URBIS

125-165 TENTH AVENUE & 140-170 ELEVENTH AVENUE, AUSTRAL

ENVIRONMENTAL IMPACT STATEMENT (SSD 8865)

Prepared for
Sydney Catholic Schools

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Clare Brown
Senior Consultant	Ryan Macindoe
Job Code	SA7200
Version	Final

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SIGNED DECLARATION

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

Environmental Assessment Prepared by	
Names	**Clare Brown (Director)** *Bachelor of Town Planning (Honours), University of New South Wales* *Bachelor of Law, University of New South Wales* **Ryan Macindoe (Senior Consultant)** *Bachelor of Town Planning (Honours 1 & University Medal), University of New South Wales*
Address	Urbis Pty Ltd Level 23, Darling Park Tower 2, 201 Sussex Street Sydney NSW, 2000
In respect of	St Anthony of Padua Catholic School

Applicant and Land Details	
Applicant	St Anthony of Padua Catholic School
Applicant Address	140 Eleventh Ave, Austral NSW 2179
Land to be developed	Lot 810 DP2475; Lot 811 DP2475; Lot 812 DP2475; Lot 839 DP2475; Lot 840 DP2475, Lot 841 DP2475, Lot 842 DP2475; Lot 1 DP1232692, Lot 2 DP1232692
Project	Concept Proposal and Stage 1 Development Application for St Anthony of Padua Catholic School to cater to approximately 2,480 students (Pre-School to Year 12) and 200 staff members.

We certify that the contents of the Environmental Impact Statement, to the best of my knowledge, has been prepared as follows:

- In accordance with Schedule 2 of the *Environmental Planning and Assessment Regulations 2000*;
- In accordance with the requirements of the *Environmental Planning and Assessment Regulations 2000*; and *State Environmental Planning Policy (State and Regional Development) 2011*;
- The statement contains all available information that is relevant to the environmental assessment of the proposed development; and
- The information contained in this report is neither false nor misleading.

Name	Clare Brown, Director	Ryan Macindoe, Senior Consultant
Signature		
Date	2 November 2018	2 November 2018

EXECUTIVE SUMMARY

VISION

The vision for St Anthony of Padua Catholic School (the School) developed by the School's steering committee is:

> *Guided by the teachings of the Gospel and our core values – Aspire, Achieve, Act – a St Anthony of Padua student is a 'leaner for life'. We value student voice in enabling our learners to think differently and connect both locally and globally. We are deeply committed to developing strong, long-lasting links with our families, our local parish community, as well as the wider community.*

The School aims to support an adaptive learning environment that is at the heart of the community, engaging users of all ages and backgrounds. The School will foster a learning environment which is connected to the surrounding community and supports a collaborative community of practice and will deliver innovative classroom design and practising collaborative, critical thinking and learning.

SITE & CONTEXT

The site is located at 125-165 Tenth Avenue and 140-170 Eleventh Avenue, Austral within the Liverpool local government area (LGA). It is comprised of nine lots, legally described as Lot 810 DP2475; Lot 811 DP2475; Lot 812 DP2475; Lot 839 DP2475; Lot 840 DP2475; Lot 841 DP2475; Lot 842 DP2475; Lot 1 DP1232692; Lot 2 DP1232692.

The site is an irregular shaped parcel of land with an area of approximately 10.9 hectares and frontage to Eleventh Avenue (north), Tenth Avenue (south) and Fourth Avenue (west). It is located approximately 10km west of Liverpool City Centre.

The site is located in the South West Growth Area (SWGA), identified by the State Government as a relatively unconstrained greenfield corridor suitable for urban development. The SWGA will provide a range of residential, commercial and community uses and will facilitate the delivery of new homes and local amenities close to public transport.

The planned residential growth in the SWGA will create a demand for the development and provision of new social infrastructure to meet the needs of the new population. The Western District Plan, which covers the SWGA, expects an additional 77,798 students will need to be accommodated in government and non-government Schools in the district by 2036, with demand expected to be the highest within the Liverpool LGA. The Indicative Layout Plan (ILP) for the Austral and Leppington North Precinct identifies an additional seven schools will be provided to meet the demand within the precinct.

OVERVIEW OF THE PROJECT

Concept Proposal

A concept proposal has been prepared seeking consent for general site layout, access points, building envelopes and open space. The future church and trade centre buildings will be subject to subsequent detailed development application or other approval pathways, and will be generally consistent with the Staged SSD consent.

The concept proposal also sets the School boundary which enables some future works to be approved under the exempt and complying provisions in *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* (Education SEPP) subject to satisfying certain development standards.

Stage 1 Proposal

The Stage 1 Proposal seeks consent for detailed components of the development. The Stage 1 Proposal involves six 'development stages' for the detailed design, construction, fitout and operation of the proposed education establishment. This allows the School to be delivered in stages as the student population grows over time. The following works are proposed within the Stage 1 Proposal:

- Demolition of existing dwelling houses and classroom demountable
- Remediation of specific areas of the site

- Removal of 556 trees
- Construction of multiple School buildings of up to three stories (excluding the trade centre building)
- Adaptive reuse of the existing school buildings on site for long day child care centre with 125 places, and a kindergarten
- Out of hours' school care for primary school children
- Provision and embellishment of open space and recreation areas
- Hard and soft landscaping across the site
- Construction of on-site car parks, set-down and pick-up area and associated vehicular access points from Tenth Avenue, Eleventh Avenue and Fourth Avenue
- Construction of the half width road fronting Council's regional park on Eleventh Avenue
- Widening of Fourth Avenue, Tenth Avenue and Eleventh Avenue
- Traffic signals at the intersections of Fourth Avenue with Tenth Avenue, Fourth Avenue with Eleventh Avenue, Edmondson Avenue with Eleventh Avenue, and Edmondson Avenue with Eleventh Avenue
- On-site stormwater, infrastructure and services

CONSULTATION

Urbis was engaged to provide information and collect feedback on the SSD DA proposal. Community and stakeholder consultation was undertaken from March 2018 to June 2018. Consultation activities included:

- Council workshop held on 19 April 2018 with the project team and attended by approximately 10 members of Liverpool City Council's strategic planning, community and recreational planning, engineering and traffic and transport teams.
- Distribution of a project factsheet on 2 May 2018 to approximately 842 households and local businesses, providing information on the SSD DA proposal, consultation process and the community workshop.
- A briefing with Chris Patterson, MP (Member for Camden) on 7 May 2018.
- A two-hour community workshop held on the 15 May 2018 and attended by approximately 25 people. Formal feedback forms were available at the community workshop, with one completed form received.
- Additional feedback channels comprised of a dedicated project email and 1800 phone number. There were no public enquiries received through these channels.
- Completion of four stakeholder interviews in May 2018 as part of the Social Impact Assessment in relation to the proposal, with feedback integrated into the consultation process.
- Consultation occurred with Government Architects Office (GAO) on 17 October 2018.

Overall, feedback on the proposed SSD DA was positive and supportive of the objectives of the proposal. All community feedback received is summarised and has been provided to Sydney Catholic Schools and the Department of Education for their consideration in the planning of the site.

ASSESSMENT

The key issues for all components of the project identified in the SEARs have been assessed in detail, with specialist reports underpinning the key findings and recommendations identified in the Impact Assessment in Chapter 6. It has been demonstrated that for each of the likely impacts identified in the assessment of the key issues will either be positive or can be appropriately mitigated. In many cases, the environmental management controls and operational protocols inherent to operation of the School adequately manage and/or mitigate the potential impacts.

The proposal represents a positive development outcome for the site and surrounding area for the following reasons:

- The proposal has been designed to be consistent with the relevant goals and strategic planning documents. The proposal satisfies the objectives of all relevant planning controls and achieves an acceptable level of planning policy compliance.
- The proposal provides critical social infrastructure for the precinct and offers a high-quality learning environment and facilities to meet the demands of the growing community of Austral.
- The proposal provides multiple outdoor sporting facilities and an indoor recreation centre which includes a gymnasium and indoor playing courts.
- The proposal has been design to consolidate built form in the centre of the site which opens up views into and through the site, minimises potential visual impact from the public domain and surrounding properties, and affords ample space for landscaping and outdoor recreation. All buildings have been architecturally designed by Munns Sly Moore Architects to complement the modern, yet rural setting and context of the site.
- The proposal creates temporary job opportunities in manufacturing, construction and construction management during the project's construction phase, and significant job opportunities in teaching and administration at the project's completion.
- The proposal will have positive impacts in the local community, by providing greater access to education services with high quality facilities. The positive impacts will be long term and will help meet the demand for greater education facilities as recognised in the Western City District Plan and raised in consultation with Council, the Member of Camden and the local School community.
- While the proposal will generate some environmental impacts such as increased traffic on the local road network. The impacts will be mitigated through the implementation of tailored environmental mitigation measures and the provision of local road and intersection upgrades.

1. INTRODUCTION

This Environmental Impact Statement (EIS) has been prepared by Urbis Pty Ltd (Urbis) on behalf of Sydney Catholic Schools (the applicant) and accompanies a Concept Development Application submitted to the NSW Department of Planning and Environment (DPE) for the redevelopment of St Anthony of Padua Catholic School at 125-165 Tenth Avenue and 140-170 Eleventh Avenue, Austral (the site).

The proposal of St Anthony of Padua Catholic School is proposed to be developed over a number of stages. The completion of the School will meet the anticipated population growth associated with the large number of residential developments that are transforming the former rural areas of Austral. It is envisaged the School will accommodate up to 2,480 School students.

1.1. OVERVIEW OF PROPOSED DEVELOPMENT

1.1.1. Concept Proposal

A concept proposal has been prepared seeking consent for general site layout, access points, building envelopes and open space. The future church and trade centre buildings will be subject to a subsequent detailed development application or other approval pathways, and will be generally consistent with the Staged SSD consent.

The concept proposal also sets the School boundary which enables some future works to be approved under the exempt and complying provisions in *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* (Education SEPP) subject to satisfying certain development standards.

1.1.2. Stage 1 Proposal

The Stage 1 Proposal seeks consent for detailed components of the development. The Stage 1 Proposal involves six ‘development stages’ for the detailed design, construction, fitout and operation of the proposed education establishment. This allows the School to be delivered in stages as the student population grows over time. The following works are proposed within the Stage 1 Proposal:

- Demolition of existing dwelling houses and classroom demountable
- Remediation of specific areas of the site
- Removal of 556 trees
- Construction of multiple School buildings of up to three stories
- Adaptive reuse of the existing school buildings on site for long day child care centre with 125 places, and a kindergarten
- Out of hours’ school care for primary school children
- Provision and embellishment of open space and recreation areas
- Hard and soft landscaping across the site
- Construction of on-site car parks, set-down and pick-up area and associated vehicular access points from Tenth Avenue, Eleventh Avenue and Fourth Avenue
- Construction of the half width road fronting Council’s regional park on Eleventh Avenue
- Widening of Fourth Avenue, Tenth Avenue and Eleventh Avenue
- Traffic signals at the intersections of Fourth Avenue with Tenth Avenue, Fourth Avenue with Eleventh Avenue, Edmondson Avenue with Eleventh Avenue, and Edmondson Avenue with Eleventh Avenue
- On-site stormwater, infrastructure and services

1.2. PLANNING HISTORY OF THE SITE

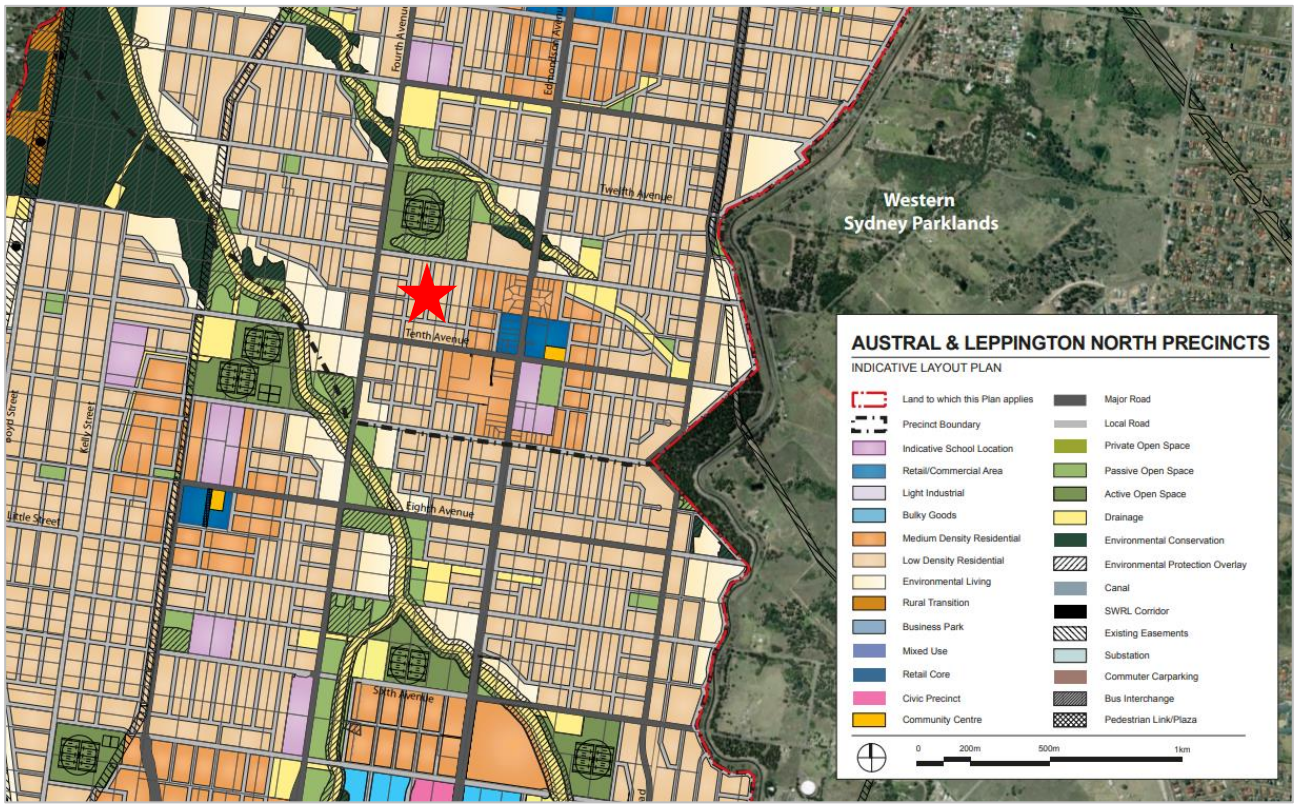
The site, located within the Austral and Leppington North Precinct was rezoned in March 2013. Prior to this, the precinct was subject to extensive studies and consultation with the community, Liverpool City Council (the Council), stakeholders and agencies to inform the orderly development of the precinct with the necessary infrastructure and services to accommodate the planned urban growth and change.

The Austral and Leppington North Precinct has been master planned to:

- Create a primarily residential neighbourhood providing for some 17,500 homes
- Provide a mix of housing types and active streets
- Provide open space amenity with 135.4ha of parkland
- Focus on Leppington Major Centre, Austral Local Centre and 3 neighbourhood centres
- Provide two high Schools and five primary Schools
- Take full advantage of the proposed rail and bus services as well as cyclist and pedestrian networks

The detailed precinct planning led to the Indicative Layout Plan (ILP), which is supported by the relevant planning controls applying to the Precinct and the site under *State Environmental Planning Policy (Sydney Region Growth Centres)* 2006 (Growth Centres SEPP) and the Liverpool Growth Centre Precincts Development Control Plan (Precinct DCP).

Figure 1 – Austral and Leppington North Indicative Layout Plan



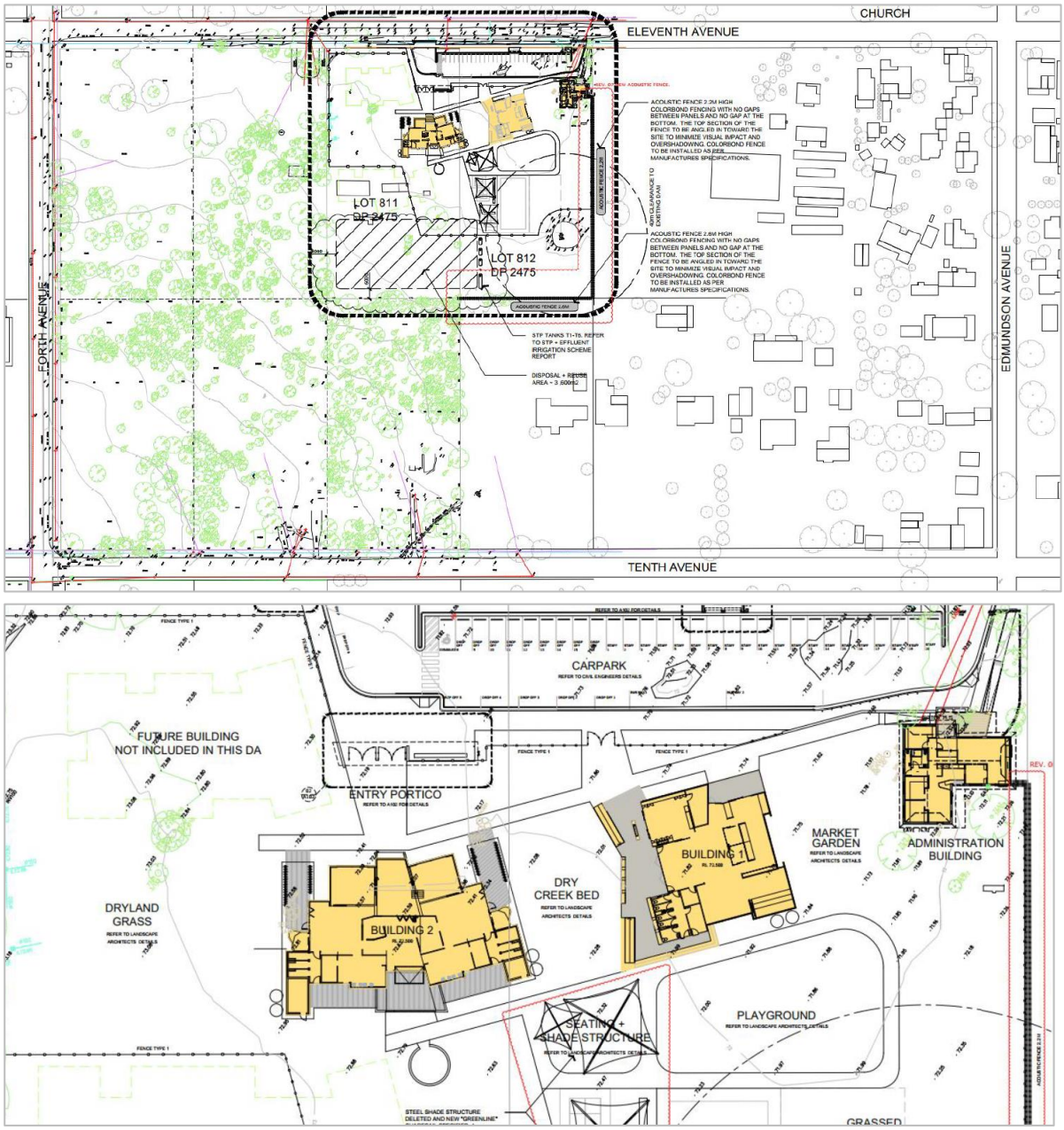
1.2.1. Existing Local DA

DA2016/465 was granted approval on 25 October 2016 by Liverpool City Council (the Council) for the construction and operation of a primary School with maximum student population of 300 students. An existing residence on site was converted to an administration and staff building, and two buildings have being constructed that provide space for seven class groups. DA2016/465 only related to part of the site Lot 811 and 812 and approved a maximum of 300 students (kindergarten - year 6) and 20 staff. The School currently has 105 students enrolled with a breakdown of enrolments in 2017 and 2018 as follows:

- 2017: 45 kindergarteners
- 2018: 45 year one students, and 60 kindergarteners

The following figures provide an extract of the approved site plans.

Figure 2 – DA-465/2016 – Site Plans



Source: Munns Sly Moore Architects

1.3. PROJECT TEAM

This EIS should be read in conjunction with the following architectural plans and specialist reports:

Table 1 – Supporting Documentation

Document title	Consultant	Appendix
CIV Report	Wilde and Woollard	Appendix B
Survey Plan	LTS Lockley	Appendix C
Architectural Plans	Munns Sly Moore Architects	Appendix D
Architectural Design Report	Munns Sly Moore Architects	Appendix E
Landscape Plans	Umbaco Landscape Architects	Appendix F
Civil Drawings and Report	Warren Smith & Partners	Appendix G
CPTED Assessment Report	Urbis	Appendix H
Consultation Outcomes Report	Urbis	Appendix I
Social Impact Assessment Report	Urbis	Appendix J
Biodiversity Assessment Report	Ecological Australia	Appendix K
Arborist Report	Ecological Australia	Appendix L
ESD Report	JHA Consulting Engineers	Appendix M
Aboriginal Heritage Report	Kayandel Archaeological Services	Appendix N
Access Report	Funktion	Appendix O
Bushfire Report	Ecological Australia	Appendix P
Transport Report	Colston Budd Rogers & Kafes	Appendix Q
Flood Report	GRC Hydro	Appendix R
Acoustic Report	JHA Consulting Engineers	Appendix S
Water Management Plan	Warren Smith & Partners	Appendix T
Geotechnical Report	Alliance Geotechnical	Appendix U
Contamination Reports	Alliance Geotechnical; EIS; EHO Consulting	Appendix V
Remedial Action Plan	Alliance Geotechnical	Appendix W
Structural Report	Birzulis Associates	Appendix X
Infrastructure Management Plan	JHA Consulting Engineers	Appendix Y
Construction Management Plan	Pepper Advisory	Appendix Z
Operational Management Plan	Munns Sly Moore Architects	Appendix AA

Document title	Consultant	Appendix
Waste Management Plan		
Waste Management Plan	Foresight Environmental	Appendix BB
BCA Report	Munns Sly Moore Architects	Appendix CC
Compliance Tables	Urbis	Appendix DD
Letter of Public Benefit Offer	Urbis	Appendix EE

1.4. SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

A request was made to the Minister for Secretary's Environmental Assessment Requirements (SEARs), under to clause 3, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000.* The SEARs issued on 19 December 2017 are addressed within this EIS and included in full at Appendix A.

Table 2 below provides a summary of the SEARs and identifies the section of this EIS where the relevant requirement is addressed and/or the Appendix reference for the specialist consultant's report associated with that requirement.

Table 2 – SEARS

Item/Description	Reference
General Requirements	
The Environmental Impact Statement (EIS) must be prepared in accordance with, and meet the minimum requirements of Clauses 6 and 7 of Schedule 2 the Environmental Planning and Assessment Regulation 2000 (the Regulation).	This EIS has been prepared in accordance with the SEARs and meets the minimum form and content requirements specified in Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*. This EIS includes a comprehensive assessment of the environmental risks and impacts associated with the proposal. Environmental Risk Assessment at Section 9.
The EIS must be accompanied by a report from a qualified quantity surveyor	Appendix B
Concept Proposal	
Statutory and Strategic Context	Section 5
Policies	Section 6
Built Form and Urban Design	Section 7.2; Appendix E
Environmental Amenity	Section 0; 7.3; 7.5; Appendix D; Appendix S
Staging	Section 4.9
Transport and Accessibility	Section 7.3; Appendix Q
Ecologically Sustainable Development (ESD)	Appendix M

Item/Description	Reference
Social Impacts	Appendix J
Aboriginal Heritage	Appendix N
Noise and Vibration	Appendix S
Water and Soil	Appendix T
Contamination	Appendix V
Utilities	Appendix Y; Appendix T
Contributions	Section 5.7
Drainage and hydrology	Appendix G; Appendix T
Flooding	Appendix R
Bushfire	Appendix P
Biodiversity	Appendix K
Waste	Appendix AA
Stage 1 Proposal	
Built Form and Urban Design	Section 7.2; Appendix E
Operation	Section 4.5
Environmental Amenity	Section 0; 7.3; 7.5; Appendix D; Appendix S
Transport and Accessibility	Section 7.3; Appendix Q
Noise and Vibration	Appendix S
Ecologically Sustainable Development (ESD)	Appendix M
Sediment, Erosion and Dust Controls	Appendix G
Contamination	Appendix V
Drainage	Appendix G
Waste	Appendix AA
Construction Hours	Section 4.4
Consultation	Appendix I

2. SITE & ENVIRONS

2.1. SITE DESCRIPTION

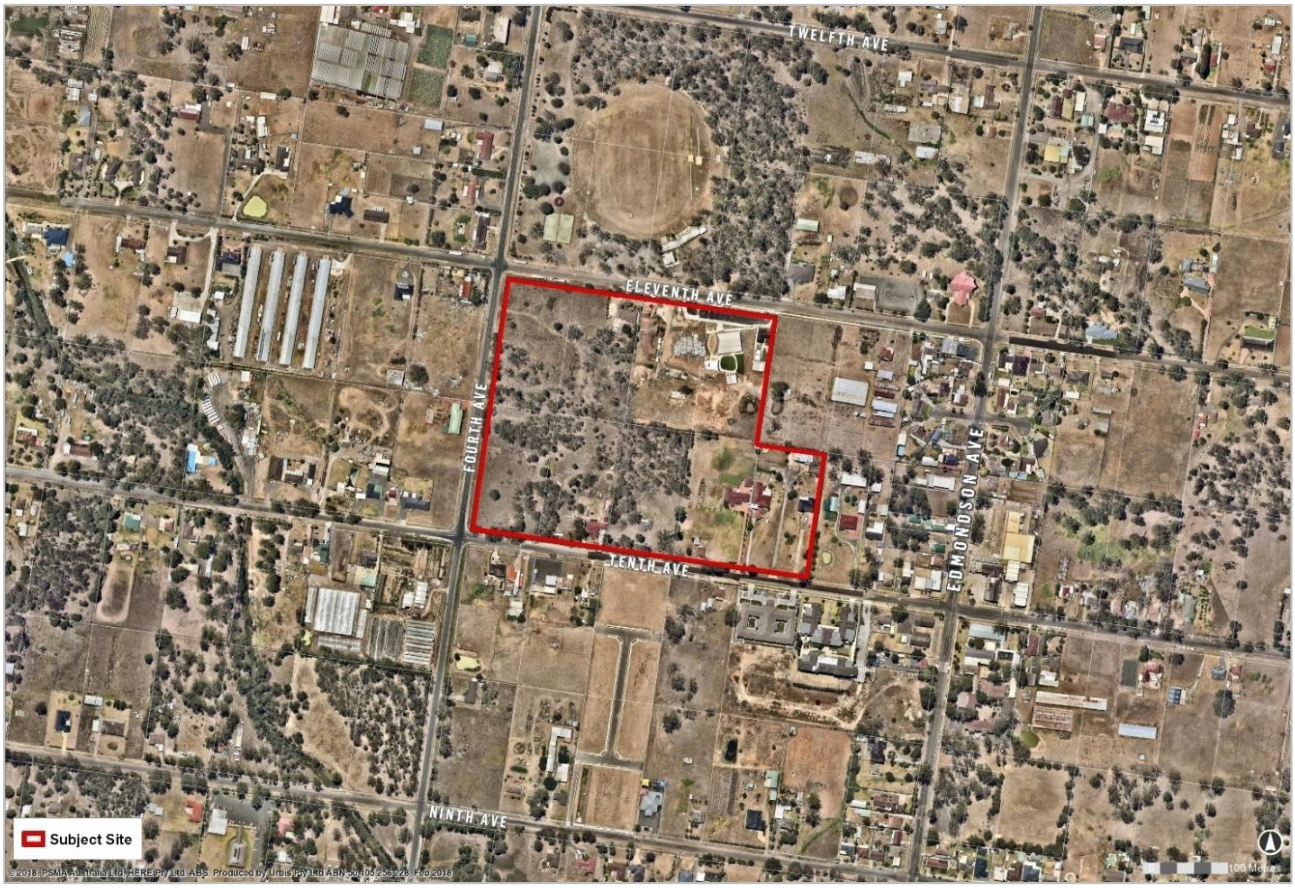
The site is located at 125-165 Tenth Avenue and 140-170 Eleventh Avenue, Austral within the Liverpool Local Government Area (LGA). It comprises nine lots, legally described as:

- Lot 810 DP2475
- Lot 811 DP2475
- Lot 812 DP2475
- Lot 839 DP2475
- Lot 840 DP2475
- Lot 841 DP2475
- Lot 842 DP2475
- Lot 1 DP1232692
- Lot 2 DP1232692

The site is an irregular shaped parcel of land with an area of approximately 10.9 hectares and frontage to Eleventh Avenue (north), Tenth Avenue (south) and Fourth Avenue (west), approximately 37km south-west of Sydney's Central Business District and 10km west of Liverpool CBD. The site is located within the SWGA, previously known as the South West Growth Centre, identified by the State Government as a relatively unconstrained greenfield corridor in Sydney suitable for urban redevelopment. The corridor will provide a range of residential, commercial and community uses and facilitate the delivery of new homes and local amenities close to public transport.

