STATE SIGNIFICANT DEVELOPMENT
DEVELOPMENT APPLICATION
ENVIRONMENTAL IMPACT STATEMENT

NEW ULTIMO PYRMONT PUBLIC SCHOOL
47-53 Jones Street, Ultimo
SSD 7503

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SUBMITTED TO

NSW DEPARTMENT OF PLANNING & ENVIRONMENT

ON BEHALF OF

SCHOOL INFRASTRUCTURE NSW

OCTOBER 2017

Statement of Validity

This EIS has been prepared for School Infrastructure NSW's New Ultimo Pyrmont Public School project consistent with the requirements of Schedule 2 – Environmental Impact Statements of the *Environmental Planning and Assessment Regulation 2000*

Name	Oliver Klein
Address	RobertsDay Level 4, 17 Randle Street, Surry Hills 2010
Qualifications	BA (Geography), MURP, CPP, MPIA
Site Address	47-53 Jones Street, Ultimo
Applicant Name	School Infrastructure NSW
Applicant Address	35 Bridge Street, Sydney NSW 2000

Description of Development	• Bulk earthworks / excavation / structural measures and foundation works;
	• Construction of a new public school for up to 800 students (from Kindergarten to Year 6) including;
	  ○ Up to 30 homebase classrooms and 3 Special Programs Rooms;
	  ○ Library, school hall, indoor and outdoor play spaces and landscaping, afterschool care facilities;
	  ○ Multi-function spaces including rooftop sports court;
	• Tree removal and pruning;
	• Associated and ancillary infrastructure works (including new substation) and connections;
	• Shell space for a 40-space child care centre; and
	• Relocation of light pole and parking spaces on Wattle Street and extension of drop-off and pick-up area on Jones Street.

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Certification

I certify that I have prepared the content of this EIS and to the best of my knowledge:

- it is in accordance with Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*;
- all available information that is relevant to the environmental assessment of the development to which the statement relates; and
- the information contained in the statement is neither false nor misleading.

Senior Associate
RobertsDay
Date: 27 October 2017

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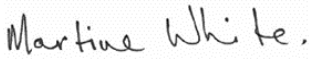
RobertsDay operates under a Quality Management System. This report has been prepared and reviewed in accordance with that system. If the report is not signed below, it is a preliminary draft.

This report has been prepared by:
Oliver Klein

This report has been reviewed by:
Martine White



27 October 2017

Table of Contents

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Table of Figures

Supporting Documents

A Quantity Survey
MitchellBrandtman

B Secretary's Environmental Assessment Requirements
NSW Department of Planning & Environment

C Site Survey
Cardno

D Geotechnical Assessment
JK Geotechnics

E Environmental Site Assessment
EIS

F Hazardous Building Materials Risk Assessment
Greencap

G Transport Assessment, including Outline Construction Traffic Management Plan
Arup

H Services Infrastructure and Integrated Water Management Plan
JHA

I Arboricultural Impact Assessment
Rain Tree Consulting

J Heritage Impact Statement and Archaeological Assessment
Urbis

K Flood Report, Stormwater Concept Plan, and Sediment and Erosion Control Plan
TTW

L Architectural Plans and Design Statement
DesignInc / Lacoste + Stevenson / bmc2

M Landscape Plans and Design Statement
DesignInc / Lacoste + Stevenson / bmc2

N Ecologically Sustainable Development Report
JHA

O Summary of Consultation
HKA Global

P Wind Assessment
Windtech

Q Acoustic & Vibration Assessment
JHA

R Construction and Operational Waste Management Plan
Foresight Environmental

S BCA Compliance Assessment
BCA Logic

T Access Report
BCA Logic

U Structural Report
TTW

V Fire Engineering Report
Defire

W Preliminary Construction Management Plan
HKA Global

1.0 INTRODUCTION

This Environmental Impact Statement (EIS) is submitted to the Department of Planning & Environment (DPE) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (Act) in support of an application for State Significant Development Development Application No 7503 for the New Ultimo Pyrmont Public School project at 47-53 Jones Street, Ultimo.

Development for the purpose of an educational establishment with a capital investment value of more than $30 million is identified in Schedule 1 of *State Environmental Planning Policy (State and Regional Development)* 2011 (SEPP SRD) and is therefore declared to be SSD for the purposes of the Act.

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The proposed development has a Capital Investment Value (CIV) of $40.34 Million and is therefore declared State Significant Development (SSD) for the purposes of the Act. A Quantity Survey has been prepared and accompanies this EIS at **Appendix A.**

This EIS has been prepared by RobertsDay on behalf of School Infrastructure NSW (SI) and is based on the supporting technical information appended to the report (see *Supporting Documents*).

This report describes the site, its environs and the proposed development. This EIS has been prepared in accordance with the requirements of Part 4 of the Act, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation), and the Secretary's Environmental Assessment Requirements (SEARs), which are included at **Appendix B**.

1.1 Summary of this EIS

1.1.1 Purpose of this Report

This EIS is submitted to the Minister for Planning pursuant to Part 4 of the Act and SEPP SRD to gain approval of the New Ultimo Pyrmont Public School Project.

1.1.2 Overview of the Project

The proposal will provide a new public school on the site of the existing Ultimo Public School.

This application seeks approval of development of:

- Bulk earthworks / excavation / structural measures and foundation works;
- Construction of a new public school for up to 800 students (from Kindergarten to Year 6) including;
    - Up to 30 homebase classrooms and 3 Special Programs Rooms;
    - Library, school hall, indoor and outdoor play spaces and landscaping, afterschool care facilities;
    - Multi-function spaces including rooftop sports court;
- Tree removal and pruning;
- Associated and ancillary infrastructure works (including new substation) and connections;
- Shell space for a 40-space child care centre; and
- Relocation of light pole and parking spaces on Wattle Street and extension of drop-off and pick-up area on Jones Street.

The proposal will generate 33 teaching and support staff jobs and up to 120 construction jobs throughout the duration of the construction.

The Project has been subject to a Design Competition / Design Excellence process during mid 2016 consistent with both Department of Planning & Environment (DPE) and City of Sydney Design Excellence Guidelines and requirements. The winning scheme was prepared by the DesignInc | Lacoste + Stevenson | bmc2 team. This team's architectural design forms the basis of the redevelopment of the existing Ultimo Public School site.

1.1.3 Planning Context

The proposed development has a total Capital Investment Value (CIV) of $40.34 Million and is classified as SSD pursuant to Clause 15, Schedule 1 in SEPP SRD.

The request for the SEARs for the proposed development was made by RobertsDay on behalf of SI on 11 February 2016. The SEARs were issued to RobertsDay on 7 March 2016. A copy of the SEARs is provided at **Appendix B.**

Section 6.0 of the EIS considers all applicable planning legislation in detail. The proposal is generally consistent with the requirements of all relevant environmental planning instruments as well as the proposal's strategic planning context.

1.1.4 Environmental Impacts and Mitigation Measures

This EIS provides an assessment of the environmental impacts of the project in accordance with the SEARs and sets out the undertakings made by the applicant to manage and minimise potential impacts arising from the development. Key environmental assessment considerations identified include, amongst others:

- compliance with relevant environmental planning instruments and strategic plans;
- height, bulk, scale and setbacks of the proposed development within the context of the site;
- environmental amenity including overshadowing impacts, privacy, visual impact and wind impacts;
- implementation of ESD measures;
- transport and accessibility including pedestrian and cycle access, peak public and private transport demand and the provision of on-site access and parking;
- noise and vibration during construction and operation;
- stormwater management; and
- contamination management and disposal of any hazardous materials.

All identified impacts are addressed in this EIS and are capable of being ameliorated through the implementation of appropriate mitigation measures outlined in Section 8.0.

1.1.5 Benefits of the Project

The project will provide a new purpose-built and state-of-the-art public school for the Ultimo-Pyrmont and Glebe communities. It will increase the student capacity on the existing school site from about 300 to 800. The new capacity of the school will serve to provide for growing existing and future demand for public school places in the locality arising from ongoing and foreshadowed redevelopment and increased residential densities.

The ESD credentials of the project focus on resource and energy savings that can be made through design and operational initiatives related (amongst other things to) electrical installations, mechanical installations, lighting, water, materials, waste, sustainable transport and landscaping.

Schools play an important role as part of the local social infrastructure and serve as community hubs. The project will provide an innovative design solution for the redevelopment of the site. Whilst providing security to the students it will also provide spaces that can be shared with the wider Ultimo-Pyrmont

and Glebe communities and provide a commercial return to assist with the running costs of the school. The existing school enables wider afterhours community use, and this is expanded by the project.

The project provides wider community use opportunities through:

- Community Seminar Rooms (spaces that can be used for both student learning and community use);
- Auditorium / hall;
- Sports Facilities; and
- Social Services, including a space for a future 40-space child care centre.

Feedback received during community consultation on the project indicates that the school's community-based facilities and spaces are presently oversubscribed and operating at beyond capacity. Additional space is provided for the existing and future communities given demographic change in the locality.

1.1.6 Justification

This EIS fulfils the requirements of the Act and addresses the SEARs. Section 8.0 sets out mitigation measures to ensure that the potential impacts of the development are acceptable and are able to be managed. Given the planning merits of the proposal, the proposed development warrants approval by the Minister for Planning.

1.2 Project Background

Urban development will see the delivery of 8,440 new dwellings across the inner areas of the City of Sydney LGA including 2,041 new dwellings in the catchment of Ultimo Public School.

To meet projected demand for primary school teaching facilities in the inner area of the City of Sydney LGA to 2021-2026, SI proposes to temporarily relocate students of Ultimo Public School, demolish the existing school and construct a new school on the existing site comprising up to 30 homebase classrooms and 3 Special Program Rooms, library, hall and covered outdoor learning area (COLA) to accommodate future enrolments to 800 students. It is proposed to be open for Day 1, Term 1, 2020.

The new development will also incorporate the space for a new 40-space child care centre and deliver an outside of school hours (OOSH) care facility. The project forms part of the Government's 'Innovative Education, Successful Students' initiative. The project has an estimated CIV of approximately $40.34 Million.

For the duration of the demolition and construction works, Ultimo Public School will be relocated to a temporary facility within Wentworth Park and the grounds of the Wentworth Park Sporting Complex. The Wentworth Park location provides optimal operational efficiencies for the school within close proximity of the existing school site offering minimal disruption to the school population. Approval for the construction of the temporary school was subject of a separate REF process under Part 5 of the Act and provisions in SREP26 – City West.

Approval for the demolition of the existing Ultimo Public School will be carried out as Complying Development under the provisions of *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* – the Education SEPP. Limited tree removal to facilitate the demolition process will at the time of writing likely be carried out as Exempt Development under the provisions of the Education SEPP.

1.3 Objectives of the Project

The project objectives are:

- To construct a new primary school on the existing Ultimo Public School site to meet demand for primary school teaching space and facilities in the inner areas of the City of Sydney;
- To minimise potential impacts upon the amenity of the locality as a result of the works;
- To provide a cost-effective solution to meet educational needs; and
- To provide a solution with a reasonable level of stakeholder acceptance and community support.

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1.4 Evaluation of Alternatives

There is a pressing need for school placements within the Ultimo Public School catchment, which is anticipated to see the delivery of 2,041 new dwellings in the coming years. Existing facilities at the Ultimo Public School site accommodate 14 classrooms (including one demountable) and up to 300 students with minimal opportunity to expand. Action must be taken to meet projected demand for primary school teaching facilities in the inner areas of the City of Sydney to 2021-2026.

The Ultimo-Pyrmont Public School Project Reference Group (PRG) reviewed the proposed locations for the location of the New Ultimo Pyrmont Public School. It was the opinion of the PRG that this location would be more acceptable to the school community than any other for the following reasons:

- Keeps school community intact. Can accommodate all grades in the one location (K-6).
- Existing transport arrangements are unaffected.
- Keeps current broader community uses intact. The school currently houses weekend and out of hours uses by other community groups, including a local church and a Japanese language school.
- Fast tracks community spaces. SI typically seeks its schools to be community hubs. One of the ways that school buildings can do that is to make its facilities available to the community outside of school hours. The school currently does this, but it could potentially do more. It is understood that there is an urgent need for additional community space in this area, including meeting rooms, adult education classrooms, yoga studios, pottery classes, and the like.

1.5 Crown Development

Clause 226(1)(a) of the Regulation provides that a development carried out by public authority is a Crown development. Accordingly, the DA is a Crown development for the purposes of Division 4 of the Act.

Under the special provisions for Crown developments, the DA cannot be refused (except with the determination of the Minister for Planning), the consent authority cannot impose conditions of consent without the applicant's agreement, the applicant has the opportunity to review the draft conditions and, if the consent authority fails to determine the application within the prescribed period, the application may be referred to the Planning Panel for approval.

1.6 Development Contributions

As the development is for social infrastructure and by a Crown Developer, no development contributions apply. The City of Sydney's Development Contributions Plan 2015 explicitly excludes payment of contributions for the project – see Section 1.3 of the Plan. Further, no VPA is proposed or required.

2.0 SITE ANALYSIS

2.1 Regional and local context

The land subject of this EIS is adjacent to the broader area known as the Bays Precinct - being approximately two kilometres west of the Sydney central business district. Between the mid-1800s and the 1960s the precinct was occupied by a range of industrial activities that included power stations, wool stores, railyards, wharfs, abattoirs, tanneries and mills. In the late 1870s large scale in-filling of a large swamp referred to as Blackwattle Cove, now known as Wentworth Park, commenced to eventually form the current Blackwattle Bay southern foreshore.

In the present day, the precinct continues to be defined by its historic and ongoing role as a major inner-harbour port and maritime location. As a result of this function, the precinct is subject to noise, lighting and traffic movement generated by the port, which operates 24 hours a day.

The school sits at the interface of the dense, inner city suburb of Ultimo and the inner west suburb of Glebe. To the immediate west of the school is Wentworth Park, which comprises open space, the Wentworth Park Sporting Complex, and the Glebe Railway Viaducts, which support the Inner West Light Rail. The Wentworth Park Sporting Complex is used for various sports including rugby union, rugby league, soccer, greyhound racing, and a speedway. For the duration of the works associated with the erection of the New Ultimo Pyrmont Public School, the school will be relocated to a temporary facility within the grounds of Wentworth Park and the Wentworth Park Sporting Complex.

To the east is a mixed-use area containing residential development and a variety of local amenities including a community centre, Ian Thorpe Aquatic Centre, Ultimo TAFE and the Powerhouse Museum. Further east is the Sydney International Convention Centre, the Darling Quarter and Darling Harbour. To the north of the land is Blackwattle Bay and Sydney Fish Markets.

Figure 1 - The subject locality and the subject land

In 2015, UrbanGrowth NSW prepared a Transformation Plan to guide the redevelopment of the Bays Precinct. The Plan seeks to rejuvenate 5.5 kilometres of Sydney Harbour foreshore and celebrate the precinct's maritime history. Wentworth Park is included in the Bays Market District program area as one of eight Destinations and the site of a 'new type of shared, activated public space for people to gather, socialise and interact' (page iv of the Plan).

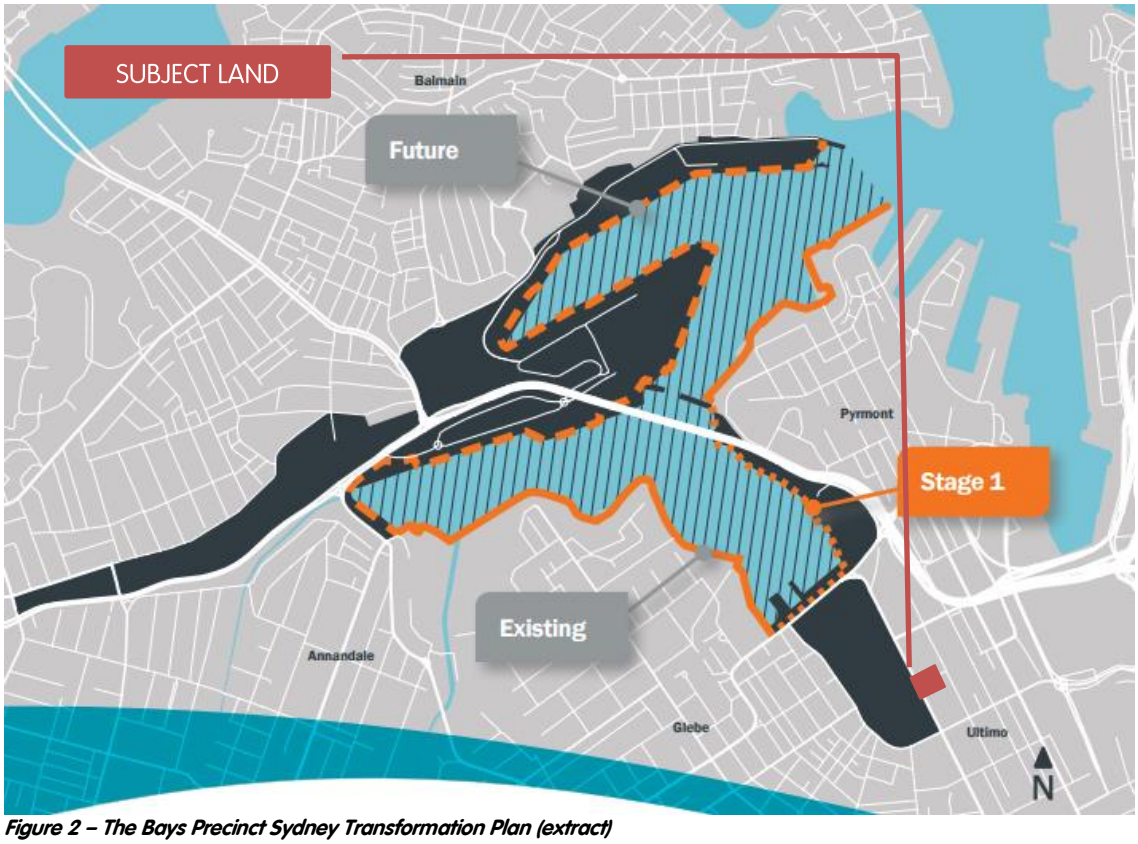

Figure 2 – The Bays Precinct Sydney Transformation Plan (extract)

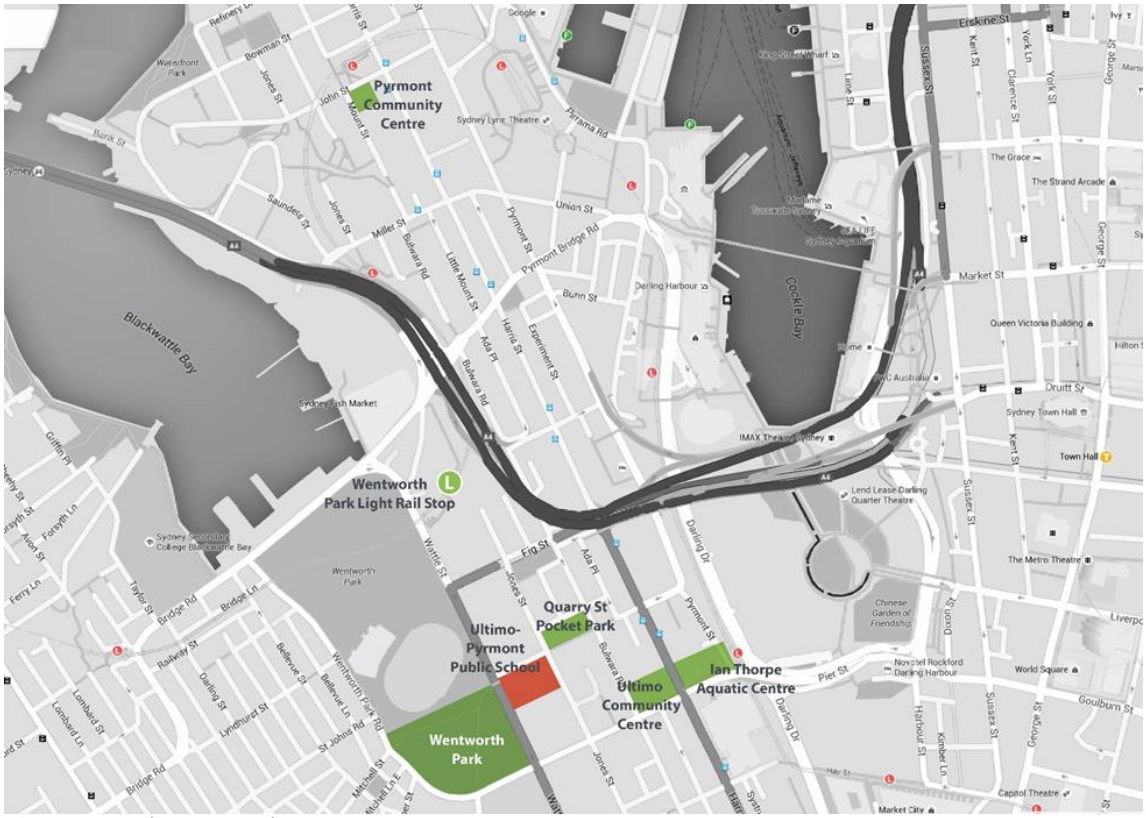

Figure 3 – Locality Context Plan

2.2 Site Description and Existing Development

The land subject of this EIS lies on the eastern side of Wattle Street opposite the site of the temporary Ultimo Public School presently under construction within the grounds of Wentworth Park. A pedestrian footbridge connects the eastern and western sides of Wattle Street at the approximate location of the existing and temporary schools.

