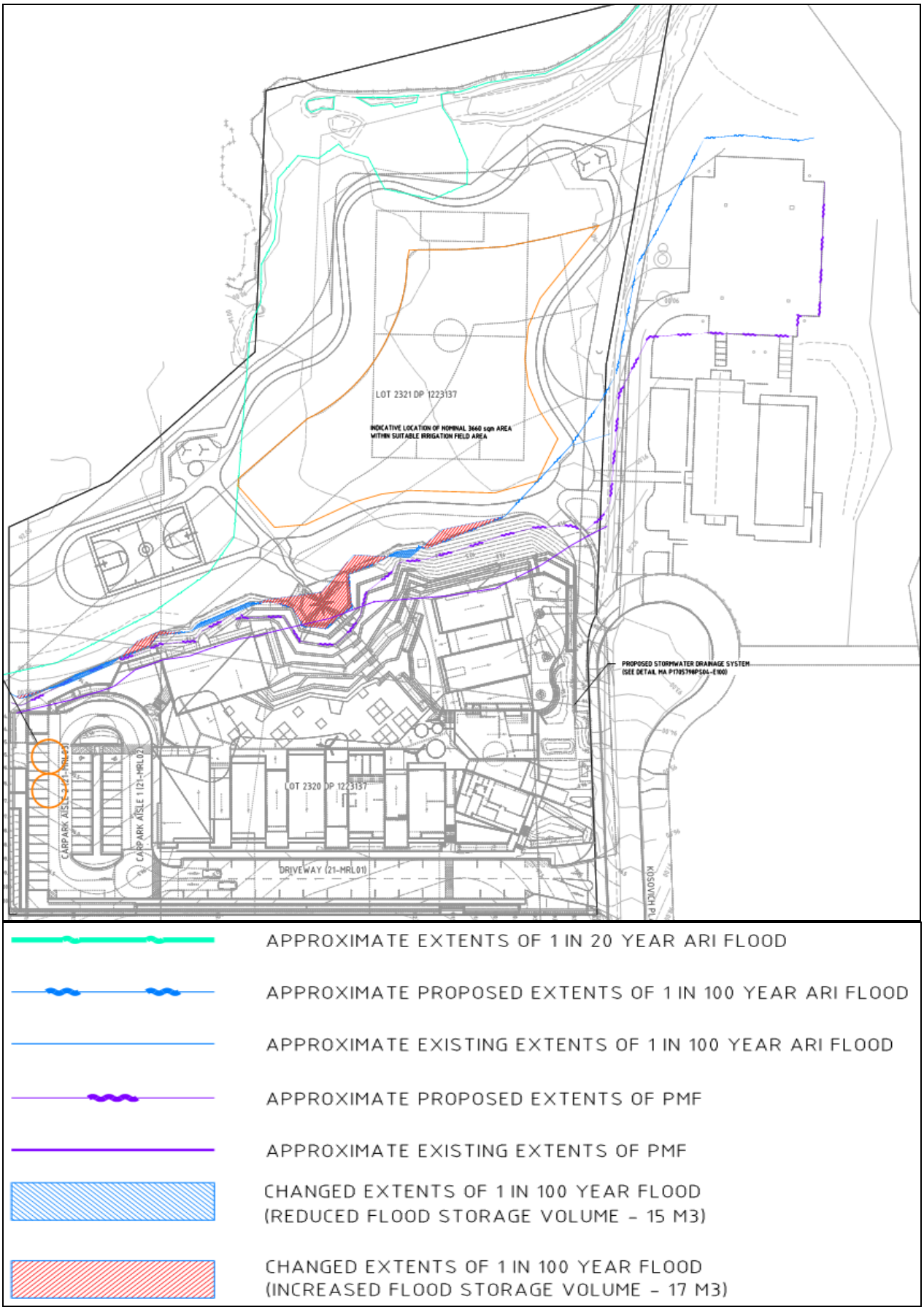


Figure 28. Flood Extents (Martens 2018)

6.17 WASTE

A Waste Management Plan (**Appendix 37**) has been prepared by Martens & Associates Pty Ltd to address the types, volumes and management of waste generated through the construction and operation stages of the development.

6.17.1 OPERATIONAL WASTE

The types, volumes and classifications of waste likely to be generated during the operations of the school are summarised in **Table 21**. It is noted that for the purposes of the Operation sections of the Waste Management Plan, Stage 1 includes facilities to accommodate up to 210 students and 12 staff. Stage 2 refers to the completion of the Masterplan.

Table 21. Operational Waste Types, Volumes and EPA Classifications

Waste Types	EPA Classification	Estimated Volume (L/day)	
		Stage 1	Stage 2
Cardboard and paper	General solid waste (non-putrescible)	177	556
Comingled recycling	General solid waste (non-putrescible)	49	155
Food and organics	General solid waste (non-putrescible)	NA	386
General waste	General solid waste (non-putrescible)	108	341

The estimated waste management facilities for each operational stage of the school are summarised in **Table 22**. The location of the bin storage areas is shown in **Figure 29**.

Table 22. Operational Waste Management Facilities

Waste Type	Bin Type	No. of Bins	Weekly Clearance Rate	Capacity (Weekly) (L)	Estimated Waste Per Week (L)	Footprint Per Bin (m²)	Total Footprint (m²)
Stage 1							
Cardboard and paper	240L	5	1	1,200	883	0.43	2.15
Comingled recycling	240L	2	1	480	246	0.43	0.86
General waste	240L	3	1	720	541	0.43	1.29
Stage 1 Total				2,400	1,670		4.3
Recommended Stage 1 Storage Area (including circulation space)							6.5
Stage 2							
Cardboard and paper	1,100L	1	1	1,100	2,780	1.37	1.37
	240L	8	1	1,920		0.43	3.44
Comingled recycling	240L	4	1	960	776	0.43	1.72
Food, organics & general waste	1,100L	1	2	2,200	3,634	1.37	1.37
	240L	4	2	1,920		0.43	1.72
Stage 2 Total				8,100	7,190		9.62
Recommended Stage 2 Storage Area (including circulation space)							14.0

Additional smaller waste streams that are not included in the table include the following:

- Green waste – green waste generated from onsite maintenance activities will be managed by grounds staff. A bulk 3m³ front lift bin is recommended and may be located adjacent to the waste storage area. This bin should be collected on request as required.
- Battery recycling – battery recycling boxes will be located as required, for example in copy rooms, offices and study areas. These boxes will be collected when full by a dedicated contractor.
- E-waste, toner and cartridge recycling – used toners and other E-waste will be collected by administration staff and consolidated for collection by specialty recyclers.

Full details are provided in the Waste Management Plan at **Appendix 37**.