The Leppington Strategic Centre is located 3km south of the site and will be an important local centre with shopping, banking facilities, a future library, community centre, a health facility and the recently completed Leppington Train Station. Figure 3 provides an aerial view of the site. Table 3 provides a description of the site's features.

Figure 3 – Site Location



Source: Urbis

Table 3 – Site Features

Feature	Description
Existing Development	Saint Anthony of Padua Catholic School currently occupies Lots 811 and 812 also known as 140 Eleventh Avenue. The campus currently accommodates students from Kindergarten to Year 1 and contains: • A single storey prefabricated classroom and single storey classroom building used as an early learning centre and kindergarten • An outdoor playground and grass area • An at-grade carpark comprising 37 car parking spaces Photos of the existing School are shown in Figure 4. The Council granted development consent (DA465/2016) on 25 October 2016 for demolition of existing structures, site works, lot consolidation and construction of two classroom buildings for the purpose of an educational establishment (primary School), and the construction of one administration building on Lots 811 and 812. Construction works relating to this approval are currently underway. The site also contains a number of single and two storey detached dwelling houses. The western portion of the site is vacant with grass paddocks and scattered vegetation.
Site Access	Vehicular access into the site is provided off Eleventh Avenue. It provides access to an on-site carpark. Pedestrian access into the School is currently provided via a dedicated School entrance, accessible from the car park.
Vegetation	The site is located within a rural residential environment as shown in Figure 3. The site comprises a combination of native and exotic tree species interspersed between the existing School and surrounding dwellings. The majority of existing trees within the site will be removed.
Topography	The site has an undulating terrain. The highest section of the site is located at the eastern portion of the site with an approximate RL of 73m. The site slopes approximately eight metres from the north-eastern corner of the site to the south-western corner at the intersection of Tenth and Fourth Avenue.
Services	The site contains and is connected to services including water, gas, electricity and communications. Sewage needs to be extended to the site and electrical will required upgrading.

Figure 4 – Site Photos

Picture 1 – Garden area in existing School

Picture 2 – Recreational area in existing School

Picture 3 – Eleventh Ave and existing School carpark

Picture 4 – Rural land – 170 Eleventh Ave

Picture 5 – Tenth Ave looking east

Picture 6 – Large lot residential – 145 Tenth Ave

Source: Urbis

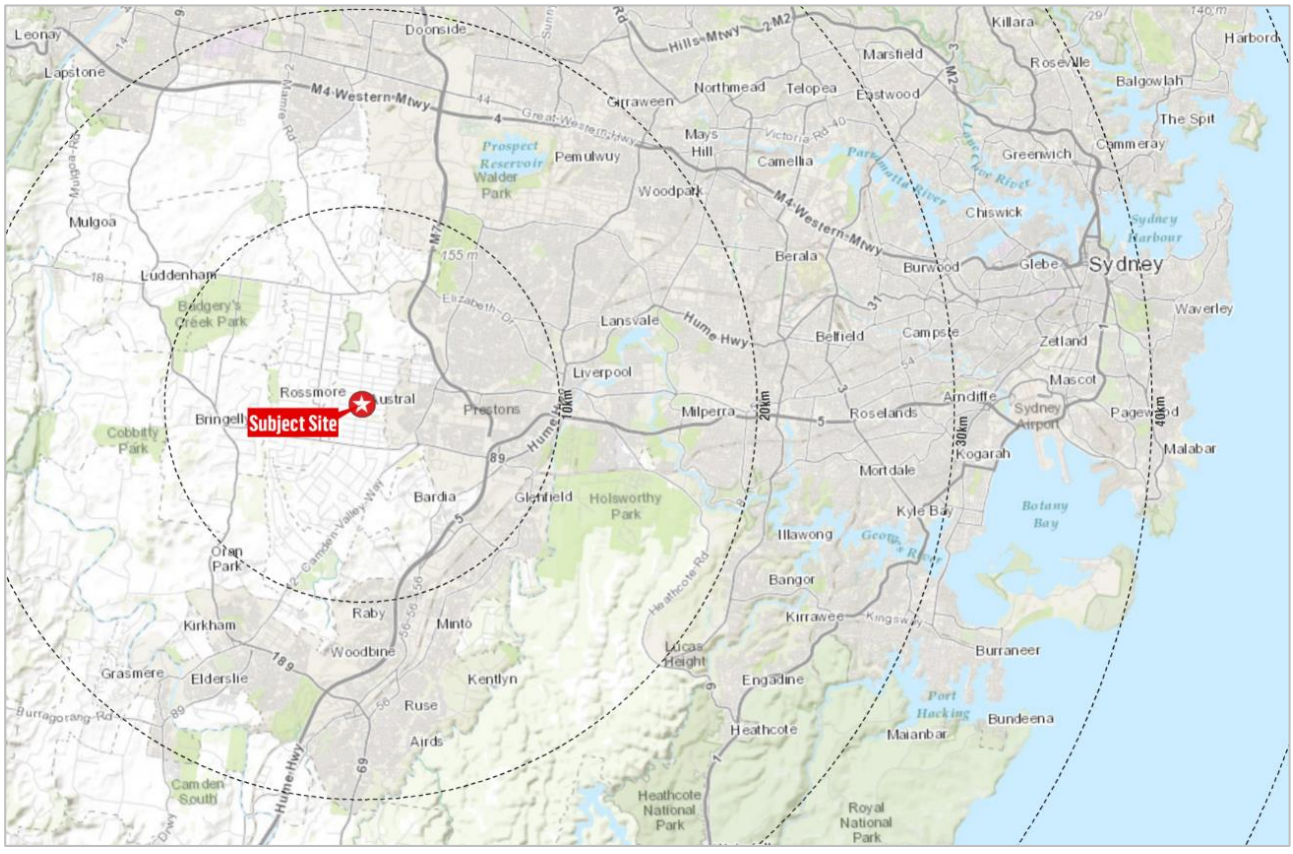
2.2. SITE CONTEXT & SURROUNDING DEVELOPMENT

The site is located within the Austral and Leppington North Precinct, a land release area which has been rezoned by the NSW Government as part of the SWGA. The area is currently undergoing transition from a large lot semi-rural residential area to a low and medium density residential locality. The site is surrounded by the following:

Table 4 – Site Context Description

Direction	Description
North	To the north on the opposite side of Twelfth Avenue is Craik Park which comprises tennis courts and grass playing fields used by Western Blues Little Athletic Centre. Further to the north at the intersection of Fifteenth Avenue and Edmondson Avenue is land proposed for the Austral Local Centre which will comprise a mix of retail, commercial and community uses. Austral Local Centre will be an important Town Centre with a planned community centre, Town Square and Town Park.
South	To the south is land zoned low density residential under the Growth Centres SEPP. Further to the south (approximately 3km) is Leppington Train Station which provides direct services to Liverpool and Glenfield with connections to Greater Sydney.
East	To the east is a mix of low density detached dwelling houses and local neighbourhood shops which currently comprise a post office, pharmacy, IGA, liquor store, petrol station and cafe. These cluster of shops are earmarked for retail and commercial growth.
West	To the west are several detached dwelling houses on generous sized rural/residential lots, proposed for low density residential.

Figure 5 – Regional Map



Source: Urbis

Figure 6 – Context Photos

Picture 1 – John Edmondson Garden Aged Care Facility - 130 Tenth Ave

Picture 2 – Retail shops at corner of Edmondson Ave and Tenth Ave

Picture 3 – Craik Park – Corner of Fourth and Eleventh Avenue.

Picture 4 – Rural land – 180 Fourth Ave

Picture 5 – Residential properties on Tenth Ave

Picture 6 – Rural land – 120 Eleventh Ave

Source: Urbis

2.3. ROAD NETWORK

The site is directly serviced by the following roads:

- **Eleventh Avenue** – Directly adjacent to the north
- **Tenth Avenue** – Directly adjacent to the south
- **Fourth Avenue** – Directly adjacent to the west

Fourth Avenue and Tenth Avenue are identified as major roads in the Precincts ILP. The site is also surrounded by a range of major arterial roads. These include Camden Valley Way and Bringelly Road.

2.4. PUBLIC TRANSPORT

Significant infrastructure will be provided in the Austral and Leppington North Precinct over time. Vehicle and pedestrian networks are proposed to encourage public transport use and reduce reliance on cars. A description of the existing and proposed public transport network is provided below.

- **Trains** – The site is located 3km north of Leppington Station which services South-West Sydney. Leppington Station currently services the T2 Inner West and Leppington Line and T5 Cumberland Line.
- **Buses** – The site is located within 500m of Edmondson Avenue which currently operates the following bus service: *855 – Rutleigh Park to Liverpool.*

The Austral and Leppington North Precincts Infrastructure Delivery Plan states that an upgrade of the existing Glenfield Station and bus and rail interchange, and construction of Glenfield North and Glenfield South rail flyovers will occur in the precinct as it develops.

2.5. CYCLEWAYS

There are currently no direct pedestrian or cycle routes to the site. The limited public infrastructure in the area is a reflection of the suburb's current low density population and semi-rural lifestyle. It is anticipated public transport infrastructure will be further developed throughout the wider area as the populations within the South West Growth Area increases.

The site will benefit from proximity to several dedicated cycle ways yet to be constructed under the Austral and Leppington North Precinct Plan. In addition to the upgrade of key roads such as Bringelly Road, Camden Valley Way, Fifteenth Avenue and Rickard Road, regional bike links are proposed throughout the South West Growth Centre.

3. CONCEPT PROPOSAL

A concept proposal has been prepared seeking consent for general site layout, access points, building envelopes and open space. The future church and trade centre buildings will be subject to a subsequent detailed development application or other approval pathways, and will be generally consistent with the Staged SSD consent.

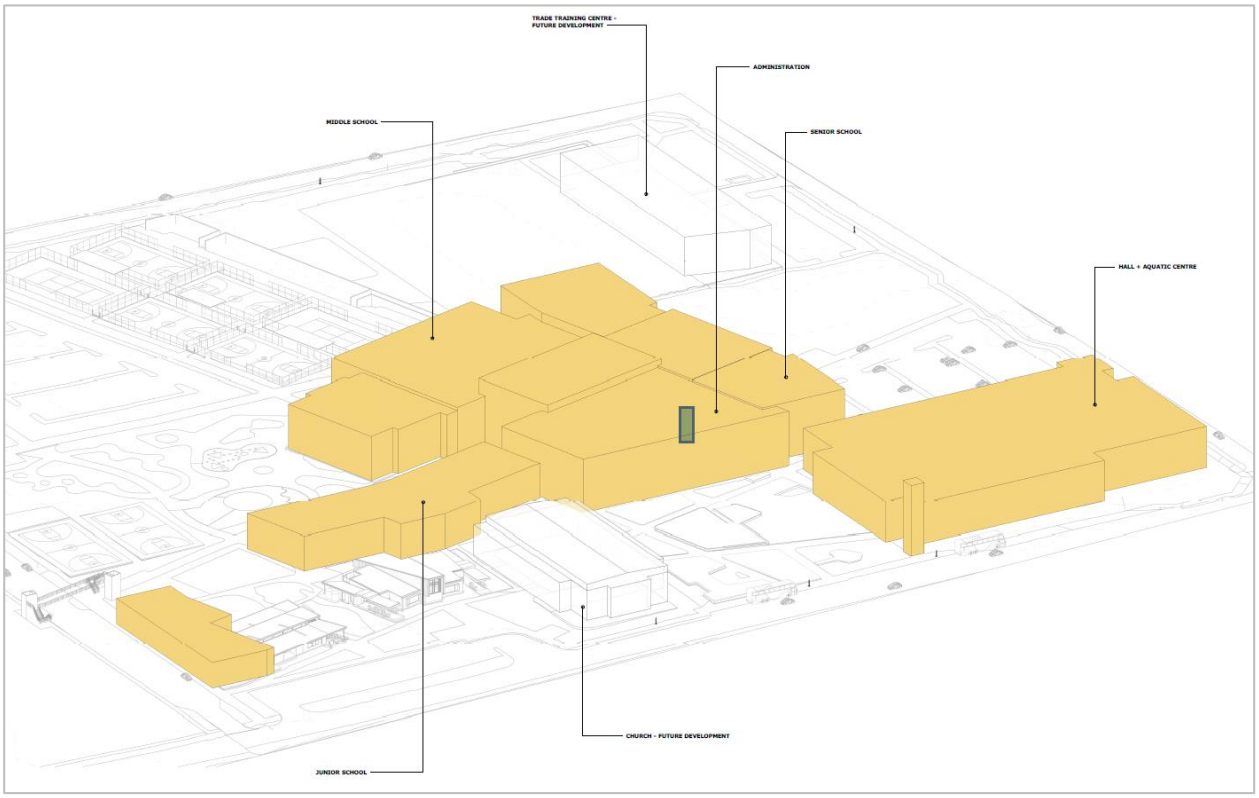
The concept proposal also sets the School boundary which enables some future works to be approved under the exempt and complying provisions in *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* (Education SEPP) subject to satisfying certain development standards.

Future development consents is required to be granted for the church building and trade training centre. The following provides an overview of theses future uses:

- The trade training centre building is anticipated to include class rooms, workshops, other educational and vocational spaces and end of trip facilities to support the use of the building as a trade training centre. The trade training centre is separate to the main school buildings and is provided with separate vehicle access and parking area. This building also includes facilities and amenities to service the playing fields.
- The relocation of the church from its existing site opposite Eleventh Avenue is a long term plan which will be subject to a separate planning approval. At this stage the details of when the church will be relocated is unknown and will be the subject of further investigation regarding the operation, timing of delivery and final design.

Architectural Plans prepared by Munns Sly Moore Architects are included at Appendix D.

Figure 7 – Proposed building envelopes



Source: Munns Sly Moore

4. DETAILED STAGE 1 WORKS

The Stage 1 Proposal seeks consent for detailed components of the development. The Stage 1 Proposal involves six 'development stages' for the detailed design, construction, fitout and operation of the proposed education establishment. This allows the School to be delivered in stages as the student population grows over time.

4.1. OVERVIEW

The following works are proposed within the Stage 1 Proposal:

- Demolition of existing dwelling houses and classroom demountable
- Remediation of specific areas of the site
- Removal of 556 trees
- Staged construction of multiple School buildings of up to three stories, comprising:
  - Education classrooms up to Year 12 students
  - Hall building with 250 seat capacity and an indoor pool
  - Administration building and offices
  - Café and hospitality area
  - Resource and wellness hub including a library space
- Adaptive reuse of the existing school buildings on site for long day child care centre with 125 places, and a kindergarten
- Out of hours' school care for primary school children
- Provision and embellishment of open space and recreation areas, including full sized grass soccer field, six basketball courts, and two tennis courts
- Hard and soft landscaping across the site, including:
  - Piazza area in the north of site
  - Market garden
  - Native bushland preservation areas
  - Hard and soft landscaping across the site
- Staged construction of on-site car parks, set-down and pick-up area and associated vehicular access points from Tenth Avenue, Eleventh Avenue and Fourth Avenue
- Construction of the half width road fronting Council's regional park on Eleventh Avenue
- Widening of Fourth Avenue, Tenth Avenue and Eleventh Avenue
- Traffic signals at the intersections of Fourth Avenue with Tenth Avenue, Fourth Avenue with Eleventh Avenue, Edmondson Avenue with Eleventh Avenue, and Edmondson Avenue with Eleventh Avenue
- On-site stormwater, infrastructure and services

A photomontage of the junior school and piazza hall are shown at Figure 8 and Figure 9.

Figure 8 – Junior School

Source: Munns Sly Moore Architects

Figure 9 – Piazza Hall and Bell Tower

Source: Munns Sly Moore Architects

4.2. DEMOLITION, SITE CLEARING & TREE REMOVAL

The proposal seeks development consent to demolish all existing buildings from the site with the exception of the existing classrooms in the north-eastern corner of the site and dwelling houses at 125 and 125A Tenth Avenue. Demolition will be undertaken in accordance with the Demolition Plan attached at Appendix D and the Construction Management Plan attached at Appendix Z.

Development consent is sought to clear existing vegetation and to remove up to 556 trees from the site.

4.3. REMEDIATION

There has been extensive land investigation and testing to determine the locations and extent of land contamination on the site. The investigations find there are potential for contaminants of potential concern including asbestos, hydrocarbons, pesticides and metals from uncontrolled fill and waste dumping.

Alliance Geotechnical have prepared a Remediation Action Plan (RAP) to mitigate the potential for unacceptable exposure risks given the sensitive nature of the proposed land use.

It is the Schools preference to remove all contamination risks from the site given the sensitive nature of the land use. As such, the remediation works will involve excavation and offsite disposal at the locations identified in the RAP (Appendix W).

If the excavated area requires backfilling the required material will be restricted to:

- Virgin excavated natural material (VENM)
- Excavated natural material (ENM) or
- Other material that is the subject of a resource recovery exemption

Once remediated, a site validation report will be prepared by a certified NSW Site Auditor.

An assessment of the remediation works against SEPP 55 is provided at Section 5.3 of this EIS. An assessment of the potential contamination impacts is provided at Section 7.8 of this EIS.

4.4. DEMOLITION & CONSTRUCTION

The demolition and construction of the School will occur during the following hours:

- Monday to Friday: 7:00 to 18:00
- Saturday: 8:00 to 13:00
- Sundays and Public Holidays: No excavation or construction works

4.4.1. School Operation During Construction Works

The Stage 1 works have been sequenced to take advantage of the three street frontages to the site. Each stage of works will be fenced off from the school operation with the construction site having its own separate entrance.

There will be limited impact on the existing school operation during the first stages of the development with no need for deliveries through the school or construction activities to occur on the existing school site.

The works have also been staged to ensure there are sufficient class rooms and school facilities to align with the growing needs of the school. All construction zones will be adequately fenced and secured. All teaching staff will be briefed on safety and procedural construction matters.

4.5. OPERATION & USE

4.5.1. Educational Buildings

Multi-purpose kindergarten, primary and secondary School buildings are proposed to be constructed to provide high quality School facilities and spaces for students and teachers. These include:

- Collaborative learning spaces and classrooms
- A range of specialty classrooms including a performing arts centre and theatre, visual arts studio, hospitality kitchens and food and tech science classrooms
- School gymnasium, hall and indoor recreation centre
- Childcare and kindergarten centre in the existing school buildings on site
- Hospitality and food technology facility
- Office space for teachers and administrative staff
- Library, student services, sacred space and pastoral care

4.5.2. Childcare Centre

The Stage 1 Works include the adaptive reuse of the existing school buildings located in the north-east corner of the site. The following provides an overview of the childcare centre operation:

- **Children:** Spaces for 125 children catering for all ages
- **Hours:** 7am to 6pm Monday to Friday
- **Parking:** 33 dedicated spaces in the existing car park on Eleventh Avenue. This car park will be used exclusively by the childcare centre during peak drop-off and pick-up times. This car park may be used outside of peak hours for other school related uses if need be.
- **Drop-off / pick-up:** Forward in and forward out access via existing access points on Eleventh Avenue

4.5.3. Out of Hours School Care

The Out of School Hours (OOSH) care will be provided for primary school students enrolled at the school. The OOSH is proposed to operate in the mornings and evenings for up to 110 places, with the proposed hours of operation to be 7am to 6pm.

The service is to operate in the Primary School Hall, and will be required to set up and pack down to allow the use of the hall by the school during class time. The proposed location adjacent to the Forum will allow the OOSH to access the Canteen, toilets and outdoor play spaces that are not used by the school during the hours of operation for the OOSH.

4.5.4. Café

The café will provide service to the school's communities. It will operate as a canteen for students. The café is located adjacent to the Plaza which whilst accessible to the public to provide a facility for parents dropping off children and members of the parish.

Whilst it would be possible for a passer-by to purchase goods from the cafe it is not intended that the café operate for the primary purpose of retail cafe. Indicatively 80% of the services provided would be within the context of a school canteen and 20% within the context of the café fronting the Plaza. The café / canteen may be operated by a catering services provider (such as Spotless), by a parent group or run by a department of the school enabling training of students.

Deliveries would be managed through the schools central loading dock adjacent to the market garden area.

Typical opening days / times would align with school hours, except for when the operation of the café outside the normal school hours, for example once the church is operational, will require separate approval as part of the development application for the church building and operation.

4.5.5. Shared Facilities

The final details of the facilities will be shared for community purposes is unknown at this stage of the development. It is anticipated that the school hall building will be able to be use for community activities and events subject to operational management. The school's fields and facilities may also be used by the local community subject to finalising management and security arrangements.

4.5.6. Hours of Operation

It is proposed to keep the school hours of operation flexible to allow for school and community related activities to occur outside of typical school hours. Activities include the use of the school hall and sports fields after hours. Also, to allow for the operation of the café before and after future church services on the weekend.

4.6. SITE ACCESS & PARKING

4.6.1. Site Access

Access points for vehicular access as follows:

- Existing on-site car park from Eleventh Avenue
- Proposed on-site car park from Tenth Avenue (south-eastern corner)
- Proposed on-site car park from Fourth Avenue (north-western corner)
- Proposed on-site car park from Fourth Avenue (south-western corner)
- Proposed on-site car park from Eleventh Avenue (western boundary) and new one-way internal access road connecting Eleventh Avenue to Tenth Avenue

Pedestrian access is proposed to be provided via entry/exit points located off Eleventh Avenue, Tenth Avenue and Fourth Avenue.

4.6.2. Set-Down and Pick-Up

Set-down and pick-up areas will be located in the north-western parking area, south-eastern parking area and along both sides of the internal road between Tenth Avenue and Eleventh Avenue. A total of 143 on-site parking spaces for set-down and pick-up activities will be provided.

4.6.3. Parking

A total of 317 parking spaces plus 143 set-down/pick up spaces are proposed. Three new on-site carparks are proposed to be constructed in the north-western, south-western and south-eastern parts of the site. The following car parking is proposed:

- 124 spaces in the proposed car park adjacent the indoor recreational centre and hall
- 32 spaces in the proposed car park, adjacent the School playing fields
- 33 spaces in the existing car park adjacent the pre-School
- 152 spaces in the proposed car park in the south-eastern part of the site
- 118 spaces along the eastern boundary of the site in a proposed new car park and internal road connecting Tenth and Eleventh Avenue

Thirteen bus parking bays are also proposed to be provided on the roads of Eleventh Avenue (northern and southern sides) and Fourth Avenue (eastern side).

4.7. PUBLIC DOMAIN & INFRASTRUCTURE

The following public domain and infrastructure works are proposed to be delivered as part of the proposal:

- Construction of the half width road fronting Council's regional park on Eleventh Avenue, noted as LR37 in the local Contributions Plan
- Widening of Fourth Avenue, Tenth Avenue and Eleventh Avenue along the site frontages to provide four travel lanes, indented bus bays and turning bays
- Traffic signals at the intersections of Fourth Avenue with Tenth Avenue and Eleventh Avenue
- Traffic signals at the intersection of Edmondson Avenue with Tenth Avenue and Eleventh Avenue

Refer to the Civil Engineering Drawings at Appendix G.

4.8. LANDSCAPING

A Landscape Plan has been prepared by Umbaco Landscape Architects and is attached at Appendix F. The landscape concept for the site includes:

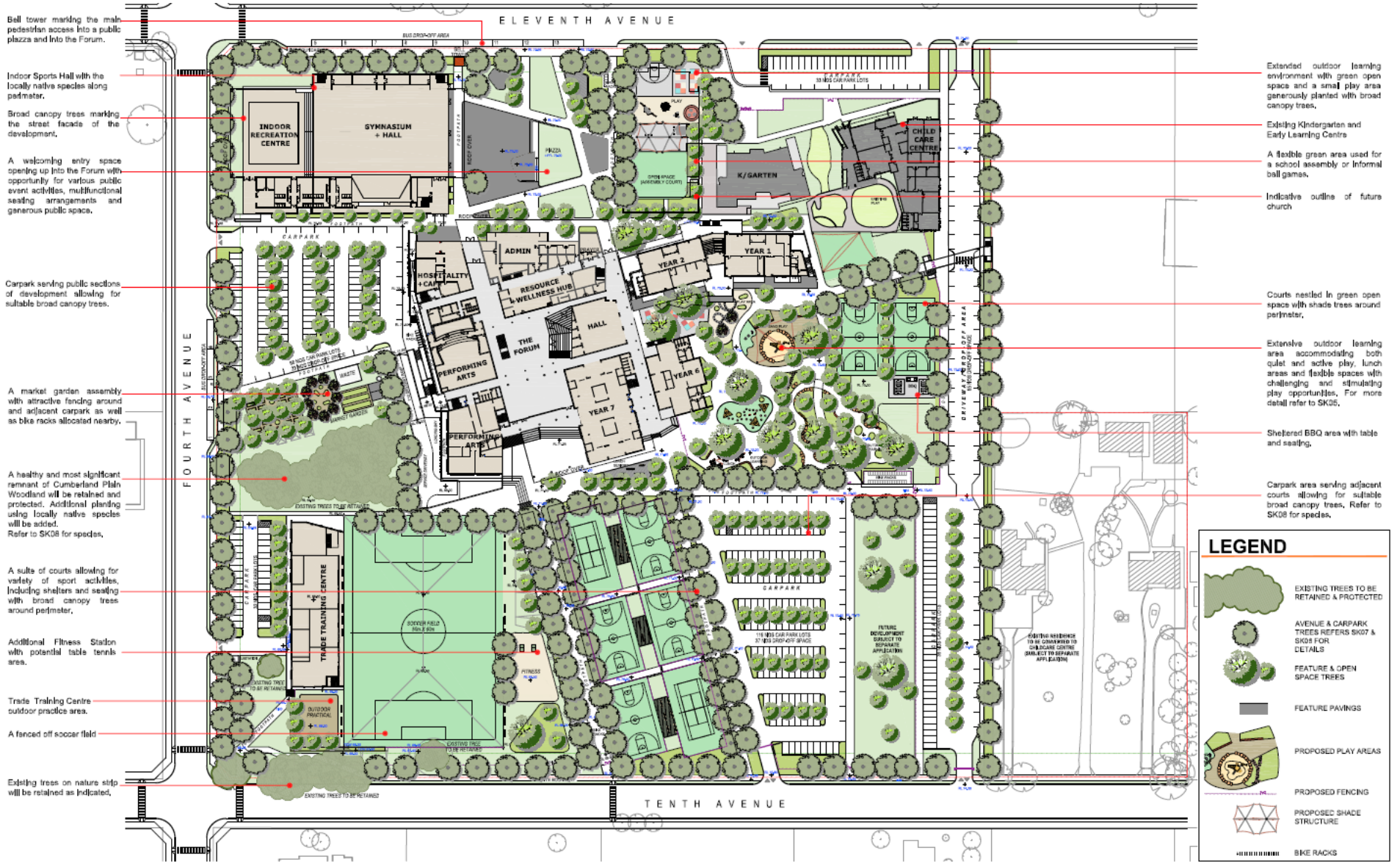
- Active play zones with shaded canopies
- Playground spaces
- Landscaped garden spaces and turfed areas
- Tree plantings to provide a visual and acoustic buffers
- Retention of existing trees directly to the south of the market garden and on Tenth Avenue

The proposal includes multiple sports facilities including:

- Indoor recreation centre including gymnasium and two indoor playing courts
- Market garden to be used for educational purposes
- Football field, basketball and tennis courts

The landscape plan shows an outdoor recreation area that is proposed to be located in the location of the future church for the interim period. This area will be constructed in Stage 1.