The land has a primary frontage to Quarry Street measuring 90 metres in length from which pedestrian access is provided. The land has secondary frontages to Wattle Street and Jones Street of 60.1 metres and 60.5 metres, respectively. The remaining southern boundary of 90 metres is shared with the Meriton Acacia Gardens residential apartment development at 310 Wattle Street, Ultimo. The site has a total area of 5,340.5 square metres and slopes down east west toward Wentworth Park falling by a maximum of 15 metres (10º). See Figures 4-1 below.

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Existing on the site is the Ultimo Public School, consisting principally three main school buildings, outdoor sporting courts, and at-grade car park fronting (and with access to/from) Wattle Street. The school was extensively refurbished in 2002. The site has been used as a school since 1914 and prior to this time formed the southern boundary of the area quarried for yellowblock sandstone. Today, current school enrolment is 297 students from Kindergarten to Year 6 in 12 classes. A survey of the site accompanies this EIS at **Appendix C**.

As previously noted, approval for the demolition of the existing Ultimo Public School will be carried out as Complying Development under the provisions of *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* – the Education SEPP. Limited tree removal to facilitate the demolition process will at the time of writing likely be carried out as Exempt Development under the provisions of the Education SEPP.

The school is within walking distance of public transport in the form of Wentworth Park light rail station and bus services along Harris Street and Wattle Street. Sydney Buses operates two high frequency services along Harris Street including Route 501 - Railway Square to Ryde/West Ryde and Route 389 North Bondi to Pyrmont.

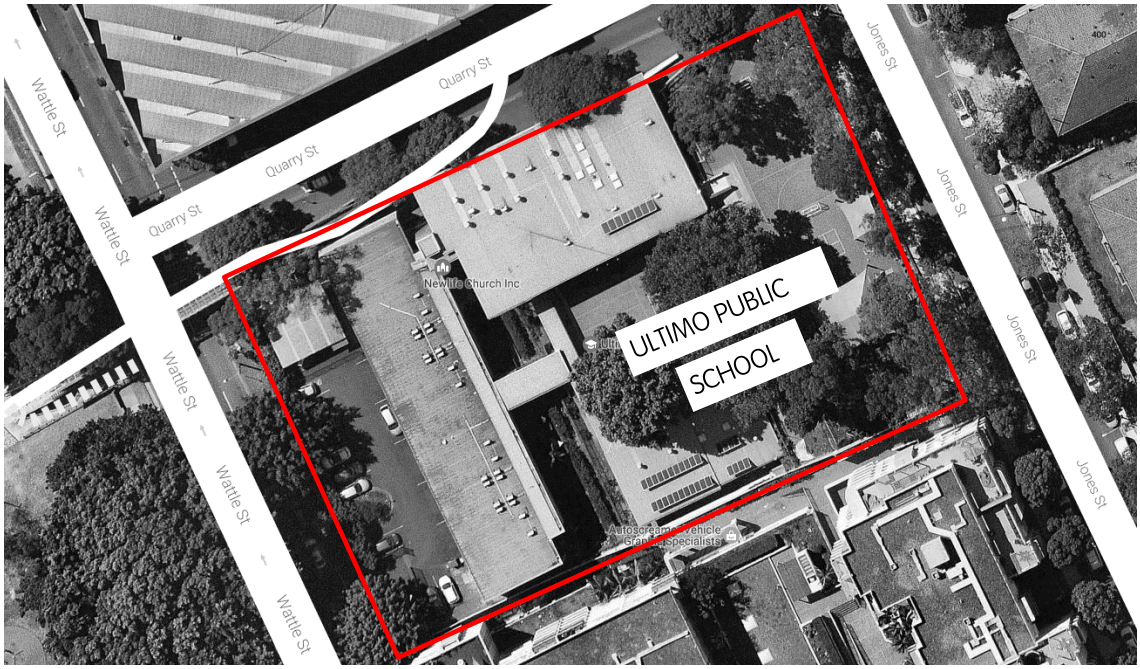


Figure 4 - Subject Land - Ultimo Public School

Figure 5 – Jones Street at the upper level of the school site (source: nearmap 2016)

Figure 6 – Intersection of Jones and Quarry Streets facing the school's main entrance (source: nearmap 2016)

Figure 7 – Quarry Street facing the school's main entrance and footbridge (source: nearmap 2016)

Figure ***8 – Intersection of Wattle and Quarry Streets facing the school site (source: nearmap 2016)***

Figure 9 – Wattle Street facing the school site (source: nearmap 2016)

2.3 Site Ownership

The subject land, known as 47-53 Jones Street, is located at the corner of Wattle, Jones and Quarry Streets and has the legal description Lot 101 DP 1105527. The land is owned by the NSW Department of Education / School Infrastructure NSW in freehold title.

2.4 Geology & Ground Water

Due diligence investigation with reference to the Sydney 1:100,000 Geological Series Sheet reveals the site is underlain by fill of variable compaction and alluvial soils of sands and clays overlying Hawkesbury Sandstone.

Field work consisting of a walk over inspection and the excavation of eight (8) test pits for sample recovery identified a generalised subsurface profile comprising:

- PAVEMENTS & SURFACING - Asphaltic Concrete (AC), Concrete or synthetic pavement, approximately 10mm to 180mm thick, was encountered at the surface in all boreholes.

- FILL - Fill material was encountered beneath the pavement in all boreholes and extended to depths of approximately 1.5m to 8.1m. The fill was typically shallower (approximately 2m) in the west section of the site.
  The fill typically comprised silty sand, clayey sand, gravelly sand and sandy gravel. The fill contained inclusions of igneous, ironstone and sandstone gravel, slag, ash and brick fragments. Metal fragments were encountered in the fill in BH6.
- NATURAL SOILS - Clayey sand, silty sand, sandy clay natural soils were encountered beneath the fill in BH1 to BH3 and extended to depths of approximately 3.3m to 8.1m. The natural soil was typically grey or brown and contained traces of ironstone gravel in BH2.
- BEDROCK – Weathered sandstone was encountered beneath the fill or natural soil in all boreholes and extended to the termination of all boreholes at a maximum depth of approximately 13.31m. The sandstone was typically light grey and yellow brown.

Groundwater seepage was encountered in BH1 and BH2 at depths of 2m to 2.2m. Groundwater was encountered at a depth of approximately 7.6m in BH3, which was slightly above the bedrock. The remaining boreholes were dry on completion of augering.

Selected samples were subject of laboratory testing to determine point load strength index values, pH, sulphate contents, chloride contents and resistivity. A geotechnical report detailing the results of this testing and other subsurface conditions accompanies this EIS at **Appendix D.**

2.5 Contamination

2.5.1 Subsurface contamination

A Preliminary Environmental Site Assessment (ESA) prepared by EIS included a review of previous contamination studies as well as the abovementioned Geotechnical Assessment, a walkover site inspection conducted on 12 April 2017, and soil sampling from eight (8) boreholes. The conceptual site model prepared as part of the ESA identified the following areas of environmental concern at the site:

- FILL MATERIAL - The site appears to have been historically filled to achieve the existing levels. The fill may have been imported from various sources and could be contaminated. Historical information indicated that the majority of the site was filled in the 1960's.
- PESTICIDES - may have been used beneath the buildings and/or around the site.
- HAZARDOUS BUILDING MATERIALS - may be present as a result of former building and demolition activities. These materials may also be present in the existing buildings/ structures on site.

In addition, previous investigations encountered heavy metals, total recoverable hydrocarbons, and polycyclic aromatic hydrocarbons (PAHs) in the fill material. The lead results in the fill in B6 and the Benzo(a)Pyrene TEQ (B(a)P TEQ) results in the fill in B1 and B2 were identified above the Health Investigation Level (HIL-A) criteria.

Soil sampling was collected from eight geotechnical boreholes and analysed with respect to contaminants of potential concern as identified by the conceptual site model with the following results exceeding the Site Assessment Criteria:

- HEAVY METALS – lead results exceeded the HIL-A criteria. Lead, nickel and zinc results exceeded the EIL-UR&POS criteria
- TRH – TRH F3 result exceeded the ESL-URPOS criterion.

- PAHs – B(a)P TEQ result exceeded the HIL-A criterion. B(a)P concentrations exceeded the CT1 criterion. All results but one (BH6) were less that the TCLP1 criteria[1]. All results were less than the SCC1 criteria.

The waste classification of fill material (including sand clay in BH3 identified as 'possibly fill') for off-site disposal is General Solid Waste (non-putrescible). Natural clayey sand and silty sand soil in BH1 and BH2 and sandstone bedrock across the site is classified as Virgin Excavated Natural Material suitable for reuse on-site.

The Preliminary Environmental Site Assessment prepared by EIS accompanies this EIS at **Appendix E.**

Assessment of the site's contamination is provided in Section 6 of this EIS.

2.5.2 Hazardous building materials

A hazardous materials risk assessment was undertaken by Greencap in October 2015 for the purpose determining the presence of hazardous materials for any demolition and refurbishment works at the school. Greencap also prepared a Site Safety Plan for Targeted Hazardous Materials Survey (September 2015).

The risk assessment found that asbestos risk was low, with only existing building BOOA containing non-friable asbestos in exterior eaves at ground level, with the same building (again at ground level containing lead paint (in doors and frames) and synthetic mineral fibres (SMF). SMF was also found in Level 2 of building BOOA, and in the ground level of building BOOC. Importantly, no friable asbestos was found in buildings at the site, nor any Polychlorinated Biphenyls (PCBs), lead dust, or ozone depleting substances (ODSs).

Demolition of the existing structures on site and disposal of identified hazardous building materials is subject of a separate approval process via Complying Development. For reference, the complete Hazardous Materials Risk Assessment and co-related documents prepared by Greencap accompanies this EIS at **Appendix F**.

2.6 Access, parking and transport

Vehicular access to the subject land is via an existing vehicle crossover to Wattle Street which provides access to a staff carpark accommodating 16 car spaces (including 1 disabled space) and existing waste storage and collection facilities. Pedestrian access to the school is gained via Quarry Street, including access from Wentworth Park via the Wattle Street footbridge, which lands at the school's entry point at Quarry Street.

Pick-up and drop-off to the existing Ultimo Public School is facilitated by restrictions to on-street parking around its perimeter. A school bus zone operates on Jones Street Monday-Friday between 8am to 9:30am and from 3pm to 4pm. A school drop-off / pick-up zone operates along the southern side of Quarry Street, which provides a pick-up drop-off rate of 1 space per 29 students and limits parking to 15 minutes between 8am and 9:30am and 2:30pm and 3:30pm, Monday-Friday.

RMS school zones are also in place on Wattle, Quarry and Jones Streets.

As noted, the subject land is served by public transport in the form of bus services Route 389 North Bondi to Pyrmont and 501 West Ryde Station to Railway Square, which operate along Harris Street.

[1] Note no TCLP could be prepared from BH6 as there was insufficient sample remaining after initial analysis. As samples above and below this sample were analysed for TCLP PAHs, this result is not considered to have impacted the reliability of the waste classification.

Wentworth Park light rail station is also located within 400 metres of the subject land with access from Wattle Street.

A high proportion of the existing school student population walks or takes public transport to school (85%) while 15% arrive by car. In the afternoon, 76% walk or take public transport, 15% attend after school care, and 9% depart school by car.

The existing access, parking and transport condition at the site is articulated in detail in Section 2.0 of the Transport Assessment – see **Appendix G**.

2.7 Existing services

The existing school is serviced by essential utilities including electricity, communications, water and sewer, as follows:

Service	Existing infrastructure
Electrical	Existing lead-in cable installation from Ausgrid network (low voltage distributor, 400 amps, 3 phase) from Wattle Street. Current permitted electric capacity assumed to be 200 amps, 3 phase.
Communications	Existing lead-in conduits containing fibre optic SMOF and copper cabling services originating from Wattle Street and Quarry Street
Hydraulic	Existing lead-in arrangement originating from 400mm CV sewer main in Wattle Street. Existing 250mm cast iron cement lined (CICL) water main in Wattle Street and existing 150mm CICL water in Jones Street.
Natural gas	No gas service to the site. However, 32mm 210 kPa Nylon gas main in Wattle Street, 63mm 21kPa PE gas main in Quarry Street and 32mm 210 kPa Nylon gas main in Jones Street.

Extracts of Dial-Before-You-Dig plans of existing services and utilities is included in the Services Infrastructure and Water Management Plan prepared by JHA and accompanies this EIS at **Appendix H**.

2.8 Biodiversity and Arboricultural Matters

Trees on the school site number eighteen (18) mature planted trees with a further fifteen (15) Council verge street trees adjoining the site. Tree removal of up to at least five (5) school site trees will likely be undertaken via Exempt Development under the provisions of *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* – the Education SEPP as part of the demolition phase of the existing school via Complying Development under the same SEPP. Up to thirteen (13) school trees will remain on-site, dependent on the number ultimately removed under Exempt Development provisions. Of these, approval will be sought for the removal of a further ten (10) to thirteen (13) trees (that is, potentially all school trees), subject to this SSD DA's approval. The objective however will be to seek to retain three (3) school trees fronting Jones Street which will be protected during both demolition and construction works. However, the health of these three trees will be subject to proximity to the future built edge of the development at Jones Street and removal and replacement of retaining walls, which may also affect their structural stability.

None of Council's 15 trees were affected by the demolition works and these were also protected in accordance with the arborist's recommendations. Of the Council trees, 4 will be affected by the works proposed under this DA. This includes the removal of one street tree on Wattle Street to make way for the proposed new vehicular access point, and the pruning of 3 other trees as a result of the extent of new works and the building.

Details relating to trees are provided within the arboricultural impact statement prepared by Rain Tree Consulting appended to this EIS at **Appendix I**.

Regional-scale vegetation mapping by the Office of Environment & Heritage (2013) identifies Urban Exotic/Native as the only vegetation type mapped near the subject land. There are three (3) other vegetation communities mapped within a 5 km radius of the land; Estuarine Mangrove Forest, Estuarine Saltmarsh and Estuarine Swamp Oak Forest covering a total of 1.35 ha.

None of these vegetation communities occur on the school site or its immediate vicinity.

2.9 Heritage

The land subject of this EIS is not identified as an item of heritage significance under Schedule 5 of *Sydney Local Environmental Plan 2012* nor is it listed on the State Heritage Register. However, its surrounds are subject to a number of heritage listings of varying significance and relevance as follows and as shown in Figure 10:

Sydney Local Environmental Plan 2012					
Locality	Item name	Address	Property	Significance	Item no
Ultimo	Former woolstore "ESGM & Co" including interior	50–54 Wattle Street	Lot 1, DP 62297	Local	I2060
Ultimo	Former woolstore including interior	14–18 William Henry Street	Lot 1, DP 82697	Local	I2065
Ultimo	Ultimo Heritage Conservation Area			Local	C69
Sydney Regional Environmental Plan No 26 — City West					
Locality	Item name			Significance	Item no
Bays Precinct	Store Building, Wentworth Park			Local	14
Bays Precinct	Wentworth Park			Local	16

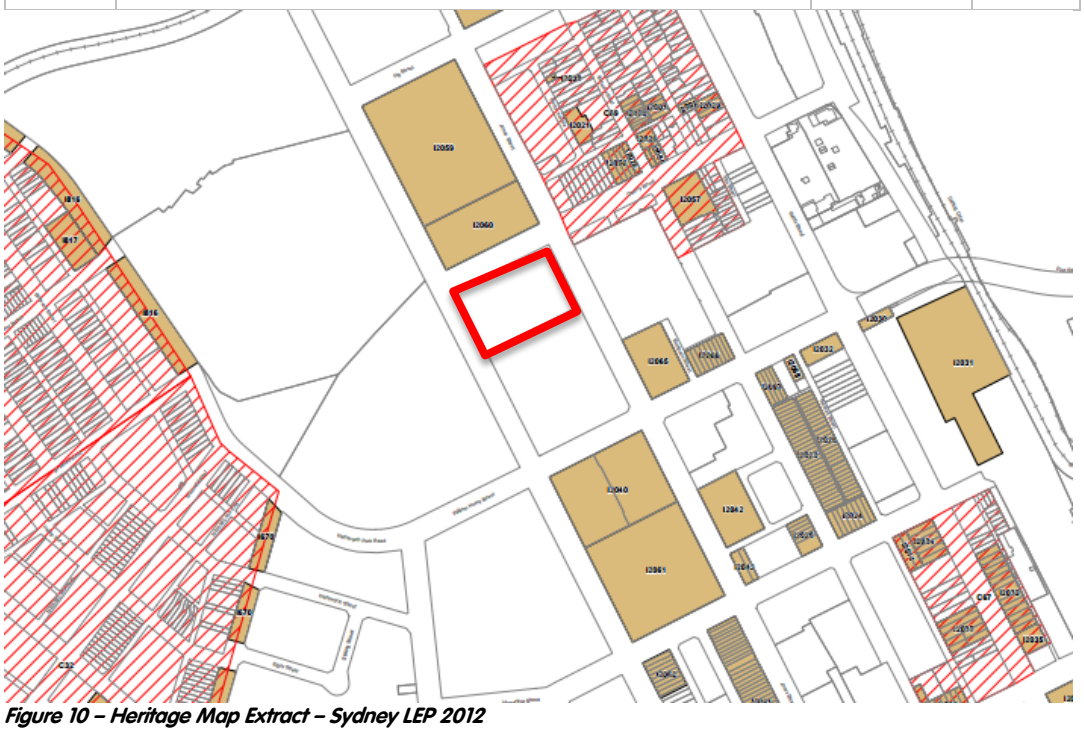


Figure 10 – Heritage Map Extract – Sydney LEP 2012

A Heritage Impact Statement and Archaeological Assessment has been prepared for the project. It articulates the relevant heritage listings around the site and also provides an overview of pre-settlement and post-settlement conditions at and near the site and Aboriginal and European archaeological potential. The Assessment indicates that based on a literature review, the subject site has a relatively low degree of potential to contain archaeological material based on:

- *Its topography and associated underlying soils and geology;*
- *The extent to which it has been previously disturbed; and*
- *The absence of any registered Aboriginal archaeological material or sites in or within 200 metres of the subject site.*

Although the subject site is situated near the former shoreline of the Blackwattle swamp where Aboriginal activity has been historically recorded, previous excavations undertaken by Attenbrow (1992) and Comber (2012) suggest that there remains limited potential for shell midden material and/or stone artefacts to be retained within disturbed terrains, particularly in proximity to former/modified shorelines.

However, the presence of natural soils, particularly within the western portion of the site, suggests that the site has retained a degree of potential to contain Aboriginal objects within residual and potentially undisturbed soil layers beneath current development.

Overall, the site is identified to have a low degree of potential to contain Aboriginal archaeological objects or sites. This potential is, however, limited to the western portion of the site where residual alluvial soils have been identified through geotechnical assessment.

The site also has a low to moderate potential to contain archaeological remains associated with the former school buildings on the site.