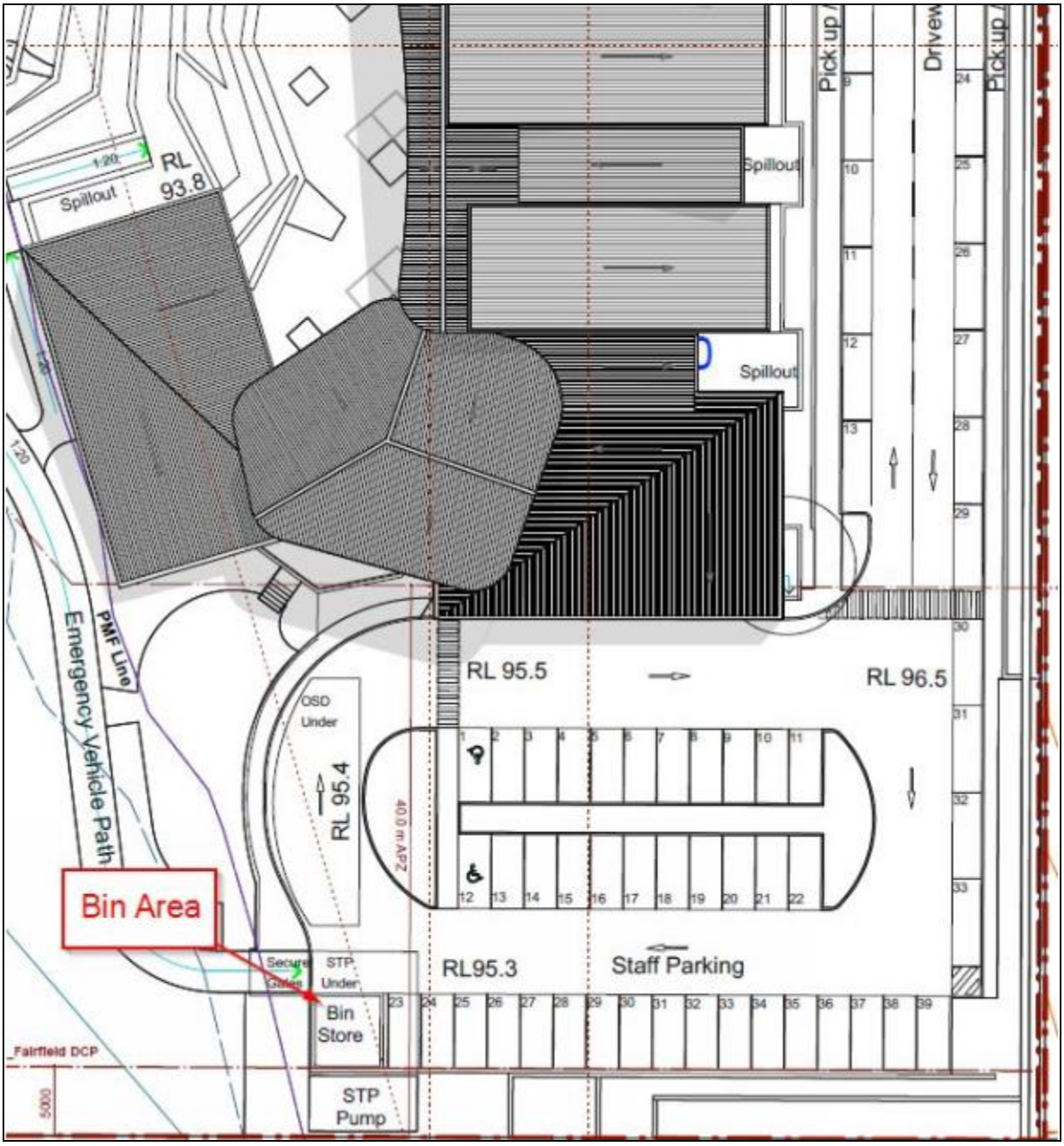


Figure 29. Waste Storage Area (Martens 2018)

6.17.2 CONSTRUCTION WASTE

The types, volumes and classifications of waste likely to be generated during the excavation and construction phases of the development are summarised in **Table 23**. It is noted that for the purposes of

the Construction sections of the Waste Management Plan, Stage 1 includes excavation, remediation, and construction of hardstand, the driveway, car park and classroom buildings. Stage 2 includes filling and levelling the site to above the PMF level, construction of hall, library, canteen, remaining classrooms, sports facilities and play areas, and landscaping.

Table 23. Construction Waste Types, Volumes and EPA Classifications

Waste Types	***EPA Classification***	***Estimated Volume (m³)***		
		Stage 1	***Stage 2***	***Total***
Excavation spoil	Non-putrescible waste (classification depends on concentration of contaminants)	15,872	-4,846	11,026
Timber	General solid waste (non-putrescible)	6	11	17
Concrete	General solid waste (non-putrescible)	22	40	62
Bricks	General solid waste (non-putrescible)	10	18	28
Gyprock	General solid waste (non-putrescible)	10	18	28
Steel and other metal	General solid waste (non-putrescible)	4	6	10
Other construction waste	General solid waste (non-putrescible)	6	11	17

With respect to waste handling, all waste associated with the carrying out of remediation works over Lot 2321 would be handled by a suitably qualified environmental engineer and contractor, in accordance with the Remedial Action Plan. To inform formal waste classification, material samples would first need to be collected and tested by the supervising engineer.

Excavated material that is free from contaminants (generated through earthworks and landscaping), would be stored in a designated stock piling area.

Whilst earthworks and landscaping have been designed to minimise the amount of waste generated, 11,026m³ excess excavation material is estimated. Part of this soil surplus may be used to replace contaminated soil removed during remediation, with the balance to be transported to licenced processing facilities.

Waste generated during construction phase would similarly be stockpiled in designated locations on the site, with different stockpiles created for different waste types (excepting solid wastes which would be stored in skip bins). The location of stockpiles would be determined with respect to allowing adequate access, ensuring stockpiles are clear of overland flow paths and minimising impacts on site amenity. Erosion and sediment controls would be implemented for all stockpiles. All waste would be transported to licensed recycling or disposal facilities.

The management of construction waste would be overseen by a Project Manager, with general waste management procedures to include:

- All sub-contractors and suppliers will be advised of the requirement to minimise waste.
- Bulk handling and use of reusable and returnable containers will be encouraged.
- Sub-contractor waste generation will be monitored, and excessive quantities will be considered non-conforming.
- Only licensed waste disposal sub-contractors and processing/disposal facilities will be utilised.
- Removal will comply with legal requirements and records will be kept.
- Contaminated waste from Lot 2321 will be managed in accordance with the Remedial Action Plan and an independent audit will be undertaken upon completion.

On-site, a Site Supervisor would administer the following waste management procedures:

- Establishing areas for recycling and waste storage;
- Including the site's waste management and recycling policy during site inductions for employees/sub-contractors;
- Receiving and holding waste disposal licenses and records;
- Recording quantities and types of waste;
- Recording details of any soil leaving the site including quantities, truck details and disposal locations;
- Monitoring the stockpile level and the condition of erosion control measures.

Full details are provided in the Waste Management Plan at **Appendix 37**. Other elements of construction management are described in **Section 6.18** below.

6.18 CONSTRUCTION MANAGEMENT

A Preliminary Construction Environmental Management Plan (CEMP) (**Appendix 38**) has been prepared by Molino Stewart to provide a guide on the environmental management requirements, including site-specific requirements, for the construction period.

Key aspects of site establishment are to include:

- Vehicular access for construction vehicles is to be facilitated via a two-way driveway from Kosovich Place at the north-eastern corner of the site. All vehicles will enter and exit the site in a forward direction, with sufficient turning area provided on-site.
- A material and equipment laydown area is to be located adjacent to the vehicle loading zone. This minimises the need for plant movements and manual handling along the site.
- Site entry, offices and facilities are to be positioned along a safe green pedestrian route.

Construction will be carried out between the standard daytime hours of 7am-6pm Monday to Friday and 8am-1pm Saturday, and all work will be undertaken in accordance with the *Interim Construction Noise Guideline*, which sets out ways to manage the impacts of construction noise on residences and other sensitive land uses.

An indicative outline of the estimated duration for various stages of construction is provided below.

Table 24. Indicative Construction Duration

Activity	***Duration***
Stage 1 (Lot 2320)	
Excavation and earthworks	5 months
Structure	4 months
Fit-out	2 months
Total for Stage 1	11 months
Stage 1 (Lot 2321) *(to occur concurrently with Stage 1 works on Lot 2320)*	
Remediation	11 months
Final Stages (both Lots)	
Earthworks	4 months (1 month per stage)

Table 24. Indicative Construction Duration	
Activity	***Duration***
Structure	8 months (2 months per stage)
Fit-out	4 months (1 month per stage)
Total for final stages	16 months

Relevant components of works are required to be carried out in accordance with the Construction Traffic Management Plan, Riparian Vegetation Management Plan, ACHAR, Noise Assessment, Erosion and Sediment Control Plans, Detailed Site Investigation, Remedial Action Plan, Hazardous Materials Survey, and Waste Management Plan, described in this EIS and included at **Appendices 15, 20, 22, 23, 24, 25, 27, 29, 30** and **37**, respectively.