Figure 10 – Landscape Plan – Stage 1 Works



Source: Umbaco Landscape Architects

4.9. STAGING AND STUDENT POPULATION PROJECTIONS

It is proposed to stage the construction of the School in order to provide buildings and facilities as the precinct and School population grows overtime. The following provides the works to be delivered at each stage:

- Stage 1 – Two story junior School buildings; section of the internal link road with parking including temporary turning head; landscaping, including playground areas and playing courts.
- Stage 2 – Three story School administration building; the Fourth Avenue main carpark; landscaping to the Eleventh Avenue Plaza; upgrade of half road construction of Eleventh Avenue.
- Stage 3 – Three story senior School building; the internal School forum; landscaping, including playground areas and market garden; the Fourth Avenue secondary carpark; intersection upgrades; drop-off pick-up connection through to Eleventh Avenue.
- Stage 4 – Two story senior School building; playing courts; the Tenth Avenue Carpark
- Stage 5 – The multi-purpose hall
- Stage 6 – The School playing field

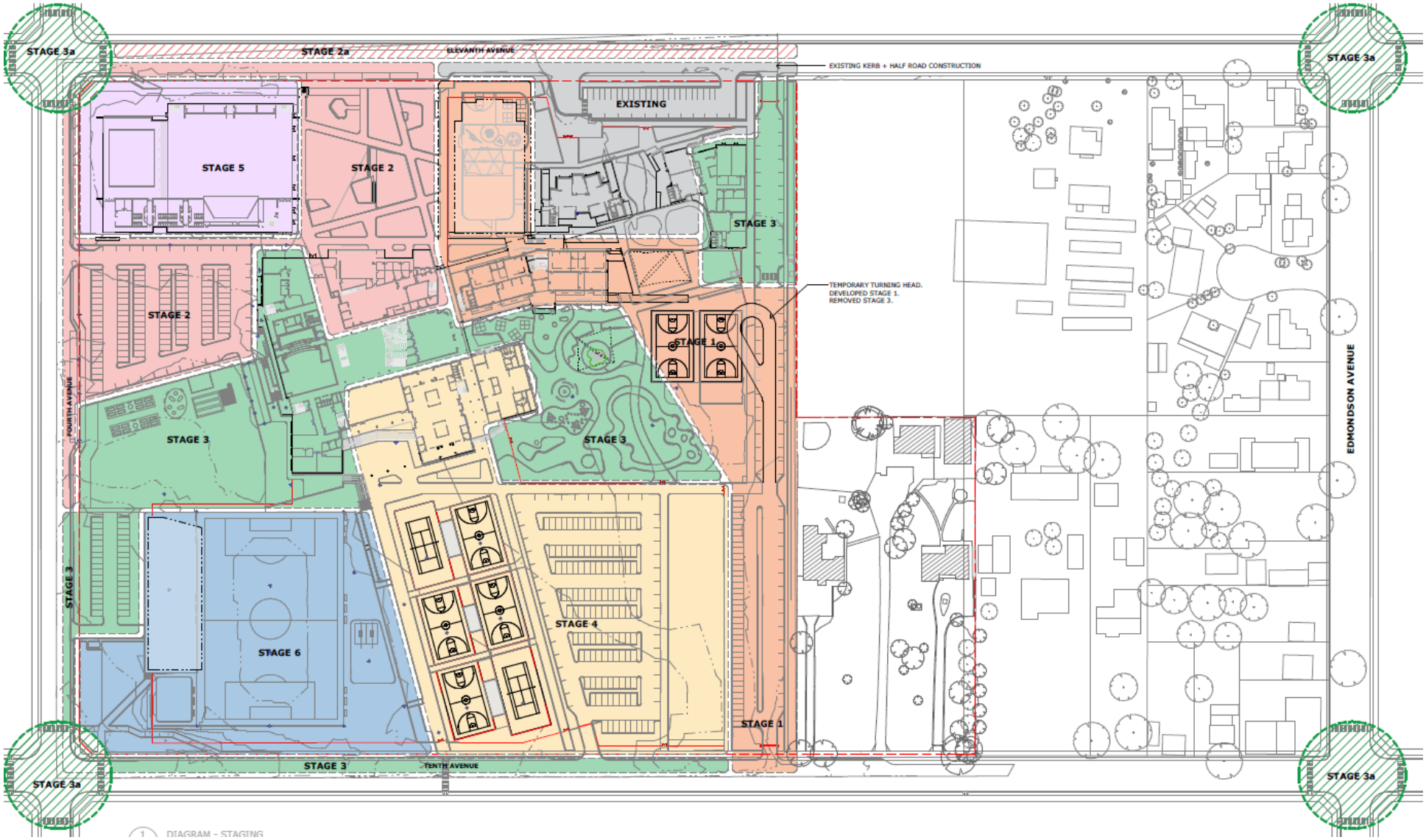
Figure 11 provides a staging plan extract. Table 5 provides the expected School population at each stage and the years the year groups are expected to be using the School.

Table 5 – Staging and expected population of School until 2034

Component	Existing	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
Year	2017-2020	2021-2022	2023-2024	2025-2026	2027	2028	2029-2034
Year Group	K-3	P-5, 7-8	P-10	P-12	P-12	P-12	P-12
Number of students	248	647	1,142	1,661	1,787	1,913	2,117

The following figure indicates the construction stages in plan form. The concept proposal building footprints are indicated for reference purposes.

Figure 11 – Staging Plan



Source: Munns Sly Moore

5. STATUTORY PLANNING ASSESSMENT

In accordance with the SEARs related to the Concept Proposal, the following statutory planning policies have been considered in the assessment of this proposal.

5.1. STATE ENVIRONMENTAL PLANNING POLICY (STATE AND REGIONAL DEVELOPMENT) 2011

State Environmental Planning Policy (State and Regional Development) 2011 identifies development types that are of state significance, or infrastructure types that are of state or critical significance. State Significant educational establishments are either of the following:

> *Development that has a capital investment value of more than $20 million for the purpose of alterations or additions to an existing School.*

The proposal is defined as an 'educational establishment' with a capital investment value (CIV) greater than $20 million (refer to CIV Report at Appendix B). There is an existing operating educational establishment on Lot 811 and 812 DP2475. The proposal seeks consent for major alterations and additions to the existing School. Accordingly, the proposal is classified as SSD.

5.2. STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) provides the legislative planning framework for infrastructure and the provision of services across NSW. Since gazettal of State *Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* on 1 September 2017, each of the provisions that related to educational establishments within ISEPP have been repealed. Accordingly, ISEPP no longer applies to the proposal.

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

State Environmental Planning Policy No. 55 Remediation of Land aims to promote the remediation of contaminated land for the purpose of reducing the risk to human health or another aspect of the environment. Clause 7(1) requires the consent authority to consider whether land is contaminated prior to consent of a development application. A full assessment of contamination is undertaken at Appendix V, Appendix W and Section 7.8 of this EIS.

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

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 (Education SEPP) aims to (amongst other things) streamline the planning system for the delivery of education and child care facilities including changes to exempt and complying development. Of relevance to this proposal are Clause 23, 35(5), Clause 42, Clause 57 and Schedule 4.

5.4.1. Clause 23 – Centre-based child care facility—matters for consideration

Clause 23 of the Education SEPP requires the assessment of the applicable provisions of the *Child Care Planning Guideline.* An assessment of the childcare centre against the Guideline is appended at Appendix DD.

5.4.2. Clause 42 – Development Standards

Clause 42 of the Education SEPP states:

> *Development consent may be granted for development for the purpose of a School that is State significant development even though the development would contravene a development standard imposed by this or any other environmental planning instrument under which the consent is granted.*

The proposal exceeds the height of building development standard under the SEPP Growth Centres which applies to the site. However, as per clause 42, development consent may still be granted, as this is SSD without the need for a formal clause 4.6 variation. Refer to Section 5.5.4 of this EIS for an assessment of the building height non-compliance.

5.4.3. Clause 57 – Traffic Generating Development

Clause 57 stipulates that development for the purposes of an 'educational establishment' that will accommodate 50 of more students and will involve the development of a new premises on a site that has direct vehicular and pedestrian access to a road will be referred to the RMS. The RMS were consulted during the SEARs stage. A referral to the RMS will be made during the assessment of the SSDA.

5.4.4. Schedule 4 – Schools-design quality principles

Refer to the Design Report at Appendix E for the response to each of the design quality principles under Schedule 4 of the Education SEPP.

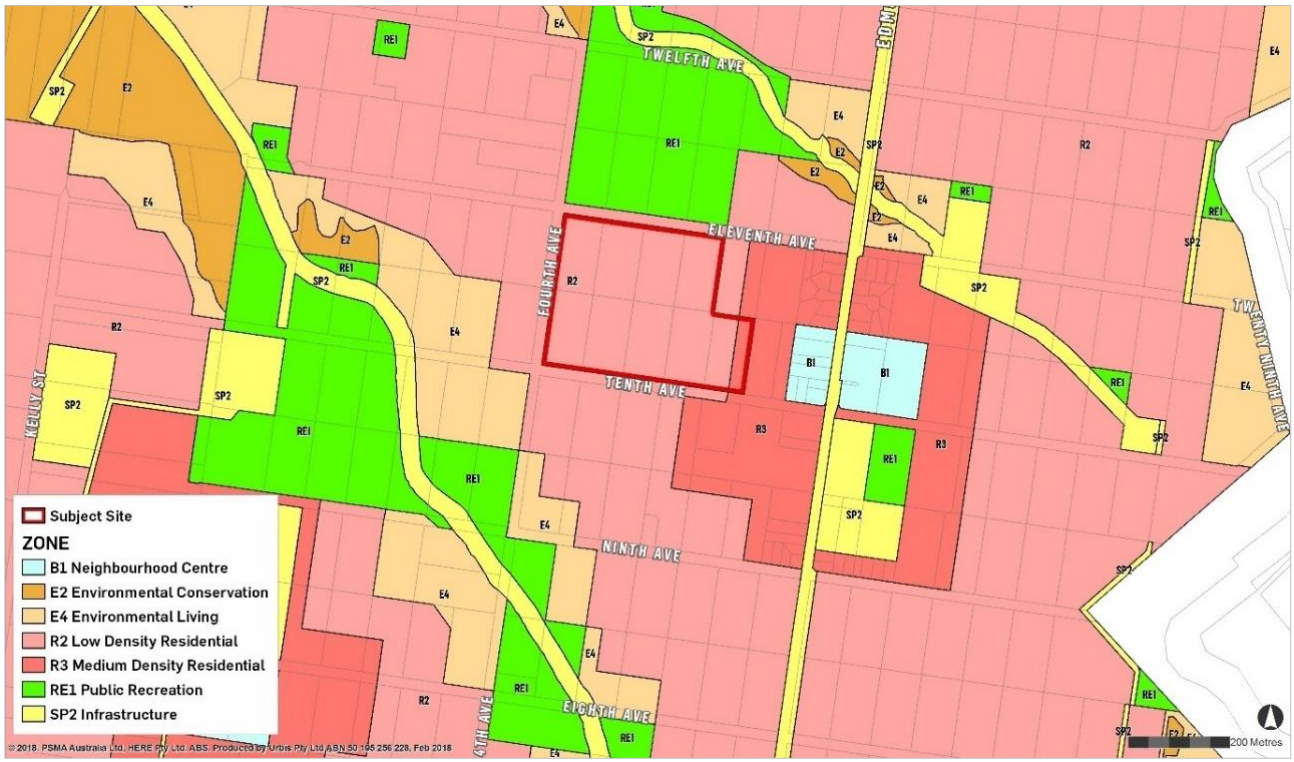
5.5. STATE ENVIRONMENTAL PLANNING POLICY (SYDNEY REGION GROWTH CENTRES) 2006

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Growth Centres SEPP) provides the legislative framework to deliver the growth centre land releases. The site is located within the Austral and Leppington North Precinct which was rezoned in March 2013. Appendix 8 'Liverpool Growth Centres Precinct Plan' applies to the site. The relevant provisions are extracted and presented below.

5.5.1. Zoning and Permissibility

Under the Growth Centres SEPP, the site is zoned part 'R2 Low Density Residential' and part 'R3 Medium Density Residential'.

Figure 12 – Land Zoning Map (Growth Centres SEPP)



Source: NSW Legislation

The following land use are proposed as part of the Concept Proposal DA is permitted with consent in the R2 Low Density Residential zone:

- Place of public worship

The following land uses are proposed as part of the Detailed Stage 1 Works DA are permitted with consent in the R2 Low Density Residential zone:

- Educational establishment
- Centre-based child care facilities

The proposed café is ancillary development. Whilst it would be possible for a passer-by to purchase goods from the cafe it is not intended that the café operate for the primary purpose of retail cafe. Indicatively 80% of the services provided would be within the context of a school canteen and 20% within the context of the café fronting the Plaza. The café / canteen may be operated by a catering services provider (such as Spotless), by a parent group or run by a department of the school enabling training of students.

5.5.2. Zone Objectives

The relevant objectives of the 'R2 – Low Density Residential Zone' are detailed in the following table.

Table 6 – R2 Low Density Residential zone objectives

Objective	Response
To provide for the housing needs of the community within a low density residential environment.	No residential development is proposed. The proposal does not prevent the adjacent land being developed for residential uses.
To enable other land uses that provide facilities or services to meet the day to day needs of residents.	The proposal satisfies this objective by expanding and improving the existing School facility to cater for an increased residential population.

Objective	Response
To allow people to carry out a reasonable range of activities from their homes, where such activities are not likely to adversely affect the living environment of neighbours.	The proposal has been designed with regard to the amenity of neighbouring properties. Appropriate measures have been incorporated into the project design to ensure a high quality living environment is maintained for surrounding residents.
To support the well-being of the community by enabling educational, recreational, community, religious and other activities where compatible with the amenity of a low density residential environment.	The proposal supports the well-being of the community by providing a variety of educational, recreational, community and religious facilities including an early learning centre, long day child care centre, trade learning centre, public piazza, church and sports fields.

5.5.3. Other SEPP Provisions

Other relevant provisions contained in the SEPP are addressed in Table 3 below.

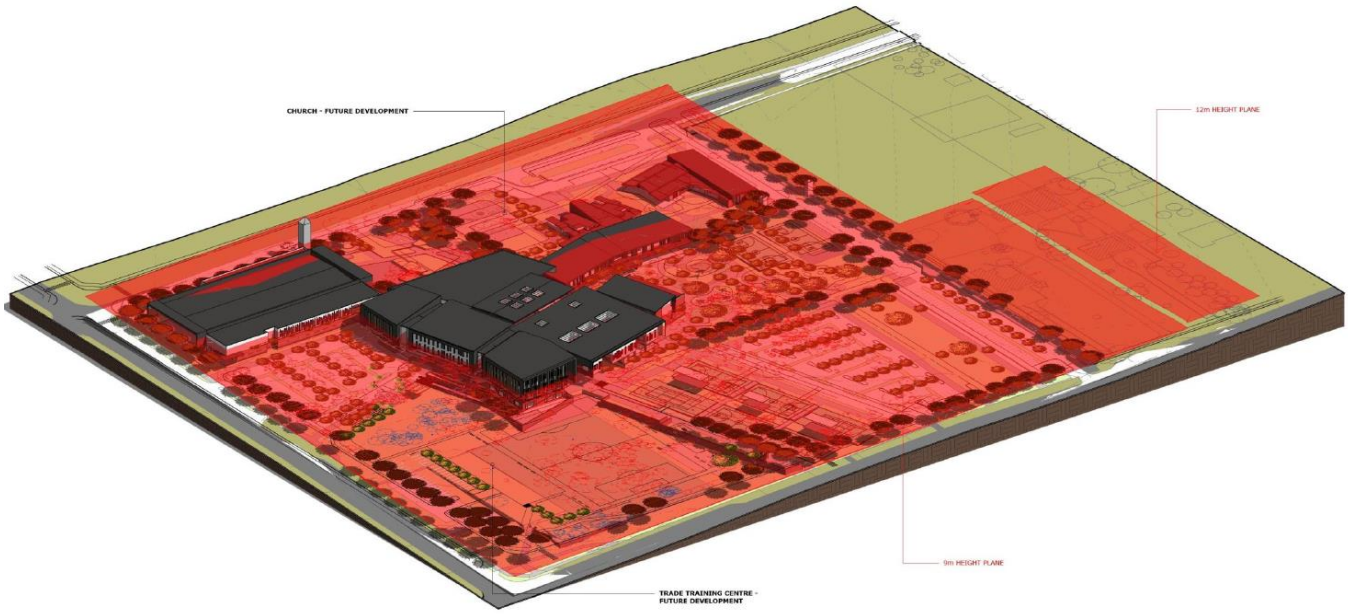
Table 7 – Growth Centres SEPP

Consideration	Control	Comment	Compliance
Height of Buildings	9m Lot 839 DP2475 is part 9m and part 12m.	The proposal has a maximum height of 20m (RL 93m) as measured from existing ground level (RL 73m) to the top of the bell tower.	No Refer to Section 4.5.4 of this EIS for an assessment of the building height non-compliance.
Bushfire	Located within a bushfire prone area.	A 41 metre APZ along Eleventh Avenue frontage is provided which is in accordance with the bushfire assessment at Appendix P.	Yes
Threatened Ecological Community	Comprises a threatened ecological community however none of the community is identified under the Growth Centre SEPP as protected vegetation. Entire School precinct (140 Eleventh Avenue) listed as biodiversity certified.	The site is located within the Sydney Growth Centres biodiversity certified area. Under Part 7AA of the *Threatened Species Conservation Act 1995* (TSC Act), biodiversity certification removes the requirement to undertake impact assessment on certified land for threatened species population and communities listed under the TSC Act.	Yes

5.5.4. Building Height

The proposal has a maximum building height of 20m (RL 93m) as measured from existing ground level (RL 73m) to the top of the bell tower. There a various other building height non-compliances as illustrated in the following figure which shows the building elements which puncture through the SEPP height plane.

Figure 13 – Height Plane Diagram



Source: Munns Sly Moore Architects

Under clause 42 of the Education SEPP development consent may be granted if a development standard to breached without the need for a formal clause 4.6 variation. Regardless, the following provides justification to demonstrate that the proposed building height is appropriate for the site and surrounding context.

The proposal is a superior planning outcome compared to a compliant scheme. The proposals built form and layout has adopted a principle of consolidating buildings and mass in the centre and north of the site so that the southern, western and eastern parts of the site read as predominantly open space or car parking. This is especially important given that there are existing and future sensitive residential properties in the east, south and west, whereas the site directly to the north of regional open space. The proposal represents a superior development outcome for the site as it consolidates built form vertically rather than horizontally.

Clause 4.3 of the Growth Centres SEPP outlines objectives for the height of buildings development standards. The proposed development's achievement of the relevant objectives of the clause 4.3 is outlined in the table below.

Table 8 – Assessment of Consistency with Development Standard Objectives

Objective	Comment
To minimise visual impact and protect the amenity of adjoining development and land in terms of solar access to buildings and open space.	The proposal minimises visual impact through strategic massing that consolidates the built form in the centre of the site responding to the scale of the surrounding development (existing and future). The proposal further minimises visual impact through consolidating the majority of buildings central to the subject site, which provides a greater setback from surrounding areas. A height study has been prepared for the site as included within the Appendix A of the SEE (Drawings DA051 to DA052). As a result of the studies it is determined that the impact of the high non-compliance is minimal, with the higher buildings being centrally

Objective	Comment
	located and screened by the outer-lying buildings and existing trees and proposed landscape buffers. Additionally, it is noted that for the full extent of the buildings to be seen, a person would be required to be standing a considerable distance away from the site, which would in turn minimise the perceived impacts. The proposal has been designed with regard to the amenity of neighbouring properties. Appropriate measures have been incorporated into the project design to ensure a high-quality living environment is maintained for surrounding residents.
To facilitate higher density development in and around commercial centres and major transport routes.	The site is not located in proximity to a commercial centre or major transport route. The proposal provides a variety of community based facilities within a low density residential environment. The School is close to the intersection of Eleventh Avenue and Edmondson Avenue which is earmarked for 'retail core.' The mixed-use nature of the area provides opportunities for people to walk and cycle to Schools, local shops and community services.

5.6. LIVERPOOL GROWTH CENTRE PRECINCTS DEVELOPMENT CONTROL PLAN

The Liverpool Growth Centres Development Control Plan 2013 (LDCP 2013) is the relevant Development Control Plan for the site. Schedule 1 provides detailed controls for specific development types and locations in the Austral and Leppington North Precinct. The proposal has been assessed against the key relevant controls of LDCP 2013, as per the compliance table at Appendix DD.

5.7. SECTION 7.11 CONTRIBUTIONS

The redevelopment of the site will be subject to Section 7.11 Contributions (s.7.11) which are required to be paid to Council prior to release of a Construction Certificate.

The existing consent (DA-465/2016) includes a condition of consent which required the payment of the following contributions:

- Local Transport Facilities – Land: $19,108
- Local Transport Facilities – Works: $107,669
- Local Drainage Facilities – Land: $109,371
- Local Drainage Facilities – Works: $205,058
- Administration: $6,882
- Total: $448,088

S.7.11 contributions have been paid in relation to DA-465/2016 (Lot 811 and 812). All contributions in relation to Lot 811 and 812 have been excluded from the estimates provided within the following table given that existing educational establishment are excluded from the definition of 'developable area' and contributions have already been levied for those lots.

The following estimates have been indexed to the CPI March 2018 quarter. The actual amount will be indeed at the date of payment.

Table 9 – Contribution estimates

Purpose	Rate per sqm	Developable area
Transport – Land	$2.09	84,960sqm
Transport – Works	$7.87	84,960sqm
Drainage – Land	$11.98	84,960sqm
Drainage – Works	$14.98	84,960sqm
Admin	$0.50	84,960sqm

Contribution rates as at June 2018 Quarter

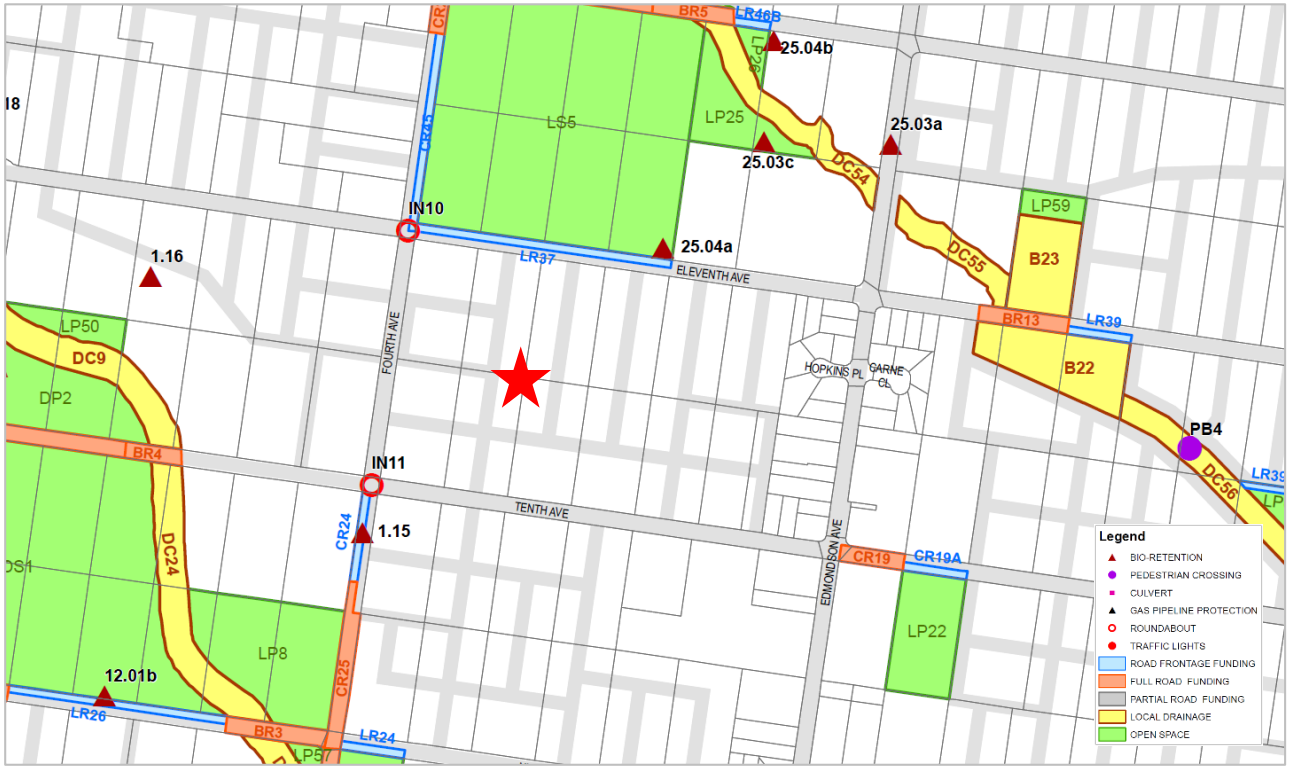
5.7.1. Section 7.11 Works Near Subject Site

The S.7.11 Plan identifies the following work items that are located in proximity to the subject site.

Table 10 – S94 Work Items

Work Item	Full Cost	Priority
IN10 - Roundabout Fourth Ave / Eleventh Ave	$196,724 (not indexed)	When surrounding development proceeds.
IN11 - Roundabout Fourth Ave / Tenth Ave	$196,724 (not indexed)	When surrounding development proceeds.

Figure 14 - Austral and Leppington North Precinct Infrastructure Map



Source: Liverpool Contributions Plan 2014

Colston Budd Roger & Kafes state that the following works will be required in addition to those previously identified for the precinct:

- Widening of Fourth Avenue, Tenth Avenue and Eleventh Avenue along the site frontages to provide four lanes, indented bus bays and turning bays (to be delivered as School population increases - expected 2025)
- Traffic signals at the intersections of Fourth Avenue with Tenth Avenue and Eleventh Avenue to cater for traffic flows and pedestrian connectivity (to be delivered as School population increases - expected 2028)
- Traffic signals at the intersection of Edmondson Avenue with Tenth Avenue and Eleventh Avenue (to be delivered as School population increases - expected 2031)

Other works that will be constructed on behalf of Council include:

- Construction of the half width road (LR37) fronting the open space to the north of site.

A Planning Agreement will be entered into with Council. Refer to the Public Benefit Letter of Offer at Appendix EE.

5.8. SPECIAL INFRASTRUCTURE CONTRIBUTION

The Special Infrastructure Contribution (SIC) levy is a contribution paid during the development process to help fund regional infrastructure required to support development in the South West Growth Centres over the next 20 years. A SIC must be made for development on all residential land in the Growth Centres. There are no exemptions for non-government Schools.

The following SIC levy applies to the site:

- Base SIC: $214,511 per hectare of net developable area (as of 1 July 2018)

6. STRATEGIC PLANNING CONTEXT

In accordance with the SEARs related to the Concept Proposal (point 2), the following strategic planning policies have been considered in the assessment of the proposal:

- *NSW State Priorities*
- *A Metropolis of Three Cities*
- *NSW Long Term Transport Master Plan 2012*
- *Sydney's Cycling Future 2013*
- *Sydney's Walking Future 2013*
- *Sydney's Bus Future 2013*
- *Crime Prevention Through Environmental Design Principles*
- *Better Placed – an integrated design policy for the built environment of NSW*
- *Healthy Urban Development Checklist, NSW Health*
- *Greater Sydney Commission's Draft South West District Plan*

Consistency with the relevant goals contained to the above strategic policies is discussed below.

6.1. NSW STATE POLICIES

NSW State Priorities are the State Government's plan to guide policy and decision making across the State in order to grow the economy, deliver infrastructure, protect the vulnerable and improve health, education and public services across NSW. The proposed redevelopment of the site is consistent with the key objectives contained within the plan including:

- **Create Jobs**: *Deliver 15,000 new jobs by 2019*
- **Deliver Infrastructure:** *Deliver key metropolitan, regional and local infrastructure projects on time and on budget*
- **Improve Education Results**: *Increase the proportion of NSW students in the top two NAPLAN bands by eight percent by 2019*

6.2. A METROPOLIS OF THREE CITIES

The SEARs requires an assessment of the proposal against *A Plan for Growing Sydney,* which has been replaced by *A Metropolis of Three Cities* as the main strategic planning document guiding land use and planning decisions for Sydney Metro.

A Metropolis of Three Cities, includes five key principles which aim to support the long term strategic growth of Sydney and transform it into a metropolis of three cities; the Western Parkland City, the Central River City and the Eastern Harbour City. The plan envisions most of the population living within 30 minutes of jobs, education, health facilities, services and great places. The site is located within the Western Parkland City. It is noted within the strategy that:

> *'The population of the Western Parkland City is projected to grow from 740,000 in 2016 to 1.1 million by 2036, and to well over 1.5 million by 2056.'*

The influx of new residents will continue to place substantial pressure on existing government Schools within the Liverpool LGA. Accordingly, one of the key planning objectives, objective 6 is to provide services and infrastructure that meet the communities' changing needs. The plan identifies Schools as essential local infrastructure with the NSW Department of Education estimating an additional 270,000 students will need to be accommodated in Greater Sydney by 2036.