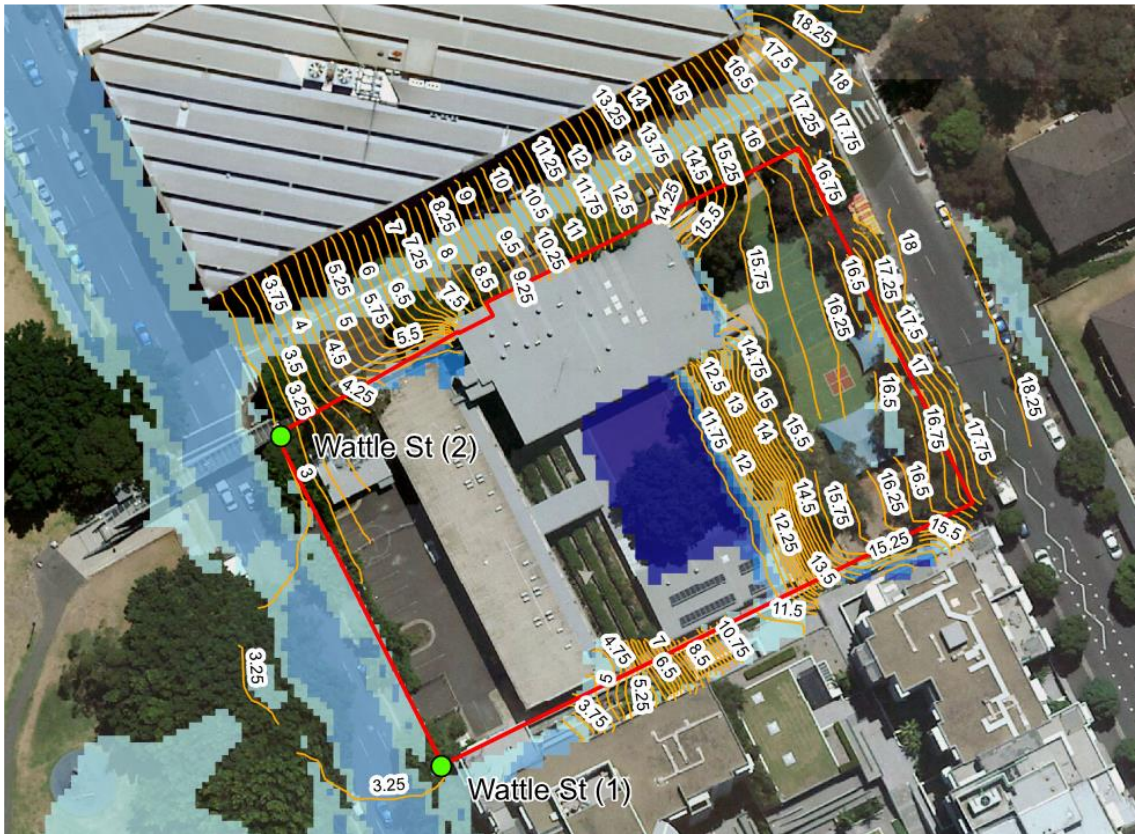
The Heritage Impact Statement and Archaeological Assessment by Urbis is found at **Appendix J**.

2.10 Drainage and Flooding

The land subject of this EIS is land at or below the level of a 1:100 ARI (average recurrent interval) or 1% AEP flood event as identified by the Blackwattle Bay Catchment Flood Study 2015 and in a Flood Certificate for Ultimo Public School prepared by WMA.

Based on the Flood Report, Stormwater Concept Plan, and Sediment and Erosion Control Plan by TTW (see **Appendix K**), the draft documents assessing flood behaviour by WMA make specific mention to a number of hotspots throughout the Blackwattle Bay catchment. The hotspot relevant to the proposed redevelopment of New Ultimo Pyrmont Public School is the major overland flow path that exists along Wattle Street. Wattle Street conveys upstream water towards the downstream outlet to the north of the site during significant flood events. Although Wattle Street acts as a major overland flow path, inundation over the existing finished floor levels of the adjoining properties generally only occurs during the Probable Maximum Flood (PMF) event.

Figure 11 identifies the peak 1% AEP flood level contours and indicative depths of inundation pertaining to the site. Spot ponding occurs in a small number of locations throughout the site with Quarry Street and Wattle Street acting as the major overland flow paths for flood waters. The depths of inundation on Quarry Street range between 0.1 to 0.25m whilst Wattle Street experiences depths in the range of 0.25 to 0.5m within the road carriageway. Flows within Quarry Street appear to be conveyed entirely within the carriageway and would be expected to be less than 150mm in depth as they do not overtop the kerb and encroach towards the property boundary.



Location		PMF	1% AEP	5% AEP	20% AEP
Wattle Street (1)	Depth (m)	1.17	0.09	0.03	0.01
	Level (mAHD)	4.33	3.25	3.19	3.17
Wattle Street (2)	Depth (m)	1.37	0.06	0.04	0.04
	Level (mAHD)	4.30	2.99	2.97	2.97

Figure 11 – Peak Flood Depth 1% AEP Design Flood Event and Depths of Inundation (WMA 2015)

A significant amount of inundation is shown to occur within the existing school (in dark blue). It is likely that the model shows this as a result of water becoming trapped by the buildings which are modelled as obstructions to flow whereas in reality this area would actually be the drained by the site's drainage network towards Wattle Street. Confirmation is provided in the TTW report via the Flood Certificate for the school site, where WMA also identify the school as a flood free with the potential to be utilised as a local evacuation centre.

2.11 Acoustic Environment

The current acoustic environment at the school will require consideration of noise mitigation measures. This is largely due to the status of Wattle Street as a major arterial road of up to (but not exceeding) 40,000 vehicles per day. The Department of Planning's 'Development Near Rail Corridors and Busy Roads – Interim Guideline' applies a guidance to ensure the impacts of noise, vibration and air quality can be suitably mitigated and addressed through appropriate design and placement of facilities in relation to sensitive land uses, such as schools.

3.0 DESCRIPTION OF THE DEVELOPMENT

The proposal will provide a new public school on the site of the existing Ultimo Public School.

This application seeks approval of development of:

- Bulk earthworks / excavation / structural measures and foundation works;
- Construction of a new public school for up to 800 students (from Kindergarten to Year 6) including;
    - Up to 30 homebase classrooms and 3 Special Programs Rooms;
    - Library, school hall, indoor and outdoor play spaces and landscaping, afterschool care facilities;
    - Multi-function spaces including rooftop sports court;
- Tree removal and pruning;
- Associated and ancillary infrastructure works (including new substation) and connections;
- Shell space for a 40-space child care centre; and
- Relocation of light pole and parking spaces on Wattle Street and extension of drop-off and pick-up area on Jones Street.

The new hall will cater for school concerts, assemblies and speeches and will be available for external community use, as well as the adjoining areas for functions. The flat floor of the auditorium will provide an area for indoor sports including theatre, dance and gymnastics.

The COLA on the top level which is entered from Jones Street will also be able to serve as a community space out of school hours, especially on the weekends.

The school administration is provided on one level, with the main secure entrance from Quarry Street.

The home bases are a series of flexible learning spaces that step down the steep site from the proposed child care centre along Jones Street to Wattle Street over 5 terraces. The homebase buildings are directly connected to, and separated by, courtyards. The building along Wattle Street is up to 5 storeys tall at the hall and forms a sound barrier for the site from traffic noise along Wattle Street.

All homebases connect directly to an adjoining homebase or share a connection via a shared wet area. The homebases connect directly to the courtyard playgrounds and are sheltered outside the learning spaces. Storage is built into walls separating the learning spaces.

The library is a 3-storey volume with voids and walkways. There is an amphitheatre on the lowest level for common learning with various informal learning spaces over the upper levels for informal activities. Homebases open into the triple height library.

The proposal will generate 33 teaching and support staff jobs and up to 120 construction jobs throughout the duration of the construction.

The proposed community uses will be similar in nature to that existing on-site at present. This includes weekday after school uses and weekend day time uses such as taekwondo classes, language schools, church uses, fitness, counselling, and dance classes uses.

It is not envisaged that there will be uses which would involve the service of alcohol or amplified music such as parties, discos or the like. Any new uses would be managed by the school and be of a similar benign nature as existing uses.

3.1 Built Works

Proposed works will comprise the following:

- Bulk earthworks / excavation / structural measures and foundation works;

- Removal of up to 13 on-site trees (being those temporarily retained following earlier tree removal via Exempt Development) and removal of 1 Council tree and pruning of 3 Council trees as required (predominantly street trees along Wattle Street and Quarry Street around the site's boundary);
- Connection to services, utilities and other infrastructure, including the development of a new electrical substation;
- Relocation of light pole and parking spaces on Wattle Street and extension of drop-off and pick-up area on Jones Street; and
- Construction of the New Ultimo Pyrmont Public School, including landscaping works.

Note: the demolition of the existing Ultimo Public School will be carried out as Complying Development under the provisions of *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* – the Education SEPP. Limited tree removal to facilitate the demolition process will at the time of writing likely be carried out as Exempt Development under the provisions of the Education SEPP.

The nature and scale of the proposed works are illustrated by the architectural drawings prepared by DesignInc | Lacoste + Stevenson | bmc2 and landscape plans prepared by DesignInc, which accompany this EIS at **Appendix L** and **Appendix M**, respectively. Select excerpts are provided at Figures 12-18 below.

The Built Form and Urban Design Report by DesignInc | Lacoste + Stevenson | bmc2 (also at **Appendix L**) sets out the design philosophy underpinning the scheme, and provides for a summary of the design response and strategies which are embodied in proposed development.

3.2 Landscape & Public Domain

The landscaping concept for the new school is based on different garden themes for each of the terraces, playgrounds, and open functional areas on the redeveloped site. Moving from the Jones Street level down to the Wattle Street level, the following gardens are proposed:

- Entry level off Jones Street and COLA / Market Garden;
- Upper Playground / Terrace Garden;
- Middle Playground / Australian Native Garden; and
- Lower Playground / Fern Tree Garden.

The Market Garden principally provides for a covered learning and play space with hard surface, limited and peripheral furniture with delineated handball courts, hopscotch markings and the like.

The Terrace Garden provides active play space on a concrete base with a range of fixed furniture and planting / trees in pots and planters.

The Australian Native Garden provides for the majority of the replacement trees on the site. Up to 9 Tallowwood trees are proposed (with mature height to 40m). Furniture proposed on this level includes fixed benches, and fixed tables and benches set predominately in a mulch finish.

The Fern Tree Garden is predominantly set into a sandpit framed by artificial grass and concrete. The playground fixtures included at this level are softfall dimples, climbing ropes on an incline, triple somersault bars, and concrete slide and rope climb. As suggested by the name, a variety of fern trees, palms, and other understorey plantings predominate in this lower level playground.

3.3 Traffic & Parking

Under the proposed development, the existing traffic arrangements will be maintained. Drop-off and pick-up will continue at the Jones and Quarry Streets edges of the site. Given the increase in school student population, and with the addition of the child care centre, additional drop-off and pick-up bays will be needed. These additional drop-off bays can be provided along the Jones Street school frontage.

This will require converting the existing bus zone which currently serves only school buses, to a "No Parking 8:00am to 9:30am, 2:30 – 3:30pm" restriction. Based on the Transport Assessment by Arup (see **Appendix G**) the amount of bus services using the area does not match the demand which could be fulfilled by allowing parents to drop-off and pick up in these periods. Observed bus services were arriving after 3:20pm. Altering the restrictions to match these arrivals can assist in maximising the efficiency of this space. The existing amount of on-site parking (16 spaces) will be reduced to 3 spaces (including 2 disabled spaces).

Figure 12 - Perspective study of the proposed school - Jones and Quarry Streets (DesignInc / Lacoste + Stevenson / bmc2)

Figure 13 - Perspective study of the proposed school – Wattle and Quarry Streets (DesignInc / Lacoste + Stevenson / bmc2)

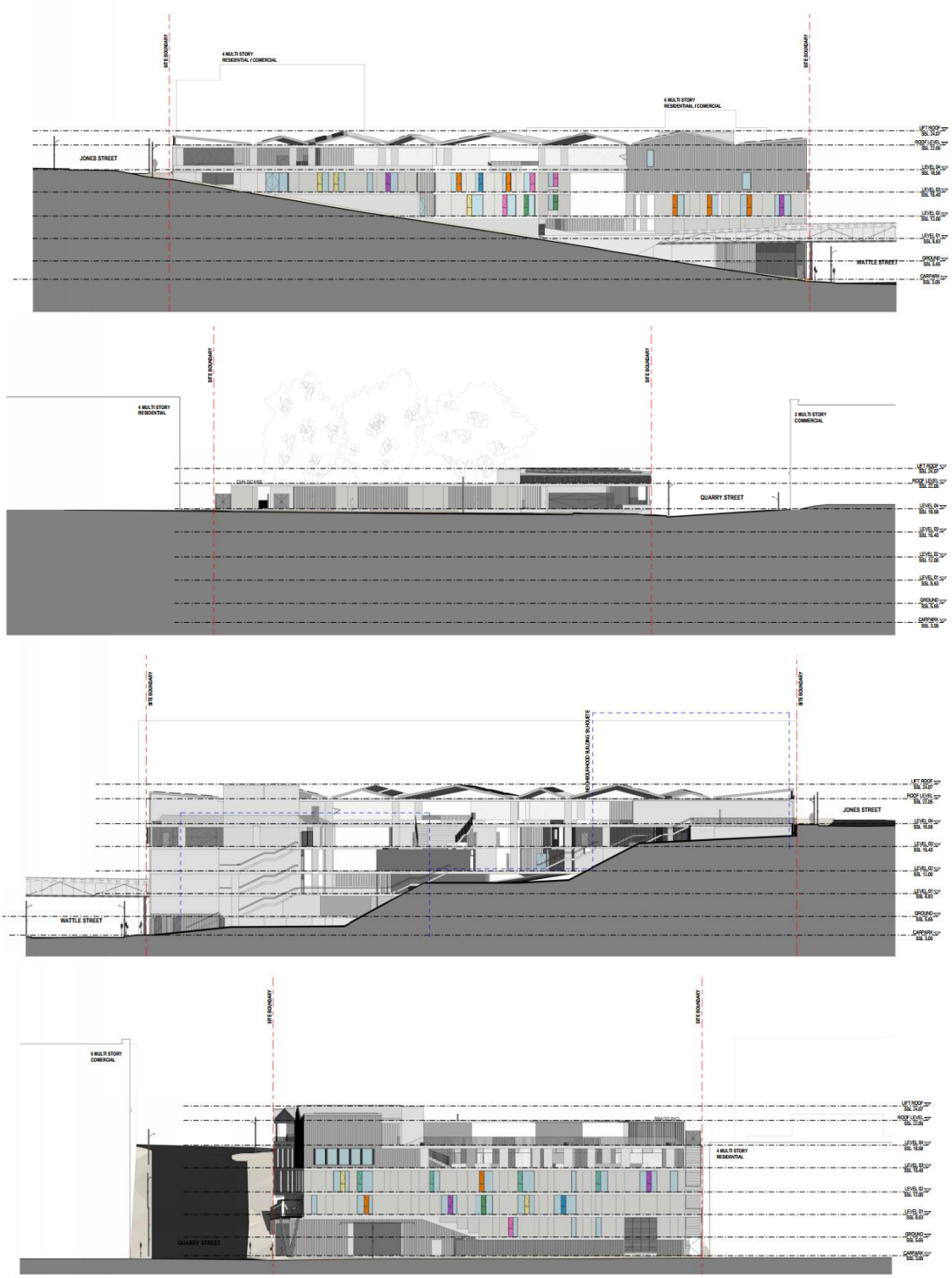


Figure 14 – Elevations (excerpts) – North, East, South, and West (DesignInc / Lacoste + Stevenson/ bmc2)

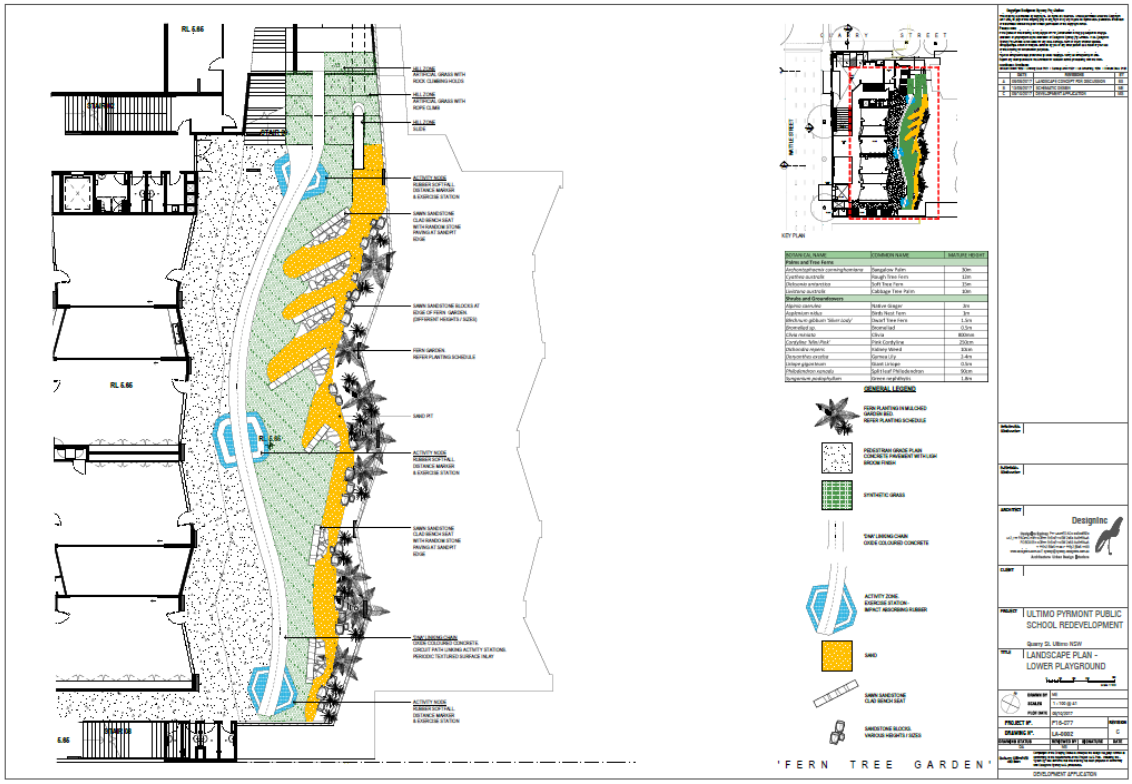


Figure 15 – Landscape Plan – Fern Tree Garden (DesignInc)

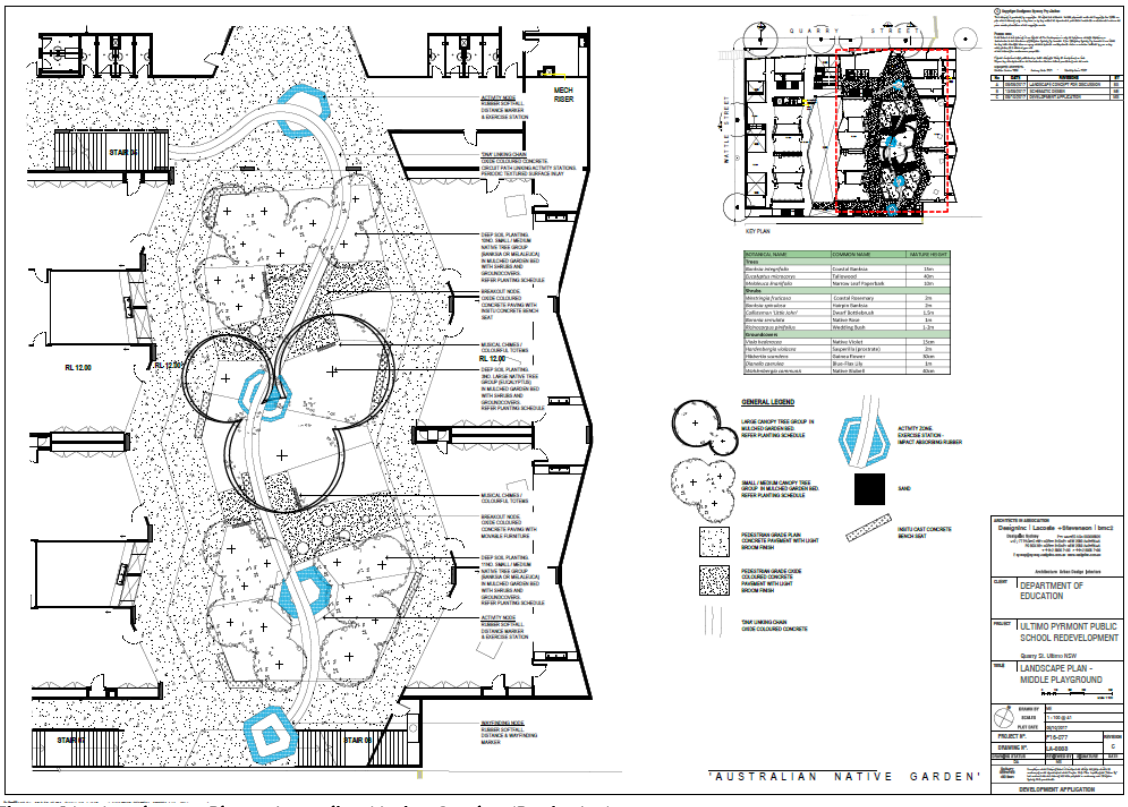


Figure 16 – Landscape Plan – Australian Native Garden (DesignInc)