In addition, the CEMP identifies measures to protect environmental amenity, including in relation to noise, vibration, dust and odour. Prior to noisy or disruptive works being undertaken, the Main Contractor must prepare a Disruption Request Notice (DRN) for approval by the Assyrian Schools Ltd. After the DRN approval, the Main Contractor shall provide the community notification via consultation (letter box drop) one week prior to noisy works commencing.

It is noted that prior to the commencement of works, a detailed, site-specific CEMP will need to be prepared by the Main Contractor.

6.19 OTHER ASSESSMENT ISSUES

6.19.1 BUSHFIRE

A Bushfire Protection Assessment (**Appendix 39**) has been prepared by Australian Bushfire Protection Planners Pty Ltd in accordance with Clause 44 of the NSW *Rural Fires Regulation 2013* (Rural Fires Regulation) and the requirements for 'Special Fire Protection Purpose Development' under Section 4.2 of *Planning for Bushfire Protection 2006*. It is noted that, pursuant to Section 100B of the *Rural Fires Act 1997* (Rural Fires Act), the proposed school is deemed to be a 'Special Fire Protection Purpose Development' and requires the issue of a Bushfire Safety Authority from the Commissioner of the NSW Rural Fire Service.

The subject site together with adjoining land to the east, south and west is identified as 'Category 3 Bushfire Prone Vegetation' in Fairfield City Council's Bushfire Prone Land Map (refer **Figure 30**). Pursuant to the NSW Rural Fire Services 'Guideline for Bushfire Prone Land Mapping', Category 3 Bushfire Prone Vegetation is defined to be medium bushfire risk vegetation consisting of grasslands, freshwater wetlands, semi-arid woodlands, alpine complex and arid shrublands.

The assessment undertaken by the bushfire consultant confirmed however that the state of vegetation on the site and its surrounds may be more accurately described as follows:

- Subject site – vegetation consists of grassland that will be removed as part of proposed development;
- RU4-zoned land west of Ropes Creek – the site is farmland consisting of managed grassland that does *not* constitute Category 3 Bushfire Prone Vegetation;
- Land east of the subject site – vegetation consists of managed grassland that does *not* constitute Category 3 Bushfire Prone Vegetation; and
- Western Sydney Parkland site to the south of the subject site – vegetation consists of unmanaged Category 3 (Grassland) Vegetation. Over time this vegetation will however be replaced by an extension of the Cumberland Plain Woodland further to the south, eventually returning the vegetation to Category 1 Bushfire Prone Vegetation.

Accordingly, despite what is shown in the Bushfire Prone Land Map, only the riparian corridor (west) and land to the south comprise a mapped category of vegetation.

As a result, the bushfire prone vegetation which creates the hazard to the proposed school consists of the rehabilitated vegetation in the riparian corridor (width <50m, therefore classified as 'rainforest' vegetation) and the future Cumberland Plain Woodland within the Western Sydney Parklands to the south. The following Asset Protection Zones (APZ) are required:

- 40m APZ from the riparian corridor; and
- 40m APZ from the south.

All buildings have been located outside of the APZs, thereby complying with the requirements for APZs under *Planning for Bushfire Protection 2006*.

The whole of the school site (excepting the riparian corridor) shall be maintained to comply with the prescriptions of an Inner APZ as defined by Appendix 5 of *Planning for Bushfire Protection 2006* and the NSW Rural Fire Service's *'Standards for Asset Protection Zones'*. The Bushfire Report also recommends that the consent authority consider the requirement for the creation of a Positive Covenant over the land to ensure the maintenance of the land in accordance with the requirements of the NSW Rural Fire Service.

Additionally, Section 4.2.7 of *Planning for Bushfire Protection 2006* requires that for a new school located within a bushfire prone area, the maximum level of radiant heat on any part of the exterior of the building/s shall not exceed 10kW/m². The radiant heat rating on the exposed elevations of the school buildings has been determined to be less than 10kW/m², thereby complying with this requirement.

Whilst the proposed school buildings are not strictly subject to Australian Standard A.S. 3959 - 2009 (being the enabling standard that addresses the performance requirements of the BCA), the proposed school buildings will nonetheless be constructed to comply with Section 3 and Section 5 (BAL 12.5) of A.S. 3959 – 2009 – *'Construction of Buildings in Bushfire Prone Areas'* and Appendix 3 of *Planning for Bushfire Protection 2006*.

Due to the negligible level of bushfire risk to the site, there are no further access requirements beyond the general pedestrian and vehicular access points proposed. The Bushfire Report does however recommend that the two-way access driveway shall have a minimum trafficable width of 6.5m and that the one-way loop to the carpark shall have a minimum trafficable width of 3.5m and be designed to accommodate a medium rigid vehicle (Category 1 Rural Fire Service Tanker or Fire & Rescue NSW Pumper/Composite Appliance). The driveway design meets the 6.5m required width.

The proposed school will require connection to the Sydney Water main supply with internal hydrants and fire hose reels installed in accordance with the provisions of A.S. 2419.1 – 2005 to address the structural fire-fighting provisions of the BCA. The Project Hydraulic Engineer has confirmed that a booster pump will be required to increase the water pressure on the site, and accordingly this has been incorporated in the Masterplan and Construction Stage 1.

Given the bushfire risk to the school is low, there is no requirement for the provision of a bushfire maintenance plan or emergency procedures plan. An Evacuation Plan shall however be prepared for the school in accordance with Australian Standard A.S. 3745-2002 *'Emergency Control Organisation and Procedures for dwellings, structures and workplaces'* and the Rural Fire Service's *'Bushfire Evacuation Plan Guideline'* and will remain in draft format until completed by the School Management Committee.

The recommendations of the Bushfire Report have also been translated into mitigation measures in **Part I** of this EIS.