The proposal will contribute to achieving the goals of the Plan as follows:

- *Objective 3 – Infrastructure adapts to meet needs*

  The proposal considers the adaptability of infrastructure and its potential shared use by redeveloping an existing School with improved facilities that respond to demands of the changing population. The proposal also utilises the improved transport and infrastructure networks that will be delivered to the community at Austral and Leppington North.

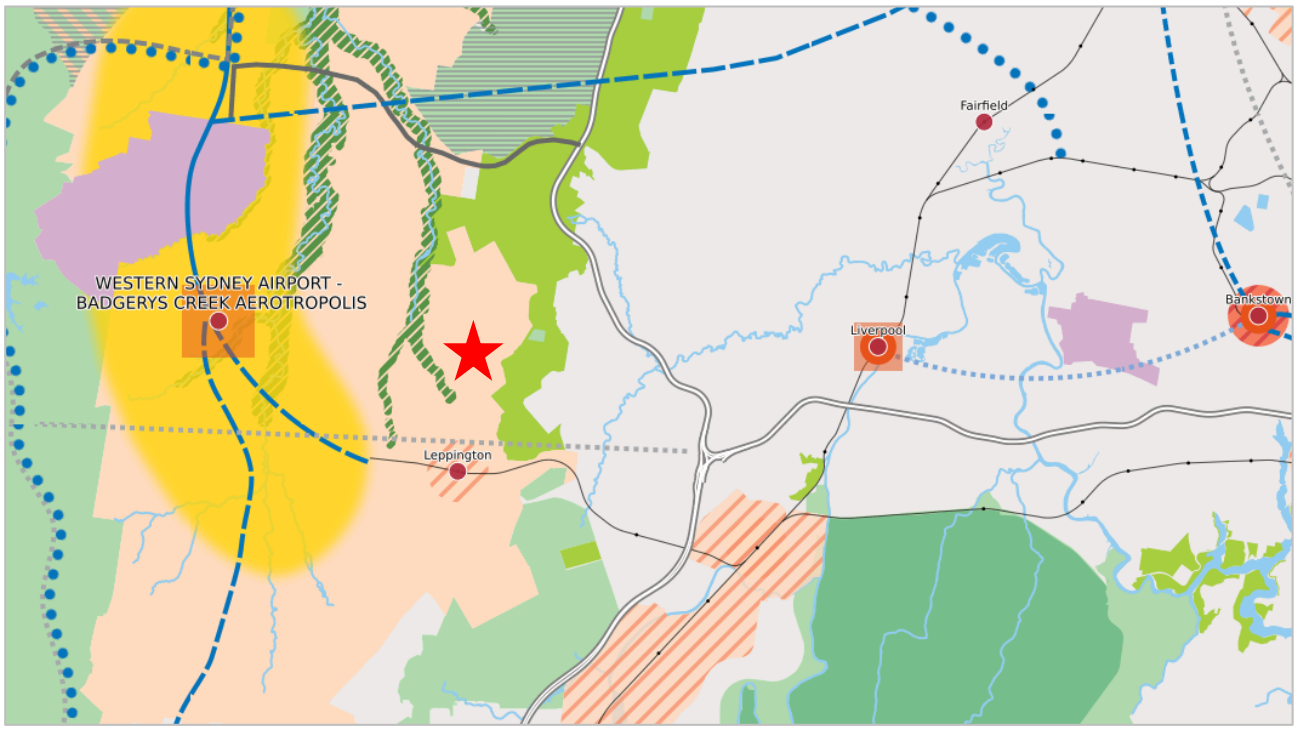
- *Objective 6 – Services and infrastructure meet communities' changing needs*

  Joint and shared facilities are encouraged to make School assets available to the community outside School hours and give School access to community facilities. The proposal co-locates a combination of educational related uses with recreation and sports facilities which provides opportunities for people to meet and develop community ties. The proposal considers the future needs of the community by acknowledging the importance of open space, cultural facilities and a quality public realm as the area densifies.

- *Objective 7 – Communities are healthy, resilient and socially connected*

  The plan aims to deliver healthy, safe and inclusive places that support active and socially connected communities. The proposal provides a variety of community based facilities within a low density residential environment. The School is close to the intersection of Eleventh Avenue and Edmondson Avenue which is earmarked for 'retail core.' The mixed use nature of the area provides opportunities for people to walk and cycle to Schools, local shops and community services.

Figure 15 - Structure Plan for the Metropolis of Three Cities



Source: NSW Government

6.3. NSW LONG TERM TRANSPORT MASTER PLAN 2012

NSW Long Term Transport Master Plan 2012 is Transport for NSW's long term vision for the State's infrastructure, freight and transport services. The underlying vision of the Master Plan is to support higher levels of liveability and sustainability by delivering new transport infrastructure. With a projected total of more than 16,000 new homes, Austral and Leppington North requires new and upgraded public transport that will sustain these new communities.

In addition to the existing transport infrastructure, the site will benefit from the following:

- **South West Rail Link**
  - Located within 3km of Leppington Station. RailCorp proposes an initial four services per hour throughout the day with up to 12 trains per hour in peak periods. The frequency of service is likely to be increased over time as demand increases.
  - The Station provides access to major employment destinations such as Liverpool, Parramatta and Central Sydney.
  - Park and ride commuter parking will be provided for rail passengers.
- **Additional Bus Services and Improved Local Bus Networks**
  - Long term, the bus network for Austral and Leppington North Precinct will comprise a mixture of peak routes, regional routes and district routes.
  - The site is located within a 400m bus catchment whereby additional local bus services are proposed to provide additional coverage within the precinct.
- **Improved walking and cycling networks**
  - The principal arterial roads, Bringelly Road and Camden Valley Way, will have shared path bicycle facilities.
  - On-road cycle lanes are proposed along transit boulevards and designed to create a continuous network of facilities without obstacles and barriers to cycling.
  - Signalised intersections with pedestrian crossings are proposed and will link all planned centres and Schools into the footpath network. A shared path-off road is proposed along Tenth Avenue, adjacent the site.

Future parents, students and employees can easily cycle, walk or catch the bus to the proposed School. This will reduce reliance on cars, decrease congestion and promote the sustainable and efficient movement of people.

6.4. SYDNEY'S CYCLING FUTURE 2013

Sydney's Cycling Future aims to make bicycle riding a feasible transport option within Sydney by creating a safe and easy cycling experience and integrating the needs of cyclists into the planning of new transport and infrastructure projects.

A major pedestrian/cycle route (off-road) is proposed along Tenth Avenue and Fourth Avenue, which can be directly accessed from the south-west corner of the site. A major pedestrian/cycle route (on-road) is also proposed along Edmondson Avenue connecting the site to Bringelly Road. Future parents, students and staff will be able to use these dedicated cycle ways to safely access the School and associated community facilities via bike, reducing the burden of congestion on the local area.

Cycle facilities will be incorporated into the proposed design with flexibility for the introduction of additional facilities should more infrastructure be introduced to further support cycling as a viable mode of transport into the future.

6.5. SYDNEY'S WALKING FUTURE 2013

Sydney's Walking Future 2013 aims to make walking a more convenient and safer mode of transport. The focus is to focus on improving networks within two kilometres of cities, towns, local centres and public transport hubs.

The site is located within 320m of an existing neighbourhood and within 1.4km of the proposed Austral Local Centre on Edmondson Avenue. The new local centre will be the focus of activity and daily life. Safe walking and cycling links to the School will maximise maximises opportunities for young people, students, teachers and parents to lead a more active lifestyle and reduce car usage.

6.6. SYDNEY'S BUS FUTURE 2013

Sydney's Bus Future 2013 seeks to redesign Sydney's bus network to meet current and future commuter needs. It aims to deliver fast and reliable bus services for customers by improving and creating new routes, simplifying timetables and increasing the convenience of bus interchanges.

The site is currently serviced by Route 855 which provides services from Rutleigh Park to Liverpool Station. Long term, the bus network for Austral and Leppington North Precinct will comprise a mixture of peak routes, regional routes and district routes. In the interim, additional local bus services are proposed to provide additional coverage within the precinct.

A bus interchange is also proposed at Leppington Station, located approximately 3km south of the subject site. Students, parents and teachers will be able to utilise the integrated bus network to access the site.

6.7. CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED) PRINCIPLES

Crime Prevention through Environmental Design (CPTED) is a crime prevention strategy that aims to reduce opportunities for crime by implementing design and place management principles within cities and neighbourhoods. The following principles have been integrated into the design of the School to deter crime, manage space and create a safe environment for students, staff and visitors.

Refer to the CPTED Assessment at Appendix H and at Chapter 6 of this EIS.

6.8. HEALTHY URBAN DEVELOPMENT CHECKLIST, NSW HEALTH

The Healthy Urban Development Checklist (HUDC) was prepared by NSW Health to facilitate an understanding of health issues relative to urban development plans and proposals with the objective of promoting healthy communities in NSW. The proposal satisfies a range of items contained to the checklist, including:

- Encourage incidental physical activity
- Promote opportunities for walking, cycling and other forms of active transport
- Increase access to a range of quality and employment opportunities
- Consider crime prevention and sense of security
- Promote quality streetscapes
- Provide access to a range of facilities to attract and support a diverse population
- Respond to existing community needs and current gaps in facilities and services
- Provide for early delivery of social infrastructure
- Promote a sense of community and attachment to place
- Encourage local involvement in planning and community lift

The concept proposal will deliver a series of benefits to both the School and the broader community. More relevantly to the proposal, the following benefits will be provided:

- Well-connected leisure, sporting and recreational pursuits on campus to benefit students, staff and the wider community
- Healthy learning environments that benefit from access to natural light, ventilation and green open space
- Break out and recreational spaces for students to play and socialise
- Improved access to and through the School campus will support and promote the use of active and healthy transport options linking to surrounding pedestrian and cycle networks.

6.9. GREATER SYDNEY COMMISSION'S WESTERN CITY DISTRICT PLAN

The *Western City District Plan* is a guide for implementing the Greater Sydney Region Plan, *A Metropolis of Three Cities,* at a district level and includes a range of priorities and actions to appropriately support the strategic growth of Western Sydney. The plan identifies the following:

- The Western City District will grow over the next 20 years with demand for an additional 184,500 dwellings.
- Western Sydney's population expected to grow by 464,000 between 2016 and 2036.
- Over the 20 years to 2036, projections show an expected increase of 24,950 children aged four years and younger.
- The NSW Department of Education estimates that an extra 77,978 students will need to be accommodated in both government and nongovernment Schools in the District by 2036. Growth in students is projected to be greatest in Camden (26,403) and Liverpool (21,072).

The Plan highlights the importance of planning for new and more innovative use of existing Schools and demonstrates that there is a significant demand for School facilities and social infrastructure within the local area to accommodate the growing population. A major priority within the District Plan is Planning Priority W3 which states:

> *Providing services and social infrastructure to meet people's changing needs.*

The proposal supports this planning priority by providing a church, primary School, high School and early learning centre to accommodate the needs of the future population. The Plan states that new and existing Schools must respond in innovative ways to make more efficient use of land. The proposal encourages this by redeveloping an existing School and co-locating compatible uses such as primary Schools and high Schools, close to public transport.

7. IMPACT ASSESSMENT

7.1. ASSESSMENT METHODOLOGY

The assessment of the impacts has been informed by the extensive and comprehensive inputs from various consultants in the project team covering a wide range of technical aspects. This process has included the following steps:

- Review of the preliminary scheme for the Proposal against the relevant SEARs, legislation, policies, and guidelines to assess compliance.
- Iterative design development with recommendations from project team to ensure the final scheme for the Proposal can meet the requirements set out by the SEARs.
- Consultation with various agencies and authorities to ensure the Proposal can address their concerns and requirements.
- Merit assessment of the Proposal for each specific aspect of the project within its physical, social, economic or strategic context (as relevant), and against the applicable SEARs, legislation, policies and guidelines.
- Preparation of a Risk Assessment Matrix to identify environmental impacts and consider any mitigation measures that can be implemented to manage those impacts is proposed.
- Conclusion of environmental impact for each aspect based on implementation of the mitigation measures.
- Finally, this EIS provides conclusions as to whether the Proposal, as a whole, has limited environmental impacts beyond those already assessed.

The SEARs require an assessment of both the concept and detailed components of the proposed development, which share numerous similarities and common assessment requirements. As such, the assessments by the consultant team have considered the overall development, which incorporates both the matters raised for the concept and detailed proposal.

Structure of Impact Assessment

The SEARs require the following matters to be assessed for both the Concept Proposal and Detailed Proposal:

- Built Form and Urban Design
- Environmental Amenity
- Transport and Accessibility
- Ecological Sustainable Development
- Noise and Vibration
- Contamination
- Drainage
- Waste

The Concept Proposal also requires an assessment of the following matters:

- Social Impacts
- Aboriginal Heritage
- Water and Soil
- Utilises
- Flooding
- Bushfire
- Biodiversity

The Stage 1 Works also requires an assessment of the following matter:

- Sediment, erosion and dust

7.2. BUILT FORM AND URBAN DESIGN

7.2.1. Concept Proposal

Design Process

The design process which has informed the general arrangement and layout of the concept proposal considered a variety of factors including accessibility, security, the balance and management of public and private space, existing vegetation, landscaping, vehicle and pedestrian movements and the form and location of buildings. Refer to Section 7.5 of the Design Report at Appendix E for the detailed site and context analysis to justify the proposed site planning, built form, envelopes and design approach.

The School aims to support an adaptive learning environment that is at the heart of the community, engaging users of all ages and backgrounds. The School will foster a learning environment which is connected to the surrounding community and supports a collaborative community of practice and will deliver innovative classroom design and practising collaborative, critical thinking and learning.

Munns Sly and Moore considered these factors and developed a series of site layout options in order to assess and confirm the preferred and most appropriate site layout for the proposal. The following provides a brief overview of each option, followed by the advantages and disadvantages of each option.

Design Principles

Schedule 4 of the Education SEPP outlines the design quality principles that are proposed for consideration of applications for School developments. The proposal responds to these design quality principles as outlined in the Design Report attached at Appendix E.

Site Layout

Option One – preferred option

Site layout option one orientates the School to address Eleventh Avenue with the Piazza addresses Eleventh Avenue and the School learning space arranged around the Forum space. The Hall has been sited to provide a built form to the intersection of Eleventh Avenue and Fourth Avenue.

Figure 16 – Site Layout Option One

Source: Munns Sly Moore

Advantages

- Connection of the Piazza/School entrance to the existing St Anthony of Padua Catholic Church to the north-east
- Connection of Piazza and Craik Park affords an opportunity for community integration and activity outside of School hours
- Connection with Craik Park to the north
- Piazza has northern orientation and is protected from winds from the south, east and west by built form
- Opportunity for entrance to connect with proposed pedestrian/bicycle path along Tenth Avenue
- Integration of existing trees into landscaped open space
- Potential for connectivity of landscaped/open space (including playing filed and courts) and urban open space and Craik Park

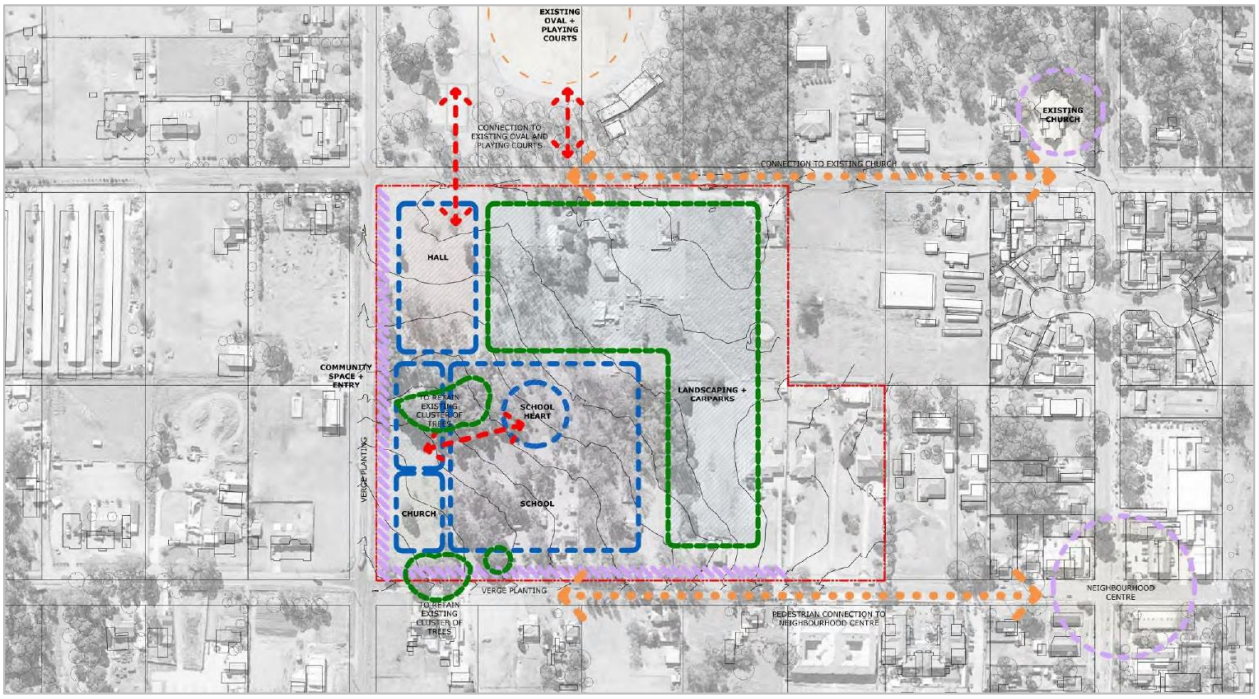
Disadvantages

- School address to Eleventh Avenue is isolated from the Austral Neighbourhood Centre;
- Playing fields and playing courts and disconnected from Craik Park

Option Two

Site layout option two orientates the School to address Fourth Avenue in the south. Similar to Option 1 the School learning space arranged around the Forum space. The Hall has been sited to provide a built form to the intersection of Eleventh Avenue and Fourth Avenue.

Figure 17 - Site Layout Option Two



Source: Munns Sly Moore

Advantages

- Improved interface with Tenth Avenue, and connection to Austral Neighbourhood Centre
- Provides activated interface with Fourth Avenue
- Improved connectivity of landscaping and open space and Craik Park to the north

Disadvantages

- The Piazza space orientated to the west, resulting in potential overshadowing from the hall and potential for westerly wind impacts
- Existing School buildings would need to be relocated to integrate and provide appropriate connections with the proposal

Option Three

Site layout option three orientates the School to address Fourth Avenue in the south. Similar to Option 1 the School learning space arranged around the Forum space. The Hall has been sited to provide a built form to the intersection of Eleventh Avenue and Fourth Avenue.

Figure 18 - Site Layout Option Three

Source: Munns Sly Moore

Advantages

- Good connection of the Piazza and School entrance to Austral Neighbourhood Centre
- Opportunity for School entrance to connect with proposed pedestrian/bicycle path along Tenth Avenue.
- Potential for connectivity of landscaped and open space and Craik Park to the north

Disadvantages

- The Piazza space orientated to the west, resulting in potential overshadowing from the hall and potential for westerly wind impacts
- Existing School buildings would need to be relocated to integrate and provide appropriate connections with the proposal

7.2.2. Stage 1 Works

The following subsection addresses building height, density, bulk and scale, setbacks, design quality, site layout, streetscape, open spaces, façade, rooftop, massing, setbacks, building articulation, materials and colours.

Building Height

In order to minimise impacts associated with building height (overlooking, overshadowing and dominance of the public domain) Munns Sly and Moore have sought to consolidate built form vertically rather than horizontally. The proposals built form and layout has adopted a principle of consolidating buildings and mass in the centre and north of the site so that the southern, western and eastern parts of the site read as predominantly open space or car parking. This is especially important given that there are existing and future sensitive residential properties in the east, south and west, whereas the site directly to the north of regional open space.

The following section extract illustrates how the height of the proposed buildings will be perceived from the public domain. Given the large setbacks across the majority of the site the height of buildings will not dominant the public domain.

Figure 19 – View angle from Fourth Avenue

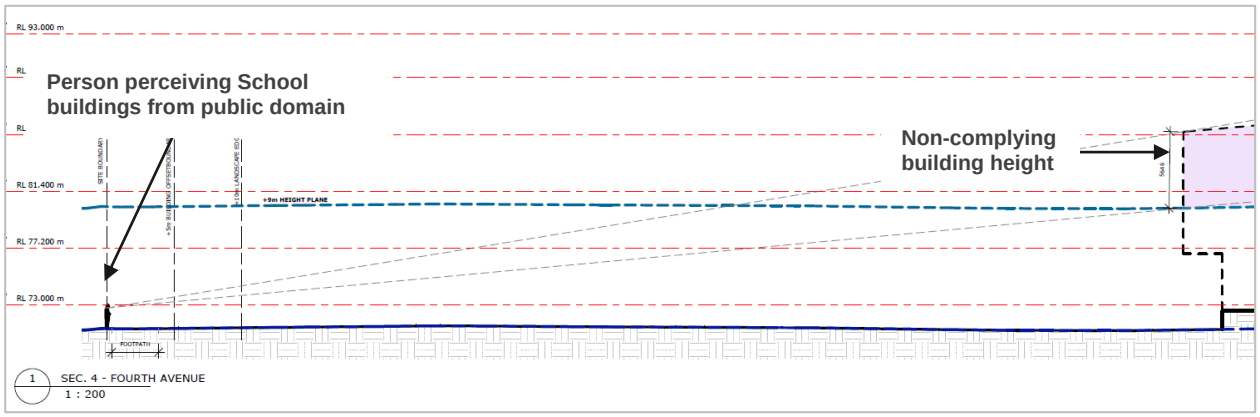
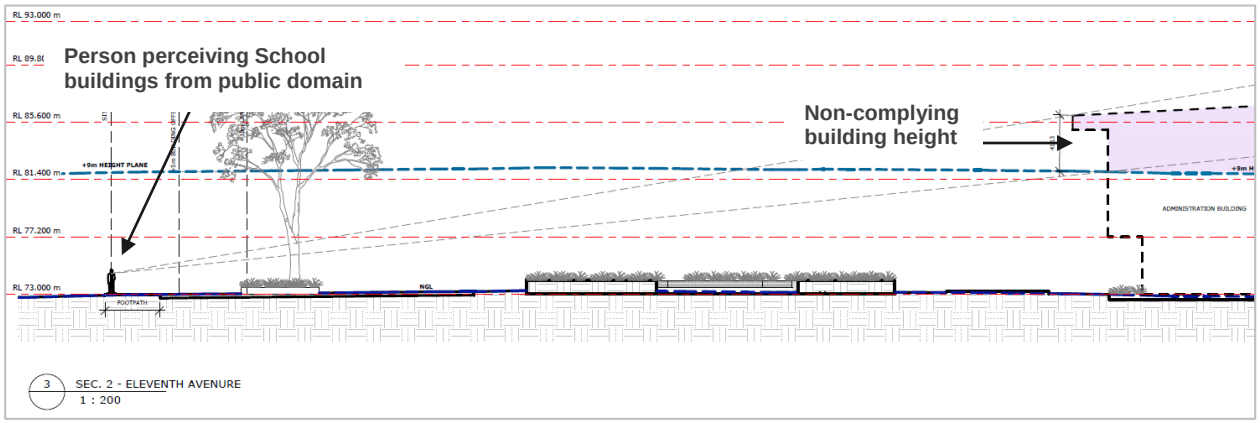


Figure 20 - View angle from Eleventh Avenue



Source: Munns Sly Moore Architects

Bulk, Scale & Setbacks

The proposal is considered a superior development outcome (in terms of bulks and scale) when compared to a residential subdivision contemplated under the ILP. The bulk and scale of the proposal is located in the centre and north of the site, as well as building vertically rather than horizontally, to minimise the visual impact of the built form and afford significant opportunities for landscaping, open space, and passive and active recreational areas.

Significant setbacks are provided on the eastern, southern and western site boundaries. The hall and church buildings provide smaller setbacks however maintain a 10 metre building setback to Eleventh Avenue and a 17.5 metre setback to Fourth Avenue. The impact of the reduced setbacks is less severe in the northern part of the site as there are no existing and planned residential properties on the site to the north.

All setbacks will be landscaped to soften the edge of the site. Where there is built form located in close proximity to the public domain such as the indoor pool and hall building on the corner of Eleventh Avenue and Fourth Avenue, significant landscaping is provided to mitigate the visual impact.

Site Layout

The layout of the proposal is considered to be appropriate for the site, future educational and community use and surrounding context for the following reasons:

- The proposal has been sited to respond to the needs of the local environment through clustering the bulk of the buildings to the central northern area of the site. In doing so, areas of existing vegetation are able to be retained on site, maintaining the character of the surrounding area whilst also reducing any perceived visual impacts.
- The consolidation of buildings in the northern centre of the site is considered a superior outcome for future residents of the area as an alternative approach would spread the buildings to the edge of the site and occupy a larger area of the site. As such the proposed design achieves greater setbacks from future residential interfaces, providing better solar access generally, and also enabling areas of vegetation to be retained around the outer areas of the site to retain aesthetic and amenity values.
- The café and future church are located within the Piazza area surrounded by built form and away from any sensitive receivers. As such the layout of the site mitigates impacts such as noise and nuisance.
- Other benefits of locating the building away from residential interfaces includes improved acoustic impacts as discussed later in this EIS.

Materials & Colours

The detailed proposal has been designed with a variety of materials and finishes including:

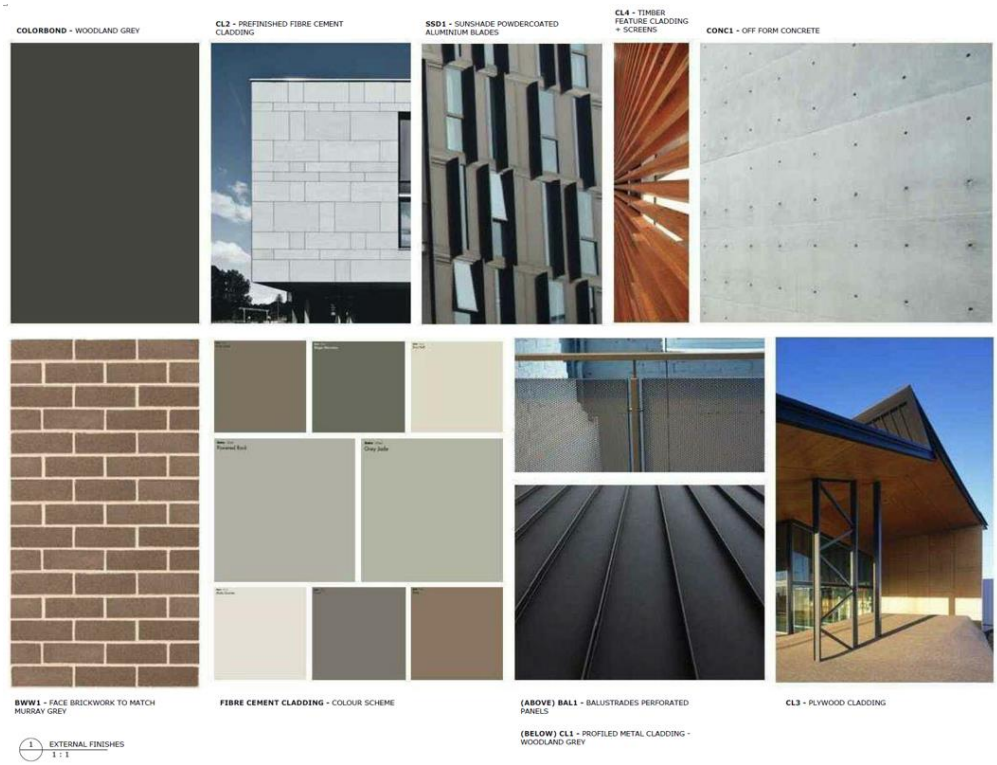
- Fibre cement cladding
- Aluminium blades
- Timber cladding and screening
- Off-form concrete
- Face brickwork
- Metal cladding
- Plywood cladding

The following figure provides an extract of the external finishes schedule.