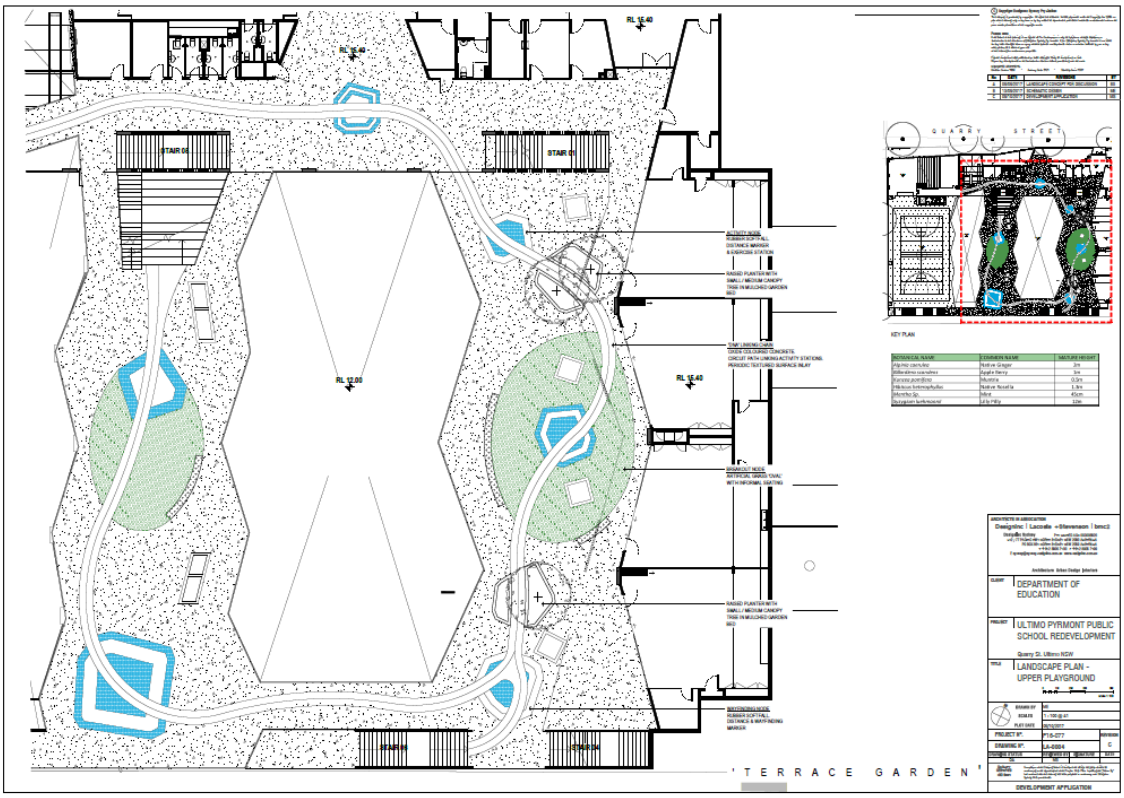


Figure 17 – Landscape Plan – Terrace Garden (DesignInc)

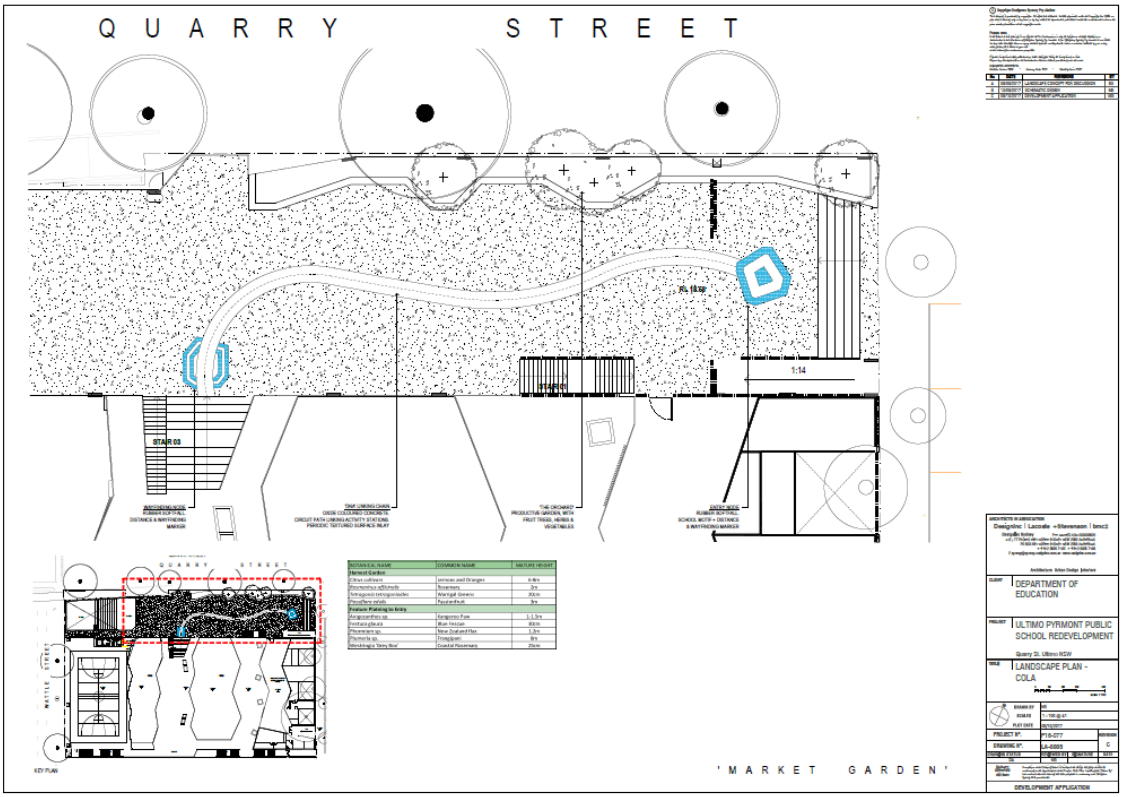


Figure 18 – Landscape Plan – Market Garden (DesignInc)

3.4 Ecologically Sustainable Development (ESD)

The proposed development also incorporates a range of ESD initiatives. These are set out in **Appendix N**, and include the following:

- Envelope - building fabric performance and shading and daylighting;
- Electrical – metering and photovoltaics;
- HVAC – natural ventilation and hydronic heating;
- Lighting – lighting control and energy efficiency;
- Water – no hot water to restrooms, high efficiency fixtures, and rain water for non-potable uses
- Materials – low VOC / low formaldehyde materials and recycled content;
- Waste – recycled materials during demolition and construction and operational waste recycling
- Sustainable Transport – encourage alternative transport and limitation on usage of lift.
- Water Sensitive Urban Design (WSUD).

3.5 Staging

As noted earlier, approval for the demolition of the existing Ultimo Public School will be carried out as Complying Development under the provisions of *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* – the Education SEPP. Limited tree removal to facilitate the demolition process will at the time of writing likely be carried out as Exempt Development under the provisions of the Education SEPP.

The new constructions works will be carried out in a single stage over a 12-16 month period. The school is intended to be open for Day 1, Term 1, 2020.

4.0 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

In accordance with section 89G of the Act, the Secretary of the Department of Planning and Environment issued the requirements for the preparation of the EIS on 7 March 2016. A copy of the SEARs is included at **Appendix B**.

The Table below provides a detailed summary of the individual matters listed in the SEARs and identifies where each of these requirements have been addressed in this report and the accompanying technical studies.

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Secretary's Environmental Assessment Requirements	
SEAR	EIS 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).	Statement of Validity
Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development.	Section 6.24
Where relevant, the assessment of the key issues below, and any other significant issues identified in the risk assessment, must include: - adequate baseline data; - consideration of potential cumulative impacts due to other development in the vicinity (completed, underway or proposed); and - measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment.	
The EIS must be accompanied by a report from a qualified quantity surveyor providing: - a detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the Environmental Planning and Assessment Regulation 2000) of the proposal, including details of all assumptions and components from which the CIV calculation is derived; - an estimate of the jobs that will be created by the future development during the construction and operational phases of the development; and - certification that the information provided is accurate at the date of preparation.	Appendix A Section 1.1 Statement of Validity
KEY ISSUE	
1. STATUTORY AND STRATEGIC CONTEXT Address the statutory provisions contained in all relevant environmental planning instruments, including: - State Environmental Planning Policy (State & Regional Development) 2011; - State Environmental Planning Policy (Infrastructure) 2007; - State Environmental Planning Policy No.55 – Remediation of Land; and - Sydney Local Environmental Plan 2012.	Section 6.3

Permissibility Detail the nature and extent of any prohibitions that apply to the development.	Section 6.3
Development Standards Identify compliance with the development standards applying to the site and provide justification for any contravention of the development standards	Section 6.3
2. POLICIES Address the relevant planning provisions, goals and strategic planning objectives in the following: · NSW State Priorities; · A Plan for Growing Sydney; · NSW Long Term Transport Master Plan 2012; · Sydney's Cycling Future 2013; · Sydney's Walking Future 2013; and - Healthy Urban Development Checklist, NSW Health.	Section 6.2
3. BUILT FORM AND URBAN DESIGN · Address the height, density, bulk and scale, setbacks of the proposal in relation to the school campus and the surrounding development, topography, streetscape and public open spaces. · Address design quality, with specific consideration of the overall site layout, streetscape, open spaces, façade, rooftop, massing, setbacks, building articulation, materials, colours and Crime Prevention Through Environmental Design Principles. · Demonstrate design excellence in accordance with the design excellence provisions of Sydney Local Environmental Plan 2012. · Detail how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development.	Sections 6.6. and 6.7 Sections 6.4, 6.6, and 6.23 Section 6.4 Sections 6.8, 6.15 and Appendices G, H and L.
4. ENVIRONMENTAL AMENITY Detail amenity impacts including solar access, acoustic impacts, visual privacy, view loss, overshadowing and wind impacts. A high level of environmental amenity for any surrounding residential land uses and open space areas must be demonstrated.	Sections 6.7, 6.13 and Appendices L, P and Q.
5. TRANSPORT AND ACCESSIBILITY Include a transport and accessibility impact assessment, which details but is not limited to: · the existing and proposed pedestrian and bicycle movements, travel routes and facilities within the vicinity of the site and to public transport facilities as well as measures to maintain road and personal safety in line with CPTED principles; · an estimate of the total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and cycle trips; · the adequacy of public transport, pedestrian and bicycle provisions to meet the likely future demand of the proposed development; · impact of the proposed development on the operation of existing and future public transport infrastructure within the vicinity of the site (such as the CBD	Appendix G and Sections 2.6 and 5.3, and 6.8.

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and South East Light Rail) in consultation with TfNSW and identify measures to integrate the development with the transport network; · measures to promote travel choices that support sustainable travel, such as a location-specific sustainable travel plan, provision of end-of-trip facilities, green travel plans and wayfinding strategies; · the daily and peak (AM, PM and events) vehicle movements impact on nearby intersections, with consideration of the cumulative impacts from other approved developments in the vicinity, and the need/associated funding for upgrading or road improvement works (if required); · the proposed active transport access arrangements and connections to public transport services; · the proposed access arrangements, including car and bus pickup/ drop-off facilities, and measures to mitigate any associated traffic impacts and impacts on public transport, pedestrian and cycle networks; · proposed car and bicycle parking provision, including consideration of the availability of public transport and the requirements of the relevant parking codes and Australian Standards; · service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times); and · traffic and transport impacts during construction, including cumulative impacts associated with other construction activities, and how these impacts will be mitigated for any associated traffic, pedestrian, cyclists, parking and public transport, including the preparation of a draft Construction Traffic Management Plan to demonstrate the proposed management of the impact (which must include vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures for all demolition/construction activities). → *Relevant Policies and Guidelines:* · *Guide to Traffic Generating Developments (Roads and Maritime Services)* · *EIS Guidelines – Road and Related Facilities (DoPI)* · *Cycling Aspects of Austroads Guides* · *NSW Planning Guidelines for Walking and Cycling* · *Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development* · *Standards Australia AS2890.3 (Bicycle parking facilities)*	
6. ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD) · Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000) will be incorporated in the design and ongoing operation phases of the development. · Demonstrate that the development has been assessed against a suitably accredited rating scheme to meet industry best practice. · Include a description of the measures that would be implemented to minimise consumption of resources, water (including water sensitive urban design) and energy.	Sections 3.4, 6.9 and Appendix N.

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7. HERITAGE Include a Heritage Impact Statement that addresses the significance of, and provides an assessment of the impact on the heritage significance of heritage items on the site and in the vicinity and archaeologically significant areas, in accordance with the guidelines in the NSW Heritage Manual.	Appendix J and Sections 6.3 and 6.10.
8. SOCIAL IMPACTS Include an assessment of the social consequences of the school's relative location.	Section 6.12
9. NOISE AND VIBRATION Identify and provide a quantitative assessment of the main noise and vibration generating sources during construction and operation. Outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land. → *Relevant Policies and Guidelines:* · *NSW Industrial Noise Policy (EPA)* · *Interim Construction Noise Guideline (DECC)* · *Assessing Vibration: A Technical Guideline 2006*	Section 6.13 and Appendix Q.
10. CONTAMINATION Demonstrate that the site is suitable for the proposed use in accordance with SEPP 55. → *Relevant Policies and Guidelines:* · *Managing Land Contamination: Planning Guidelines - SEPP 55 Remediation of Land (DUAP)*	Appendices E and F, Sections 2.5 and 6.14.
11. UTILITIES · Prepare an Infrastructure Management Plan in consultation with relevant agencies, detailing information on the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure. · Prepare an Integrated Water Management Plan detailing any proposed alternative water supplies, proposed end uses of potable and non-potable water, and water sensitive urban design.	Sections 2.7, 6.15, 6.16 and Appendix H.
12. CONTRIBUTIONS Address Council's Section 94A Contribution Plan and/or details of any Voluntary Planning Agreement.	Section 1.6
13. DRAINAGE Detail drainage associated with the proposal, including stormwater and drainage infrastructure.	Section 6.16 and Appendix K.
14. FLOODING Assess any flood risk on site (detailing the most recent flood studies for the project area) and consideration of any relevant provisions of: · the NSW Floodplain Development Manual (2005), including the potential effects of climate change, sea level rise and an increase in rainfall intensity; and · Council's Draft Blackwattle Bay Catchment Floodplain Risk Management Plan, Draft Blackwattle Bay Catchment Floodplain Risk Management Study and Draft Blackwattle Bay Catchment Flood Study.	Sections 2.10 and 6.17 and Appendix K.

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15. WASTE Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.	Sections 6.18 and 6.22 and Appendices R and W.
PLANS AND DOCUMENTS	
The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Environmental Planning and Assessment Regulation 2000. Provide these as part of the EIS rather than as separate documents.	
In addition, the EIS must include the following:	Appendix L
· Architectural drawings (dimensioned and including RLs);	Appendix C
· Site Survey Plan, showing existing levels, location and height of existing and adjacent structures / buildings and boundaries;	Appendix L
· Site Analysis Plan;	Appendix K
· Stormwater Concept Plan;	Appendix K
· Sediment and Erosion Control Plan;	Appendix L
· Shadow Diagrams;	Appendix L
· View Analysis / Photomontages;	Appendices I and M
· Landscape Plan (identifying any trees to be removed and trees to be retained or transplanted);	Appendices G and W
· Preliminary Construction Management Plan, inclusive of a Preliminary Construction Traffic Management Plan detailing vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures;	Appendices D and U
· Geotechnical and Structural Report;	Appendix T
· Accessibility Report;	Appendix I
· Arborist Report;	N/A
· Acid Sulphate Soils Management Plan (if required); and	Appendix L.
· Schedule of materials and finishes.	
CONSULTATION	
During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with:	Section 5.0 Appendix O
· City of Sydney Council;	
· Transport for NSW; and	
· Roads and Maritime Services.	
The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.	

5.0 CONSULTATION PRIOR TO LODGEMENT

In accordance with requirements issued under the SEARs, SI and the consultant team has consulted with a broad range of stakeholders in the preparation of this EIS.

This has included:

- Ongoing and longstanding consultation with the school community as part of the overall project (including the temporary school, site options and site selection);
- Consultation by various consultants with agencies and authorities as part of the preparation of their reports; and
- Targeted consultation with City of Sydney, RMS, Transport for NSW as required by the SEARs.

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The results of this consultation process are set out below, as well as in a Summary Report found at **Appendix O**.

5.1 School Community and Wider Community

Consultation with the school community and wider community has been extensive and ongoing. Consultation with respect to this development (and including the temporary school) commenced in August 2014. In the time since there have been:

- 3 parent workshops
- 4 teacher workshops
- 4 community group workshops
- 3 parent, teacher and community Information and Consultation Sessions
- 2 student presentations
- 1 student project centred on the new school development
- 3 P&C meetings related to the new school development
- 1 field trip
- 27 Information Booth sessions on site
- Letter box drops, Blog posts and Fact Sheets circulated.

HKA (on behalf of School Infrastructure NSW) also conducted a workshop with the parents and carers of Ultimo Public School Students in August 2015. A fundamental objective of the parents and carers was that the built outcomes of the project truly capture the needs of both education and the community, considering the site as an integrated part of the overall neighbourhood.

Key transport issues collected from the workshop include:

- 24 Hour Life / Activity
- Access in general – Bus, pedestrian and cycle
- Access and Wattle St traffic
- Noise – Western Distributor
- Enough capacity for the school catchment area
- Safety, including pedestrian crossings at key intersections in the area
- Bus access should be improved (e.g. the route made more direct),
- Connection to Pyrmont be enhanced.
- The relocation process both to the temporary site and back to the new school when it is finished.

5.2 City of Sydney

A meeting was held with City of Sydney officers on 11 October 2017. The main matters discussed and addressed at that meeting included general planning and urban design matters, as well a traffic, parking and access matters.

Key issues and discussion points in the meeting included:

- Clarity around the footbridge easement and impacts of the development upon the easement and vice versa;
- Potential loss of on-street parking around the site due to the relocated Wattle Street access point;
- Loading dock size and functionality;
- Appropriate conditions and segregation for cyclists within the loading dock/parking area;
- Student bicycle parking being in the appropriate locations (eg. upper site near entry)
- Council tree removal / pruning;
- Pedestrian safety and experience at the site perimeter, particularly at Wattle Street;
- Materials and finishes and appropriate detailing and design of the Wattle Street edge;
- Impacts upon residential development to the south (privacy, shadowing etc);
- Solar access to school courtyards / open space;
- Parameters around the use of the shared / community spaces (hours of use / types of functions and uses); and
- Accessibility within the school and in the event the lift is not operational.

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Additionally and broadly, the City of Sydney is also aware of the project and has been involved in the overall project in various ways, through:

- Consultation on the temporary school, including its planning approval pathway phase and the subsequent REF process;
- Consultation on the development of the Design Brief for the project's Design Competition;
- Membership and consultation in relation to the Jury Membership of the project's Design Competition;
- Liaison with City of Sydney on the implications of the design on stratums of Council's ownership at and around the Wattle Street footbridge and its landing at Quarry Street (involving Morris Bellamy of Council's property section);
- Consultation under the SEARs request for the project via the DPE; and
- Liaison around the need and provision of child care space within the development.