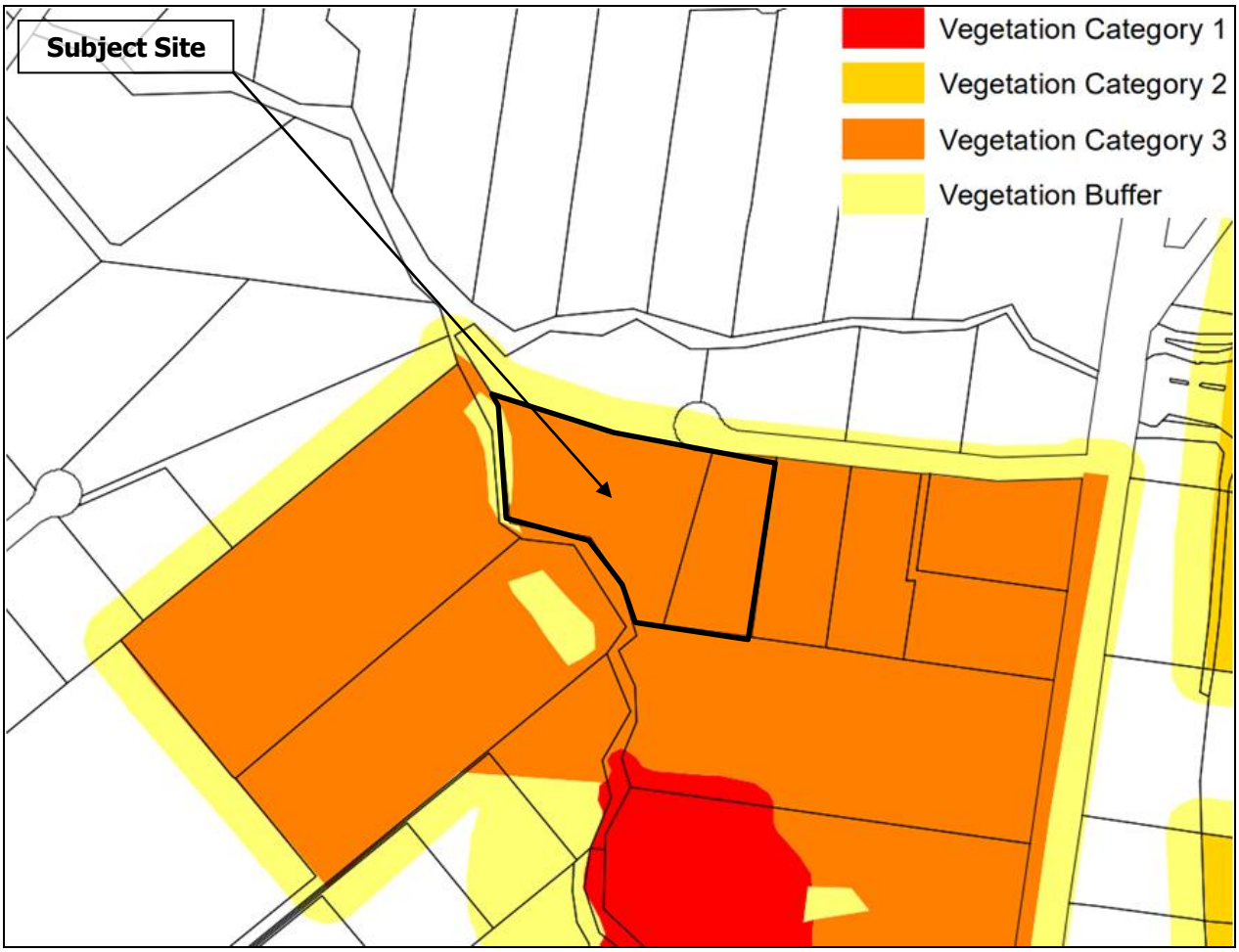


Figure 30. Bushfire Prone Land Map (Fairfield City Council 2017)

6.19.2 HERITAGE

The site is not identified as a heritage item or conservation area, nor is it located in proximity of any heritage items or conservation areas. As such, the proposal will not impact on the heritage significance of Fairfield LGA.

Further to the above, an Aboriginal Heritage Cultural Assessment Report (ACHAR) has been prepared by NGH Environmental (NGH) and is provided at **Appendix 22** to investigate and examine the presence and significance of any Aboriginal heritage on the site.

An extensive search of the Aboriginal Heritage Information Management System (AHIMS) identified four (4) previously-recorded Aboriginal sites within 1km of the site, however no AHIMS sites were identified within the area to be affected by the proposal.

Consultation with Aboriginal stakeholders was undertaken in accordance with Clause 80C of the *National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* following the consultation steps outlined in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRP) guide provided by OEH. The consultation process carried out is summarised as follows:

- Stage 1 – A letter was sent to the Deerubbin Local Aboriginal Land Council (LALC) and various statutory authorities (including OEH), an advertisement was placed in the local newspapers seeking registrations of interest from Aboriginal people and organisations, and a further series of letters was sent to 60 other organisations identified by OEH. As a result of this process, 22 groups contacted NGH to register their interest in the proposal.

- Stage 2 – An Assessment Methodology sent to the Registered Aboriginal Parties (RAPs) and other Aboriginal stakeholders named by OEH. The document invited comments regarding the proposed methodology and sought any information regarding known Aboriginal cultural significance values associated with the subject area and/or any Aboriginal objects contained therein. Comments received regarding the methodology were positive, with no amendments sought by any of the RAPs. No response regarding cultural information was received.

- Stage 3 – Four (4) RAPs (Deerubbin LALC, Darug Aboriginal Cultural Heritage Assessments, Didge Ngunawal Clan and Darug Custodian Aboriginal Corporation) were invited to participate in a site inspection and archaeological survey. On the organised day of fieldwork, Darug Custodian Aboriginal Corporation informed NGH that they were no longer able to attend, reducing the number of RAPs on site to three (3).

- Stage 4 – In October 2018 a draft version of this ACHAR was forwarded to the RAPs and a timeframe of 28 days was requested for the receipt of responses.

The survey undertaken located no new heritage sites, and taking into consideration the flood zone and the level of European land use activities in the area, the archaeological potential of the site is considered to be low-nil. Subsurface archaeological potential is also likely to be low-nil, as background research and the site visit suggest the site has been significantly disturbed by farming practices and contains areas of fill.

The scientific significance of the site is considered overall to be low with limited scientific opportunities for further research. The disturbed nature of the landscape from the heavy agricultural and urban use of the area, the flood zone, and the likely disturbed nature of any subsurface deposits within the development footprint, negate further assessment through excavation or analysis of spatial patterning.

The true cultural and social value of Aboriginal sites can only be determined by local Aboriginal people. As a general concept, all sites hold cultural value to the local Aboriginal community. An opportunity to identify cultural and social value was provided to the RAPs through the process described above, however no social or cultural values associated within the project area were identified.

As there are no previously-recorded AHIMS sites within the project area, and no sites identified during the site survey, mitigation measures including salvage, detailed recording or changes to the design footprint will not be necessary. As described above, the proposal area is located on a site of historical ground disturbance, minimising the potential for both surface and subsurface artefacts.

The ACHAR provides the following recommendations:

- This area does not require further investigation and the proposed construction works can proceed with caution.
- As a State Significant Development, an AHIP would not be required if works were to uncover Aboriginal material. However, during construction in the unlikely event that previously undiscovered Aboriginal finds are identified, works in the vicinity of the find should cease and a qualified archaeologist/heritage consultant called in to inspect the find and provide recommendations before proceeding.
- In the unlikely event that human remains are discovered during construction, all work must cease. OEH, the local police and the appropriate LALC should be notified. Further assessment would be undertaken to determine if the remains are Aboriginal or non-Aboriginal.
- Further archaeological assessment would be required if the proposal extends beyond the area of the current investigation. This would include consultation with the RAPs for the project and may include further field survey.
- Continued consultation with the RAPs for the project should be undertaken if there are any major changes in project design or scope, further investigations or finds.

In accordance with these recommendations, an ongoing relationship between the proposed school and the local Aboriginal community will be encouraged.

6.19.3 ACCESS

An Access Report (**Appendix 40**) has been prepared by Vista Access Architects. The report confirms the proposal achieves the spatial requirements to provide access for people with a disability and that, through compliance with the recommendations of the report, the development would also comply with the requirements of *Access Code of Disability (Access to Premises-Building) Standards 2010* and the Disability Access relevant sections of the BCA.

PART G CONSULTATION

In accordance with the SEARs, consultation has, and will continue to be, undertaken with relevant public authorities, Council, service providers and the local community.

Specifically, consultation has been carried out with the following bodies:

- Fairfield City Council
- Government Architect (GA) NSW
- Transport for NSW (TfNSW)
- Roads and Maritime Services (RMS)
- Local Bus Operator (Transit Systems)
- Service providers (including Telstra/NBN, Endeavour Energy and Sydney Water)
- Local Community
- Western Sydney Parkland Trust

The consultation undertaken to date in respect of the proposed development is documented in the Consultation Report attached at **Appendix 4**. The key matters identified in the report are summarised in the following sections.

7.1 FAIRFIELD CITY COUNCIL

A pre-DA meeting was held with staff of Fairfield City Council on 10 May 2018. Reference was made to Council's letter dated 6 April 2018 (representing Council's response to the request for SEARs), with the items identified in the letter adopted as a general meeting agenda to guide the meeting's proceedings.