The materials have been selected to be low maintenance, durable and cost-effective. The material and colour palate seek to integrate with existing and future native plantings and to be sympathetic to the existing the natural setting and future residential neighbourhood.

Refer to the Design Report at Appendix E for further detail on colours, materials and finishes.

Figure 21 – External Finishes Schedule



Source: Munns Sly Moore Architects

Streetscape

The site layout and programming, architecture and landscaping make a significant positive contribution to all three street frontages for the following reasons:

- **Eleventh Avenue** – Eleventh Avenue is the key entrance for the School and interfaces with the regional park to the north. The proposed Piazza provides a shared civic space along with establishing a sense of community for both the School and the local community. Built form surrounds the Piazza including the bell tower which encloses the space on all edges.

  The provision of dense landscaping, complementary materials, articulated architecture on the Eleventh Avenue frontage and the Piazza area provides a positive contribution to the streetscape, as illustrated in Figure 22.

- **Tenth and Fourth Avenue** – The sites edge is softened with avenue trees that will grow up to 15-30 metres high and 8-10 metres wide providing shade to pedestrian routes. The existing remnant trees located to the south of the market garden and in the south-western corner of the site are also to be retained also enabling integration with the existing character of the streetscape.

Figure 22 – Piazza fronting Eleventh Avenue

Source: Munns Sly Moore Architects

Open Space & Landscaping

The consolidated site layout and locations of building footprints provides opportunity for ample passive and active open space through the site. Key open spaces include:

- Piazza area fronting onto Eleventh Avenue offering a civic entrance to the site and opportunities for public events
- Large outdoor learning area and play space located to the west of the Forum Complex affording passive and active recreation
- Large outdoor learning for existing kindergarten fronting Eleventh Avenue
- Soccer field and sports courts in the south of site

The open space and landscape proposal delivers the following positive benefits:

- Delivery of healthy, safe and inclusive places that support active and socially connected communities.
- Provision of a variety of community based facilities within a low density residential environment. The future character of the area provides opportunities for people to walk and cycle to Schools, local shops and community services.
- The proposed layout will be of a high quality and provide links and access to open space, in turn providing greater value for residents and users.
- Provides a diverse mix of outdoor passive and active play and learning opportunities for children and local residents.

Service Areas

All servicing, deliveries, loading and waste management will occur via a dedicated service driveway accessed off the Fourth Avenue carpark. The loading area will provide for rigid trucks to enter the site, circulate and exit in a forward direction. The access driveway, loading and manoeuvring area will be provided to accommodate the swept paths of these vehicles, in accordance with Australian Standard 2890.2 – 2002.

Detail regarding the type and location of plant equipment is unknown at this stage however will be integrated into the design of the building to ensure visual impact is minimised.

Built Form & Urban Design – mitigation measures

No cumulative impacts are anticipated to be associated with the design and layout of the site. Relevant mitigation measures include:

- Integrated plant equipment and waste storage areas into the design of the buildings and School to minimise visual impact.
- Install landscaping in accordance with the landscape drawings.
- Construct buildings with materials and finishes in accordance with the architectural drawings.

7.3. TRAFFIC & PARKING

Colston Budd Rogers & Kafes have prepared a Transport and Accessibility Impact Assessment (TIA) (Appendix Q) to respond to the detail set of SEARs.

7.3.1. Concept Proposal

The TIA assessed the church and trade training centre as having minimal potential traffic impact above what will occur as part of the operation of the school.

The future church operation will replace the existing church on Eleventh avenue therefore the net increase of vehicle movements will be minimal. The road and transport upgrade works provided as part of Stage 3 will adequately accommodate the traffic generation of the church operation during Sunday service. The future church will have access to school parking on Sundays, without requiring additional parking.

The traffic assessment informing the proposed road upgrade works included the provision of the trade training centre at the south-west of the site. The operation of the trade training centre will not result in any significant traffic impact above the operation of the school. The trade training centre includes a dedicated parking area which will accommodate future user.

Further traffic and parking assessments will be undertaken during the preparation of the subsequent DAs once final operational details are known.

7.3.2. Stage 1 Works

Traffic Generation

The TIA has assessed the previous transport studies for the Austral and Leppington North Precinct and the South West Priority Growth Area to determine the base case of peak hour traffic flows for when the precinct to fully developed in 2036.

Colston Budd Rogers & Kafes have found that traffic flows for Eleventh and Tenth Avenues were omitted from the previous studies and find that based on the ILP land uses and road hierarchy flows on Tenth and Eleventh Avenue would be approximately 200 to 400 vehicles per hour two-way at peak times.

Based on the total School population (children, staff and visitors) the TIA finds that the proposal would generate approximately 1,500 vehicles per hour two-way during morning and afternoon peak periods at the start and finish times of the School.

The assessment includes the total children, staff and visitor numbers, including the traffic generation associated with the child care centre.

To estimate the traffic generated by the proposal beyond what was originally modelled in the previous traffic studies, Urbis has calculated an indicative residential dwelling yield that could be accommodated on site to determine the traffic generated on site if it was developed strictly in accordance with the ILP (low-density residential). This calculation considered:

- Site area of 10.93ha
- Efficiency of 70% of site being used for residential lots (76,510sqm for residential lots)
- The site has a minimum lot size control of 300sqm (76,510 / 300 = 255)

Accordingly, 255 residential lots can be accommodated on site. The TIA finds that this lot yield would generate approximately 200-300 vehicles per hour two-way.

The proposal would generate approximately 1,500 vehicles per hour two-way.

The TIA assessment assumes an additional 1,300 vehicles per hour two-way is generated by the proposal above what has already been studied and planned for.

Figure 23 and Figure 24 show the comparison of traffic flows on key precinct roads for the ultimate precinct with and without the development. The proposal increases traffic (beyond what was contemplated in the previous traffic studies) on Fourth Avenue and Edmondson Avenues by approximately 220 – 520 vehicles per hour two-way at peak times.

Figure 23 – Austral and Leppington North Precinct – Ultimate Precinct Traffic Flows – without proposed development

Table 2.1: 2036 two-way peak hour traffic flows for ultimate precinct development			
Road	**Location**	**Weekday morning**	**Weekday afternoon**
Edmondson Avenue	North of Eleventh Avenue	1,610	1,920
	North of Tenth Avenue	1,500	1,480
	South of Tenth Avenue	1,340	1,660
Fourth Avenue	North of Eleventh Avenue	770	870
	North of Tenth Avenue	670	940
	South of Tenth Avenue	610	620

Source: Colston Budd Rogers & Kafes

Figure 24 - Austral and Leppington North Precinct – Ultimate Precinct Traffic Flows – with proposed development

Table 3.1: 2036 two-way peak hour traffic flows plus development traffic					
Road	**Location**	**Weekday morning**		**Weekday afternoon**	
		2036 base	Plus development	2036 base	Plus development
Edmondson Avenue	North of Eleventh Avenue	1,610	+350	1,920	+350
	North of Tenth Avenue	1,500	+240	1,480	+240
	South of Tenth Avenue	1,340	+520	1,660	+520
Fourth Avenue	North of Eleventh Avenue	770	+260	870	+260
	North of Tenth Avenue	670	+220	940	+220
	South of Tenth Avenue	610	+370	620	+370

Source: Colston Budd Rogers & Kafes

To accommodate for the increase in traffic flows generated by the proposal and other density increases in the precinct, the following road works will be required to ensure appropriate intersection performance:

- Widening of Fourth Avenue, Tenth Avenue and Eleventh Avenue along the site frontages to provide four lanes, indented bus bays and turning bays (to be delivered as School population increases - expected 2025)
- Traffic signals at the intersections of Fourth Avenue with Tenth Avenue and Eleventh Avenue to cater for traffic flows and pedestrian connectivity (to be delivered as School population increases - expected 2028)
- Traffic signals at the intersection of Edmondson Avenue with Eleventh Avenue (to be delivered as School population increases - expected 2031)

Intersection Performance

With the inclusion of the above road works, the performance of the following intersections was assessed using SIDRA modelling:

- Fourth Avenue / Tenth Avenue
- Fourth Avenue / Eleventh Avenue
- Edmondson Avenue / Tenth Avenue
- Edmondson Avenue / Eleventh Avenue

The model output found the following intersection performance with the proposed works:

- **Fourth Avenue / Tenth Avenue:** average delays of less than 25 seconds per vehicle during peak periods (Service B, a good level of service)
- **Fourth Avenue / Eleventh Avenue:** average delays of less than 25 seconds per vehicle during peak periods (Service B, a good level of service)
- **Edmondson Avenue / Tenth Avenue:** average delays of less than 35 seconds per vehicle during peak periods (Service C, a satisfactory level of service)
- **Edmondson Avenue / Eleventh Avenue:** average delays of less than 35 seconds per vehicle during peak periods (Service C, a satisfactory level of service)

The road upgrades will accommodate the increased traffic generated by the proposal and also the density increases within the precinct. During consultation with Liverpool Council, they advised that there has been an increase in density than what was originally planned for in the density bands within the SEPP DCP. In comparison to the density bands Council is observing an approximately 30% increase in R2 density (15dw/ha), 5% in R2 (20d/ha) and 16% in R3(25d/ha).

Traffic – mitigation measures

The proposal will generate approximately 1,300 more vehicles per hour two-way compared with a residential subdivision on the site. The impact of this is mitigated through the implementation of the following measures:

- Start and finish times for the junior and senior Schools will be staggered.
- Appropriate provision for non-car based travel, including the measures for buses, pedestrians and cyclists.
- Encourage alternative travel modes for staff other than private vehicle, a travel demand management approach will be adopted, through a workplace travel plan to meet the specific needs of the site, future employees and visitors.
- The provision for 13 buses simultaneously will cater for the School and minimise the usage of private vehicles.
- Road works will be required in addition to those previously identified for the precinct, including:
  - Widening of Fourth Avenue, Tenth Avenue and Eleventh Avenue along the site frontages to provide four lanes, indented bus bays and turning bays (to be delivered as School population increases - expected 2025)
  - Traffic signals at the intersections of Fourth Avenue with Tenth Avenue and Eleventh Avenue to cater for traffic flows and pedestrian connectivity (to be delivered as School population increases - expected 2028)
  - Traffic signals at the intersection of Edmondson Avenue with Eleventh Avenue (to be delivered as School population increases - expected 2031)

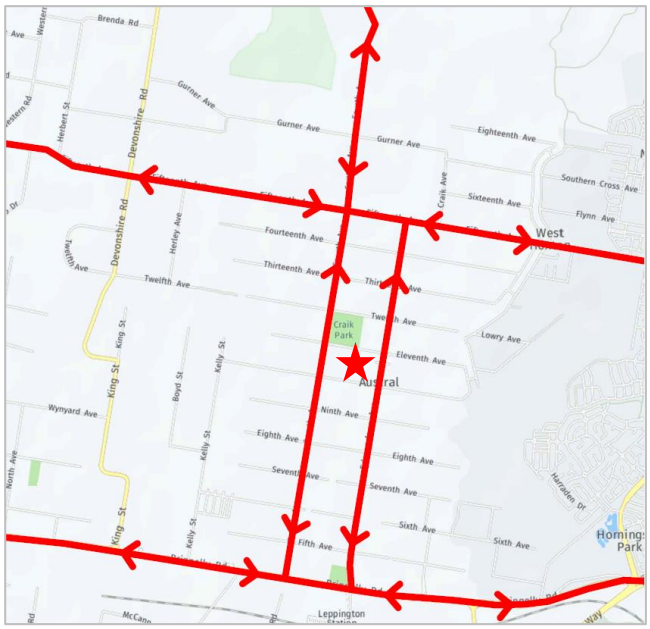
Through the implementation of these measures the surrounding road network (including key intersections) will operate at good or satisfactory levels of service. The proposed road works will also cater for increase residential densities in the precinct. On balance, the proposal will improve the overall traffic outcome of the precinct, for both School users and surrounding residents and visitors.

Construction Traffic

It is expected that 100 construction vehicles per hour two-way at peak times will access the site during the construction phase. Construction vehicles will use major roads in the area, including Fifteenth Avenue, Edmondson Avenue, Bringelly Road and Fourth Avenue (as shown on in the figure below).

On-site parking will be made available for construction employees. As the proposed car parks are completed, they will be made available for construction employee parking. This will minimise the quantum of construction employee vehicles parking in surrounding streets.

Figure 25 – Construction Truck Routes



Source: Colston Budd Rogers & Kafes

Construction Traffic – mitigation measures

With any construction activity there will be inevitable impacts resultant from construction traffic such as intersection delays, pedestrian, bicycle and car safety. These impacts can be mitigated through the implementation of a detailed Construction Management Plan addressing the following matters:

- vehicle access to the site during construction
- construction vehicle routes
- management of traffic and parking impacts
- measures to manage and protect pedestrian movements
- on-street works zones
- measures to manage and control construction traffic at the site
- manage and control vehicular movements to and from the site

With the implementation of these measures the impacts from construction over the development program can be minimised.

7.3.3. Parking

The proposal (2,480 students and 200 staff) is required to provide at least 273 parking spaces under the provisions of Liverpool Growth Centre Precincts Development Control Plan (the DCP). The overall development provides 317 car parking spaces and 143 set down/pick up spaces in the following locations:

- 124 spaces in the north-western part of the site (99 parking spaces plus 25 set-down/pick-up spaces)
- 32 spaces on the south-western part of the site
- 33 spaces adjacent for the child care centre
- 152 spaces on the south-eastern part of the site (114 parking spaces plus 38 set-down/pick-up spaces)
- 118 spaces on the eastern boundary of the site (39 parking spaces plus 80 set-down/pick-up spaces)

The proposed provision is one space per 17 students, which is consistent with other comparable Schools. The quantum of parking provided in consistent with the DCP and is appropriate for the proposed land use on site.

Set-Down & Pick-Up

With the proposed School population, it is critical to ensure that the infrastructure supporting the set-down and pick-up operation is appropriate and adequate to accommodate the expected volumes of vehicles.

A proposed internal road will be provided on the eastern side of the site, connecting Tenth and Eleventh Avenues. It will provide a two-way connection and will provide for set down and pick-up activity on both sides. Driveways at Tenth and Eleventh Avenues will provide for access to and from this area. The area provides 65 set-down pick-up spaces.

Given there are spaces provided on both sides of the internal road there is a potential for children to run across the road during peak periods. The mitigate the potential risk, a pedestrian bridge is provided in the northern area to afford safe access for users parking on the eastern side of the road. The internal road will also be managed by School staff during morning and afternoon peaks.

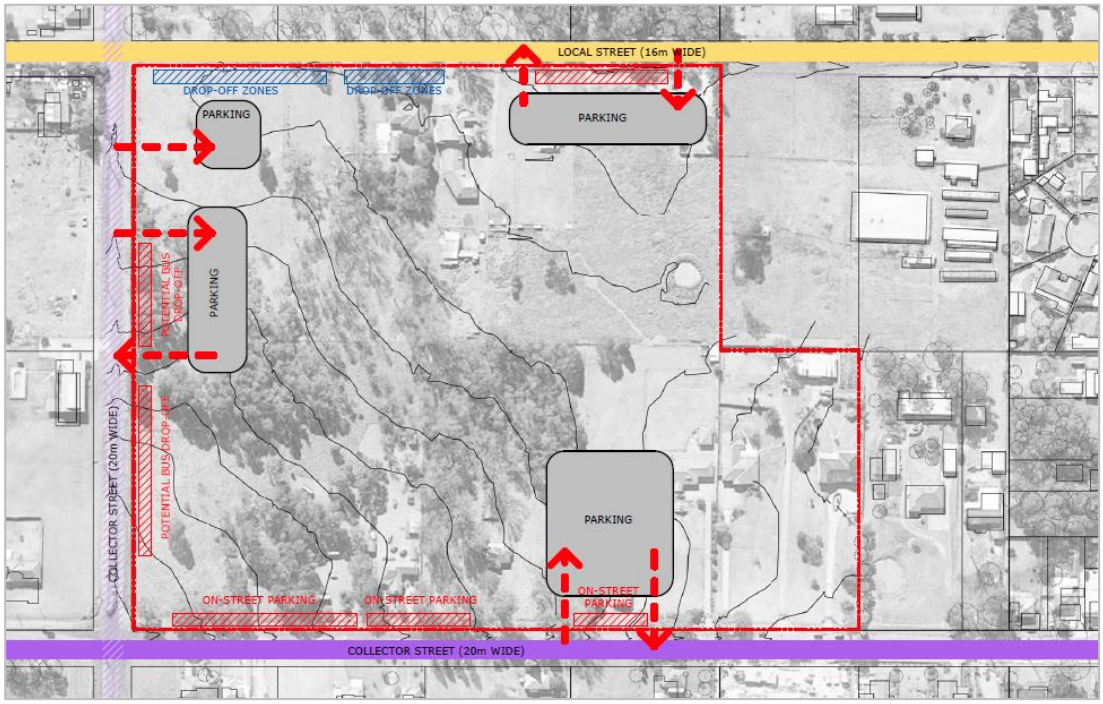
The length of the internal road and the management measures to be employed will ensure that all parking we occur on site.

Vehicle Access

The proposal will contain access points as outlined below:

- Vehicular access and car parking accessed from Eleventh Avenue (existing).
- Vehicular access, car parking and service driveways accessed from Fourth Avenue.
- Vehicular access and major car park accessed from Tenth Avenue.
- A private road is proposed to run down the entire eastern boundary of the site (from Eleventh Avenue to Tenth Avenue) to be used for pick-up and drop offs.

Figure 26 – Vehicle access points

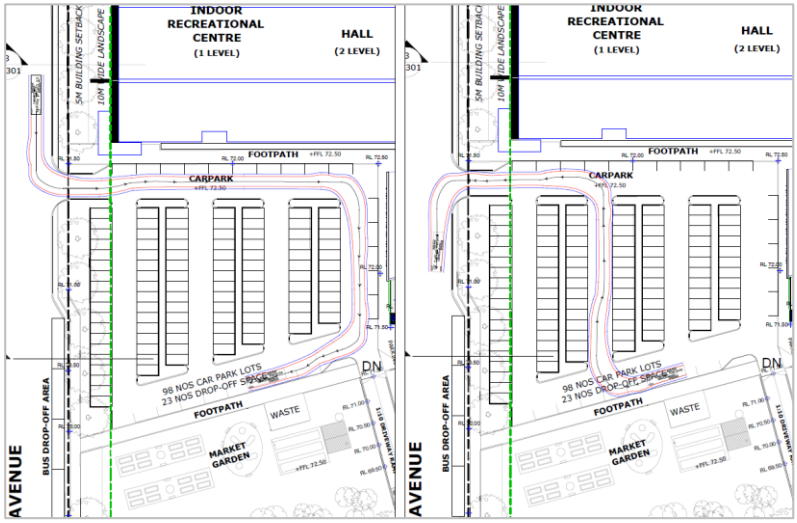


Source: Munns Sly Moore Architects

Service vehicles including garbage collection and deliveries will access the loading and waste collection area via the Fourth Avenue carpark. A pedestrian pathway is provided to improve safety at the mouth of the service driveway. All service vehicles can enter the site, circulate and exit in a forward direction, as shown on the swept path analysis at Appendix Q.

All private vehicles will be able to enter, circulate and exit the site in a forward direction. The following figure provides the swept paths for garbage trucks accessing he western carpark.

Figure 27 – Swept Path Diagrams



Source: Colston Budd Rogers & Kafes

Parking & Access – mitigation measures

- No parking provision mitigation measures required as the proposal provides an appropriate quantum of parking spaces for the land use and population.
- The proposed internal road connecting Tenth and Eleventh Avenues provides off-street space for safe set-down and pick-up. The design of the set-down and pick-up area minimises on street queuing and other traffic and parking impacts experienced at Schools during morning and afternoon peaks.
- Install a pedestrian bridge over the set-down and pick-up internal road for safe access.
- The on-site parking areas for set-down and pick-up (in the north-western and south-eastern car parks, and on the eastern side of the site) will be managed by School staff during the morning and afternoon set-down and pick up periods to ensure traffic moves safely and efficiently.
- It is expected that 'School zone' speed signage would be introduced on roads adjacent to the School.

Through the implementation of these measures the potential risks associated vehicle accessing a School site can be mitigated.

7.4. VISUAL PRIVACY

In the context of the proposed development, impacts associated with visual privacy result from upper levels of the School buildings overlooking on adjoining existing and future residential properties in the east, west and south. There is no potential visual privacy impacts to the open space to the north of site.

There are minimal impacts of visual privacy to existing and future residential properties for the following reasons:

- The proposal has been appropriately designed to prevent adverse privacy impacts on surrounding residents including:
  - Appropriate densities of landscaping at the southern and western boundaries.
  - Adequate separation between surrounding private properties and School buildings with upper windows.
  - The siting of the School has consolidated buildings in the centre and north of the site away from sensitive residential properties.
- The School will continue to generally operate during standard School hours, when most future residents are at work. This will ensure privacy is maintained during the early morning, evenings and at night.

The following conclusion is made with regard to visual privacy:

- Appropriate separation distances are provided between the School buildings and surrounding private properties.
- Adequate landscaping buffers are provided.

In conclusion, the visual privacy impacts are minor and will not compromise the amenity of surrounding properties. The architectural form and layout (which has been tested with three alternative options) has been developed to ensure visual privacy is maximised.

Visual Privacy – mitigation measures

- Install appropriate landscaping densities at the south and western boundaries should be provided to mitigate any potential visual privacy impact.

7.5. VIEW SHARING

A site visit was conducted on 10 May 2018 to determine if surrounding properties enjoy iconic, high value and/or significant existing views through the site.

Generally given the presence of relatively dense vegetation within the site and on neighbouring sites, and the lack of any iconic views, it is determined that there are no significant or iconic existing views across the site that will be potentially impacted by the proposal. Urbis has determined that a view sharing assessment in accordance with the Land and Environment Court judgement in the matters of *Tenacity Consulting v Warringah* [2004] NSWLEC 140 (the Judgement) is not required for as Commissioner Roseth SC states:

> *"The notion of view sharing is* ***invoked when a property enjoys existing views and a proposed development would share that view by taking some of it away for its own enjoyment.*** *(Taking it all away cannot be called view sharing, although it may, in some circumstances, be quite reasonable.) To decide whether or not view sharing is reasonable, I have adopted a four-step assessment".*

Given there are no iconic, high value or significant views with aspect through the site enjoyed by surrounding properties, the four step viewing sharing test is not required.

It is noted the some of the residential properties to the south (which will be redeveloped in the future for a higher-density low scale residential subdivision) will lose some views through the site to distant trees canopies. While there will be inevitably some impact of low value views from proposal, we consider this is reasonable as:

- The proposed design provides for expansive setbacks, consolidation of building bulk and built form, and substantial building separation to surrounding properties, which results in a design that opens up view apertures for properties in the south.
- While there is a building height variation, this does not bear any additional impact on surrounding properties and the public domain as there are no properties affected by view loss, shadows and bulk and scale, and
- A better design outcome that is compatible with the desired future character and existing development of the area can be achieved by implementing the proposal site layout option.

The proposed design has adopted a range of skilful design solutions, namely expansive setbacks and built form consolidation, which minimise view impacts from surrounding properties. Comparative to other site layout options the proposal allows for a large view aperture.

View Sharing – mitigation measures

No mitigation measures are required.

7.6. SOLAR ACCESS & OVERSHADOWING

The SEARs are common for the Concept Proposal and Stage 1 Works and require the application to assess the amenity impacts on the surrounding locality with regard to solar access and overshadowing. The impact assessment for solar access and overshadowing is conducted in unison given the interrelated nature of both matters. The assessment of shadows considers the following:

- Overshadowing of public places
- Overshadowing of private properties
- Overshadowing of internal spaces

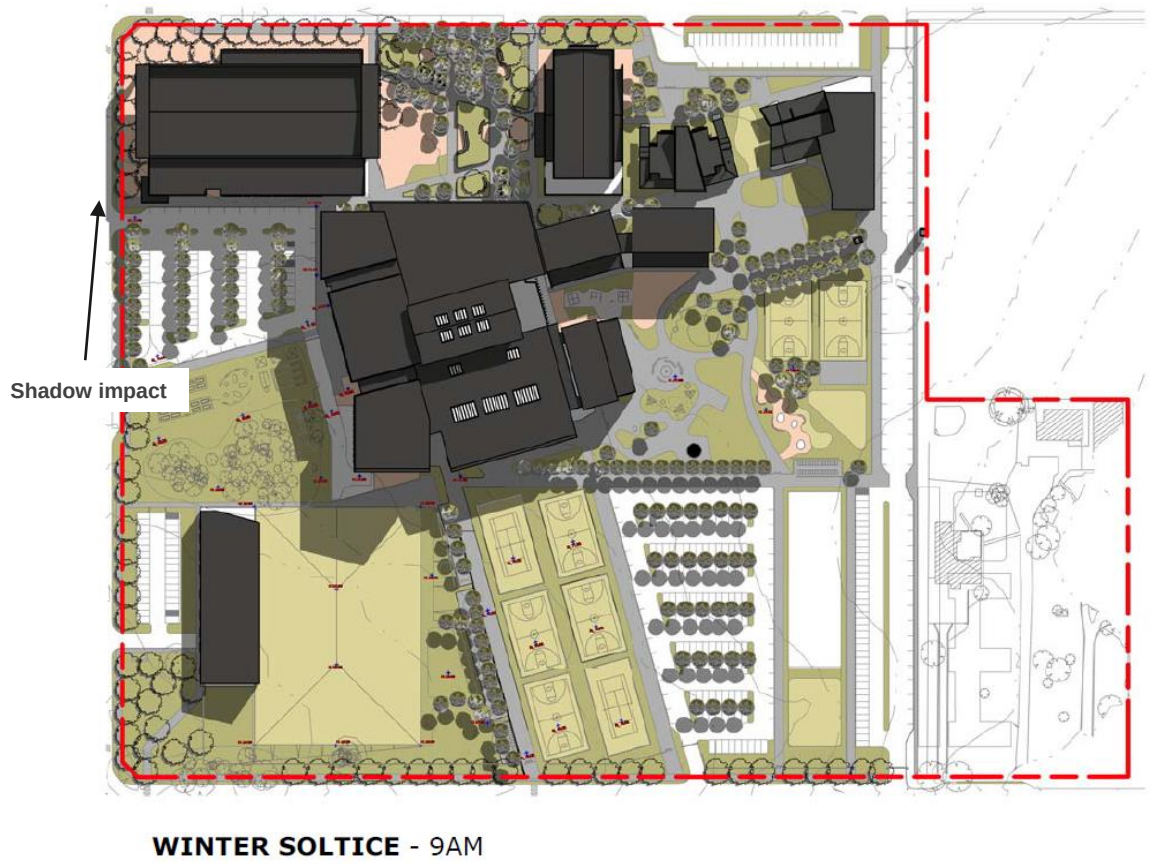
Munns Sly Moore Architects have prepared a shadow analysis in the suite of architectural drawings at 9am, 12pm and 3pm at Summer Solstice, Winter Solstice and Equinox to determine the extent of overshadowing at key times during the day and year.

Overshadowing of public places

Public places surrounding the site include Eleventh Avenue, Tenth Avenue and Fourth Avenue. The only overshadowing impact on a public place is on Fourth Avenue resultant from the 11.5m high hall building on the corner of Eleventh and Fourth Avenue. The impact is the greatest at 9am on the winter solstice. As shown in Figure 28, the extent of shadow impact is minimal and will only occur in the morning. By midday on the winter solstice the shadow from the hall is cast onto the site.

The proposed location of the hall is considered the most appropriate for the minimisation of shadows on the public domain. Site Layout Option 3 located the hall building in the south-west corner of the site which would have resulted in significant overshadowing of Tenth Avenue for most of the day.