5.3 RMS / Transport for NSW

An initial consultation meeting with the RMS and Transport for NSW was held on Wednesday, 21 June 2017. Team members from DesignInc, Lacoste + Stevenson, HKA and Arup attended.

The purpose of the meeting was to discuss the following issues:

- Construction traffic access;
- Confirmation of traffic surveys for the SSD DA submission;
- Discussion on proposed school drop-off/pick-up zones; and
- Discussion on proposed loading dock/ car park driveway access on Wattle Street

The key point of discussion at the meeting was about the driveway location on Wattle Street and it not being located in accordance with RMS requirements - being located very close to the traffic signals – within the 20m No Stopping Zone.

The RMS was concerned about the ability of vehicles exiting the driveway to see the traffic lanterns at the Quarry Street intersection. The RMS also requested additional information on the access control to ensure vehicles entering the site did not block the footpath and on the level of vehicle activity expected.

The RMS provided a response dated 14 September 2017 confirming their position that they do not support the driveway in the proposed position:

- Clause 101 of the Infrastructure SEPP requires a lower order road to be used for access when available unless it can be satisfied that the classified road access can meet certain requirements; and
- The location in close proximity to the traffic lights is not supported.
- In addition:
    - Vehicles must be able to move into the site without being stopped across the footpath by any security gate
    - The driveway width must be suitable for truck movements, including clear visibility in both directions
    - The internal vehicle movements / pedestrian interaction must be designed to be safe.

Arup subsequently contacted the RMS development officer on 15 September 2017 to discuss the letter – no further information could be provided at that time and a further on-site meeting was organised to work through a resolution to the matter in recognition of the wider design influences at play, with traffic matters only one of many matters for the design team to resolve on the tight and complex site.

The subsequent RMS/TfNSW meeting was held at the site on 29 September 2017 with representatives of RMS, TfNSW, Arup, HKA, DesignInc, Lacoste + Stevenson, SI, and RobertsDay. At the meeting it was presented and broadly agreed that:

- The topography of the site does not allow the loading dock to be located off Jones Street at the top of the site. Both Jones Street and Quarry Street provide frontages for drop-off and pick-up by private car and bus. Wattle Street is most appropriate as it is at the bottom of the site and is where the current access is provided.
- The security gate located on the boundary of the new design will be open during school hours enabling vehicles to enter the site without stopping. Security will be controlled at the internal pedestrian door location.
- The design vehicle swept paths are designed in accordance with AS2890.1 and AS2890.2 with the vehicle crossover being dimensioned to allow vehicles to enter and leave within the driveway.
- Pedestrian safety within the car park will be achieved by: clearly marked pedestrian routes; signage; and timing of deliveries during the day will be between school start and finish times.
- The key issue to address is the driver's ability to see the traffic lights at the Quarry Street intersection and the oncoming traffic along Wattle Street on departure.
    - The driveway will be moved a further 3 metres south to increase the separation.
    - The first 10m of kerb-side car parking will be changed to No Stopping to improve sight lines.
    - The light pole to be investigated for removal and replacement on the western kerb of Wattle St.
    - The gate opening should be wide enough to provide clear sight lines south.
    - The wall along the Wattle St frontage will be open grille to provide clear sight to pedestrians walking on the footpath.
    - Current design has only 1 standard and 2 accessible parking spaces to cater for special needs children and deliveries.
    - Garbage collection and loading is expected to be very low at 1 -2 vehicles per day. On the basis of these amendments to the plans, RMS supported the design based on low usage patterns.

- Arup has documented these outcomes in the traffic report and the design has been revised for the SSD DA lodgement package.

5.4 Other Agencies / Authorities

JHA consulted with Ausgrid, Sydney Water, and Jemena as part of the preparation of its Services Infrastructure and Water Management Plan – see **Appendix H**.

Ausgrid

Consultation with, and an application to, Ausgrid has been undertaken to provide the site with suitable power for temporary construction use. Ausgrid has confirmed a 400 Amp, 3 phase basic connection can be undertaken on the existing low voltage street network cable in Wattle Street to increase the electrical supply to the site for use as construction power. The Ausgrid connection approval is appended to JHA's Services Infrastructure and Water Management Plan – see **Appendix H**.

Sydney Water

Consultation with, and application to, Sydney Water has been undertaken via the required Feasibility Study requirement. JHA lodged this application with a Water Servicing Coordinator (WSC), Greg Houston Plumbing, and have received the Feasibility Letter from Sydney Water. The letter indicates that currently there are no augmentation requirements for this development and that the proposed connection points are satisfactory. Once the development progresses, a Section 73 will need to be submitted to confirm the results of the Feasibility Study.

Sydney Water correspondence is appended to JHA's Services Infrastructure and Water Management Plan – see **Appendix H**.

Jemena

JHA has lodged a gas connection application with Jemena, and at the time of writing was still under assessment. Further contact was made with a Jemena customer representative on the 13th September 2017 who indicated an Offer of Connection could be received by late September 2017. JHA does not envisage any concerns or augmentation requirements for this development.

Jemena-related correspondence is appended to JHA's Services Infrastructure and Water Management Plan – see **Appendix H**.

See other consultation carried out by the project team in the preparation of this DA at **Appendix O**.

It is noted that the Project will be placed on public exhibition for 30 days in accordance with clause 83 of the Regulation. During the public exhibition period, Council, State agencies and the public will have an opportunity to make submissions on the Project.

6.0 ENVIRONMENTAL ASSESSMENT

6.1 Strategic and Statutory Context

The SEARs have required the following strategic and statutory (and other planning-related documents) be considered and addressed in this EIS:

- NSW State Priorities;
- A Plan for Growing Sydney;
- NSW Long Term Transport Master Plan 2012;
- Sydney's Cycling Future 2013;
- Sydney's Walking Future 2013;
- Healthy Urban Development Checklist, NSW Health;
- *State Environmental Planning Policy (State & Regional Development) 2011;*
- *State Environmental Planning Policy (Infrastructure) 2007;*
- *State Environmental Planning Policy No.55 – Remediation of Land; and*
- *Sydney Local Environmental Plan 2012.*

We have also addressed the recently commenced *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* which post-dates the issue of the SEARs but is also relevant to the project.

It is noted that in accordance with clause 11 under Part 2 of the SRD SEPP, the requirements of Development Control Plans do not apply to this development.

The land subject of this SSD DA lies within the Sydney Local Government Area (LGA) and is therefore subject to the *City of Sydney Development Contributions Plan 2015*. This is addressed in detail in Section 1.6 of this EIS

6.2 Strategic Planning

An assessment of the proposal against the relevant state and local strategic planning policies as identified by the SEARs is summarised in the subsections that follow.

6.2.1 NSW State Priorities

One of the 12 Premier's Priorities is to Increase the proportion of NSW students in the top two NAPLAN bands by eight per cent by 2019. The construction of a new built-for-purpose and state-of-the-art school will not only ensure ongoing easy access to education for a growing residential population but will improve the quality of teaching facilities available within the local catchment. The proposal, therefore, is consistent with the goal of improving education results through tangible improvements to teaching and learning environment of the school's catchment.

The proposal will also make a modest contribution toward the goal of creating jobs 150,000 new jobs by 2019 with the generation of 120 new construction jobs associated with the construction of the new school and 33 permanent teaching / administrative jobs associated with its ongoing operation.

The balance of the 12 Premier's Priorities are broad in nature and not of direct relevance to the current proposal. It is noted, however, that no aspect of the proposal will preclude the future achievement of these aims and the project.

6.2.2 A Plan for Growing Sydney

A Plan for Growing Sydney, released in December 2014, is the NSW Government's currently in force plan for the future of the Sydney Metropolitan Area over the 20 years to 2034. The Plan provides key directions and actions to guide Sydney's productivity, environmental management under the following broad goals:

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

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The provision of education services to meet Sydney's growing needs through the identification of opportunities for new and expanded school facilities within urban renewal areas of growing residential populations that are well connected via public transport is consistent with these goals, particularly Direction 1.10: Plan for education and health services to meet Sydney's growing needs.

6.2.3 NSW Long Term Transport Master Plan 2012

The NSW Long Term Transport Master Plan (LTTMP) was released in 2012. It sets the direction for transport planning in NSW and provides a framework for transport policy and investment decisions. Whilst the Master Plan does not provide any specific actions for the subject land, it did generate the preparation of Sydney's Walking Future 2013, Sydney's Cycling Future 2013, Sydney's Bus Future 2013, Sydney's Rail Future 2013. The relevant plans are addressed below as per the SEARs.

6.2.4 Sydney's Cycling Future 2013

The actions set out in Sydney's Cycling Future 2013 presents a new direction in the way Transport for NSW plans, prioritises and provides for cycling in Sydney. This is in response to a change in culture in Sydney where more people are choosing to ride a bike for transport. The Plan seeks to increase the mode share of cycling in the Sydney metropolitan region for short trips that can be a 20 to 30-minute ride.

The overall cycling infrastructure surrounding the school is robust with good cycling connections in each direction. The residential streets around the school are bicycle friendly with low traffic volumes observed. A total of 19 bicycle parking spaces are proposed for children and staff. To complement the bicycle parking facilities, the school will provide two shower facilities for staff as an end of trip provision. Other initiatives are in place and available to encourage cycling by students and staff, such as a Staff Green Travel Plan, Ride to Work Day and the school's Ride to School webpage.

6.2.5 Sydney's Walking Future 2013

The actions set out in Sydney's Walking Future 2013 seek to make walking the transport choice for quick trips under two kilometres and will help people access public transport. Increasing the number of people walking will help to reduce the burden of congestion on Sydney's roads and generate capacity on key public transport corridors such as:

- Changes to online trip planning to enhance walking as a transport option;
- Wayfinding pilots at Milsons Point, Martin Place and Circular Quay and the development of walking maps;
- Construction of the 'Wynyard Walk';
- Investigations into an extension of the Goods Line; and
- Delivery of the George Street light rail/ pedestrian spine.

The existing school site already provides for a high level of walking to and from the school. An estimated 85% of students either walk or arrive / leave school by public transport. This scenario / proportion is not expected to change given the retention of the site for the new school and the maintenance of all existing access routes and the easy and safe walking environment.

6.2.6 Healthy Urban Development Checklist, NSW Health

The purpose of the checklist is to assist health professionals to provide advice on urban development policies, plans and proposals. It is intended to ensure that the advice provided is both comprehensive and consistent.

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The checklist is principally about helping to answer the questions:

- What are the health effects of the urban development policy, plan or proposal?; and
- How can it be improved to provide better health outcomes?

The types of plans and proposals that this checklist is intended for include:

- Master Plans (may also be called concept plans);
- Town Centre Plans; and
- Development applications for projects like large housing developments, shopping centres, and community and health care facilities.

Key themes under the checklist are:

- Healthy Food
- Physical Activity
- Housing
- Transport and Physical Connectivity
- Quality Employment
- Community Safety and Security
- Public Open Space
- Social Infrastructure
- Social Cohesion and Social Connectivity
- Environment and Health

In relation to this DA, the following are relevant considerations and comments:

- The design of the school will encourage high levels of physical activity of the student population;
- Existing high levels of active transport will be maintained and further encouraged as a result of the growth of the school's population and catchment;
- Existing high levels of public transport use and connectivity will be maintained and enhanced;
- The development reinforces the concept of in-fill development and responds to ongoing in-fill development within its catchment;
- The proposal enables an increase in jobs in the inner Sydney area close to housing and transport options;
- The design satisfies an enhances sense of community safety and security;
- The location of the school reinforces its use of adjacent open space for active play-time and does not diminish the availability of open space to the wider community;
- The school's design and location reinforces a strong sense of local identity and a sense of place, but also creates a new visual identity built upon the principles of design excellence;
- The school provides for a wider community use after-hours for a range of sporting and cultural interests and enables a shared resource for the efficient use of scarce land within inner Sydney;
- The school maintains existing high levels of social interaction and connection among people of all ages, and reinforces this through the increased capacity of the school from population growth; and

- Provides for an environmentally responsible response to water, energy, and non-renewable resources use.

6.3 Statutory Planning

An assessment of the proposal against the relevant state and local statutory planning instruments as identified by the SEARs is summarised in the subsections that follow.

6.3.1 State Environmental Planning Policy (State & Regional Development) 2011

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State Environmental Planning Policy (State and Regional Development) 2011 identifies development that is State Significant Development (SSD). Clause 15 of the SEPP specifies certain development for the purpose of educational establishments as SSD, as follows:

> *15 Educational establishments*
>
> *Development for the purpose of educational establishments (including associated research facilities) that has a capital investment value of more than $30 million.*

The New Ultimo Pyrmont Public School has a CIV in the order $40.34 Million and therefore qualifies as SSD. A Quantity Surveyor's statement confirming the project CIV is included at **Appendix A.**

The SSD DA will be assessed against the relevant provisions under Part 4 Division 4 and Division 4.1 of the Act. It is noted that in accordance with clause 11 under Part 2 of the SRD SEPP, the requirements of Development Control Plans do not apply.

6.3.2 State Environmental Planning Policy (Infrastructure) 2007

The provisions of *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) have been considered in the assessment of the proposal. The proposal is subject to clause 101 Development with Frontage to a Classified Road of the SEPP as the site has frontage to Wattle Street, a classified road.

Under clause 101, the objectives are to:

> *(a) to ensure that new development does not compromise the effective and ongoing operation and function of classified roads, and*
> *(b) to prevent or reduce the potential impact of traffic noise and vehicle emission on development adjacent to classified roads.*
>
> *The consent authority must not grant consent to development on land that has a frontage to a classified road unless it is satisfied that:*
> *(a) where practicable, vehicular access to the land is provided by a road other than the classified road, and*
> *(b) the safety, efficiency and ongoing operation of the classified road will not be adversely affected by the development as a result of:*
> *(i) the design of the vehicular access to the land, or*
> *(ii) the emission of smoke or dust from the development, or*
> *(iii) the nature, volume or frequency of vehicles using the classified road to gain access to the land, and*
> *(c) the development is of a type that is not sensitive to traffic noise or vehicle emissions, or is appropriately located and designed, or includes measures, to ameliorate potential traffic noise or vehicle emissions within the site of the development arising from the adjacent classified road.*

A site visit was conducted on Friday 29 September 2017 with the project team and the RMS/TfNSW team. Initial strong concerns about the use of Wattle Street for access, the proximity of the vehicle crossing to the signalised intersection and Wattle and Quarry Streets, and the potential for operational capacity and safety of the access point and visibility concerns were largely moderated to a point where through design refinements within the site at the access point coupled with streetside adjustments to

parking spaces on Wattle Street were verbally accepted as being able to result in a manageable outcome. See Section 5.3 above.

Schedule 3 of the SEPP specifies development that qualifies as traffic generating development that must be referred to the Roads and Maritime Services (RMS). Schedule 3 applies to educational establishments with 50 or more students. The proposal is for a school that increases the current capacity at the site from about 300 students to up to 800 students once fully occupied. The net gain of about 500 students as well as the overall 800 student population renders this project as Traffic Generating Development under this provision.

6.3.3 State Environmental Planning Policy No.55 – Remediation of Land

Pursuant to *Clause 7 Contamination and remediation to be considered in determining development application* of SEPP 55, a consent authority must consider whether the land subject of a development application is contaminated and, if the land is contaminated, be satisfied that the land is suitable in its contaminated state for the use proposed. If the land requires remediation to be made suitable for the proposed purpose, the consent authority must be further satisfied that the land will be so remediated before the land is used for that purpose.

Subclause 7(4) of the SEPP specifies land in relation to which the consent authority must consider the findings of a preliminary investigation of the land carried out in accordance with the contaminated land planning guidelines before determining an application for change of use.

> *(4) The land concerned is:*
>
> *(a) land that is within an investigation area,*
>
> *(b) land on which development for a purpose referred to in Table 1 to the contaminated land planning guidelines is being, or is known to have been, carried out,*
>
> *(c) to the extent to which it is proposed to carry out development on it for residential, educational, recreational or child care purposes, or for the purposes of a hospital—land:*
>
> *(i) in relation to which there is no knowledge (or incomplete knowledge) as to whether development for a purpose referred to in Table 1 to the contaminated land planning guidelines has been carried out, and*
>
> *(ii) on which it would have been lawful to carry out such development during any period in respect of which there is no knowledge (or incomplete knowledge).*

The proposed development includes future remediation works to address fill material and other potential contaminants identified on the site as set out in Section 2.5 of this EIS.

These works qualify as Category 2 remediation works pursuant to Clause 14 of the SEPP, which is as follows:

> *For the purposes of this Policy, a category 2 remediation work is:*
>
> *(a) a remediation work that is not a work of a kind described in clause 9 (a)–(f), or*
>
> *(b) a remediation work (whether or not it is a work of a kind described in clause 9 (a)–(f)) that:*
>
> *(i) by the terms of a remediation order, is required to be commenced before the expiry of the usual period under the Contaminated Land Management Act 1997for lodgement of an appeal against the order, or*
>
> *(ii) may be carried out without consent under another State environmental planning policy or a regional environmental plan (as referred to in clause 19 (4)), or*
>
> *(iii) is carried out or to be carried out by or on behalf of the Director-General of the Department of Agriculture on land contaminated by the use of a cattle dip under a program implemented in*

accordance with the recommendations or advice of the Board of Tick Control under Part 2 of the Stock Diseases Act 1923, or

(iv) is carried out or to be carried out under the Public Land Remediation Program administered by the Broken Hill Environmental Lead Centre.

An Environmental Site Assessment has been prepared by EIS and accompanies this EIS at **Appendix E**. Further, a survey of hazardous building materials has been undertaken by Greencap and accompanies this EIS at **Appendix F**.

EIS has identified the following and made the following recommendations based on its investigation:

- The source of the Polycyclic Aromatic Hydrocarbons (PAHs) and lead, including lead in the fill samples, is considered to be associated with the ash and slag inclusions encountered in the fill matrix. The natural soil samples analysed below the fill profile were not impacted by the contaminants.
- Lead and PAHs were identified above the relevant Health Investigation Levels. These results may present a risk to the site.
- Sampling was not undertaken beneath the existing buildings. The extent of contamination beneath the buildings is currently unknown. Due to the heterogeneous nature of the fill material and the 57% sampling density, no distinct hotspots can be identified at the site. Fill material in the vicinity of Bore Hole 5 (central) and Bore Hole 6 (north-east) appears to be impacted by the contaminants, however, the previous investigation encountered impacted fill material in the north-east and south-west sections of the site. It is possible that all fill material in the proposed development area could be contaminated and should be treated accordingly.
- The risk posed by the fill material at the site will require further assessment.
- No ground-borne asbestos was encountered at the site.
- Further investigation is considered necessary to better assess the nature and extent of the contamination.
- In its current configuration with pavement across much of the site, the risk posed by the contamination to site receptors is very low. However, in order to make the site suitable for the proposed new development, the recommendations listed below should be implemented to address the data gaps and to better characterise the risks:
    - Undertake a Stage 2 ESA to address the data gaps identified in Section 10.3 of the EIS Report (**Appendix E**);
    - Prepare a Remediation Action Plan (RAP) to outline remedial measures for the site;
    - In the event active remediation is preferred at the site, prepare a Validation Assessment (VA) report on completion of remediation;
    - In the event management is preferred over active remediation, prepare an Environmental Management Plan (EMP) for the ongoing management of contamination remaining on site. The EMP will require establishment of appropriate public notification under Section 149(2) of the E&PA Act or a covenant registered on the title to land under Section 88B of the *Conveyancing Act, 1919*; and
    - Undertake demolition of the building in accordance with the Hazardous Materials Assessment (Hazmat) previously prepared for the existing buildings.
- In the event unexpected conditions are encountered during development work or between sampling locations that may pose a contamination risk, all works should stop and an environmental consultant should be engaged to inspect the site and address the issue.

The limited hazardous materials found at the site (see Section 2.5.2 of this EIS) will have been removed and appropriately disposed of prior to the works subject of this DA, through demolition works undertaken as Complying Development under *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017.*

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

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 was recently gazetted and commenced operation in September 2017.