No formal meeting minutes had been provided by Fairfield City Council at the time of lodgement. However, a summary of the key comments provided by Council are outlined below:

- Council advised that their primary concern related to impacts on neighbouring amenity owing to noise and traffic generated by the school.
- For these reasons, Council considered that the school would give rise to land use conflict, thereby contradicting the zone objectives (which were adopted by Council as indicators of 'site suitability').
- Council requested that a number of matters with respect to traffic be considered, including management of school-related traffic in Kosovich Place and on Wallgrove Road, bus-turning at the intersection and in the cul-de-sac, car parking and student drop-off/pick-up. Whilst indicating that a Voluntary Planning Agreement (VPA) would be required for upgrade works to Kosovich Place, Council did not volunteer any items they would like included in the VPA.
- With respect to flooding, Council advised that flood modelling should utilise Council's digital files and incorporate the adjoining church site, performance controls should be adopted, Chapter 11 of the DCP should be addressed, and if possible play areas should not be located in the flood zone.
- Other requests posed by Council included contamination investigations for the entire site, Aboriginal Heritage investigations, consideration of bushfire and the watercourse (and any associated requirements for Integrated Development), and consideration of any relevant guidelines associated with Western Sydney Airport.
- In response to the Project Team's direct query, Council recommended that the only sections of the DCP requiring considering were the chapter on Miscellaneous Uses and Chapter 11 (relating to flooding).
- As previously communicated in their response to the request for SEARs, Council reiterated that they were not supportive of development for a school on the site.

Council's comments have been considered and incorporated where appropriate in the design process and preparation of the overall SSD. Those items requested by Council to be considered have been addressed within this EIS and its appendices.

7.2 GOVERNMENT ARCHITECT NSW

Consultation in accordance with the NSW State Design Review Panel (SDRP) process was carried out over two (2) sessions with the Government Architect (GA) NSW on 13 June 2018 and 11 July 2018, respectively.

Meeting Minutes issued by the GA NSW document the feedback provided by the Panel, with a summary of key comments provided as follows:

- "The panel strongly support the project strategy and design approach to organise school facilities around a Civic Heart and use building form to respond to passive energy principles. We commend the 'single building' approach to the site rather than a 'village' of disparate buildings."
- The school's visual, physical and symbolic relationship to the church may be demonstrated through sight lines, a common axis, ground level and landscape details, and shared facilities. At the second meeting, the Panel recognised the strength of the visual axes.
- Whilst support for a fence-free school was communicated, safety and security should be considered, in-part through an integrated landscape strategy. At the second meeting, the Panel communicated support for the integrated landscape strategy that had been developed.
- Consideration should be offered to increasing the eastern setback to provide greater separation between the school and driveway. The achievement of this was acknowledged at the second meeting.
- The Panel acknowledged the extensive and challenging level changes constraining the site, however expressed some concern with current bench levels and siting of buildings being too low.
- The Panel supported the overall composition of the northern façade and recommend further development of the ground level street interface. Particular attention should be directed to the height of the building's north-western corner, massing above street level, and topography. At the second meeting the Panel communicated support for the current direction to mitigate the scale of buildings above the street level.
- Concern was raised in association with the formal expression of the main entry, which is at odds with the informality of the remainder of the school. The hierarchy of entries should be reconsidered. This has since been addressed by reducing the scale of the primary pedestrian entry.
- The Panel supported the articulation of classroom spaces as separate building volumes linked by enlarged corridors.
- The Panel supported the use of building form to support passive energy principles, however request further details on shading of the west-facing façade. Opportunities for shading elements to integrate in the architecture should be explored, to avoid the need for additional applied elements. This has since been explored and will be fully addressed at construction detail stage.
- Further consideration of the canopy and roofline is required, including with respect to height, scale, extent, materiality and relationship to building forms. This has since been further explored and the design duly modified.
- The Panel supported the flexibility integrated in the design of classrooms and outdoor spaces.
- Further consideration is recommended in relation to the angle of rotation of entry and hall volumes in relationship to the predominantly orthogonal site and building plan. The roof of the hall now points the occupants directly toward the neighbouring Parish Church.
- To support the natural ventilation strategy proposed for the school, further details of façade material choice and operability should be provided. Operable louvred glass windows have been added to the scheme as indicated in the Material Palette Rendered Perspective (refer DA613-A within the Architectural Drawings at **Appendix 10**).
- The Panel recommends that the school's history, culture and identity (including its relationship with the Assyrian community and the site's Aboriginal cultural heritage) is more clearly demonstrated through its architecture, landscape and design. This should be underpinned by engagement with the local Aboriginal community. This will be addressed based on the findings of the ACHAR. An ongoing relationship between the proposed school and the local Aboriginal community will be encouraged.
- The Panel commended the clear landscape proposal defining the Civic Heart. It is recommended that the landscape strategy is extended, leveraging topography, to create a diversity of play

spaces including a hardcourt (incorporated in the Civic Heart), a variety of landscape 'destinations', and a defined play area in the lower west of the site (with clear boundaries). Visual relationships between the school and landscape, as well as security and surveillance, should form inputs in the landscape design. The landscape design presented at the second meeting was commended by the Panel and acknowledged to respond to the Panel's previous comments.

- Exploration of opportunities to make break-out spaces and entries adjacent to the eastern boundary 'more welcoming' and 'use appropriate' is advised.
- Additionally, the proposed number of trees on the site should be confirmed. Tree Canopy Targets should be established to address heat issues, improve shade and meet 40% canopy targets for suburban areas.
- Planting should be informed by soil testing for any contamination.
- Flooding should be considered in the management and maintenance of the grounds.
- The Panel support the minimal provision of car parking, as well as the location of parking and access, however requested that this is justified in a Traffic Report.
- Further information is required in relation to circulation across the site, focusing on entry points, pick-up/drop-off areas and pedestrian routes.

The recommendations provided by the GA NSW have informed the design development of the project, and are encapsulated in the architecture, urban design and landscaping depicted in the drawings at **Appendices 10** and **12**. The responsiveness of the design to the comments provided by the Panel at the first meeting was acknowledged at the second meeting.

7.3 TRANSPORT FOR NSW AND ROADS AND MARITIME SERVICES

A consultation meeting was held with Transport for NSW (TfNSW) and Roads and Maritime Services (RMS) on 12 April 2018 to introduce them to the project and the proposed response to access and traffic. The recommendations of the meeting subsequently assisted in forming the proposed development. A summary of the key matters discussed are outlined below:

- It was recommended that bus services and routes should be discussed with the local bus operator.
- Traffic generation and parking demand should be based on surveys of the existing St Narsai school.
- SIDRA modelling should be carried out for the intersections of Kosovich Place/Wallgrove Road, Wallgrove Road/Elizabeth Drive, and Wallgrove Road/Horsley Drive.
- RMS issued projected traffic growth data to inform long term future analysis of road and infrastructure performance.
- Informed by this traffic modelling, the treatment of the Kosovich Place/Wallgrove Road intersection and Wallgrove Road/Elizabeth Drive intersection, and the staging of upgrade works, was discussed.
- Parking and queuing in Kosovich Place is not a concern of RMS or TfNSW; such matters should be discussed with DPE and/or Council.

A second consultation meeting was held with TfNSW and RMS on 23 July 2018, at which time the results of SIDRA modelling were presented for discussion. A summary of key discussion items is presented below:

- Although the SIDRA modelling demonstrated that the proposed 25m right-turn lane from Wallgrove Road to Kosovich Place would provide adequate storage for queued cars, RMS suggested they were not supportive of this option on the basis of safety concerns.
- For any option pursued, RMS indicated that a Concept Plan may be submitted for their preliminary review and advice, after which stage (and subject to their support), SIDRA modelling and a Road Safety Audit would be required.
- In relation to the intersection of Wallgrove Road/Elizabeth Drive, RMS noted that the proposal appeared to represent 'standard treatment' that would generally be supported.

- The required road and intersection upgrade works would form a Condition of Consent, to be 'triggered' by a particular stage of the development or student numbers. A VPA would not be required.
- Further to the work carried out with the local bus operator (Transit Systems), RMS request that swept paths for buses in the Kosovich Place cul-de-sac are submitted with the DA.
- With respect to planned upgrades potentially affecting the site, RMS identified that a network plan for Wallgrove Road had not yet been developed, provision existed for the motorway to be expanded by one (1) more lane, and, as the M12 had not yet been announced, it would be at least five (5) years prior to it being delivered.