Figure 28 – Shadow Diagram – Winter Solstice 9am



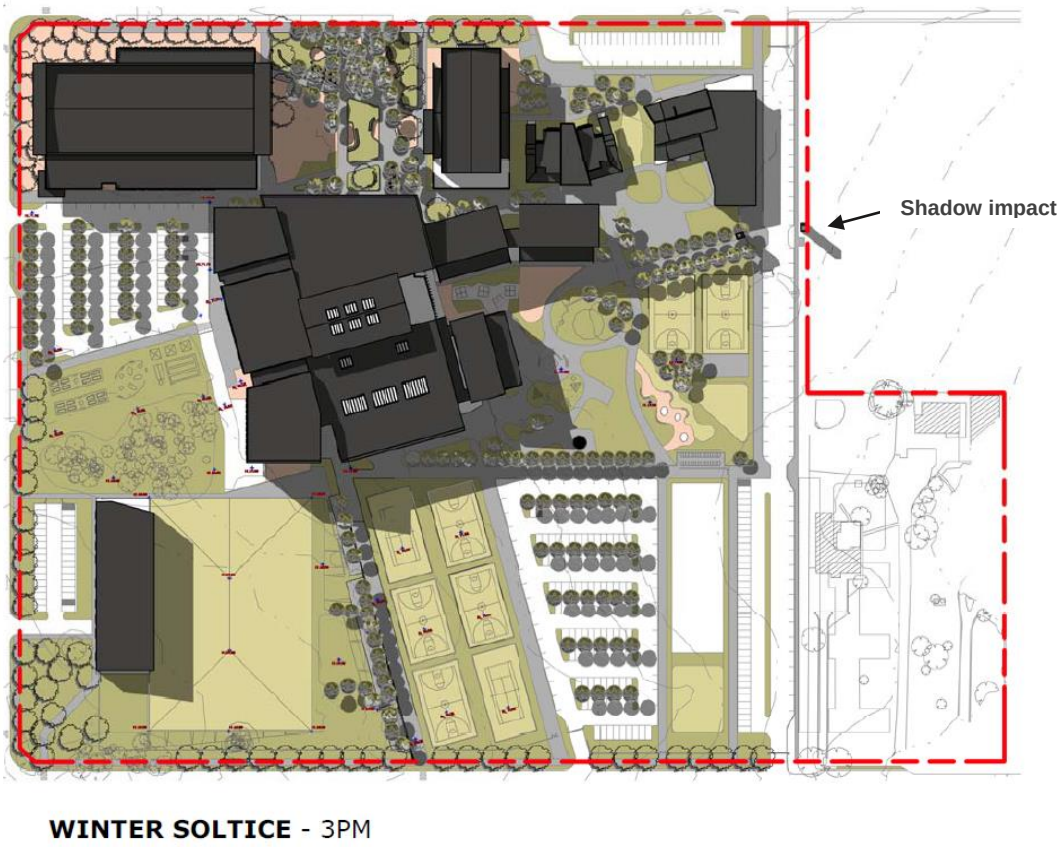
Source: Munns Sly Moore Architects

Overshadowing of private properties

The only overshadowing to a private property occurs on Lot 813 DP2475 located directly to the east on Eleventh Avenue. The impact is the result of the pedestrian bridge for the safe movement of children and persons crossing the drop-off and pick-up road. The impact is the greatest at 9am on the winter solstice as shown in Figure 29.

Given the large area of Lot 813 DP2475, the minor overshadowing impact will not restrict existing and future solar access beyond acceptable levels. The minor impact is offset by the substantial positive benefit of enabling children and persons to cross the drop-off and pick-up road safely.

Figure 29 - Shadow Diagram – Winter Solstice 3pm

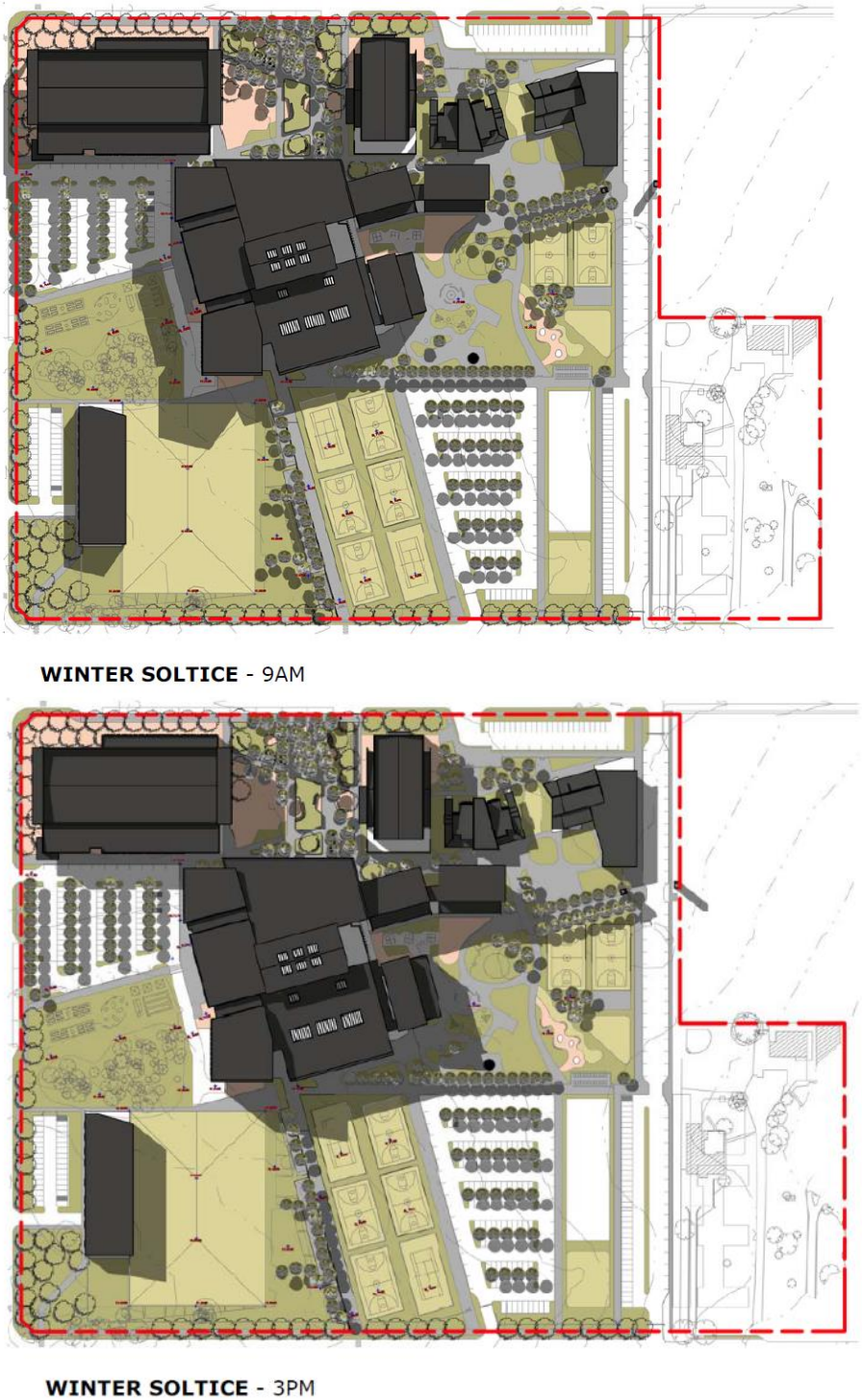


Source: Munns Sly Moore Architects

Overshadowing of internal spaces

The greatest overshadowing of internal spaces occurs at times around 9am and 3pm when the sun is at its lowest point. This is shown in Figure 30. The shadows are cast onto the soccer and hockey fields, however the building mass and circulation paths between the fields and building allow sufficient solar access to enable the healthy growth and maintain of grass and landscaping.

Figure 30 - Shadow Diagram – Winter Solstice 9am and 3pm



Source: Munns Sly Moore Architects

The following conclusion is made with regard to the impacts associated with overshadowing:

- **Overshadowing of public places:** Three site layout options have been considered in the planning of the site. The proposed location of the hall is considered the most appropriate for the minimisation of shadows on the public domain given it locates the hall building in the north of the site and provides an appropriate setback to Fourth Avenue.
- **Overshadowing of private properties:** The minor shadow impact on Lot 813 DP2475 as a result of the pedestrian bridge is offset by the substantial positive benefit of enabling children and persons to cross the drop-off and pick-up road safely.
- **Overshadowing of internal spaces:** The building mass and circulation paths between the fields and building allow sufficient solar access to enable the healthy growth and maintain of grass and landscaping.

In conclusion, the overshadowing impacts are minor and will not compromise solar access for public spaces, private properties and internal spaces. The architectural form and layout (which has been tested with three alternative options) has been developed to ensure solar access is maximised.

Overshadowing – mitigation measures

No mitigation measures are required given the majority of shadows will be contained within the site.

7.7. NOISE AND VIBRATION

Construction Noise and Vibration

There is potential for noise and vibration impacts during construction of the proposed School, due to the proximity of surrounding residential land uses.

Careful management will be required to minimise acoustic and vibration impacts during construction. These measures will be accurately determined in detail when a contractor has been engaged.

Construction Noise and Vibration – mitigation measures

The manage construction noise and vibration, the following mitigation measures are proposed to be implemented:

- Construction hours:
  - Monday to Friday: 7:00 to 18:00
  - Saturday: 8:00 to 13:00
  - Sundays and Public Holidays: No excavation or construction works
- Adhere to a Construction Noise and Vibration Management Plan, including:
  - Appropriate selection, operation and maintenance of plant equipment in order to meet relevant noise criteria
  - Implementation of on-site noise management practices
  - Scheduling work during periods when people are least affected is an important way of reducing adverse impacts
  - Limit the number of trucks on site at the commencement of site activities to the minimum required by the loading facilities on site.
  - When loading trucks, adopt best practice noise management strategies to avoid materials being dropped from height into dump trucks.
  - Avoid unnecessary idling of trucks and equipment.
  - Ensure that any miscellaneous equipment not specifically identified in the plan incorporates silencing/shielding equipment as required to meet the noise criteria.

Operational Noise

A Noise and Vibration Impact Assessment has been undertaken by JHA Consulting Engineers (Appendix S) which:

- Identifies sensitive noise receivers potentially affected by the operation and construction of the proposed development.
- Undertakes noise surveys to determine existing ambient and background noise levels on site.
- Establishes the appropriate noise level and vibration criteria in accordance with the relevant standards, guidelines and legislation.
- Determines whether the relevant criteria can be achieved based on the proposed operations and construction methods.
- Recommends mitigation measures.

In undertaking the assessment, the following sensitive residential receivers were identified:

- Tenth Avenue – 28m from active open space
- Fourth Avenue – 98m from performing arts building
- Fourth Avenue – 57m from gymnasium

An assessment of mechanical plant has not been made given the exact locations and quantities are yet to be determined.

Traffic Noise

Noise generated by the increase in traffic has been assessed based on the expected traffic generation and the prediction of the traffic noise calculated in accordance with the *Calculation of Road Traffic Noise*. The 2036 noise levels as a result of the proposed development, is less than the maximum allowable increase of 2 dB(A) as per the *NSW Road Noise Policy*.

Child Care Centre

An acoustic assessment was undertaken of the child care centre at full capacity (125 children) during outdoor play times. The assessment has assumed children with raised and loud voices, and was assessed at the closest residential receiver.

Children with raised voices results in 86 dB(A) in the site and children with loud voices results in 94 dB(A). The built form on site provides an attenuation buffer as does the 80m distance between the outdoor play area and the residential receiver. The resultant noise level criterion at the closet receiver is 41dB(A) for children with loud voices (worst case scenario). This complies with the *Guideline for Childcare Centre Acoustic Assessment'* prepared by the Association of Australasian Acoustical Consultants (AAAC).

Public Address, School Bell & Tower Bell

The public address and School bell systems have been selected. As such a detailed noise assessment can be undertaken. The Public Address, School Bell Systems and Tower Bell shall be designed, installed and operated such that the systems do not interfere unreasonably with the comfort and repose of occupants of nearby residences. It is anticipated that the noise impact to the nearest sensitive receivers will be negligible.

Outdoor Playground

A primary noise source will be students in the outdoor area during recess and sport activities during School hours and outside of School hours (including weekends). JHA find that there is no exceedance to noise criteria.

Performing Arts Building

The performing arts building has been assessed at the nearest sensitive receiver on Fourth Avenue based on events occurring during night time hours, doors and windows being shut during events, and typical sound levels for concerts and events. The worst case noise scenario (live band at 100dB(A)) results in an 84dB(A) impact at the Fourth Avenue receiver (46dB exceedance without mitigation). This requires a minimum sound insulation rating of at least Rw, 46dB.

Indoor Recreational Centre

The indoor recreational centre has been assessed at the nearest sensitive receiver on Fourth Avenue based on noise from bouncing balls, small sized crowds/spectators, referee whistle noise, intermittent shouting from players/participants and general sporting noise. The noise levels inside the gymnasium are expected to be 86 dB(A) (45dB exceedance without mitigation). This requires a minimum sound insulation rating of at least Rw, 45dB.

Operational Noise - mitigation measures

- Plant equipment:
  - Strategic location and selection of plant to ensure the cumulative noise levels at the receiver boundaries is met.
  - Selection of appropriate quiet plant.
  - Acoustic noise control measures to be put in place to minimise noise impacts such as:
    - In-duct attenuation
    - Noise enclosures as required
    - Sound absorptive panels
    - Acoustic louvres as required
    - Noise barriers as required
  - Undertake an acoustic assessment of all mechanical plant during detailed design.
- No noise mitigation required to manage increased traffic noise.
- The Public Address and School Bell Systems shall be designed, installed and operated such that the systems do not interfere unreasonably with the amenity of occupants of nearby residences. Undertake an acoustic assessment of such systems during detailed design.
- No noise mitigation required to manage outdoor playgrounds and sports fields.
- Shut doors and windows during events in the performing arts building and indoor recreation
- Install minimum sound insulation rating of at least Rw, 46dB to the performing arts building.
- Install minimum sound insulation rating of at least Rw, 45dB to the indoor recreational building.

These mitigation measures can be incorporated into the conditions of consent to ensure operational noise resulting from the proposed School is deemed acceptable.

7.8. CONTAMINATION

The SEARs are common for the Concept Proposal and Stage 1 Works and require the application to assess the proposal against the provisions of *State Environmental Planning Policy No. 55 – Remediation of Land*.

SEPP 55 requires a consent authority to consider whether the land is contaminated, and if so, whether the land will be remediated before the land is used for the intended purpose.

The following site investigation reports have been prepared to determine the extent of contamination and provide a strategy to mitigate the potential risk to the proposed land use:

- Stage 1 Environmental Site Assessment prepared by Environmental Investigation Services
- Asbestos Contamination Assessment prepared by Alliance Geotechnical
- Salinity Assessment prepared by Alliance Geotechnical
- Hazardous Materials Management Survey prepared EHO Consulting
- Remedial Action Plan prepared by Alliance Geotechnical

Based on the above assessments the following was found on site:

- Asbestos was detected at various locations on the site
- In terms of salinity, soils tested onsite are non-saline; non-aggressive to concrete piles; moderately aggressive to steel piles in the vicinity of sampling points BH5 and BH9; mildly aggressive to steel piles in the vicinity of sampling points BH1, BH2, BH4, BH5, BH6, BH7, BH10, BH11, BH12, BH13 and BH14; non-aggressive to steel piles in the vicinity of sampling points BH3 and BH8.

In order to make the site suitable for the proposed use the remediation works will involve excavation and offsite disposal at the locations identified in the RAP. The site can be made suitable for the proposed School use subject to the implementation of the RAP and the following mitigation measures.

7.8.1. Contamination – mitigation measures

Section 9 of Remedial Action Plan prepared by Alliance Geotechnical provides a suite of mitigation measures in the form of a Site Management Plan. The Plan details practices for when undertaking the remediation tasks, including:

- Soil and stormwater management
- Waste management
- Groundwater management
- Noise, vibration, dust and odour control
- Traffic management
- Fill importation
- Work health and safety
- Site security and hours of operation
- Community relations and complaints
- Emergency preparedness

Based on the information presented in previous contamination assessment reports Alliance Geotechnical conclude that the remediation of the site can be made suitable for the proposed land use, subject to the Implementation of the RAP and the preparation of a site validation report.

7.9. ECOLOGICAL SUSTAINABLE DEVELOPMENT

The SEARs are common for the Concept Proposal and Stage 1 Works and require the application to assess the proposal against the principles for ESD. JHA have prepared an Ecologically Sustainable Development (ESD) report to respond to the relevant SEARs. JHA have assessed the proposal against the Green Star Education V1 Rating System, with an objective to achieve a five Star Green rating.

Ecological Sustainable Development Principles

The following 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:

Principle 1: Precautionary principle

The proponent's precautionary approach is demonstrated by the design and management controls to be implemented as part of the proposed development. The aim of the ESD objectives is to minimise impacts on the environment and on the health and well-being of students, staff and visitors. The range of environmental impacts including biodiversity, arboriculture, aboriginal heritage, water network, geological conditions and contamination have been evaluated and assessed and appropriate mitigation measures have been implemented to avoid serious or irreversible damage to the environment.

Refer to Section 9 of this report for the risk assessment of the proposal and the mitigation measures to be implemented.

Principle 2: Inter-generational equity

School aged children (0-19 years) make up a considerable proportion of the study area, representing just under a quarter (24.1%) of the population. By comparison, the broader area is considerably more child dominated with a third (30%) of Liverpool LGA population aged 0-19 years.

The proposal development will not cause any significant impact on the health, diversity and productivity of the environment and will provide a net community benefit through the provision of critical social infrastructure to support the growing population in the precinct

Principle 3: Conservation of biological diversity and ecological integrity

EcoLogical Australia (Appendix J) states that the site is biocertified under section 8.7 of the Biodiversity Conservation Act 2016. This negates the requirement to undertake biodiversity impact assessments and the consent authority is not required to consider the likely impact of the development on biodiversity values of the site. No further assessment of impacts to threatened species, populations or ecological communities is required under the BC Act and EPA Act as the site is exempt.

Principle 4: Improved Valuation, Pricing and Incentive Mechanisms

The proposal has employed costing of different layout and plant equipment options to determine the optimum strategy with regards the whole of life costs in addition to capital expenditure.

7.9.1. Ecological Sustainable Development – mitigation measures

Any development involving demolition and construction activities and the ongoing operation of buildings and facilities will have enviable effects of the environment with respect to the management of waste and use of energy.

An assessment the proposal and the recommended ESD measures throughout the various consultants reports, when viewed on balance finds that the proposal will

The provision of the following ESD measures ensures the School will continue to operate ecologically sustainable throughout the lifespan of the School:

- During the construction phase of the project at least 80% of building demolition and construction waste shall be recycled
- Provide landscaping in accordance with the landscape drawings
- Provide thermal building fabric minimising energy use
- Provide shade devices on the buildings minimising energy use

- Monitor energy use throughout the School ensuring Section J compliance
- Provide efficient air conditioning units
- Provide efficient lighting
- Provide efficient fixtures for water use
- Encourage sustainable modes of transport by locating bicycle parking facilities and bus stops in convenient locations
- The use of lifts within the development will be discouraged by providing visually prominent staircases for all floors
- Implement all recommended water quality treatment devices
- Roofing material with a high solar reflective index can assist with reducing elevated localised temperatures
- Provide cool roof material to improve the efficiency of solar PV panels
- The implementation of the proposed landscaping will reduce the effects of the urban heat island effect

7.10. GEOTECHNICAL

A Geotechnical Assessment has been prepared by Alliance Geotechnical, and is provided at Appendix U.

To enable the development to progress, the Geotechnical Assessment provides preliminary comments and recommendations for groundwater seepage control, excavation practices, batter slopes, foundations, and fill placement and compaction.

Geotechnical – mitigation measures

The Geotechnical Assessment recommends the following additional investigations to be undertaken:

- The construction works should plan to keep the excavation base dry and provide safe and stable working platform by controlling the groundwater seepage by using sump pump method.
- It is expected that the base of the single level underground carpark could be founded within Class IV shale.
- A dilapidation survey on nearby road infrastructures is recommended to be undertaken prior to the commencement of any site excavations.
- Excavation methodology be prepared or reviewed by a geotechnical engineer and structural drawings of the shoring system be reviewed by a geotechnical engineer.
- Every 1.5m depth of the excavation be inspected by an experienced geotechnical engineer before shotcreting.
- The structural engineering drawings for the development provide details of the retaining walls, including foundation bearing capacity, footings, surface drainage and subsoil drainage provisions.
- Found each building on the same foundation stratum to minimise the risk of differential foundation movement/settlement.
- Before pouring concrete, the excavations for the shallow footings should be inspected by an experienced geotechnical engineer to confirm the design assumptions and also to confirm that the bases of the footing excavations are clean and free of soft, loose, wet or disturbed soils.
- If the deep footing is adopted, it is recommended that pile to be designed in accordance with AS 2159-2009 Piling – Design and Installation and design factors presented in clause 4.3 of this Standard should be applied.

7.11. WATER AND SOIL

7.11.1. Water Quantity

Warren Smith and Partners (WSP) has prepared a Civil Engineering Services Report (Appendix G) detailing the proposed system to manage stormwater.

The Council requires that the runoff must not exceed the runoff from the total site prior to the development for the 50%, 20% and 1% AEP storm events. It is proposed that two on site detention systems are installed within the development area, one of which is a below ground tank (OSD Tank 1) and one is above ground (OSD Tank 2) which utilises sporting fields.

WSP confirm (using DRAINS modelling) that the OSD tanks provide sufficient storage volumes to restrict discharge prior to entering into the Council stormwater system at three locations.

7.11.2. Water Quality

WSP has prepared a Water Management Plan (Appendix T) to assess the proposal requirements for stormwater drainage, on site detention and water sensitive urban design to ensure the pollutants from runoff are minimised and compliance is achieved with relevant regulation and the NSW Water Quality Objectives.

WSP find that the following potential pollutants may be generated as a result of the development:

- Gross pollutants
- Sediments
- Nutrients (phosphorus and nitrogen)
- Hydrocarbons

The proposal was modelled MUSIC to determine the efficacy of the following proposed stormwater treatment devices:

- Enviropods will intercept surface runoff at 95 pit grates across the site and filter the runoff prior to entering the piped stormwater system.
- One bio-retention swale will be installed to capture and treat stormwater entering into OSD Tank 2, which will significantly reduce the nutrient content prior to entering the piped stormwater system.

The above pollutants and water quality treatment devices were modelled in MUSIC and found to reduce pollutants beyond regulatory targets, as per the following table.

Figure 31 – MUSIC Model Results

Pollutant	Sources	Residual Load	% Reduction	Target (%)
Gross Pollutants (kg.yr)	1430	23.4	98.4	90
Total Suspended Solids (kg/yr)	12100	1460	87.9	85
Total Phosphorus (kg/yr)	23.5	8.20	65.1	65
Total Nitrogen (kg/yr)	144	62.1	56.8	45

Source: WSP

Water & Soil – mitigation measures

Water Quantity

Install the stormwater system in accordance with the Civil Engineering Services Report (Appendix G).

Water Quality

- Install the water treatment devices in accordance with the Civil Engineering Services Report (Appendix G).

Soil and Erosion

- Construction vehicles leaving the site shall be required to pass over a Temporary Construction Vehicle Entry consisting of a 1.5m long by 3m wide ‘cattle rack’.
- All exposed earth areas where it may be possible for runoff to transport silt down slope shall be protected with a sediment and erosion control silt fence generally installed along the boundaries of the site.
- The fence will be constructed in accordance with details provided by the Department of Conservation and Land Management incorporating geotextile fabric which will not allow suspended particles greater than 50mg/L non-filterable solids to pass through, and as such comply with the appropriate provisions of the Clean Waters Act 1970.
- The construction of the silt fence will include the following:
  - Geotextile fabric buried to a maximum of 100mm below the surface;
  - Overlapping any joins in the fabric, and;
  - Turning up on the ends for a length of one metre in order to prevent volumes of suspended solids escaping in a storm event.
- Existing stormwater infrastructure is also to be protected from incoming sediment using the following methods:
  - Any Council owned road kerb entry and/or gully pits will be protected by Filter Bales and EcoSocks. Additional protection will be provided by inserting Water Clean Filter Cartridges into the gully opening, and;
  - Internal site drainage pits shall be protected by Sediment Traps consisting of hay bales.
- If required, install a sediment basin in the south-western corner of the site towards which the existing site grades. The basin should include:
  - Installation of a fence around the perimeter of the basin
  - Removal of existing reeds
  - Installation of rip rap to allow for bobcat access for periodic removal of sediment
  - Installation of a perforated riser outlet pipe
  - Connection of the riser pipe to an existing pit

Dust

- Loose loads entering or leaving the site will be securely covered by a tarpaulin or like material in accordance with RMS and local Council Guideline.
- Soil transport vehicles will use the single main access to the site.
- There will be no burning of any materials on site.
- Water sprays will be used across the site to suppress dust.
- Spraying water at the rate of not less than three (3) L/s and not less than 700kPa pressure. The area covered will be small enough that surfaces are maintained in a damp condition and large enough that runoff is not generated. The water spray equipment will be kept on site during the construction of the works.
- During excavation all trucks/machinery leaving the site will have their wheels washed and/or agitated prior to travelling on Council Roads.
- Fences will have shade cloth or similar fabric fixed to the inside of the fence.

7.12. WASTE

7.12.1. Operational Waste

The proposal will generate the following primary waste streams:

- General waste
- Co-mingled recycling
- Paper and cardboard recycling
- Secure documents
- Food and organic waste
- Liquid/chemical waste

All waste management will occur via a dedicated service driveway accessed off the Fourth Avenue carpark. The loading area will provide for rigid trucks to enter the site, circulate and exit in a forward direction. The access driveway, loading and manoeuvring area will be provided to accommodate the swept paths of these vehicles, in accordance with Australian Standard 2890.2 – 2002. Refer to the Waste Management Plan at Appendix AA for full detail on waste streams, expected waste volumes, storage areas and volumes, and collection protocol.

7.12.2. Construction Waste

Prior to construction commencing for each stage of the works, the Head Contractor will prepare a Waste Management Plan. The Waste Management Plan will be prepared in accordance with the preliminary Construction and Demolition Waste Management Plan prepared by Foresight Environmental.

7.13. ABORIGINAL HERITAGE

Kayandel Archaeological Services (KAS) have been engaged to undertake the Aboriginal Archaeological Assessment in accordance with the SEARs and also the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (Code of Practice) (DECCW 2010c). The assessment involved:

- Background research (AHIMS searches, archaeological texts, mapping and photo research)
- Field survey (landform inspections, surface exposures, tree inspection to determine cultural modification)
- Aboriginal community consultation (refer to Section 8.2 of this EIS for further detail)

As a result of the background research and field survey finds:

- *As a result of the survey and assessment undertaken for the present study, no previously unidentified Aboriginal sites were identified.*
- *No Aboriginal objects were identified by AMBS during their investigation* in 2010 in the northern part of the subject site.
- The subject site has low archaeological sensitivity as predictive models indicate that artefacts are typically located near water sources (creeks and river banks). Given the closet water sources are located outside of the site boundary, *there is therefore, a low likelihood that Aboriginal sites may be present within the Subject Area.*
- *The potential for archaeological material to be present within the Subject Area is low, and in areas where limited or no sub-surface disturbance has taken place previously, the potential for subsurface archaeological material to be present is low.*

Conclusion – Aboriginal heritage

Based on the extensive Aboriginal archaeological assessment and community consultation it is evident that the site has low significance.

Regardless, there may be potential that sites are uncovered during the construction process. Accordingly, KAS provide the following mitigation measures:

- Prior to the commencement of any ground disturbance works authorised by the SSD, an Aboriginal Cultural Heritage Management Plan should be developed by a qualified and experienced practitioner in Aboriginal cultural heritage in consultation with the Registered Aboriginal Parties.

- The final ACHMP must be kept onsite so that it can be referred to in the event of an unexpected find being identified.
- All relevant staff and contractors should be made aware of their statutory obligations for heritage under the National Parks and Wildlife Act 1974, which may be implemented as a heritage induction.
- If, during the course of development works, suspected historic cultural heritage material is uncovered, work should cease in that area immediately. The Heritage Branch, Office of Environment & Heritage (Enviroline 131 555) should be notified and works only recommence when an approved management strategy has been developed.

With the implementation of the above mitigation measures and by way of the site holding low significance, the proposal will have minimal impact on Aboriginal archaeology.