The only provisions relevant to the development of the site relate to application of Exempt and Complying Development for existing schools related to demolition and tree removal works, where triggered and available.

As noted earlier in this EIS, approval for the demolition of the existing Ultimo Public School will be carried out as Complying Development under the provisions of *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* – the Education SEPP. Limited tree removal to facilitate the demolition process will at the time of writing likely be carried out as Exempt Development under the provisions of the Education SEPP.

New Design Quality Principles under Schedule 4 of this SEPP would also apply, noting however, that the project has been subject to the detailed Design Excellence process under *Sydney LEP 2012*, as set out in Section 6.4, involving the City of Sydney and NSW Government Architect's Office.

Nonetheless, the Principles set out in Schedule 4 are addressed as follows:

Principle	Response
Principle 1—context, built form and landscape Schools should be designed to respond to and enhance the positive qualities of their setting, landscape and heritage, including Aboriginal cultural heritage. The design and spatial organisation of buildings and the spaces between them should be informed by site conditions such as topography, orientation and climate. Landscape should be integrated into the design of school developments to enhance on-site amenity, contribute to the streetscape and mitigate negative impacts on neighbouring sites. School buildings and their grounds on land that is identified in or under a local environmental plan as a scenic protection area should be designed to recognise and protect the special visual qualities and natural environment of the area, and located and designed to minimise the development's visual impact on those qualities and that natural environment.	The design response has addressed the site's relatively small size and difficult topography. The capacity and spatial arrangement of internal and external spaces responds to the functional requirements of School Infrastructure NSW whilst satisfying the prevailing planning controls, noting the site is not within a heritage conservation area or scenic protection area. The design responds to the need to provide a high internal and external amenity.
Principle 2—sustainable, efficient and durable Good design combines positive environmental, social and economic outcomes. Schools and school buildings should be designed to minimise the consumption of energy, water and natural resources and reduce waste and encourage recycling. Schools should be designed to be durable, resilient and adaptable, enabling them to evolve over time to meet future requirements.	The development has addressed ESD requirements, and provides for an economic and efficient use of (currently under-utilised) land for the wider community. It also provides for shared community spaces for afterhours usage. The school has been designed to be future-proofed and adaptable to changing needs.
Principle 3—accessible and inclusive School buildings and their grounds should provide good wayfinding and be welcoming, accessible and inclusive to people with differing needs and capabilities. Note. Wayfinding refers to information systems that guide people through a physical environment and enhance their understanding and experience of the space. Schools should actively seek opportunities for their facilities to be shared with the community and cater for activities outside of school hours.	The design of the school has been founded on being welcoming, accessible and inclusive to the wider community. As noted, above, it provides for shared facilities and resources for a variety of community uses afterhours.

Principle 4—health and safety Good school development optimises health, safety and security within its boundaries and the surrounding public domain, and balances this with the need to create a welcoming and accessible environment.	The design of the school enhances a sense of community pride and ownership and to that end enhances its capacity to provide for a safe and secure environment.
Principle 5—amenity Schools should provide pleasant and engaging spaces that are accessible for a wide range of educational, informal and community activities, while also considering the amenity of adjacent development and the local neighbourhood. Schools located near busy roads or near rail corridors should incorporate appropriate noise mitigation measures to ensure a high level of amenity for occupants. Schools should include appropriate, efficient, stage and age appropriate indoor and outdoor learning and play spaces, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage and service areas	The design of the school provides a range of internal and external learning as well as external play spaces designed to be engaging and playful in function and appearance. Noise mitigation is an important aspect of the design (as addressed further in this Section. The design has also considered and addressed its location adjacent to Wattle Street by providing a built barrier to this noise source to the wider school area. Internal spaces are appropriated designed to mitigate noise impacts for the roadway whilst enabling an ESD response to air circulation, embodied heat and the like.
Principle 6—whole of life, flexible and adaptive School design should consider future needs and take a whole-of-life-cycle approach underpinned by site wide strategic and spatial planning. Good design for schools should deliver high environmental performance, ease of adaptation and maximise multi-use facilities.	The development of the existing school site and the design catering for up to 800 students is in itself based on a wider strategic planning for the school's catchment in recognition of ongoing residential development growth within and adjacent to the school's catchment.
Principle 7—aesthetics School buildings and their landscape setting should be aesthetically pleasing by achieving a built form that has good proportions and a balanced composition of elements. Schools should respond to positive elements from the site and surrounding neighbourhood and have a positive impact on the quality and character of a neighbourhood. The built form should respond to the existing or desired future context, particularly, positive elements from the site and surrounding neighbourhood, and have a positive impact on the quality and sense of identity of the neighbourhood.	As discussed above and in Section 6.4 below, the school was subject to a Design Excellence process addressing a range of matters including aesthetics. The Design Competition Jury found the winning design to be well scaled, playful, creative, and flexible. It was deemed to be positive contribution to the local environment with fresh and vibrant architectural qualities.

The child care centre aspect of the development will at this stage only be the provision of cold shell space. The future fit out and use of the floorspace as a 40-space child care centre will be subject to a future application by others. Under the Education SEPP no additional provisions or controls relevant to the assessment of this DA apply.

6.3.5 Sydney Local Environmental Plan 2012

The subject land lies within Sydney Local Government Area and is subject to the *Sydney Local Environmental Plan 2012 (SLEP 2012)*. The relevant clauses of SLEP 2012 are addressed in the subsections that follow.

Part 2 Permitted or Prohibited Development

Under Part 2 Permitted or Prohibited Development of SLEP 2012, the land is zoned B4 Mixed Use. Development for the purpose of an educational establishment and centre-based child care facility is permitted with consent in the B4 zone – see Figure 19 below.

Figure 19 - SLEP 2012; land use zone map (Sheet LZN_008)

Part 4 principal development standards

Clause 4.3 Height of buildings seeks to ensure appropriate height for development, suitable height transitions between new development and heritage items or conservation areas and to promote the sharing of views. The height of a building on the subject site is not to exceed the maximum height shown for the land on the Height of Buildings Map (see Figure 20). The applicable maximum building height development standard is, in this case, 33 metres above the existing ground level. The maximum height of the development (at Wattle Street) is about 20-21m and is therefore compliant with this control.

Clause 4.4 seeks to provide sufficient floor space while regulating density of development, land use intensity and generation of vehicle and pedestrian traffic. Clause 4.4 also seek to ensure that new development reflects the desired character of the locality in which it is located and minimises impacts on that locality. The FSR of a building on the subject site is not to exceed the maximum height shown for the land on the Floor Space Ratio Map (see Figure 21). The applicable maximum FSR development standard is, in this case, 4:1. The GFA of the development is 6,054m2 over the site area of 5,440m2. The resultant FSR of 1.1:1 is therefore compliant.

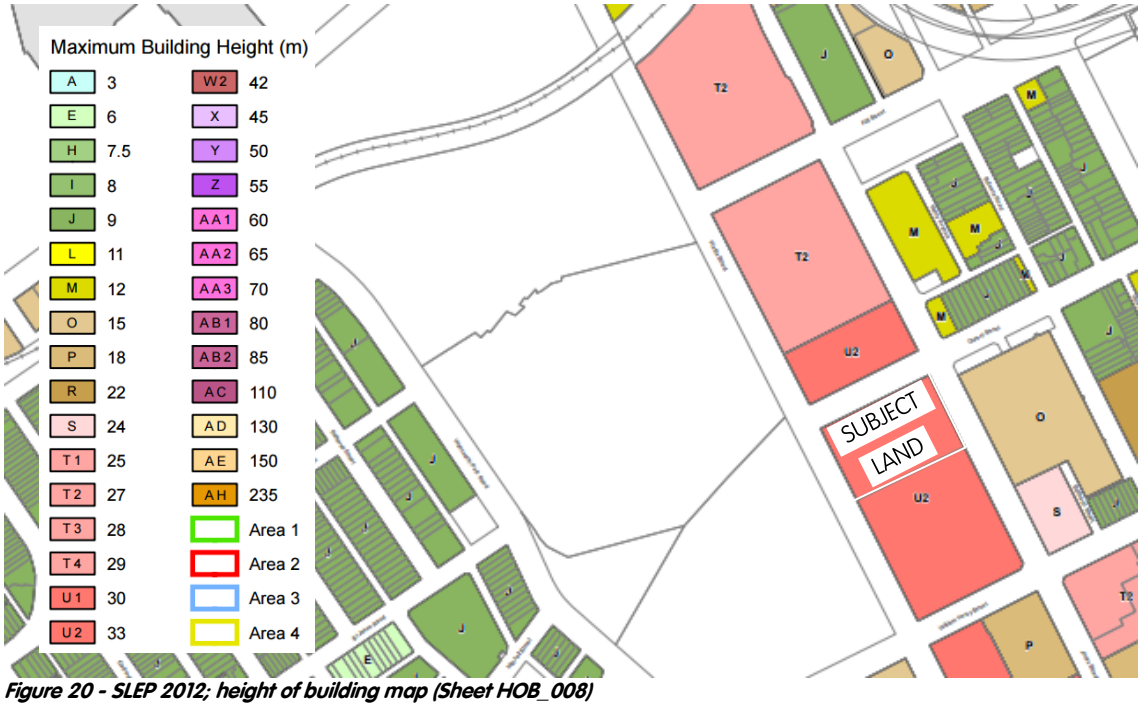

Figure 20 - SLEP 2012; height of building map (Sheet HOB_008)

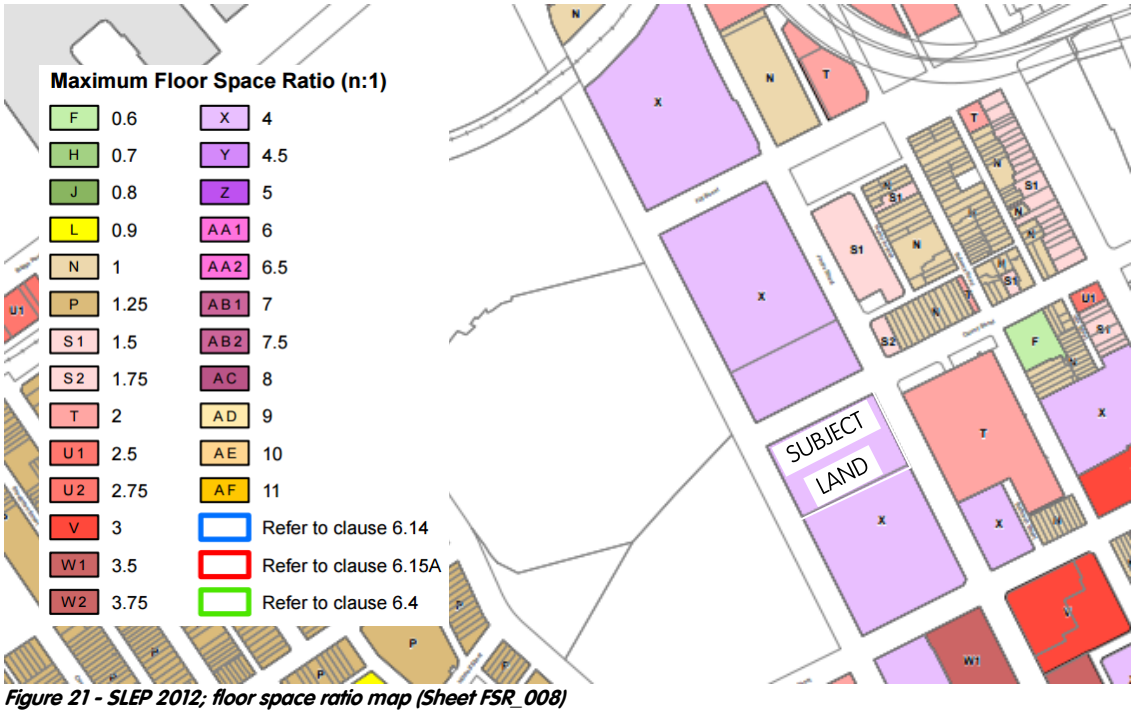

Figure 21 - SLEP 2012; floor space ratio map (Sheet FSR_008)

Part 5 Miscellaneous provisions

Clause 5.9 Preservation of Trees or Vegetation seeks to preserve the amenity of the area, including biodiversity values, through the preservation of trees and other vegetation. This clause applies to species or kinds of trees or other vegetation that are prescribed for the purposes of this clause by a development control plan adopted by the relevant Council. In accordance with *Sydney Development*

Control Plan 2012 (SDCP 2012) a permit or development consent is required to ringbark, cut down, top, lop, prune, remove, injure or wilfully destroy a tree that[23]:

(a) has a height of 5m or more; or

(b) has a canopy spread of over 5m; or

(c) has a trunk diameter of more than 300mm, measured at ground level; or

(d) is listed in the Register of Significant Trees.

Trees identified within the boundaries of the subject land, surrounding streets, and the adjoining allotment to the south are not listed on the City of Sydney Register of Significant Trees.

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Clause 5.10 Heritage Conservation of SLEP 2012 seeks to conserve the environmental heritage of Sydney LGA including its heritage items, conservation areas, archaeological sites and Aboriginal heritage. The subject land is identified as an item of local heritage significance under Schedule 5 of SLEP 2012 or a heritage conservation area. However, the site lies within close proximity of a number of items of local heritage significance (see extract below).

Sydney Local Environmental Plan 2012					
Locality	Item name	Address	Property	Significance	Item no
Ultimo	Former woolstore "ESGM & Co" including interior	50–54 Wattle Street	Lot 1, DP 62297	Local	I2060
Ultimo	Former woolstore including interior	14–18 William Henry Street	Lot 1, DP 82697	Local	I2065
Ultimo	Ultimo Heritage Conservation Area			Local	C69

Figure 22 - SLEP 2012; Heritage map (Sheet HER_008)

[2] *This provision does not apply to a tree of the following species that is less than 10m in height: (a) Cinnamomum camphora (Camphor Laurel); (b) Celtis sinensis (Chinese Hackberry); (c) Celtis occidentalis (American Nettle Tree); (d) Erythrina x sykesii (Coral Tree); and (e) Liquidambar styraciflua (Liquidambar).*

[3] *This provision does not apply to any tree of the following species: (a) Ailanthus altissima (Tree of Heaven); (b) Bamboo sp (all species and cultivars); (c) Citrus sp (all varieties); (d) Cotoneaster sp (Cotoneaster); (e) Ficus elastica (Rubber Tree); (f) Gleditsia triacanthos – not cultivars (Wild Honey Locust); (g) Lagunaria patersonia (Norfolk Island Hibiscus);*

Matters of heritage are discussed in detail in Section 6.10 of this EIS.

Part 6 Local provisions—height and floor space

Clause 6.12 provides that despite clause 4.4, the gross floor area of the proposal may exceed the maximum permitted as a result of the floor space ratio shown for the land on the Floor Space Ratio Map where so determined under clause 6.21 Design Excellence.

Clause 6.21 Design Excellence applies to development involving the erection of a new building and seeks to deliver the highest standard of architectural, urban and landscape design. Under this clause, a competitive design process must be held in relation to a proposal for a building will have a height above ground level (existing) greater than 25 metres on land outside of Central Sydney or on land with a site area greater than 5,000m2 (via application of clause 7.20). It is noted that the design of the New Ultimo Pyrmont School, approval of which will be sought via this SSD DA, was determined via a design competition process. Details of that process is set out below in Section 6.4.

Part 7 Local provisions—general

Clause 7.14 Acid Sulfate Soils seeks to ensure that development does not disturb, expose or drain acid sulfate soils and cause environmental damage. The subject land itself is affected by acid sulfate soils of the lowest risk category class 5). Development consent is required for works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum and by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 lands. The land lies within 500 metres of Class 2 lands beneath Wattle Street and a small area of Class 1 lands at Blackwattle Bay. See Figure 23.

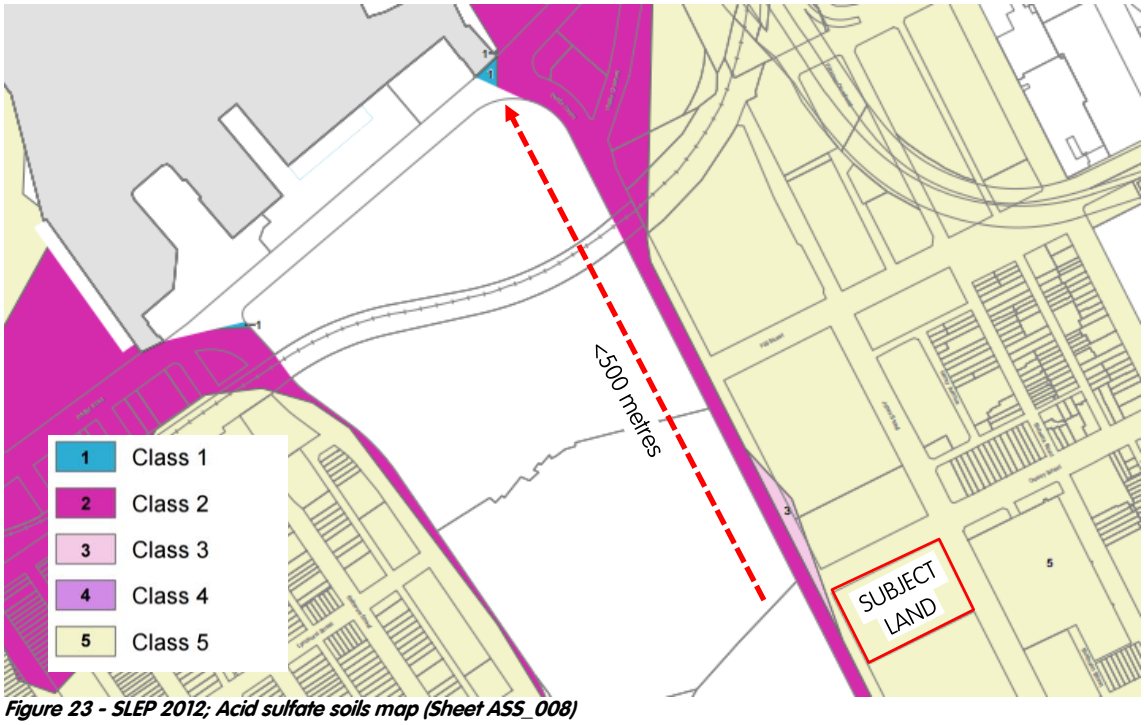

Figure 23 - SLEP 2012; Acid sulfate soils map (Sheet ASS_008)

Clause 7.15 - Flood Planning applies to land at or below the flood planning level[4] and seeks to minimise the flood risk to life and property associated with the use of land, allow development on land that is compatible with the land's flood hazard, and to avoid significant adverse impacts on flood behaviour and the environment. As noted under Section 2.10, the subject land lies below the flood planning level. Matters related to flooding are addressed under Section 6.17 of this EIS.

Clause 7.20 requires the preparation of a development control plan in the case of Development for the purpose of a new building on land (other than land in Central Sydney, in Zone B6 Enterprise Corridor or in Zone IN1 General Industrial) where the site area for the development is more than 5,000 square metres or the development will result in a building with a height greater than 25 metres above ground level.

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As previously noted, despite the site being greater than 5,000m2, DCPs do not apply to development that is State Significant Development, in accordance with Clause 11 under Part 2 to the SRD SEPP, the requirements of Development Control Plans do not apply. The operation of Clause 7.20 is therefore redundant and Clause 7.20, therefore, does not apply in this case.

A review of SLEP 2012 identified no other relevant matters requiring further consideration in this instance.

6.4 Design Competition

Pursuant to clause 6.21(5) of *Sydney LEP 2012*, an invited competitive design competition was held by SI in relation to the proposed New Ultimo Pyrmont Public School.

The Jury for the invited competition nominated the DesignInc | Lacoste + Stevenson | bmc2 design as the winning scheme, subject to recommendations. DesignInc | Lacoste + Stevenson | bmc2, since winning the competition, prepared a revised design in relation to the winning scheme incorporating the Jury's recommendations.

The design competition was run over a six-week period from 13 May 2016 to 24 June 2016. Submissions from each of the five competing firms were received by 24 June 2016.

Following a compliance review carried out by SI of all Design Competition submissions received, all entries were able to further participate in the Design Competition and the jury assessment process. Tenderers Design Competition Submissions progressed to the design presentation conducted on 8 July 2016. The winning scheme was nominated at the conclusion of the presentations. As required, the DPE was then also subsequently advised of the outcome of this process.