The proposed works to the external road network and intersections, including the staging of delivery, directly respond to the requirements of TfNSW and RMS. To support the carrying out of the required upgrades, it is understood that the Conditions of Consent will include the requirement for a Works Access Deed to be entered into.

7.4 LOCAL BUS OPERATOR

In response to the recommendation by TfNSW, contact with the local bus operator, being Transit Systems, was initiated. Key items discussed related to bus routes for the school, requirements for bus stops and requirements for U-turn facilities.

Having reviewed the proposal for bus drop-off, pick-up and turning to be fully accommodated within the school site, Transit Systems advised that the shared use of the driveway with parent vehicles dropping-off/picking-up students could cause delays and compromise service reliability. On this basis, Transit Systems could not support buses entering site.

In response, the proposal was revised to accommodate bus stops and turning in Kosovich Place. Testing by Transit Systems has confirmed the suitability of Kosovich Place for accommodating bus turning, subject to an extended 'no stopping' zone being provided in the vicinity of the cul-de-sac head. No widening of the turning bulb is required to accommodate buses.

7.5 SERVICE PROVIDERS

Consultation has been undertaken with the relevant service providers to identify existing capacity and scope for augmentation of existing networks and infrastructure to support the proposal. This has included the following agencies:

- Endeavour Energy;
- Telstra;
- Sydney Water.

The requirements of these agencies have been incorporated into the scheme design.

7.6 LOCAL COMMUNITY

Although the requirement to consult with the local community was not expressly identified in the SEARs, engagement with the local community was in any case initiated. The consultation program was designed to be informative, capture valuable feedback, mitigate risks, and highlight key benefits of the project.

Prior to being held, the community consultation sessions were advertised within the Fairfield City Champion local newspaper, displayed on the Assyrian Schools Ltd's website and a letterbox drop was carried out in the immediate neighbourhood of the proposed school.

The consultation sessions were held on Wednesday 31 May 2018 (7pm-8:30pm) and Saturday 9 June 2018 (10am-11:30am) at St Narsai Christian College (217 Horsley Road, Horsley Park). In preparation for the meetings, a 'Welcome' desk with sign-in sheets and feedback forms was positioned at the entrance to the room and eleven (11) story boards were installed within the room. Representatives from Willowtree

Planning, PMDL Architecture, Assyrian Schools Ltd and St Narsai Christian College were positioned at the Welcome desk and throughout the room, in order to record attendees' details, orientate attendees as to the purpose and format of the session, respond to questions, encourage the completion of feedback forms and offer hospitality (tea and biscuits).

The intention was for attendees to circulate the room, reviewing numbered and ordered story boards in chronological order. As noted, several representatives of the project team and school were present to answer questions. Primarily though, it was intended that questions and comments be submitted via feedback forms.

No (zero) attendees were however recorded at either community consultation session.

In any case, Assyrian Schools Limited remains committed to working with the local community to deliver the proposed school.

7.7 WESTERN SYDNEY PARKLAND TRUST

A consultation meeting was held with Western Sydney Parklands Trust on 12 April 2018. A summary of the key matters discussed are outlined below:

- The location of the proposed M12 intersection was indicated to correspond with the existing Wallgrove Road/Elizabeth Drive intersection south of the school site;
- Whilst a copy of the *Western Sydney Parkland Fire Management Strategy and Implementation Plan (2009)* was requested, this was declined to be provided;
- A copy of the *Western Sydney Parkland Plan of Management 2020* (dated December 2010 and supplement dated March 2014) was provided for review and discussion.
- The school site exhibits a common boundary with Precinct 11 of Western Sydney Parklands. For the purpose of defining the required APZ, this adjoining land should be treated as 'woodland' on the basis that, whilst currently 'unmanaged grassland', there are no plans to manage the land and it will therefore proceed to restore itself to woodland over time through natural processes.
- In the *2030 Plan of Management – Draft*, the existing unmanaged grassland is however planned as *Wallgrove Road Business Hub (under investigation)*. Activities that may be expected within a 'business hub' were advised to include a service station, offices, tourist activity centres, etc.
- The Western Sydney Parkland Trust was asked to consider the possibility of entering into an agreement (easement, private agreement of VPA) enabling Assyrian Schools Limited to 'manage' the grassland and thereby create the necessary APZ on the Western Sydney Parklands side of the common site boundary. On the grounds of potential future liability, Western Sydney Parkland Trust confirmed they never enter into such agreements.

In response to the matters discussed, the APZs for the school have been provided on the school site and meet the requirements for a school adjoining 'woodland'.

7.8 DESIGN CHANGES

Based on the extensive consultation with the relevant public authorities, Council, service providers and the local community, the design of the proposal has been amended in direct response to discussions and feedback. These amendments also respond to the investigations and modelling that were requested to be carried out.

Some of the amendments adopted are referred to in the above sections, whilst *all* changes/actions are reflected in the final Master Plan, built form and landscape design (refer **Appendices 10-12**) as well as the technical reports at **Appendices 13-40**. A summary of key changes that have occurred in response to feedback is provided below:

- The landscape scheme was developed with a focus on creating visual and symbolic connections with the adjoining church, establishing place-identity in conjunction with the Assyrian community and Aboriginal heritage, integrating security and surveillance through design, creating a diversity

of play spaces for formal, informal, active and passive recreation, and promoting outdoor learning opportunities.

- The design of the street-fronting façade was revisited with a focus on levels, scale, massing and the formality of expression, to create a more appropriate public domain interface and welcoming environment.
- The canopy, rooflines and building orientation were amended to create a more aesthetically-pleasing and functional design.
- All car parking and parent drop-off/pick-up has been contained within the site boundaries.
- Proposed upgrade works to the external road network and intersections have been designed to accommodate buses and the required volumes of traffic generated by the school.
- Flood, bushfire, riparian zone, accessibility, child safety, traffic management and FLEP2013 controls have all been key issues generating the parameters controlling the extent and siting of the project.

These, and further, changes are more extensively detailed in the Consultation Report at **Appendix 4**, as well as in the Iterative Design Process Statement at **Appendix 41** (which includes examples of alternative design options previously considered).

PART H ENVIRONMENTAL RISK ASSESSMENT

The SEARS requires the EIS to include an Environmental Risk Assessment to identify potential environmental impacts associated with the development. The Environmental Risk Assessment is provided **Appendix 5**.

The assessment undertaken comprised a qualitative assessment consistent with AS/NZs ISO 31000:2018 *Risk management – Guidelines* (Standards Australia). The level of risk was assessed by considering the potential impacts of the proposed development prior to application of any mitigation or management measures. Comment on residual risk (the remaining level of risk following implementation of mitigation and management measures) is also provided.

It should be noted that the assessment is not intended to be exhaustive, but rather focuses on key impacts.

Risk comprises the likelihood of an event occurring and the consequences of that event. For the proposal, the following descriptors were adopted for 'likelihood' and 'consequence':

Likelihood

A	Almost Certain
B	Likely
C	Possible
D	Unlikely
E	Rare

Consequence

1	Widespread irreversible impact
2	Extensive but reversible (within 2 years) impact or irreversible local impact
3	Local, reversible (with 2 years) impact
4	Local, reversible, short term (<3 months) impact
5	Local, reversible, short term (<1 month) impact

Risk scores for likely and potential impacts were derived using the following risk matrix (**Figure 31**).

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)

Figure 31. Risk Assessment Matrix

The results of the environmental risk assessment are presented in **Appendix 5**. The risk assessment has been based on information available at the time of finalising the EIS.

PART I MANAGEMENT AND MITIGATION MEASURES

The collective measures required to mitigate the impacts associated with the proposed works are detailed below. These measures have been derived from the previous assessment in **Part F** and those detailed in appended consultants' reports.

by	Assyrian Schools Limited
in relation to	Master Plan and Built Form Approval Proposed Saints Peter and Paul Assyrian Primary School 17-19 Kosovich Place, Cecil Park

Assyrian Schools Limited will undertake the construction and operation of the proposed facilities in accordance with the following:

The following defines some of the terms and abbreviations used in this statement.