7.14. FLOODING

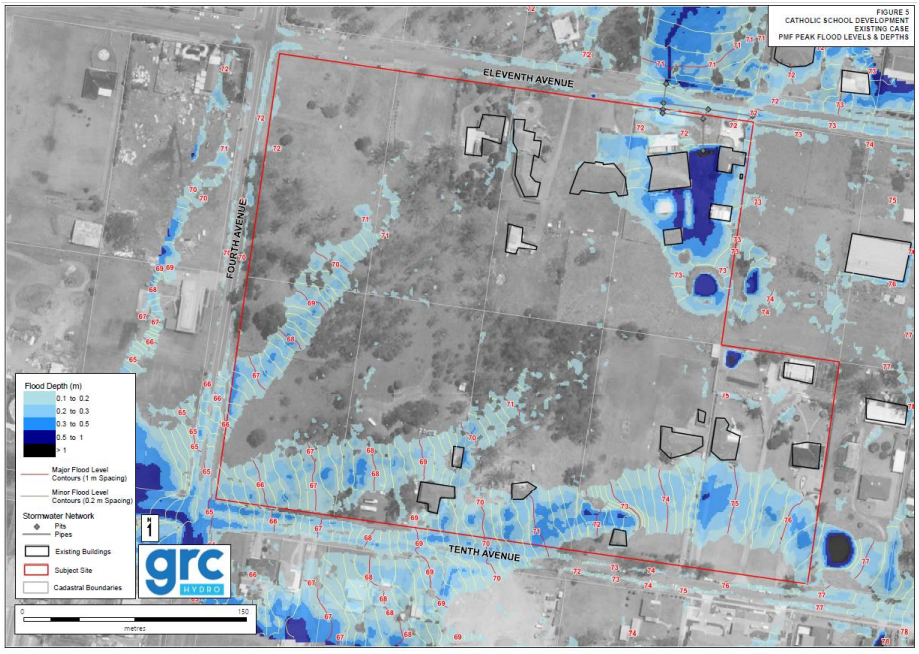
GRC Hydro has undertaken a flood assessment which is attached at Appendix R. Existing flood behaviour was modelled on direct rainfall in a hydraulic model to convert rainfall into flood depths and levels. The modelling was conducted in accordance with methodology recommended in Australian Rainfall and Runoff 1987.

7.14.1. Existing Flood Behaviour

Figure 32 shows the existing 1% Annual Exceedance Probability (AEP) flood affectation. The majority of the flood affectation is in the north of the site in between the existing (to be retained) buildings. Figure 33 shows the existing Probable Maximum Flood (PMF) flood affectation. The PMF is a very rare event, between 1,000 and 10,000 times rarer than the 1% AEP event.

Figure 32 – Existing Flood Behaviour – 1% AEP Peak Flood Levels and Depths

Figure 33 - Existing Flood Behaviour – PMF Peak Flood Levels and Depths



Source: GRC Hydro

7.14.2. Flood Impact Post Development

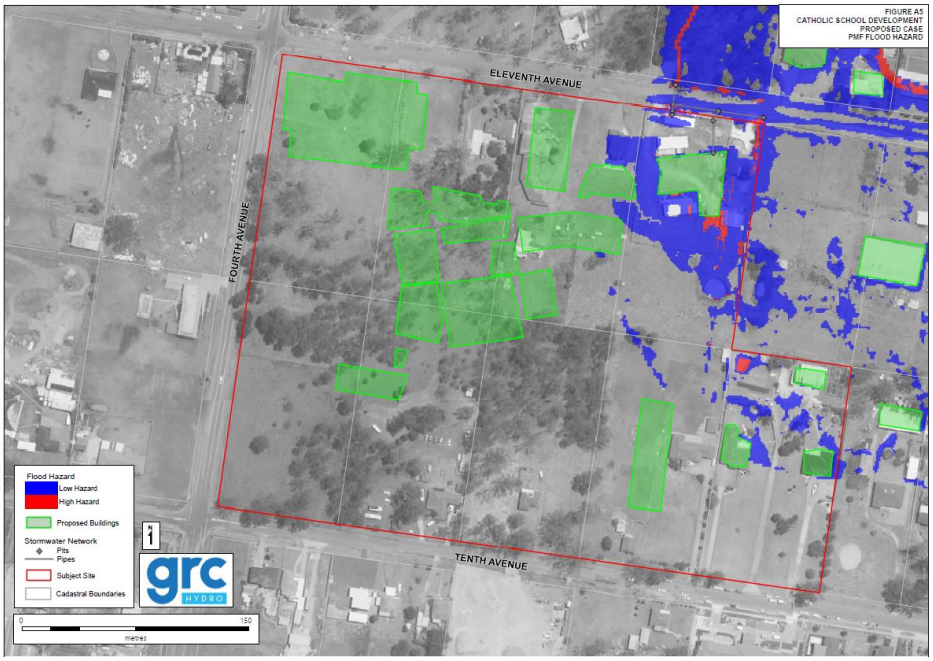
Figure 34 shows the location of flood hazards during a 1% AEP event. Figure 35 shows the location of flood hazards during a PMF event. The flood hazard during the PMF event is located exclusively in the north-east of the site around the existing School buildings.

During the PMF event there are areas of high hazard at the southern perimeter of the existing building. GRC Hydro conclude that on balance the flood risk is low and the risk during the PMF event can be mitigated through implementing ‘evacuation in place mandated by the lack of Effective Warning Time’.

Further GRC Hydro confirm that ‘off-site impact is minimal and where it does occur it is downstream of 11th Avenue in the creek reserve. Importantly flood affectation is not exacerbated for any private property other than the subject site. As the design moves forward the impact identified will be mitigated via the NE roadway.

Figure 34 – Proposed Development – 1% AEP Flood Hazard

Figure 35 – Proposed Development – PMF Flood Hazard



Source: GRC Hydro

Flooding – mitigation measures

The proposal will not generate unacceptable flood impacts for future School users and surrounding properties with the implementation of the following mitigation measures:

- Floor levels must be 0.5 m above the 1% AEP event flood level.
- In the event of flooding, it is recommended that people remain at the site. Flooding will occur immediately following rainfall and off-site evacuation is neither possible nor desirable.
- Prepare a detail flood risk management plan prior to occupation of the first stage.

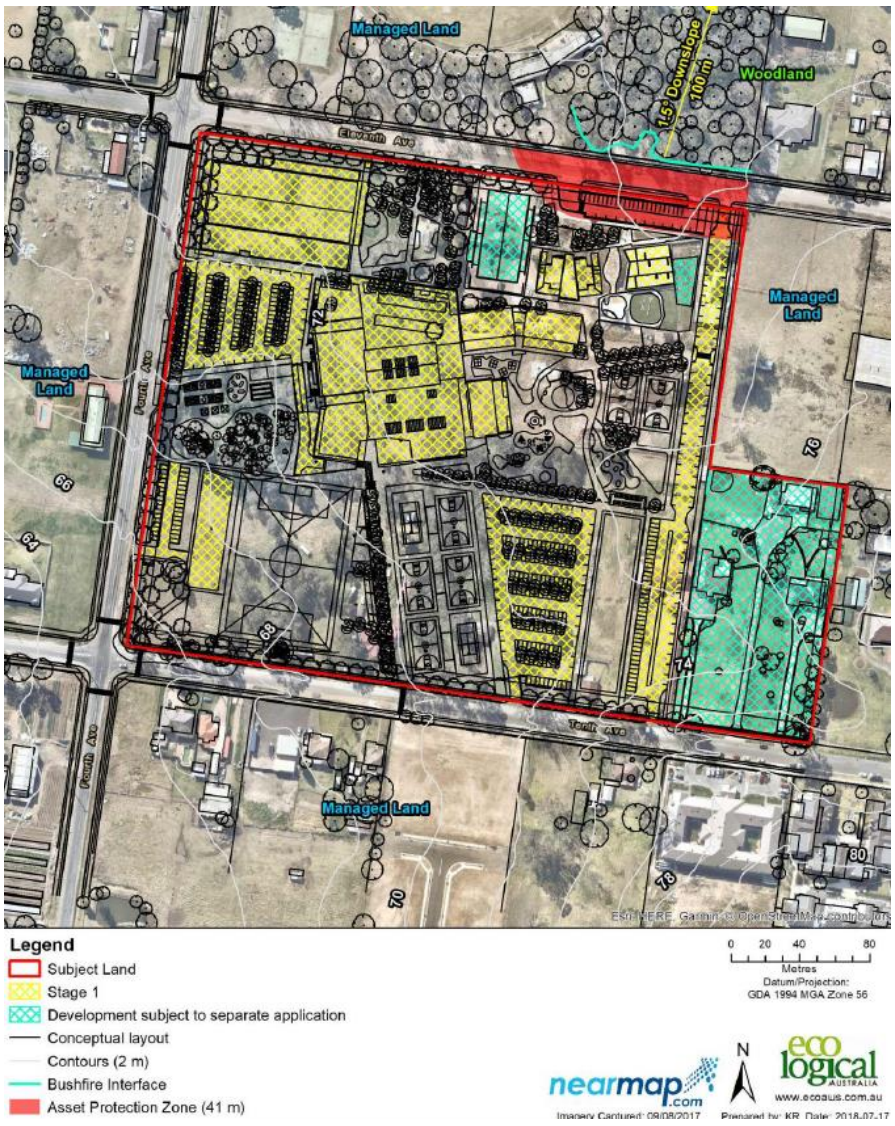
7.15. BUSHFIRE

Eco Logical Australia has prepared a bushfire protection assessment (BPA) in accordance with the SEARs.

Immediately adjoining the site to the north is an area of Shale Plains Woodland that will be kept during the development of the Precinct. The subject site includes some vegetation that is considered to be bushfire hazard however the majority of it will be removed as part of the proposal. Surrounding the site is public roads and well-maintained rural properties with existing buildings. There is no other vegetation that constitutes a bushfire hazard within 100 metres of the site.

Figure 36 indicates the bushfire hazard to the north and features surrounding the site which have informed the bushfire assessment.

Figure 36 – Bushfire Hazard Assessment



Source: EcoLogical

The proposal is classified as a Special Fire Protection Purpose (SFPP) development and has been assessed under section 100B of the *Rural Fires Act 1997* and 'Planning for Bush Fire Protection 2006' (RFS 2006). SFPP developments are required to achieve the APZ performance criteria of '*radiant heat levels not greater than 10kW/m^2 to be experienced by occupants or emergency services workers entering or exiting the building'.*

EcoLogical have assessed the site against the requirements for SFPP developments in order to establish appropriate APZs that achieve the 10kW/m^2. A minimum of 41 metre APZ is required for the church, classrooms and kindergarten buildings. The proposal has been designed to ensure appropriate APZs to all School buildings in the north of the site.

Bushfire – mitigation measures

The following mitigation measures will be implemented to manage the APZ:

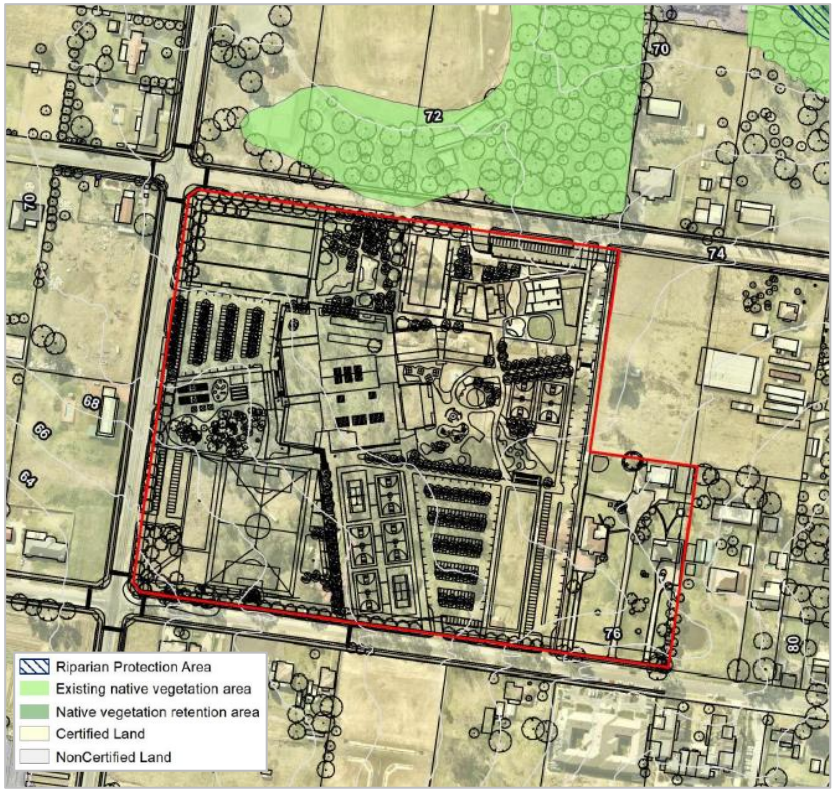
- No tree or tree canopy is to occur within 2 m of the future building rooflines
- The presence of a few shrubs or trees in the APZ is acceptable provided they:
  - Are well spread out and do not form a continuous canopy
  - Are not species that retain dead material or deposit excessive quantities of ground fuel in a short period or in a danger period
  - Are located far enough away from the building so that they will not ignite future buildings by direct flame contact or radiant heat emission
- Any landscaping or plantings should preferably be local endemic mesic species or other low flammability species
- A minimal ground fuel is to be maintained to include less than 4 tonnes per hectare of fine fuel (fine fuel means any dead or living vegetation of <6 mm in diameter e.g. twigs less than a pencil in thickness. 4 t/ha is equivalent to a 1 cm thick layer of leaf litter)
- Any structures storing combustible materials such as firewood (e.g. sheds) must be sealed to prevent entry of burning debris.

7.16. BIODIVERSITY

The site is located on 'biodiversity certified land' according to the *Order to confer biodiversity certification on the State Environmental Planning Policy Sydney Region Growth Centres 2006.*

Figure 37 shows the site is located within the certified land catchment and the existing native vegetation area to the north of the site.

Figure 37 – Site and bio-certified land



Source: EcoLogical Australia

In terms of the assessment of the site's biodiversity values and the impact of the proposed development, EcoLogical Australia (Appendix J) states that the site is biocertified under section 8.7 of the *Biodiversity Conservation Act 2016*. This negates the requirement to undertake biodiversity impact assessments and the consent authority is not required to consider the likely impact of the development on biodiversity values of the site. No further assessment of impacts to threatened species, populations or ecological communities is required under the BC Act and EPA Act as the site is exempt.

7.17. ARBORICULTURE

All new flora species proposed to be planted at the site have been specifically chosen to ensure they are safe within a primary School environment.

The arboriculture assessment prepared by Eco Logical Australia which assessed the value of the trees to be removed to facilitate the proposal. The assessment found that "469 of the trees to be removed from the site have high retention value as a result of being part of the Cumberland Plain Woodland but a large majority of the subject trees have poor vigour as a result of psyllid attack".

Existing biodiversity certification of the site will permit the trees to be removed however will require offsetting in a suitable location.

The design and layout of the site has attempted to retain as many trees as possible such as in the north western area of the study area opposite Fourth Avenue and trees to the southern area of the site.

Although the proposal will remove a large proportion of trees, the redevelopment of the site and removal of trees was contemplated during the rezoning of the area and appropriate certification has been put in place.

7.18. UTILITIES

7.18.1. Water

The proposal includes a connection to the water main at Eleventh Avenue. 10kL rainwater tanks are proposed to be provided to each building and used to supply irrigation only.

A fire booster will be required at the main entrance adjacent to the existing water meter.

7.18.2. Gas

it is proposed to connect gas to the natural gas main on Tenth Avenue. Private gas meters are to be provided at each building.

7.18.3. Sewer

The sewer servicing option shown in the Civil Engineering Report (Appendix G) will provide all future and existing buildings with connections to the Sydney Water sewer at the corner of Tenth Avenue and Fourth Avenue.

7.18.4. Power

The power demands of the full development exceed what can be supplied by one substation. It is proposed to initially install a new substation near the entrance of the existing carpark on Eleventh Avenue. Once further demand is generated, a new substation will be installed in the site near Fourth Avenue.

7.18.5. Communication

The site is currently provided with internet connection which is not in use (dark fibre). The connection will be diverted at Stage 2. NBN installation is due to start in 2019.

7.19. SOCIAL IMPACTS

Urbis has prepared a Social Impact Assessment (SIA) (Appendix J) to identify and analyse potential positive and negative social impacts associated with a development proposal. The significance of potential social impacts, as a result of the proposed School expansion, are assessed by comparing the consequence of the impact against the likelihood of the impact occurring.

7.19.1. Summary of Social Impacts

The SIA considered the following factors:

- Traffic, parking and access
- Access to and diversity of education
- Access to facilities
- Employment and economic impact

A summary of the social impacts is provided below.

Access to and diversity of education

Overall the proposal is very likely to have major positive impacts to the local community, by providing greater access to education services with a higher level of facilities. The positive impacts will be long term and will help meet the demand for greater education facilities as recognised in the Western City District Plan and raised in consultation with Council and Sydney Catholic Schools.

The potential impacts to existing education providers, through increased competition, should be monitored. Ongoing communication with local education providers regarding the School's planning, construction and education offering should be implemented. Potential enhancements to education providers resulting from the School proposal, such as a shared bus service, should be investigated and may act as a mitigation measure.

The potential disruption to the education environment during construction will be temporary and can be mitigated through the implementation of a Construction Management Plan.

Access to facilities

Overall the provision of shared facilities on site is very likely to have a major positive impact on both School users and the local community. The positive impact will be long term and will provide the community with greater access to social infrastructure.

The potential safety impacts relating to the operation of shared facilities on site can be mitigated appropriately through the preparation and implementation of an Operational Management Plan for all shared facilities on site.

Employment and economic impact

Overall the proposal is likely to generate moderate positive impacts by providing greater access to local employment opportunities. These impacts can be enhanced through the implementation of a communication strategy to promote potential employment opportunities on site.

Social Impact – mitigation measures

Based on the above potential issues the following mitigation measures are proposed.

Access to and diversity of education

- Adhere to enrolment limits to maintain quality of education environment.
- Ongoing communication with the School community, residences and education providers to keep them informed of the planning, construction process and education offering.
- Communication strategy to inform broader community of Sydney Catholic Schools equitable access values and education subsides.
- Provision of affordable and non-denominational child care places.

Access to facilities

- Ongoing consultation with Council and the community to understand the needs of the area in finalising shared use facilities on site and in preparation of a Voluntary Planning Agreement.
- Preparation and implementation of an Operational Management Plan for the operation of shared use facilities on site, that support broad community access.
- Communicate the safety designs and management approach of shared facilities to residents and the local community.

7.20. CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

Urbis has prepared a Crime Prevention Through Environmental Design (CPTED) Assessment Report (Appendix H). The CPTED Assessment undertook the following tasks:

- Review of plans and identification of potential CPTED priority areas.
- Review of Council policies.
- Review of demographic profile and crime statistics to identify potential local crime issues.
- Preparation of mitigation measures

The key findings of the CPTED Assessment are provided in the following subsections:

7.20.1. Community Profile

A demographic analysis was undertaken based on 2016 census data from the Australian Bureau of Statistics (ABS) for the study area (approximately 3km radius around the site). Key findings relevant to the CPTED include:

- The study area is broadly characterised as a family area, with the majority of the population living in family households.
- There is limited cultural diversity with the majority of residents born in Australia and only speaking English at home.
- The majority of dwellings in the study area are separate houses which reflects the semi-rural character of the area.
- There are lower levels of unemployment compared to Liverpool LGA and Greater Sydney.

7.20.2. Crime

Crime data from the NSW Bureau of Crime Statistics and Research (BOCSAR) was analysed to identify the crime profile for the suburb of Austral and Liverpool LGA, compared to the NSW average.

Liverpool LGA has experienced a stabilisation in crime rates over the past two years, with a positive decrease in the rates of ‘motor vehicle theft’ and ‘steal from dwelling’. Austral suburb has lower rates of crime compared to both Liverpool LGA and NSW, with the exception of ‘domestic assault’ and ‘break and enter non-dwelling’.

7.20.3. CPTED Assessment

The design has been assessed against the four CPTED principles and the following priority areas were identified:

Vehicle and pedestrian movements

Car parking areas can be common spaces for offences against property or persons. The proposal provides four at grade car parks distributed across the site and generally located in areas that will receive good passive surveillance from School buildings. A network of internal footpaths and pedestrian crossings facilitate safe pedestrian movements.

The design utilises different entry and exit points to enhance safety of different user groups, including a new internal access road along the eastern boundary in order to safely manage drop off and pick up within the site and a service driveway and separate vehicular entrance for the childcare centre.

External layout

External layouts can resolve safety conflicts and improve activation of the urban environment and is considered a priority as Austral has higher rates of ‘break and enter non-dwelling’ compared to Liverpool LGA and NSW.

The proposal clusters School buildings in the northern portion of the site and large area of sports fields and courts are located in the southern portion of the site. Recognising that the area is anticipated to experience significant growth, the southern portion of the site may currently have limited passive surveillance when the sports fields are not in use. Additionally, the northern portion of the site opposite Craik Park may also be

inactive outside of standard School hours. The Landscape Masterplan includes new plantings which will create a clear delineation between public and private spaces.

Maintenance and management

Developments that are well managed and maintained are less likely to attract criminal activity through establishing a sense of ownership and pride for those who live and work close by. The proposal has a large site area and several buildings with different uses. Proper maintenance procedures will be required to ensure that all property damage is repaired in a timely manner to ensure students and staff are not exposed to increased levels of risk to crime.

Construction

Construction activities and staging present a range of potential crime and safety issues, including malicious damage to property and safety risks to site users. Construction safety is particularly important to consider in a School environment.

The proposal will be constructed in 6 stages, with works expected to be completed by 2034. Additional year groups will be added consecutively until kindergarten through to year 12 is operational. Due to the timeframe, construction will be occurring whilst the School is operational.

CPTED – mitigation measures

Based on the above potential issues the following mitigation measures are proposed to ensure the School is designed and operated in a safe manner.

Vehicle and pedestrian movements

- Signalisation of the Fourth and Eleventh Avenue intersection to facilitate safe pedestrian travel in and out of the School as recommend in the Transport and Accessibility Impact Assessment prepared by Colston Budd Rogers & Kafes
- Consider safe movements of future bus services, including drop off/pick up points and turning circles
- Install wayfinding and traffic control signage throughout car parks to safely manage interactions between cars, pedestrians, cyclists and children
- Provide adequate lighting in car parking areas and safe pedestrian routes from carparks to School buildings
- Consider relocating the play area in between Tenth Avenue car parks area to avoid clashes between children and cars or install adequate physical barriers between these uses
- Educate staff, parents and children regarding any changes to the current pick/drop-off procedure, including phasing out informal parking at Craik Park
- Monitor the need for a ‘crossing officer’ at pedestrian crossings during School starting and finish times.

External layout

- Consider shared-use of the site to active the School outside of traditional operating hours. If shared use facilities are provided, a plan of management is recommended to address the provision of access to these facilities whilst limiting access to the rest of the School grounds
- Implement a lighting strategy to active the permitter of the site outside of School hours
- All entry/exit points should be clearly identifiable to discourage entry/exit at unauthorised points
- Entry/exit points should be secured outside of operating hours to prevent unauthorised access to School buildings and facilities

Maintenance and management

- Preparation of an Operational Plan of Management which is to consider the following:
  - Maintenance and repairing strategies of lighting, landscaping and removal of graffiti
  - Shared use agreement procedures (if proposed)
  - Cash management strategies of the café

  - Safety and security induction for staff and visitors

- Rooms with valuable equipment, such as the trade training centre, should incorporate access control measures such as swipe cards or locks to minimise the risk of equipment being taken out of the building or stolen

Construction

- Prepare and implement a Construction Management Plan (CMP) including strategies and procedures specific to a School environment, which may include working with children checks

- Students and staff should be briefed on construction activities that may present a safety or health risk

Overall it is considered that the design incorporates CPTED principles and that the recommendations included in this report are adequate to minimise any crime risks related to the operation and construction of the site to provide a safe environment for students, visitors and staff.

7.21. ECONOMIC IMPACTS

The School currently accommodates 105 Kindergarten to Year 1 students and has approximately 10 supporting staff.

The study area (3km radius around the site) is relatively economically disadvantaged with a lower weekly household income ($1,682) compared to Liverpool LGA ($1,807) and Greater Sydney ($1,750). It is currently characterised by a mix of blue and white collar workers, with technicians and trade workers (18.5%), managers (16.6%) and clerical and administrative workers (14.8%) representing the top three occupation types.

The proposal will generate the following:

- Based on the quantum of works proposed, the construction of the proposal would generate an equivalent of 117 positions in consultancy and construction activities to be created for a 48-month period.

- The proposal will create 200 positions in teaching, administration and maintenance.

Overall the proposal is likely to generate moderate positive impacts by providing greater access to local employment opportunities.

8. CONSULTATION

This section describes the consultation that has been undertaken by the project team during the preparation of this EIS. Consultation has been carried out with Government agencies, Liverpool City Council, Department of Planning and Environment, local and School community, local Aboriginal community, Government Architects Office as required by the SEARs.

8.1. SCHOOL AND LOCAL COMMUNITY

A two-hour community workshop was held on Tuesday 15 May 2018 at St. Anthony of Padua Catholic School, 140 Eleventh Avenue, Austral. Approximately 25 people attended the workshop, with the majority of attendees identifying as existing families of the School. The workshop was attended by members of the

Project Team including:

- St Anthony of Padua Catholic School – Proponent
- Pepper Property – Project manager
- Urbis – Urban planning
- Urbis – Community engagement
- Munns Sly Moore architects – Architect
- CBRK – Traffic consultant.

Liverpool City Council and Councillors were also invited to attend the workshop, with no uptake. Liverpool City Council Strategic Planning Team and Liverpool City Council Mayor were noted as apologies.

At the workshop, feedback was invited via:

- Q/A session during the presentation of the proposed plans and design.
- Direct discussions with members of the Project Team at relevant information stations. Members of the Project Team were briefed to note down key issues and questions raised during the discussions, and these were collated and reviewed as the conclusion of the workshop.
- Feedback forms and reply paid envelopes.

The following table provides a summary of all feedback received and how each matter has been addressed.

Table 11 – Summary of key issues – local and School consultation

Themes	Feedback	Response
Traffic and parking	• Concern the existing roads around the site are too narrow to accommodate a potential increase in traffic, particularly Tenth Avenue. • Concern the potential increase in traffic from the proposal will impact on the availability of street parking on the local road network. • Comment to consider the impact of parking availability at Craik Park from the proposal, as it was indicated this carpark was used for informal School parent/visitor parking.	• Upgrades to the local road network are proposed as part of the SSDA, which include the widening of Fourth, Tenth and Eleventh Avenue, and intersection treatments at Fourth with Tenth and Eleventh Avenues and Edmondson Avenue with Eleventh Avenue. • Approximately 317 parking spaces and 143 pick/up drop off spaces are proposed on site, which exceeds Liverpool City Council Development Control Plan (DCP) requirements. All parking is proposed to be contained on site, with no street parking included as part of the proposal.

Themes	Feedback	Response
	• Suggestion for site access to the School to be mechanically monitored, via a boomgate.	• The Transport and Accessibility Impact Assessment report summarised the road network will be able to cater for the proposal, provided the proposed works to the surrounding street network are undertaken.
Pedestrian safety	• Concern the potential increase in traffic will impact on pedestrian safety, particularly for young children and older residents. • Comment the proposal will impact on pedestrian safety at the unmanned pedestrian crossing at Edmondson Avenue. • Suggestion for the proposed, segregated pick up/drop area to be clearly marked on the road to enhance road and pedestrian safety.	• A new internal, segregated road is proposed through the site from Tenth to Eleventh Avenue to provide internal drop off/pick up access. The road is proposed to be one directional to minimise the interaction between children and moving vehicles.
Safety	• Support for security to be retained and enhanced on site, particularly by maintaining the site boundary. • Suggestions to provide fencing around key locations, such as the carpark and site access points. • Concern regarding how child safety and access control will be implemented and maintained in the proposed shared facilities. • Question as to whether CCTV and security guards will be provided on site. • Question as to how branches on older trees will be maintained on site to ensure children safety. • Question as to how safe interaction between young children and older children will be monitored and enhanced.	• The final concept plans will include design mitigation measures to minimise the potential occurrence of unwanted public/student interaction. For example, the proposed shared café on site will include segregated frontages to the public and students, to mitigate any potential for unwanted interaction. • A Crime Prevention Through Environmental Design (CPTED) assessment is being undertaken in relation to the proposal to recommend safety mitigation measures to be implemented on site. • It is proposed a Plan of Management (POM) will be prepared for the finalised shared facilities on site which will outline the management and safety procedures. • A CPTED assessment is being undertaken and will provide relevant safety mitigation measures. • The proposed design considers the multiple age groups on site and proposes to congregate the relevant buildings associated with the junior, primary and secondary Schools. Natural boundaries

Themes	Feedback	Response
		will be associated with the play areas for primary and secondary students to maintain appropriate boundaries and safe interactions between students.
Shared facilities	• Overall support for the provision of shared facilities on site. • Support for the School to provide shared indoor recreation facilities on site, such as indoor sports courts or recreational hall. • Suggestion for shared facilities on site to facilitate both active and social uses. • Suggestion for the provision of a shared cultural space which can be used by the broader community, such as an area which may celebrate the area's Indigenous heritage. • Suggestion for a sport recreation facility which can support large groups i.e. a School sporting carnival.	• The feedback received during this consultation process has been provided to Sydney Catholic Schools to finalise the proposed shared facilities on site.
Public transport	• Support for the provision of a School bus to service the local area and to extend into the new estates around Austral. • Suggestion for a School shuttle bus to facilitate student access to the School from Leppington Station in addition to the • Suggestion for the proposed School bus route to link to Leppington Station.	• Interline Bus Services is the current provider of local School routes in the area. It is expected the School will work with the bus provider in the future to service the School, as part of its proposed expansion.
Education provision in the Growth Centre	• Support for the provision of additional education services in Austral and Liverpool LGA. • Recognition of the need for additional education services to meet the expected future population demand. • Comment Austral is already serviced by three existing Schools in the area. • Suggestion a government School may be more appropriate for the current socio-economic profile of the local area.	• The Western District Plan expects an additional 77,798 students will need to be accommodated in government and non-government Schools in the district by 2036, with demand expected to be amongst the highest within the Liverpool LGA. • Consultation with Sydney Catholic Schools (SCS) indicates enrolment in SCS have generally increased since 2007, with continued growth since 2015. SCS indicates that the majority of their Schools within Liverpool LGA are at, or nearing, capacity.