6.5 Other Approvals Required

Being a SSD application, the requirement for other approvals under other NSW legislation is 'switched off'. This includes, of potential relevance to this DA, the *Heritage Act 1977* and the *Water Management Act 2000*. Given the location, scope and nature of the works for the new Ultimo Pyrmont Public School, no further approvals under NSW legislation are required, other than potentially under s138 of the *Roads Act 1993*, subject to confirmation from the RMS in relation to structures over the roadway or interference or removal of structures, works or trees within the road reserve.

Note, also that Commonwealth approval will not be required for any temporary or permanent projections into operational airspace via the Department of Infrastructure & Regional Development as the maximum development height (of 24.37 AHD) is well below the 150-156 AHD Conical Surface Sydney - Obstacle Limitation Surface area above the site.

[4] ***flood planning level*** means the level of a 1:100 ARI (average recurrent interval) flood event plus 0.5 metres freeboard.

6.6 Built Form & Urban Design

The built form and design of the new school has been generally dictated by the prevailing topography at and around the site, and the floorspace and open space requirements for the new school arising from the required capacity.

The general built form is one of a low-rise development at the upper street frontage of the site and a mid-rise development at the lower street frontage of the site. This is consistent with the typical and historical built form of Ultimo, including former woolstore buildings. Buildings on the western slope of the Ultimo-Pyrmont spine, where the grade change from Jones Street to Wattle Street increases, generally have a lower-rise frontage to Jones Street and a taller frontage and elevation to Wattle Street. Examples of this built form exist in new and old developments both to the north and south of the school site, and is exemplified in the form of the heritage-listed former Elder Smith & Co woolstore building across Quarry Street, which is 3-4 storeys at Jones Street and 7-8 storeys at Wattle Street. The adjacent contemporary residential building (Acacia Gardens) is up to 7-9 storeys at its Wattle Street frontage.

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The Jones Street frontage of the new school building will generally present as a single storey element sitting in the prevailing context of other low-rise development across Jones Street and further to the east. This eastern (Jones Street) elevation of the school will be significantly lower than its neighbouring developments to the south and the former Elder Smith & Co woolstore building to the north.

The Wattle Street elevation of the new school building will read as a six-storey building. As noted, the adjacent residential development to the south sits at 7-9 storeys in height whilst the former Elder Smith & Co woolstore building sits at 7-8 storeys at Wattle Street. At the Wattle Street frontage, like other taller buildings, the new school building will address the large open spaces at Wentworth Park and maintain a distinct and defined built edge that prevails along Wattle Street. Indeed, given the dense and mature fig trees in Wentworth Park, clear and direct views to the school will be difficult to obtain from deeper within the park.

Again, consistent with the historic Ultimo woolstore typology, a 'flat' roof form is employed to ensure compatibility with the existing urban character. At its edges, the new Quarry Street frontage provides a predominantly enclosed edge with the school's main access point secured off the natural high point at the corner of Jones and Quarry Streets. The school's main play spaces will sit as terraces stepping down the site and open to the south to ensure solar access and separation from the adjacent residential development - Acacia Gardens.

The setbacks of the new building maintain the general perimeter edge industrial typology, particularly to its three street frontages. A minimum built edge setback of about 2.5m from the common boundary with Acacia Gardens is employed towards the Wattle Street and Jones Street frontages to maintain and enhance existing levels of separation at the southern boundary. Additional separation is provided at each of the landscaped courtyards/ play areas which step down the site.

The bulk, scale, form, and height of development is compatible with that in the school's immediate environs and to that end also of the broader typology associated with Ultimo and its historic built form in addressing the significant slope changes of the western edge of the Ultimo-Pyrmont spine as established by the urban structure and road network.

The general built form is shown on the axonometric perspectives shown in Figure 24. The architectural plan set includes further perspectives from other angles.

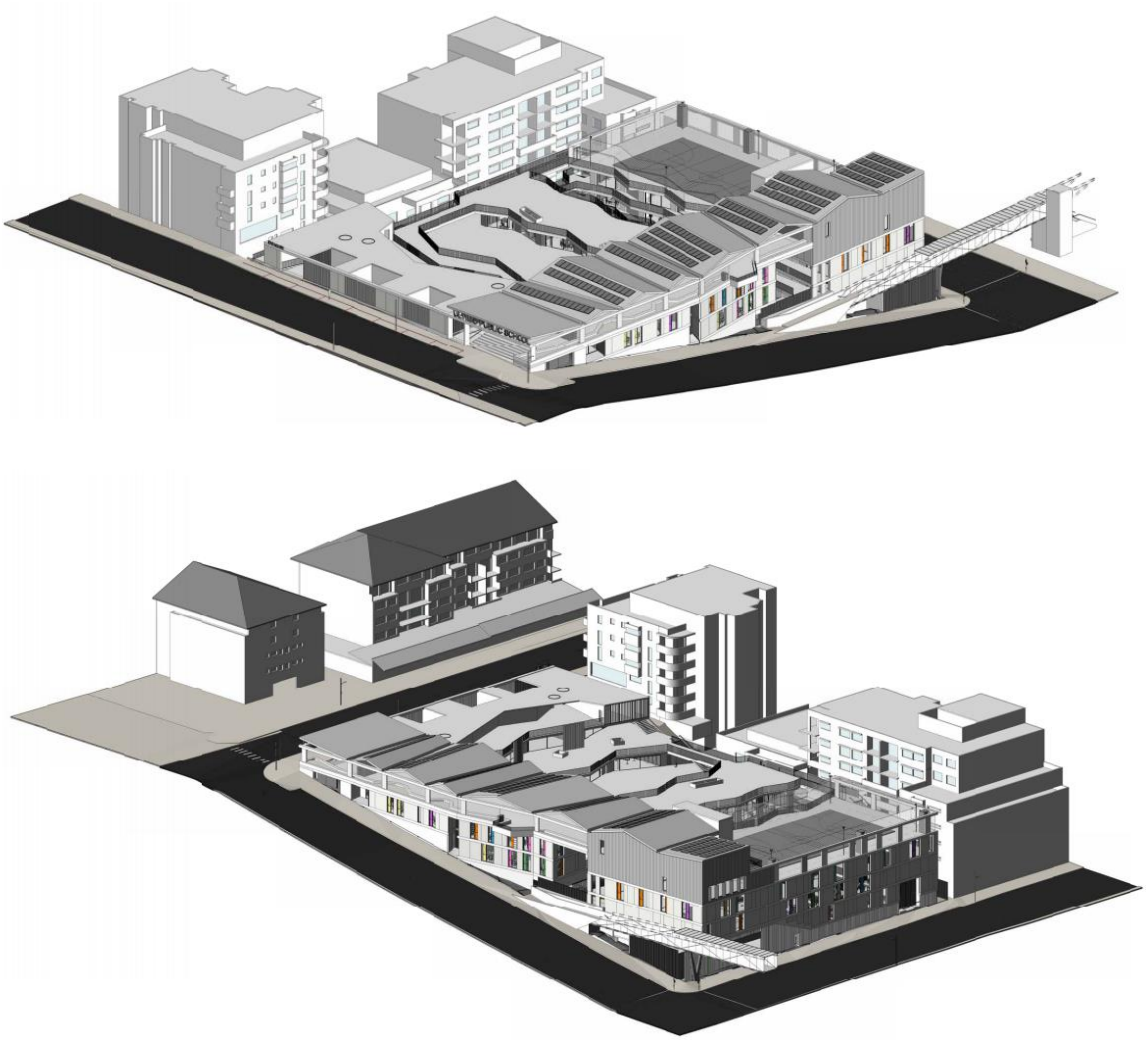

Figure 24 – Axonometric perspectives facing south-west and south-east (Lacoste + Stevenson)

As noted earlier, the new school easily meets and complies with the base height and FSR controls, and any height or FSR bonus arising from the previous Design Competition process is not required in this instance.

In terms of materials, the Built Form and Urban Design Report by DesignInc | Lacoste + Stevenson | bmc2 advises that: *the main material is a combination of concrete elements: In-situ concrete at the base of the walls, precast textured concrete panels for above to create a robust stimulating contemporary design. The walls will be punctuated with large window openings. The aluminium windows will incorporate colourful compressed fibre cement sheet cladding.*

The materials used on the three street frontages combine in a pattern providing scale, articulation and colour and a robust finish. The Jones Street child care centre façade is a combination of in-situ and precast concrete with highlights of coloured aluminium slats. The Quarry Street and Wattle Street façades are a similar palette to Jones Street with a base of in-situ and precast concrete panels with detail provide by coloured aluminium slats and solid coloured framed panels. Metal sheet clads the hall at the top of these facades.

See the Built Form and Urban Design Report by DesignInc | Lacoste + Stevenson | bmc2 attached as part of **Appendix L**. Photomontages, elevations and a schedule of materials also form part of the architectural plan set at **Appendix L**.

The landscape forms an integral part of the design with three major courtyards at different levels. As addressed in Section 3.2 of this EIS, the design response to each courtyard differs to provide for different themes and different experiences for the students. The landscaping response allows for differing levels of vegetation cover and greening of the site, with a mix of taller trees, medium height native palms and ferns, and mix of understorey, groundcovers and feature plantings. These plantings also enable screening and privacy to residential neighbours to the south.

Matters with respect to amenity impacts upon neighbours, by way of overshadowing, visual privacy and overlooking are address further within Section 6.7 of the EIS.

6.7 Environmental Amenity

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The main amenity impacts addressed in this section relate to impacts upon neighbours, by way of overshadowing, visual privacy and overlooking, as well as wind impacts. Noise, vibration, and construction impacts generally, are addressed in subsequent sections that follow.

Shadows

The likely shadow impacts of the new building are shown in shadow diagrams for 21 June, hourly from 9am to 3pm (both in plan and elevation against the residential building to the south) in the architectural plan set at **Appendix L**. This drawing set also includes an elevation / survey of the internal uses located behind windows of the northern elevation of the residential development to the south of the site – Acacia Gardens.

The development will cast new and additional shadows in mid-winter over both Wentworth Park and Acacia Gardens.

New shadows over Wentworth Park will generally have moved off the park by 10:30am – 11:00am with existing solar access for the balance of the day being maintained – noting also the significant fig trees at the park's eastern edge will also mitigate morning shadows from the development. Given the low-rise nature of the Jones Street elevation no new shadows will extend into the Jones Street road reserve or over Jones Street to any residential uses or open space.

As may be expected, the area subject to the greatest shadowing impact will be to Acacia Gardens to the south. Based on the shadow diagrams, the new school building will not affect the internal courtyard or rooftop gardens within the centre of the residential site facing the school site. Its impacts will be confined to the façade of the building and units facing the school site. Of these, the units mainly affected will be those at the lower levels of the development and those at the lower levels of the site at the Wattle Street frontage. The most affected includes those already affected by the existing school buildings, Acacia Gardens' own shadowing impacts upon itself including its design response to the topography, and the Wattle Street fig trees. The impact of the new shadows at the lower levels is largely as a result of the new taller built form of the school at Wattle Street.

In some instances, the new school building will maintain existing solar access amenity, particularly in the morning at the Jones Street side of Acacia Gardens. The Jones Street building of Acacia Gardens will largely be un-impacted by new shadows. Windows currently overshadowed will continue to be overshadowed, including the large retail / commercial tenancy window facing the upper levels of the existing school play area. This upper level building in Acacia Gardens will generally continue to enjoy at least three hours of solar access in mid-winter across the day.

The mid-level podium building will have increased early morning and late afternoon shadowing but no individual windows will be affected for more than two consecutive hours, noting it would also enjoy other solar access available either side of the uninterrupted 3-4 hours of solar access.

Figure 25 – Site photos – Acacia Gardens boundary with school site

The lower level portion of Acacia Gardens fronting the school and Wattle Street will encounter new shadows from about 9am onwards which will progressively increase in impact across the day. Note most of the affected windows are kitchens and bedrooms, and where they are living rooms, they have dual frontages with their principal solar access derived from floor to ceiling windows facing Wattle Street. The north facing windows are half height windows only reinforcing these as an original design response to the school site to the north and the acknowledgement that solar access is available to these living rooms from another source - see Figure 25.

Most of the affected units also do not presently secure current Apartment Design Guide recommended levels of solar access. Of the lowest two levels of Acacia Gardens at Wattle Street, these presently do not receive 2 or 3 hours of continuous solar access in mid-winter, noting the development pre-dates the Apartment Design Guide and its preceding guideline, having been assessed and approved by Council in the mid-1990s. The new school development will only maintain existing levels of non-compliance to these units. The third lowest level living areas receive at least 4 hours of solar access up to 1-2pm, after which they will now receive new shadowing impacts in mid-winter.

Four apartments will receive new and earlier shadowing to living rooms / balcony spaces not presently experienced. These apartments currently receive little morning and afternoon sun and the new shadows will prolong mid-winter shadowing to these apartments, but not to the extent that continuous solar access will be reduced to non-compliant levels of the Apartment Design Guide.

Overall, the shadowing impacts can be identified as being reasonable in the context due to the topography of the site, existing constraints due to the site size and neighbouring development to the south providing only minimal setbacks to the school boundary itself at best (sometimes as little as 30cm to 88cm), and lower level units already being subjected in part to day-long overshadowing. The new school building does not create new shadowing to principal living or private open space areas that contributes to a reduced amenity to the extent of the loss of compliant 3 hours of daylight (where those units already enjoy compliant conditions).

Privacy separation

The new school building is generally set back at about 2.5m from the common boundary with Acacia Gardens. This 2.5m wide separation incorporates a fire egress stair which is gated and fenced and will only be used in the event of an emergency. It will not serve a general site circulation role.

The built form of the new school building varies at this southern boundary. The predominant minimum setback from the southern boundary is 2.5m, with majority of the setbacks to Acacia Gardens greater.

A small 2m long area is built to the boundary on the upper level, generally coinciding with the substantially setback courtyard / landscaped terrace area of the middle terrace of Acacia Gardens. Acacia Gardens itself also includes a varied setback and lower and upper level setbacks of the apartment buildings. The narrowest separation occurs towards Wattle Street where lower levels of Acacia Gardens are built some 30cm off the common boundary and are subject only to the 2.2m wide fire agrees stairway provided by the school site – similar to existing setbacks in this location. The predominant separation distance between residential units and the school's built edge is an aggregated approximate 7m to 9m width.

The separation distances accommodated by the new school building relative to the existing residential buildings will broadly achieve a compliance with the minimum separation distances set out in the Apartment Design Guide of between 6-12m for up to 4 storeys, and at least 9m for up to 8 storeys, recognising that the school building itself will have limited openings and obliquely-angled windows facing towards the south. Figure 26 provides an appreciation of the built form and separation from the boundary of the proposed development. See also the architectural plan set at **Appendix L**.

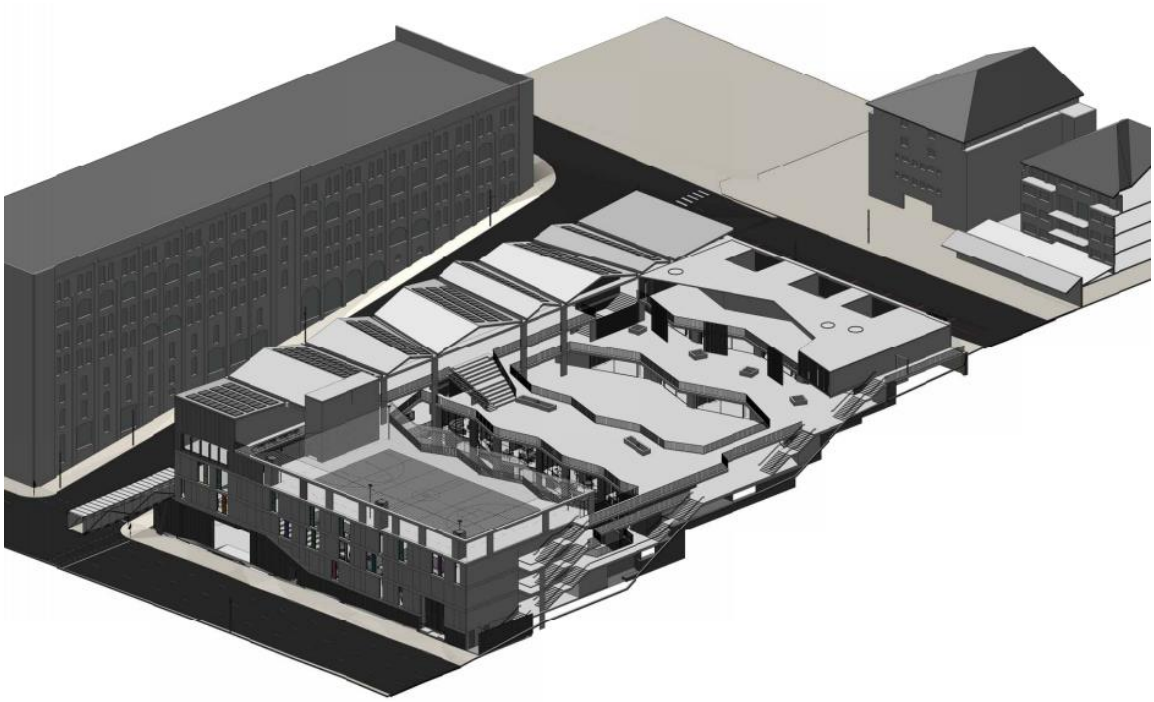

Figure 26 – Axonometric perspective facing north-east (Lacoste + Stevenson)

The play spaces will also feature planting towards the southern edge of the site addressing the fire egress stair. Open spaces and areas where children are likely to play will generally coincide with the area of the deepest setbacks within the residential development and its courtyard and gardens. These consequently offer generous separation and high levels of privacy to the private courtyard areas within the mid-levels of the residential flat development / Acacia Gardens.

Wind

A wind assessment has been prepared by Windtech for this development – see **Appendix P**.

The results of this assessment indicate that the site benefits from the shielding provided by the neighbouring buildings to the north, east and south, and from the large densely foliating trees lining the surrounding footpaths and located within the park further to the west of the site. The addition of scattered landscaping features (ie: shrubs, planter boxes, etc) across the larger breakout areas on Level 3 of the development could be utilised to further enhance wind conditions on those areas. Hence,

with the development as proposed, it is expected that no adverse wind conditions will be experienced within the various trafficable outdoor areas within and around the development site, and that wind conditions will be suitable for the intended uses of those areas.

The prevailing wind environment is dominated by cool strong westerly winds mainly during winter and warm and periodically strong nor-easterly winds during summer. Given the height, bulk and proximity of the residential development to the south, this will largely shield the school and its play areas from southerlies. The taller built element of the new school to the Wattle Street frontage will also shield the balance of the school site from the westerly winds. In terms of wind arising from the development and any down draughts, these are unlikely to result in a significant negative amenity for pedestrians around the perimeter of the site or residential balcony spaces to the south due to the predominantly low-rise nature of the building, and its variable and open built form within the central portion of the site and to its southern boundary. The built form of the redevelopment is expected to result in wind conditions for the surrounding areas similar to existing wind conditions.

Summary
Overall, the amenity impacts of the proposed new school are acceptable in the context of the compact and complex nature of the site and the constraints placed on the development by existing residential development to the south of the site. The design is responsive to its built form context and the opportunities provided under the prevailing principal planning controls, noting the development is fully compliant and well under the height and FSR controls, and is also not reliant on any bonuses in this regard.

Adequate and largely compliant privacy separation is provided under contemporary controls and the wind environment will not generate any new impacts to lessen existing amenity. New shadowing will be created as a result of the development, principally in areas already experiencing a high level of overshadowing. This is predominantly confined to the lower levels of Acacia Garden's units facing the school site near Wattle Street. The most affected units currently experience day-long shadowing and would in themselves not be Apartment Design Guide compliant units under contemporary conditions. These units will continue to experience day-long shadowing in mid-winter. It should be noted that the windows of these units are predominantly kitchen and half-height living room windows, noting also some living rooms are dual aspect and are able to achieve solar access from other windows.

6.8 Transport & Accessibility

Arup has prepared a Transport Assessment including also an outline Construction Traffic Management Plan for the development. See this report at **Appendix G**.