Approval	The Minister's approval of the project
BCA	Building Code of Australia
Council	Fairfield City Council
DPE	Department of Planning and Environment
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act 1979
Project	The development as described in the EIS
Secretary	Secretary of DPE (or delegate)
Site	Land to which the project application applies
The school	Proposed Saints Peter and Paul Assyrian Primary School
Workcover	NSW WorkCover

ADMINISTRATIVE COMMITMENTS

Commitment to Minimise Harm to the Environment

1. Assyrian Schools Limited will implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction or operation of the project.

Occupation Certificate and Registration as a School

2. Assyrian Schools Limited will ensure Interim and Final Occupation Certificates are obtained prior to the occupation of each stage of the project.
3. Assyrian Schools Limited will ensure the registration of the school.

Terms of Approval

4. Assyrian Schools Limited will carry out the project generally in accordance with the:
    a) Environmental Impact Statement;
    b) Drawings prepared by PMDL Architecture & Design, Arterra and Martens;
    c) Management and Mitigation Measures;
    d) Any Conditions of Approval.
5. If there is any inconsistency between the above, the Conditions of Approval shall prevail to the extent of the inconsistency.
6. Assyrian Schools Limited will ensure compliance with the relevant requirements of the Secretary of DPE arising from DPE's assessment of:
    a) Any reports, plans, programs, strategies or correspondence that are submitted in accordance with this Approval; and

b) The implementation of any recommended actions or measures contained in reports, plans, programs, strategies or correspondence submitted by the Project Team as part of the application for Approval.

Access

7. Assyrian Schools Limited will ensure at Construction Certificate Stage compliance with Part D3 BCA (2015) and the following:
    a) Provide door schedule which shows compliance with AS1428.1 (2009) with respect to clear openings, circulation space and luminance contrast on doorways, door force is 20N where a door closer is fitted.
    b) Provide slip resistance certification for ramps, to show testing under wet surface conditions in accordance with AS4586 – 2013.
    c) Detail all 1:14 gradients ramps to comply with AS1428.1 with regards to handrails on both sides with extensions and tactile ground surface indicators.
    d) All public stairs to comply with AS1428.1 Cl 11 Stairs (2009).
    e) Tactile indicators to be installed on the top and bottom of non-fire isolated stairs and ramps to comply with AS1428.4.1.

Operation of Plant and Equipment

8. Assyrian Schools Limited will ensure that all plant and equipment used on site is maintained and operated in proper and efficient manner, and in accordance with relevant Australian Standards.

SPECIFIC ENVIRONMENTAL COMMITMENTS

Noise and Vibration

9. Construction on the site will only be undertaken between 7am and 6pm Monday to Friday, and 8am to 1pm on Saturdays. No construction will be allowed on site on Sundays or Public Holidays.
10. Prior to the commencement of major construction works, a Construction Noise and Vibration Management Plan will be updated, and submitted to Fairfield City Council.
11. Internal noise levels in educational spaces will be acoustically reviewed at the detailed design stage to account for the known building design, room uses and ventilation strategy. Any internal noise sources such as air conditioning, and any localized external noise sources including student activity, will be considered.
12. Waste collection and lawn mowing will be restricted to standard daytime hours to minimise the likelihood of disturbance to nearby receptors.

BCA

13. All buildings and structures will be designed to comply with BCA standards.

Bushfire

14. The whole of the school site (excepting the riparian corridor) shall be maintained to comply with the prescriptions of an Inner APZ as defined by Appendix 5 of *Planning for Bushfire Protection 2006* and the NSW Rural Fire Service's *'Standards for Asset Protection Zones'*.
15. Whilst the proposed school buildings are not strictly subject to Australian Standard A.S. 3959 - 2009, the proposed school buildings will nonetheless be constructed to comply with Section 3 and Section 5 (BAL 12.5) of A.S. 3959 – 2009 – *'Construction of Buildings in Bushfire Prone Areas'* and Appendix 3 of *Planning for Bushfire Protection 2006*.
16. The proposed school will require connection to the Sydney Water main supply with internal hydrants and fire hose reels installed in accordance with the provisions of A.S. 2419.1 – 2005 to address the structural fire-fighting provisions of the BCA. The Project Hydraulic Engineer has confirmed that a booster pump will be required to increase the water pressure on the site, and accordingly this has been incorporated in the Masterplan and Construction Stage 1.

17. An Evacuation Plan shall be prepared in accordance with A.S. 3745-2002 *'Emergency Control Organisation and Procedures for dwellings, structures and workplaces'* and the Rural Fire Service's *'Bushfire Evacuation Plan Guideline'.*

Contamination

18. Soils designated for off-site disposal will be subject to waste classification in accordance with NSW EPA, Waste Classification Guidelines, 2014.
19. The area of the site requiring remediation is limited to Lot 2321 and accordingly Lot 2321 will be securely fenced and provided with separate access until such time as remediation is completed. No development, other than remediation works, will be carried out on Lot 2321 and it will not form part of the school until the site verification certificate has been obtained.
20. A data gap closure investigation is required as the first stage of the RAP. The results of the data closure investigation are required to be added as an addendum to the Detailed Site Investigation, and any additional remediation requirements are to be addressed in an updated version of this document. The precise extent of remediation works will be refined through the data gap closure investigation.
21. Following remediation works, a validation report is required to be prepared to confirm site suitability for the proposed development.
22. Given land contamination and remediation will be completely contained within Lot 2321 and do not affect Lot 2320, the development of the school on Lot 2320 may proceed concurrently with the remediation of the adjoining site.
23. If suspect materials are encountered during the carrying out of works, work should cease in the area until the material has been analysed by qualified personnel. An Unexpected Finds Protocol should be implemented in relation to any potential unexpected finds of asbestos containing materials.

ESD

24. The project will achieve equivalent to a 4 star Green Star rating, considered 'Best Practice' as defined by the Green Building Council of Australia.
25. The project will comply with Section J of the BCA.

Geotechnical

26. Site preparation and filling should be carried out in accordance with the guidelines contained in AS 3798 – 2007.
27. All excavated materials which are to be removed off the site will be disposed of in accordance with the provisions of the current legislation and guidelines including the Waste Classification Guidelines (EPA, 2014).
28. Appropriate foundation and retaining wall design will be required to manage slope stability and potential surface movements.
29. Additional CBR testing is recommended to provide a better indication of subgrade conditions across proposed pavement areas, considering final design alignments and levels, and / or to provide statistical means to support a higher CBR design value. The additional testing may be undertaken at Construction Certificate stage.

Archaeological Heritage

30. If during the course of the proposed development, any previously undetected Aboriginal 'objects', shell or sandstone are uncovered, work must cease in the vicinity of the object and further advice sought from the consultant and Metropolitan Local Aboriginal Land Council.
31. In the unlikely event that human remains are discovered during construction, all work must cease. OEH, the local police and the appropriate LALC should be notified. Further assessment would be undertaken to determine if the remains are Aboriginal or non-Aboriginal.
32. An induction should be provided to all construction staff, employees, contractors and subcontractors in respect of Aboriginal heritage protection and their responsibilities under the

National Park Act 1974 by a suitably qualified archaeologist. A written induction should also be provided for inclusion in all environmental and safety documentation for future reference.