Themes	Feedback	Response
	• Recognition there is a preference demand for non-government Schools in the local area. • Suggestion for special education provision for preSchool to Year 12 students to be provided on site. • Support for the provision of a Trade Training Centre on site and for the centre to be open to the community. • Question if Trade Training services can be provided on site, before the completion of the dedicated building.	• SCS have demonstrated education outcomes regardless of socio-economic background and have an extensive program of educational subsides to ensure equitable access. • The proposed Trade Training Centre is intended to be open to the School and wider community for the completion of trade training and relevant courses, subject to final design and approval.
Concept plan design	• Support for the overall vision of the site, including the location, open space and recreation facilities, education buildings, piazza area and shared facilities. • Comment for a play equipment and skateboard area to be provided on site. • Support for the proposed future re-location of St Anthony of Padua Catholic church on the School site. • Support for the provision of shaded play areas on site. • Questions regarding the construction staging of the proposal. • Support for the School to maintain open access to the community.	• St Anthony of Padua Catholic School aims to build a community School, creating a campus which will service the needs of both enrolled students and the wider community. • St Anthony of Padua Catholic School students will be community minded and learners for life, guided by the teachings of the Gospel.
Child care	• Support for the provision of early learning centre on site. • Suggestion for affordable, non-denominational places to be accommodated within any proposed child care facility on site.	• It is proposed a Long Day Child Care Centre will be provided on site with capacity for 125 places.

8.2. LOCAL ABORIGINAL COMMUNITY

Kayandel (KAS) has undertaken consultation with the local Aboriginal community under the guidance of *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010b). Consultation should occur in four stages:

- Stage 1 – Notification of Project Proposal and Registration of Interest
- Stage 2 – Presentation of Information about the Proposed Project

- Stage 3 – Gathering Information about Cultural Significance
- Stage 4 – Review of Draft Cultural Heritage Assessment Report

Refer to Section 3.1.4 of the Aboriginal Cultural Heritage Assessment Report for further details regarding the results of the consultation process.

8.3. LIVERPOOL CITY COUNCIL

A briefing was offered with Liverpool City Council to meet with the Project Team to discuss the proposal, ask questions and provide feedback.

Liverpool City Council accepted the offer to meet with approximately nine members of the Project Team on Thursday 19 April 2018 at Liverpool City Council offices. The briefing was attended by 10 Council staff and went for approximately 1.5 hrs. Liverpool City Council was represented by staff from the strategic planning, community and recreational planning, engineering and traffic and transport teams.

Overall, Council was supportive of the objectives of the proposal and provided feedback on the design and facility provision. Key themes raised by Council included:

- Supportive of the provision of education uses on site and shared facilities.
- Concern about the potential impact on traffic, access and parking on the local road network. A follow up meeting was undertaken with key members of the Project Team with Council's Traffic and Transport team to further discuss potential traffic impacts and adequate mitigation measures.
- Maintain and prioritise child safety and safe connections on site.

Chris Patterson MP, Member for Camden

A briefing was held with Chris Patterson MP, Member for Camden on Monday 7 May and went for approximately 45 minutes. The briefing was attended by Chris Patterson, the MP office manager and two members of the Project Team.

Overall, the MP was supportive of the provision of the educational uses on site and the proposed design for the School. The MP office offered support to facilitate contact with necessary service providers and reaffirmed the need to maintain a safe pick up/drop off area.

8.4. NSW GOVERNMENT ARCHITECTS OFFICE

Consultation occurred with Government Architects Office (GAO) on 17 October 2018. GAO was generally supportive and provided detailed design comments to be addressed during Response to Submissions. GAO advised the scheme was well considered is terms of site layout and traffic management, and noted the following to be addressed:

Masterplan

- We support the site masterplan, however the north – south connection between the hall and the GLA to the south should be made stronger. This might be improved by increasing the northern opening into the COLA / school heart to reflect the opening at the southern end of the COLA.
- The east – west axis could be enhanced by providing an undercover connection from the public forum to the hall.
- We encourage community access to shared facilities and this should be considered in the masterplan.

Amenity

- We support the approach to locating the GLA around a COLA / school heart, however sections and 3D images of the COLA should be provided to understand volume and amenity, and the relationship to surrounding internal and external areas, and in particular how these relationships reflect the importance of the north – south axis.
- Analysis should be undertaken to show how internal spaces have been planned to allow access to light and natural ventilation, and how acoustics have been considered.

Architectural Expression

- Further information should be provided to make clear the approach to materiality and articulation of the façade and how this responds to the natural and built context.

Landscape

- We support the landscape approach, which articulates areas based on student needs, however a whole-of-site approach is needed to enhance north – south and east – west connections.
- The project team noted that existing trees were of low value, however further justification should be provided for removing these.
- A landscape staging plan and shading diagrams should also be provided to understand how heat load on the site will be addressed before trees reach maturity.
- Where fencing is provided, it's impact should be lessened by use of landscaping and consideration should be given to using the building as edge.

8.5. OTHER AGENCIES

The following agencies provided comment during the preparation of the SEARs:

- Environmental Protection Agency
- Office of Environment and Heritage
- Roads and Maritime Services
- Sydney Water
- Transport for NSW (refer to Appendix of the TIA for further correspondence)
- Rural Fire Services

9. RISK ASSESSMENT & MITIGATION MEASURES

The SEARs require an environmental risk analysis to identify potential environmental impacts associated with the proposal. This analysis comprises a qualitative assessment consistent with AS/NZS ISO 31000:2009 *Risk Management–Principles and Guidelines* (Standards Australia 2009). The level of risk was assessed by considering the potential impacts of the proposal prior to application of any mitigation measures.

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'.

The following methodology provides a framework for systematic assessment of identified impacts.

Table 12 – Level of Impact

			Consequence level				
			1	2	3	4	5
			Minimal	Minor	Moderate	Major	Extreme
Likelihood	A	Almost certain	A1	A2	A3	A4	A5
	B	Likely	B1	B2	B3	B4	B5
	C	Possible	C1	C2	C3	C4	C5
	D	Unlikely	D1	D2	D3	D4	D5
	E	Rare	E1	E2	E3	E4	E5

Risk Level

Low		Moderate		High		Extreme	

Consequence of impact

To following criteria will be used to assess the consequence level of a potential social impact:

- Duration – The timeframe over which the impact occurs or the frequency of potential impacts.
- Extent – The geographical area or the number of people affected.
- Severity – Scale or degree of change from the existing condition as a result of an impact.
- Sensitivity – The vulnerability of receivers or the receiving environment and the extent to which people or resources can adapt to or mitigate the impact.

The following table outlines a matrix for understanding the consequence criteria.

Table 13 – Consequence of impact

Level	Duration	Extent	Severity	Sensitivity
Minimal	Short-term impact or low frequency	Individual or single household affected	Low level of change from existing condition.	Low sensitivity of receivers or receiving environment. Receivers have the capacity to adapt to the change with relative ease.
Moderate	Medium-term impact or intermittent frequency	Group of people or number of households affected	Moderate level of change from existing condition and will take substantial time and effort to reverse or ameliorate	Receivers or receiving environment can adapt with some difficulty.
Extreme	Long-term impact or constant frequency	Large area or large part of a community affected	High degree of change from existing condition and is a potentially irreversible change.	High importance or vulnerability of impacted receivers or receiving environment. Limited capacity to adapt to changes.

Likelihood of impact

The following scale outlines the likelihood of a potential impact occurring throughout the project lifecycle, without mitigation.

Table 14 – Likelihood scale

Level	Description
Rare	Extremely unlikely that the impact will occur, at any stage throughout the project lifecycle
Unlikely	Unlikely that the impact will occur, at any stage throughout the project lifecycle
Possible	Possible that the impact will occur, at any stage throughout the project lifecycle
Likely	Likely that the impact will occur, at any stage throughout the project lifecycle
Almost Certain	Highly likely that the impact will occur, at any stage throughout the project lifecycle.

The results of the environmental risk assessment for the proposal are presented in Table 15 and are based on the range of technical and specialist consultant reports appended to this EIS.

The table has directly related mitigation measures responding to each impact (satisfying the SEAR for a consolidated summary of all proposed mitigation measures) also based upon the range of technical and specialist consultant reports appended to this EIS.

The following risk assessment matrix demonstrates that for each of the likely impacts identified in the assessment of the key issues will either be positive or can be appropriately mitigated. In many cases, the environmental management controls and operational protocols inherent to operation of the School adequately manage the potential impacts, and mitigation measures are not required.

Table 15 – Risk Assessment and Mitigation Measures

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Mitigation Measure
Built Form	Impact on solar access for surrounding properties, public domain and internal spaces	D	1	D1 – Low	No mitigation measures are required
	Visual impact from proposed buildings	C	1	C1 – Low	• Integrated plant equipment and waste storage areas into the design of the buildings and School to minimise visual impact. • Install landscaping in accordance with the landscape drawings. • Construct buildings with materials and finishes in accordance with the architectural drawings.
	Impact on view sharing	D	1	D1 – Low	No mitigation measures are required
	Impact on visual privacy	D	1	C1 – Low	Ensure appropriate vegetation densities at residential interfaces
Traffic and Parking	Impacts of road network from demolition and construction phase	C	1	C1 – Low	Implement a detailed Construction Management Plan which will control: • vehicle access to the site during construction • construction vehicle routes • management of traffic and parking impacts • measures to manage and protect pedestrian movements • on-street works zones • measures to manage and control construction traffic at the site

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Mitigation Measure
					• manage and control vehicular movements to and from the site
	Adverse impact on key intersections as a result of increased operational traffic generation on the site	C	1	C1 – Low	Road works will be required to manage the increased traffic generated by the proposed development, including: • Widening of Fourth Avenue, Tenth Avenue and Eleventh Avenue along the site frontages to provide four travel lanes, indented bus bays and turning bays • Traffic signals at the intersections of Fourth Avenue with Tenth Avenue • Traffic signals at the intersections of Fourth Avenue with Eleventh Avenue • Traffic signals at the intersection of Edmondson Avenue with Eleventh Avenue • Traffic signals at the intersection of Edmondson Avenue with Eleventh Avenue The following mitigation measures are to be implemented to further ameliorate potential impacts: • Start and finish times for the junior and senior Schools will be staggered. • Appropriate provision for non-car based travel, including the measures for buses, pedestrians and cyclists. • Encourage alternative travel modes for staff other than private vehicle, a travel demand management approach will be adopted, through a workplace travel plan to meet the specific needs of the site, future employees and visitors. • The provision for 13 buses simultaneously will cater for the School and minimise the usage of private vehicles.
	Additional demand for on street car parking spaces	D	1	D1 – Low	Adequate car parking is provided onsite. Encourage all site users to park on site to avoid parking on surrounding streets.

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Mitigation Measure
	Adverse traffic impacts of drop-off and pick-up	D	2	D2 – Low	• Construct and manage the drop-off and set-down internal road. • Install signage in internal road about restricted set-down and pick times. • Restrict the period of time people can use the set-down and pick-up area
	Pedestrian safety impact of cars accessing and moving through the internal set-down and pick-up road	C	1	C1 – Low	• Provide education to School children and parents about arriving, departing and moving around the School. • The on-site parking areas for set-down and pick-up (in the north-western and south-eastern car parks, and on the eastern side of the site) will be managed by School staff during the morning and afternoon set-down and pick up periods to ensure traffic moves safely and efficiently. • It is expected that 'School zone' speed signage would be introduced on roads adjacent to the School. • Install pedestrian crossings in car park areas and internal roads at desire lines. • Install a pedestrian bridge over the set-down and pick-up internal road for safe access. • Provide appropriate signage at all vehicular access points with internal speed restrictions.
	Pedestrian safety impact of loading and servicing	D	2	D2 – Low	• Install pedestrian crossings in car park areas and internal roads at desire lines. • Provide appropriate signage at all vehicular access points with internal speed restrictions.
Noise and Vibration	Impact from construction noise and vibration	D	2	D2 – Low	• Construction and demolition hours to be restricted to: – Monday to Friday: 7:00 to 18:00 – Saturday: 8:00 to 13:00 – Sundays and Public Holidays: No excavation or construction works

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Mitigation Measure

					• Adhere to a Construction Noise and Vibration Management Plan, including:
					  – Appropriate selection, operation and maintenance of plant equipment in order to meet relevant noise criteria
					  – Implementation of on-site noise management practices
					  – Scheduling work during periods when people are least affected is an important way of reducing adverse impacts
					  – Limit the number of trucks on site at the commencement of site activities to the minimum required by the loading facilities on site.
					  – When loading trucks, adopt best practice noise management strategies to avoid materials being dropped from height into dump trucks.
					  – Avoid unnecessary idling of trucks and equipment.
					  – Ensure that any miscellaneous equipment not specifically identified in the plan incorporates silencing/shielding equipment as required to meet the noise criteria.

	Noise impact from increased traffic	D	2	D2 – Low	• No noise mitigation required to manage increased traffic noise.
	Impact from operational noise generated on site	C	1	C1 – Low	• The Public Address and School Bell Systems shall be designed, installed and operated such that the systems do not interfere unreasonably with the amenity of occupants of nearby residences. Undertake an acoustic assessment of such systems during detailed design. • No noise mitigation required to manage outdoor playgrounds and sports fields. • Shut doors and windows during events in the performing arts building and indoor recreation

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Mitigation Measure
					• Install minimum sound insulation rating of at least Rw, 46dB to the performing arts building. • Install minimum sound insulation rating of at least Rw, 45dB to the indoor recreational building.
	Impact from mechanical plant equipment	D	2	D2 – Low	• Strategic location and selection of plant to ensure the cumulative noise levels at the receiver boundaries is met. • Selection of appropriate quiet plant. • Acoustic noise control measures to be put in place to minimise noise impacts such as: – In-duct attenuation – Noise enclosures as required – Sound absorptive panels – Acoustic louvres as required – Noise barriers as required • Undertake an acoustic assessment of all mechanical plant during detailed design.
Geotechnical	Impact form the geotechnical conditions of the site	D	2	D2 – Low	Refer to the full suite of geotechnical mitigation measures in the Geotechnical Report. • The construction works should plan to keep the excavation base dry and provide safe and stable working platform by controlling the groundwater seepage by using sump pump method. • It is expected that the base of the single level underground carpark could be founded within Class IV shale. • A dilapidation survey on nearby road infrastructures is recommended to be undertaken prior to the commencement of any site excavations.

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Mitigation Measure
					• Excavation methodology be prepared or reviewed by a geotechnical engineer and structural drawings of the shoring system be reviewed by a geotechnical engineer. • Every 1.5m depth of the excavation be inspected by an experienced geotechnical engineer before shotcreting. • The structural engineering drawings for the development provide details of the retaining walls, including foundation bearing capacity, footings, surface drainage and subsoil drainage provisions. • Found each building on the same foundation stratum to minimise the risk of differential foundation movement/settlement. • Before pouring concrete, the excavations for the shallow footings should be inspected by an experienced geotechnical engineer to confirm the design assumptions and also to confirm that the bases of the footing excavations are clean and free of soft, loose, wet or disturbed soils. • If the deep footing is adopted, it is recommended that pile to be designed in accordance with AS 2159-2009 Piling – Design and Installation and design factors presented in clause 4.3 of this Standard should be applied.
Aboriginal Heritage	Impact on the Aboriginal cultural heritage values on site	D	3	D3 – Moderate	No sites of Aboriginal heritage value have been found on site. Notwithstanding the following mitigation measures are to be implemented: • Prior to the commencement of any ground disturbance works authorised by the SSD, an Aboriginal Cultural Heritage Management Plan should be developed by a qualified and experienced practitioner in Aboriginal cultural heritage in consultation with the Registered Aboriginal Parties. • The final ACHMP must be kept onsite so that it can be referred to in the event of an unexpected find being identified.

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Mitigation Measure
					• All relevant staff and contractors should be made aware of their statutory obligations for heritage under the National Parks and Wildlife Act 1974, which may be implemented as a heritage induction. – If, during the course of development works, suspected historic cultural heritage material is uncovered, work should cease in that area immediately. The Heritage Branch, Office of Environment & Heritage (Enviroline 131 555) should be notified and works only recommence when an approved management strategy has been developed.
European Heritage	Impact on the European cultural heritage values	E	1	E1 – Low	There is no known European heritage. Notwithstanding this, an unexpected finds protocol will be implemented throughout site work to ensure that any items encountered are appropriately managed.
Water & Soil	Impact and threat from flooding	E	3	E3 – Moderate	• Construct floor levels to be 0.5 m above the 1% AEP event flood level. • In the event of flooding, it is recommended that people remain at the site. Flooding will occur immediately following rainfall and off-site evacuation is neither possible nor desirable. • Prepare an Evacuation Plan prior to occupation. Ensure all staff are aware of the procedures within the Evacuation Plan. • Prepare a detail Flood Risk Management Plan prior to occupation of the first stage.
	Water quantity impact on drainage system	D	1	D1 – Low	• Install the stormwater system in accordance with the Civil Engineering Services Report (Appendix G).
	Water quality impact on drainage system	D	1	D1 – Low	• Install the water treatment devices in accordance with the Civil Engineering Services Report (Appendix G).

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Mitigation Measure
	Impact from soil erosion and dust pollution during demolition and construction	C	2	C2 – Moderate	• Construction vehicles leaving the site shall be required to pass over a Temporary Construction Vehicle Entry consisting of a 1.5m long by 3m wide 'cattle rack'. • All exposed earth areas where it may be possible for runoff to transport silt down slope shall be protected with a sediment and erosion control silt fence generally installed along the boundaries of the site. • The fence will be constructed in accordance with details provided by the Department of Conservation and Land Management incorporating geotextile fabric which will not allow suspended particles greater than 50mg/L non-filterable solids to pass through, and as such comply with the appropriate provisions of the Clean Waters Act 1970. • The construction of the silt fence will include the following: – Geotextile fabric buried to a maximum of 100mm below the surface; – Overlapping any joins in the fabric, and; – Turning up on the ends for a length of 1 metre in order to prevent volumes of suspended solids escaping in a storm event. • Existing stormwater infrastructure is also to be protected from incoming sediment using the following methods: • Any Council owned road kerb entry and/or gully pits will be protected by Filter Bales and EcoSocks. Additional protection will be provided by inserting Water Clean Filter Cartridges into the gully opening, and; • Internal site drainage pits shall be protected by Sediment Traps consisting of hay bales. • If required, install a sediment basin in the south-western corner of the site towards which the existing site grades. The basin should include: – Installation of a fence around the perimeter of the basin – Removal of existing reeds

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Mitigation Measure
					– Installation of rip rap to allow for bobcat access for periodic removal of sediment – Installation of a perforated riser outlet pipe – Connection of the riser pipe to an existing pit • Loose loads entering or leaving the site will be securely covered by a tarpaulin or like material in accordance with RMS and local Council Guideline. • Soil transport vehicles will use the single main access to the site. • There will be no burning of any materials on site. • Water sprays will be used across the site to suppress dust. • Spraying water at the rate of not less than three (3) L/s and not less than 700kPa pressure. The area covered will be small enough that surfaces are maintained in a damp condition and large enough that runoff is not generated. The water spray equipment will be kept on site during the construction of the works. • During excavation all trucks/machinery leaving the site will have their wheels washed and/or agitated prior to travelling on Council Roads. • Fences will have shade cloth or similar fabric fixed to the inside of the fence.
Contamination	Impact from potential land contamination	D	3	D3 – Moderate	Section 9 of Remedial Action Plan prepared by Alliance Geotechnical provides a suite of mitigation measures in the form of a Site Management Plan, which details practices for when undertaking the remediation tasks, including: • Soil and stormwater management during site access and egress, stockpiling, excavation pump out, rehabilitation and landscaping • Waste management • Groundwater management

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Mitigation Measure
					• Noise, vibration, dust and odour control • Traffic management • Fill importation • Work health and safety • Site security and hours of operation • Community relations and complaints • Emergency preparedness
Bushfire	Impact for potential bushfire threat	D	4	D4 – High	The site is located adjacent to bushfire prone land. A 41m APZ is located in the north of the site. The following mitigation measures are to be implemented for the APZ: • No tree or tree canopy is to occur within 2 m of the future building rooflines • The presence of a few shrubs or trees in the APZ is acceptable provided they: • Are well spread out and do not form a continuous canopy • Are not species that retain dead material or deposit excessive quantities of ground fuel in a short period or in a danger period • Are located far enough away from the building so that they will not ignite future buildings by direct flame contact or radiant heat emission • Any landscaping or plantings should preferably be local endemic mesic species or other low flammability species • A minimal ground fuel is to be maintained to include less than 4 tonnes per hectare of fine fuel (fine fuel means ANY dead or living vegetation of <6 mm in diameter e.g. twigs less than a pencil in thickness. 4 t/ha is equivalent to a 1 cm thick layer of leaf litter) • Any structures storing combustible materials such as firewood (e.g. sheds) must be sealed to prevent entry of burning debris.

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Mitigation Measure
Waste	Impacts associated with construction waste	D	2	D2 – Low	• Prior to construction commencing for each stage of the works, the Head Contractor will prepare a Waste Management Plan.
	Impacts associated with operation waste	D	2	D2 – Low	• Develop and implement an operational waste management plan in accordance with the submitted Waste Management Plan, including: – Storage methods and location of all waste streams arising – Where disposal is required, the location of disposal – Maintain waste register of all outgoing wastes, in particular • Recycling protocols, including implementing education for site users about recycling
ESD	Relative impacts associated with excessive energy use	D			The proposal will make a positive contribution to ESD. The following mitigation measures have been identified where there is a direct and unavoidable impact, implementation of these measures will prevent the development from being unsustainable: • During the construction phase of the project at least 80% of building demolition and construction waste shall be recycled • Provide landscaping in accordance with the landscape drawings • Provide thermal building fabric minimising energy use • Provide shade devices on the buildings minimising energy use • Monitor energy use throughout the School ensuring Section J compliance • Provide efficient air conditioning units • Provide efficient lighting • Provide efficient fixtures for water use

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Mitigation Measure
					• Encourage sustainable modes of transport by locating bicycle parking facilities and bus stops in convenient locations • The use of lifts within the development will be discouraged by providing visually prominent staircases for all floors • Implement all recommended water quality treatment devices • Roofing material with a high solar reflective index can assist with reducing elevated localised temperatures • Provide cool roof material to improve the efficiency of solar PV panels • The implementation of the proposed landscaping will reduce the effects of the urban heat island effect

10. CONCLUSION

This EIS provides a consolidated assessment of potential environmental impacts that may arise as a result of the proposed concept proposal and staged construction and operation of St Anthony of Padua Catholic School and the associated works. In making this assessment, the EIS addresses the issues listed in the SEARs (Appendix A) and accords with the relevant parts of the *Environmental Planning and Assessment Act 1979*, Schedule 2 of the *Environmental Planning and Assessment Regulations 2000* and SEPP *(State and Regional Development) 2011.*

The key issues for all components of the project identified in the SEARs have been assessed in detail, with specialist reports underpinning the key findings and recommendations outlined in the Environmental Assessment. It has been demonstrated that for each of the likely impacts identified in the assessment of the key issues will either be positive or can be appropriately mitigated. In many cases, the environmental management controls and operational protocols inherent to operation of the School adequately manage the potential impacts, and mitigation measures are not required.

Extensive stakeholder engagement has occurred during the preparation of this EIS, including a Council workshop, distribution of a factsheet to 842 households and local businesses, community workshop, stakeholder interviews, a briefing with Chris Patterson, MP (Member for Camden), and Government Architects. Overall, feedback on the proposed SSD DA was positive and supportive of the objectives of the proposal.

A 'Do Nothing' scenario is not appropriate given the demand for new Schools in Sydney Metropolitan area and more specifically increasing demand in the Austral Precinct. The alternative to the School proceeding would be to develop the site for residential subdivision purposes. This option does not provide a comparable level of positive social and community benefit nor will this alternative scenario meet the growing demands of the existing and incoming population.

The proposal represents a positive development outcome for the site and surrounding area for the following reasons:

- The proposal has been designed to be consistent with the relevant goals and strategic planning documents. The proposal satisfies the objectives of all relevant planning controls and achieves an acceptable level of planning policy compliance.
- The proposal provides critical social infrastructure for the precinct and offers a high-quality learning environment and facilities to meet the demands of the growing community of Austral.
- The proposal provides multiple outdoor sporting facilities and an indoor recreation centre which includes a gymnasium and indoor playing courts.
- The School has been design to consolidate built form in the centre of the site which opens up views into and through the site, minimises potential visual impact from the public domain and surrounding properties, and affords ample space for landscaping and outdoor recreation. All buildings have been architecturally designed by Munns Sly Moore Architects to complement the modern, yet rural setting and context of the site.
- The proposal creates temporary job opportunities in manufacturing, construction and construction management during the project's construction phase, and significant job opportunities in teaching and administration at the project's completion.
- The proposal will have positive impacts in the local community, by providing greater access to education services with high quality facilities. The positive impacts will be long term and will help meet the demand for greater education facilities as recognised in the Western City District Plan and raised in consultation with Council, the Member of Camden and the local School community.
- While the proposal will generate some environmental impacts such as increased traffic on the local road network. The impacts will be mitigated through the implementation of tailored environmental mitigation measures and the provision of local road and intersection upgrades.

Given the benefits of the proposed Development, its importance for the management of waste and clean energy production to the local community and wider Metropolitan Sydney and the effective management and mitigation of identified impacts, we are of the view that the development is worthy of the support.

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APPENDIX A SEARS SSD 8865

APPENDIX B CIV REPORT

APPENDIX C SURVEY PLAN

APPENDIX D ARCHITECTURAL PLANS

APPENDIX E ARCHITECTURAL DESIGN REPORT

APPENDIX F LANDSCAPE PLANS

APPENDIX G CIVIL DRAWINGS AND REPORT

APPENDIX H CPTED ASSESSMENT REPORT

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APPENDIX N ABORIGINAL HERITAGE REPORT

APPENDIX O ACCESS REPORT

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APPENDIX R FLOOD REPORT

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APPENDIX T WATER MANAGEMENT PLAN

APPENDIX U GEOTECHNICAL REPORT

APPENDIX V CONTAMINATION REPORT

APPENDIX W REMEDIAL ACTION PLAN

APPENDIX X STRUCTURAL REPORT

APPENDIX Y INFRASTRUCTURE MANAGEMENT PLAN

APPENDIX Z CONSTRUCTION MANAGEMENT PLAN

APPENDIX AA OPERATIONAL MANAGEMENT PLAN

APPENDIX BB WASTE MANAGEMENT PLAN

APPENDIX CC BCA REPORT

APPENDIX DD COMPLIANCE TABLES

APPENDIX EE LETTER OF PUBLIC BENEFIT OFFER

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