Flora, Fauna and Riparian Ecosystems

33. Any potential hydrological impacts downstream of the dam are to be controlled by a Soil and Water Management Plan during construction and a Stormwater Management Plan and Wastewater Management Plan for long term operational water management.
34. Potential sedimentation will be controlled through an Erosion and Sediment Control Plan and Soil and Water Management Plan during construction.
35. A Vegetation Management Plan (VMP) has been prepared in accordance with the requirements of the NSW Office of Water *'Guidelines for vegetation management plans on waterfront land'* for the full extent of the riparian area.
36. The Landscape Master Plan will integrate with the VMP.
37. On site actions prior to commencement of earthworks/clearing/construction will include 'no-go' zones, protective fencing, personnel-inductions, fauna checks prior to works, relocation of logs, and installation of erosion and sediment controls.
38. Weed, pathogen and pollution controls will be implemented during construction phases.
39. Any lighting required near the riparian areas is to be low spill type lighting.
40. The requirement for a BDAR under the BC Act should be waived.
41. Development should be restricted to areas outside the VRZ except works and activities outlined by the Riparian Corridor Matrix in NSW DOI Water (2012) guidelines, or in accordance with the averaging rule.
42. A Controlled Activity Approval is required under Section 91 of the *Water Management Act 2000* for all works within 40 m of a mapped watercourse.
43. A site survey which accurately identifies the entire watercourse 20 m VRZ and 40 m waterfront land from top of bank should be undertaken, under the guidance of an appropriate environmental consultant, prior to final Construction Certificate design.

Flooding

44. A detailed flood emergency and evacuation plan for the school should be prepared.
45. All flood mitigation measures, including finished floor levels of habitable buildings, will need to be integrated with the final stormwater management design for the school, as well as any riparian management and rehabilitation works that may be included in development consent conditions.

Traffic and Access

46. Traffic control should be implemented by school staff to manage the kiss and drop facilities.
47. The Sustainable Travel Plan should be implemented.

Waste

48. Waste generated during construction for disposal to be removed by a licensed waste contractor and disposed of in a licensed landfill facility as required.
49. All waste associated with remediation works to be handled by a suitably qualified environmental engineer and contractor, in accordance with the Remedial Action Plan. To inform formal waste classification, material samples would first need to be collected and tested by the supervising engineer.
50. Consider measures and performance-based targets for reduction, reuse and recycling options.

Air

Construction Traffic

51. During Construction:
    a) All trucks entering or leaving the site with loads have their loads covered;
    b) Trucks associated with the project do not track dirt onto the public road;

c) The public roads used by these trucks are kept clean.

Dust Management

52. During the construction phase of the project, all reasonable and feasible measures to minimise the dust generated by the project.

Construction Noise Mitigation and Management

53. The Construction Contractor will need to, where reasonable and feasible, implement best practice noise mitigation measures, including:
    a) Judicious selection of mechanical plant and equipment (e.g. quieter machinery and power tools);
    b) Maximising the offset distance between noisy plant items and nearby noise sensitive receivers;
    c) Avoiding the coincidence of noisy plant working simultaneously close together and adjacent to sensitive receivers;
    d) Orientating equipment away from noise sensitive areas;
    e) Carrying out loading and unloading away from noise sensitive areas;
    f) Localised shielding of noisy equipment;
    g) Minimising consecutive works in the same locality;
    h) Considering periods of respite.

ENVIRONMENTAL RISK ASSESSMENT

54. An Environmental Risk Assessment to identify the potential environmental impacts associated with the construction of the development. The impacts and mitigations of that risk assessment have been incorporated in the above.

PART J PROJECT JUSTIFICATION

The proposal is considered to be justified in the context of environmental, social and economic terms and is compatible with the locality in which it is proposed.

This application is lodged on the basis of:

Supporting State, Regional and Local Planning objectives

The proposal is consistent with the objectives, provisions and strategies outlined within the following State, Regional and Local plans and policies:

- *NSW State Priorities*
- *A Plan for Growing Sydney*
- *Directions for a Greater Sydney*
- *Greater Sydney Region Plan – A Metropolis of Three Cities*
- *Western City District Plan*
- *NSW Future Transport Strategy 2056*
- *State Infrastructure Strategy 2018 - 2038*
- *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 NSW*
- *Fairfield Local Environmental Plan 2013*
- *Fairfield Development Control Plan*

Appropriate use of an approved site

The proposal will contribute to the provision of a state-of-the-art education facility. The strengthening of the education sector is an important strategy for supporting the sustainable growth of Western Sydney, the Sydney Metropolitan Area and NSW. The development complements and contributes significant investment in infrastructure and will provide significant employment generation.

Environmental impacts have been minimised

Specialist consultants have assessed the risks and determined that the development can be undertaken with minimal environmental impacts. No significant risk to the locality is to result from the proposal. In fact, considerable ecological and environmental improvements are specifically included in the project.

Compatibility with surrounding development

The proposed use is compatible with existing and future uses on the subject site and adjacent land. The investigations undertaken as part of this application conclude that no significant cumulative impact would occur from the proposed use for the purpose of an educational establishment.

Ecologically Sustainable Development

The principles of ecological sustainable development as outlined in Clause 7(4) of the EP&A Regulation are addressed as follows:

- Precautionary Principle – The project presents no threat of serious or irreversible environmental damage. The project will deliver ecological restoration and habitat creation to improve the site, implement climate change adaptation principles, and apply industry best practice ESD initiatives.

- Inter-Generational Equity – The buildings will provide healthy internal and external environments for teaching students today and in the future. The landscaping principles of ecological restoration and habitat creation will deliver benefit to current and future generations.

- Conservation of Biological Diversity and Ecological Integrity – The site is currently of low ecological value. The landscape design will enhance the biological diversity and ecological integrity of the site.

- Improved Valuation, Pricing and Incentive Mechanisms – The design and operation of the school will reduce energy and water consumption and greenhouse gas emissions. Life Cycle Costing will be used throughout the design process to justify capital investment and reduce ongoing impacts.

Comprehensive justification for the proposed school is provided throughout this EIS and in the plans and technical reports included as appendices.

PART K CONCLUSION

This EIS has been prepared to consider the environmental, social, and economic impacts of the proposed development for Saints Peter and Paul Assyrian Primary School. The EIS has addressed the issues outlined in the SEARs (**Appendix 1**) and accords with Schedule 2 of the EP&A Regulation with regards to consideration of relevant EPIs, built form, social and environmental impacts.

The proposal is considered appropriate for the location and should be supported by the Minister for the following reasons:

- It has been prepared having regard to the relevant Planning legislation and is permissible with consent;
- The proposal has been prepared with regard to the relevant State and Regional Planning policies and strategies, and demonstrates consistency and compliance with the objectives of the strategic documents;
- It has been prepared having regard to Council's Planning policies and generally complies with the aims and objectives of the planning controls for the site including FLEP2013 and FDCP;
- While the proposal results in a numeric non-compliance with the height standard of FLEP2013, justification has been provided under the accompanying Clause 4.6 Variation (**Appendix 2**) which finds that the standard is unnecessary and unreasonable in the circumstances;
- Owing to site constraints and notably APZ setback requirements, the proposal results in a numeric non-compliance with the front setback control of FDCP. Detailed justification has been provided within the DCP Compliance Table (**Appendix 3**);
- The proposal is suitable for the site as evidenced by the site analysis and various site investigations;
- The proposal does not have any unacceptable off-site impacts on adjoining or surrounding properties or the public domain, in terms of traffic, social and environmental impacts;
- The proposal provides sufficient car parking on site to meet the demands of the school's capacity population;
- Required infrastructure upgrades will be carried out to ensure the site is suitably serviced;
- The proposed development is of a high quality in terms of built form, bulk and architectural treatment and responds positively to the existing and desired future character of the surrounding area;
- The proposal provides high quality landscaping and open space areas with formalised landscaped learning areas, sports courts and fields, areas for free and active play, significant vegetation planting, and a regenerated riparian environment;
- The proposal has addressed the concerns raised during consultation with key government agencies and stakeholders;
- The proposed development will result in a high standard educational environment for the school through:
    - Promoting excellence in Christian education;
    - Building on the strengths of the past to inform the present and create new futures that will enable students to experience growth and success;

- Achieve quality teaching and learning in all aspects of school life;

- The proposed development will contribute positively to energy efficiency and environmental sustainability. The proposed development has adopted and incorporated many ESD features to reduce energy and water consumption during the life of the proposed development.

In summary, the development warrants the support of the Minister and we therefore recommend that approval be granted to the Master Plan and Built Form.