6.8.1 Construction Traffic

The construction of the development will require access for heavy vehicles travelling to and from the site. Prior to the commencement of construction, a Construction Pedestrian and Traffic Management Plan (CPTMP) will be prepared and finalised by the appointed contractor to ensure the safest possible management of construction access and appropriate mitigation measures.

The CPTMP will need to address:

- The likely construction vehicle numbers and frequency;
- Approach and departure routes;
- Parking access arrangements during construction; and
- Provision of acceptable pedestrian management measures
- Impact of proposed measures
- Effects on existing and future developments
- Detailed of provisions made for emergency vehicles, heavy vehicles and cyclists
- Measures to ameliorate impacts

- Public transport services affected
- Public consultation

An outline of the likely CPTMP is set out in Appendix B of the Arup Transport Assessment.

6.8.2 Operational Traffic

The redeveloped school's operational traffic characteristics can be summarised as follows:

- Pedestrian and cyclist access will be retained as per existing off the upper parts of the site near Quarry and Jones Streets.
- A reduction in car parking on-site from 16 spaces to 3 spaces (including 2 disabled DDA-compliant spaces).
- Vehicular access to the site will be maintained off Wattle Street, but will be relocated towards the Wattle and Quarry Streets intersection. This will continue to provide for parking and servicing access needs. The change will result in no net loss of on-street car parking on Wattle Street.
- Provision of 20 spaces for bicycle storage for staff (4) and students (16).
- Maintenance and enhancement of the existing drop-off / short-term parking areas at the school's frontage to both Quarry and Jones Streets for both the school and future child care centre use.

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The number of vehicle movements anticipated in relation to the redevelopment of the school can be summarised as follows:

Type	Number of vehicles
Service Vehicles (deliveries)	5-10 deliveries per week, via either the Wattle Street loading dock or via Jones Street (short-term parking during the middle of the day)
Waste and recycling collection	2 x general waste and 1 x paper/cardboard collections each week.
Special Needs student drop-off or pick-up	There may be up to 6 special needs students in the school. Each student would be dropped off in the morning and picked up in the afternoon utilising either the accessible spaces in the car park or on-street parking.
Staff	1 car per day – with the car likely to remain on site for much of the day
Students (assuming 15% arrive by car AM and 9% depart by car PM)	83 cars in the period of 8:20am to 9am (peak at 8:50am)
	62 cars in the period of 2:50pm to 3:10pm (peak at 3pm)
Future child care centre (assumed 40 spaces)	32 cars in the period 7:30am to 10:30am 20 cars in the period 2:10pm to 3:10pm
Sydney Buses (school bus 740)	1 in the AM period and 1 in the PM period per day

6.8.3 Parking

It is SI's current policy to reduce car parking on school sites as they are redeveloped or provide no or very minimal parking on new school sites. The New Ultimo Pyrmont Public School will therefore be subject to a significant reduction in parking from 16 current spaces to only 3, two of which will be disabled parking spaces for either staff or special needs students.

Bicycle parking will also be provided for both staff and students. A total of 20 bicycle spaces are provided – 4 for staff (at a rate meeting 1 per 10 staff) and 16 for students (at a rate exceeding 1 per 50 students).

No parking is provided for the future child care centre.

Each of the above comply with City of Sydney controls, whether in the DCP 2012 or LEP 2012, noting the car parking requirements under the LEP seek a maximum provision. The school-related maximum parking control is 1 space for every 200 square metres. Based on the school's proposed GFA of 6,054 square metres, some 30 spaces would be the maximum allocation.

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Arup has advised that additional drop off bays will be needed to supplement existing arrangements on both Quarry and Jones Streets fronting the school. Provision for additional drop-off bays can be provided along Jones Street, along the school frontage. This will require converting the existing bus zone which currently serves only school buses, to a "No Parking 8:00am to 9:30am, 2:30 – 3:30pm" restriction as shown in Figure 31 of the Arup report (and Figure 27 below). The amount of bus services using the area does not match the demand which could be fulfilled by allowing parents to drop-off and pick up in these periods. Observed bus services were arriving after 3:20pm. Altering the restrictions to match these arrivals can assist in maximising the efficiency of this space. Figure 28 indicates a proposed revised kerb-side arrangement.

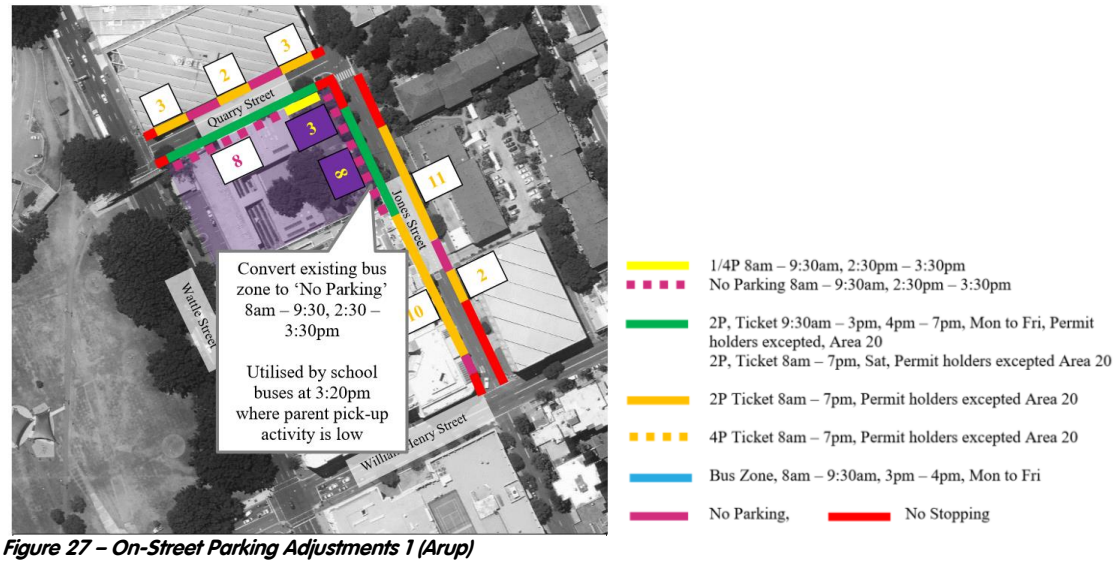

Figure 27 – On-Street Parking Adjustments 1 (Arup)

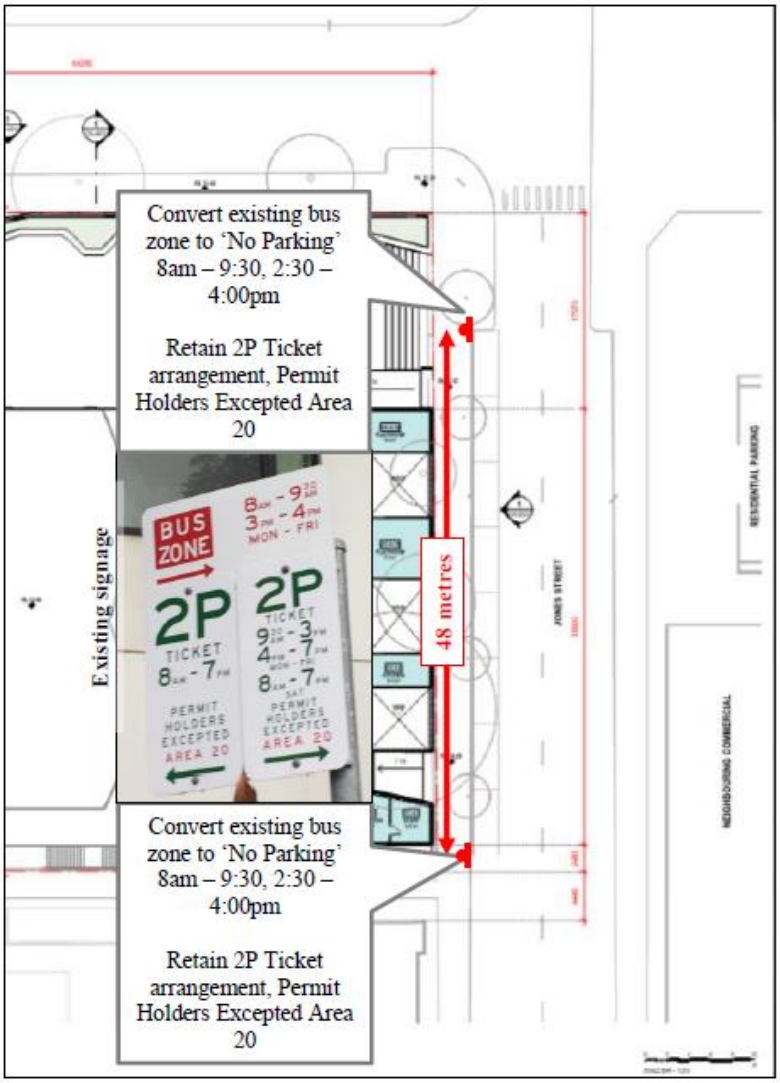

Figure 28 – On-Street Parking Adjustments 2 (Arup)

The change in traffic volumes at the site as a result of the increase in student and staff numbers and the introduction of a future child care centre can generally by estimated as being:

- 61 additional / new car trips in the AM peak of 8:20am to 9am
- 50 additional / new car trips in the PM peak of 2:50pm to 3:10pm.

Note, servicing, waste and recycling collection, and school bus trips will largely remain constant and minor by comparison, and that staff vehicles movements will also likely reduce commensurate with the parking allocation change.

Arup has accordingly concluded through SIDRA intersection modelling that results for the Quarry / Wattle Streets intersection and the William Henry / Jones Streets intersection suggest that that intersections will continue to perform efficiently with no change in level of service.

Completion of the school is not envisaged to affect the surrounding key intersections adversely. This is due to the existing efficient performance and the low quantity of traffic added by the school.

6.8.4 Transport Management

Various measures will be able to be implemented to manage transport and traffic to the redeveloped school site once it is operational. The goal will be to:

- Reduce parking demand from staff
- Reduce private vehicle usage of staff
- Reduce traffic congestion and improve existing intersection performance.

This may be successfully achieved through the implementation of:

- A Staff Green Travel Plan
- A Student Green Travel Plan
- Carpooling (staff and students)
- Active transport initiatives for staff and students (eg cycling and 'walking bus')
- Mode specific travel plans to encourage alternatives to car use, eg a Walking Travel Plan for the students.

Given the nature and spatial spread of the student catchment, the prevailing conditions and infrastructure to support alternatives to car use, and the current high level of non-car use in the present school community, a high success rate for transport management to support non-car modes would continue to be expected at this school site. Staff will be expected to travel to and from the school site via the various public or active transport options available in close proximity of the site.

Overall, the traffic and transport changes arising in the redevelopment of the school site (both construction and operational aspects) are manageable and have relatively minor impacts on the overall road network. No mitigation measures are proposed.

6.9 Ecologically Sustainable Design

6.9.1 Clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000

The EP&A Regulation lists four principles of ESD required to be considered in assessing a project:

- The Precautionary Principle
- Intergenerational equity
- Conservation of biological biodiversity and ecological integrity
- Improved valuation and pricing of environmental resources

The **precautionary principle** is utilised when uncertainty exists about potential environmental impacts. It provides that if there are threats of serious or irreversible environmental damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. The precautionary principle requires careful consideration and evaluation of potential environmental impacts in order to avoid, wherever practicable, serious or irreversible damage to the environment.

This EIS has not identified any serious threat or irreversible damage to the environment and therefore the precautionary principle is not relevant in this case.

Intergenerational equity is concerned with ensuring the health, diversity and productivity of the environment can be maintained or enhanced for the benefit of future generations.

The proposal satisfies this by providing the reuse and renewal of the existing school site to a more effective use of the land consistent with its planning controls thereby allowing its effective and efficient delivery of education and teaching. The reuse and renewal also enhances and improves the buildings'

overall environmental performance by introducing new building stock that is able to better and more efficiently address industry standards and community expectations around ESD.

The principle of **biological diversity** upholds that the conservation of biological diversity and ecological integrity should be a fundamental consideration for any development. The proposal will have no significant detrimental affect upon this.

The principles of **improved valuation and pricing of environmental resources** requires consideration of all environmental resources that may be affected by a proposal, including air, water, land and living things. The development addresses its likely impacts upon the environment, which are deemed to be minimal in this case due to the substantive reuse of the building and management of impacts upon the physical environment.

The reuse and renewal of the school site also enhances its environmental credentials by initially avoiding future and ongoing waste arising through use of redundant building stock that would otherwise need piecemeal retrofitting and upgrades. New waste management and recycling regimes in the operational aspects of the building are improved compared to that under the current circumstances. Further ESD commentary based on technical and design considerations is set out below.

6.9.2 ESD

A detailed ESD Report by JHA accompanies this EIS at **Appendix N**. The report provides an overview of the proposed project's Ecological Sustainable Development Framework and initiatives to be further refined within the Detailed Design phase of the project. Section 3.0 of the report also provides a detailed assessment of clause 7(4) of Schedule 2 of the EP&A Regulation.

The New Ultimo Pyrmont Public School has been designed in accordance with a wide range of ESD goals related to the design, construction and operational stages. This includes minimising the impact on the environment in the areas of energy, water and materials. A strong focus on electrical and mechanical requirements, including the use of renewable energy will contribute to significant positive steps to minimising climate change impacts.

The aim of the ESD objectives for the project are to encourage a balanced approach to designing a new public school project; to be resource efficient, cost-effective in construction and operation; and to deliver enhanced sustainability benefits with respect to impacts on the environment and on the health and well-being of students, staff and visitors whilst providing the best possible facilities for a constructive student learning experience.

Initiatives identified by JHA are arranged into the following categories:

- Management
- Envelope
- Electrical Installations
- Mechanical (HVAC) Installations
- Lighting
- Water
- Materials
- Waste
- Sustainable Transport
- Landscaping

In accordance with the above variety of categories, the development will implement a holistic and integrated approach to ESD, maximising passive opportunities with the selective application of modern

technology where appropriate. Initiatives will be chosen with due regard to whole of lifecycle cost benefits to the school.

The ESD initiatives and targets outlined within this document have been compiled based on the following:

- Best practice design principles
- BCA/NCC Section J – Energy Efficiency Targets (i.e.: exceeding targets)
- Australian Green Building Council Green Star benchmarking
- NSW Department of Education's Educational Facilities Standards & Guidelines (EFSG)

No further Mitigation Measures are proposed.

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6.10 Heritage

Urbis has prepared a Heritage Impact Statement and Archaeological Assessment of the site and development - see **Appendix J**.

The report has addressed the requirement of the SEARs with respect to heritage and archaeological impacts, including the legislative context with respect to Aboriginal and European cultural heritage; the nature of the site and its environs and previous land uses; the environmental context; assessments of significance; and impact assessment of the proposed development. The report forms conclusions and recommendations with respect to the likely impacts.

6.10.1 European Heritage and Archaeology

As identified in Section 2.9 and 6.3 of this EIS, the school site is not identified as an item of heritage significance under Schedule 5 to *Sydney Local Environmental Plan 2012* nor is it listed on the State Heritage Register. However, its environs are subject to a number of heritage listings of varying significance and relevance.

Whilst the site is not listed, an earlier Heritage and Archaeology Report (2015) by the Government Architect's Office recommended as follows with respect to built heritage:

- New development at the Ultimo Pyrmont Public School site should give special design consideration to the large heritage woolstores in the vicinity of the site; and
- New development should also manage any potential heritage impacts on the Ultimo Conservation Area which is of a much lower scale. However, because of the historic patterning in Ultimo of large woolstores occupying the entire block between Jones and Wattle, medium rise buildings fronting Jones, Quarry or Wattle Streets would be acceptable in heritage terms.

Urbis considers that the new school building achieves both these recommendations and that the scheme is supportable as a result of the following design features:

- *The proposed redevelopment will occur within the existing site boundaries and will not extend beyond these boundaries in any way. As such, no physical impact will occur to any nearby heritage items/Heritage Conservation Areas (HCAs) as a result of the proposal;*
- *The proposed design works with the topography of the site, similar to the existing school buildings do. This ensures a consistent development height across the site, and a scale and form that is appropriate to the context. A single-storey scale is provided to Jones Street, and a five-storey scale is provided to Wattle Street; both of these scales is appropriate to the respective streetscapes;*
- *The proposed new development does not exceed the height of surrounding heritage items, but is clearly of a lower overall scale, particularly to Wattle Street. This is positive, as it allows for the prominence of the heritage items within the streetscape to be maintained. The proposal is of an appropriate form, scale and height to its surroundings, and will in no way*

detract from the existing street presentation of nearby heritage items, nor will it in any way visually dominate them;

- *The materiality of the proposed building responds well to the industrial and historical character of the surrounds, without seeking to imitate it. This is achieved through the use of timber, sandstone, concrete and extensive glazing;*
- *Similarly, the clearly contemporary design of the proposed new building differentiates the development from its surroundings; in accordance with best practice, the proposed new building does not attempt to imitate the industrial or heritage character of neighbouring buildings, but seeks only to respond sympathetically and unobtrusively to its surrounds;*
- *The solid to void ratio of both of its street façades ensures that the proposed new building does not compete visually with the strong, masonry character of the heritage item to the immediate north;*
- *The proposed new building is to be constructed to the street boundaries to both Jones Street and Wattle Street. This setback to principal elevations is more consistent with the surrounding streetscapes, as well as with nearby heritage items. Ultimately, by being more consistent with established setbacks within the street, the proposed new building will be more consistent with its surrounds than the existing school buildings are; and*
- *Overall, the proposed new design is not considered to be a significant departure from the scale, form and materiality of the existing buildings on site. The proposed redevelopment will therefore not result in any identified visual impacts to surrounding buildings or areas of heritage significance.*

It has been concluded by Urbis that the proposed redevelopment of the subject site will not result in any identified built heritage impacts. The proposed design is assessed to be of an appropriate scale, form and materiality that will not detract from or visually dominate any heritage items/HCAs in the vicinity. Through the proposed redevelopment, the historic use of the site as a public school will be maintained to a contemporary standard. However, to mitigate the loss of historical, associative and social values resulting from demolition of the existing school, a full archival recording of the existing school buildings and overall school site should be undertaken prior to demolition works occurring consistent with relevant archival recording guidelines. This has been completed prior to the commencement of these works via Complying Development.

In terms of European archaeology, *the proposed redevelopment of the site will necessitate excavation at the site, and the construction of new school buildings which will require footings/foundations. The potential for historical archaeological material to be present within the site has been assessed as low to moderate, and it is considered that any remains uncovered would be of local interest, particularly to the past and current school community specifically. It is considered that the impact to the potential historical archaeological resource associated with the proposed redevelopment would be total.*

The recommendations of the Urbis report in relation to European built heritage and archaeology the subject of this EIS are:

- Archaeological monitoring or a watching brief should be undertaken during demolition and excavation works that occur within the area of identified historical archaeological potential, as shown in Figure 41 of the Urbis Heritage Impact Statement and Archaeological Assessment.

  Monitoring should be undertaken by a suitably qualitied historical archaeologist with experience working at similar sites, and should be informed by a Research Design and Methodology. This document, which sets out how the archaeological resource is to be investigated and managed, must also be prepared by a suitably qualified archaeologist, and should be submitted to the NSW Heritage Division for comment and review prior to demolition and excavation works commencing on site.

As the project is a declared SSD, the relevant archaeological permits under S140 or s139 of the *Heritage Act 1977* are not required to facilitate archaeological monitoring in this instance. Permit requirements should, however, be clarified with the engaged archaeologist prior to works commencing to confirm that no changes to the relevant approval pathway has occurred.

- In the event that historical archaeological material is uncovered on site, provision should be made for the incorporation of this material into interpretative displays or media within the new school. This should be undertaken in consultation with the school, NSW Heritage Division, and the engaged architects/design team and consultant archaeologist.

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6.10.2 Aboriginal Archaeology

Urbis' assessment of Aboriginal archaeology has concluded that *the site is identified to have a low degree of potential to contain Aboriginal archaeological objects or sites. This potential is, however, limited to the western portion of the site where residual alluvial soils have been identified through geotechnical assessment. As part of the proposed redevelopment, several metres of residual, alluvial, soil will be removed from the area of potential. The impact to the potential archaeological resource within the soil to be removed (if present) will therefore be total.*

The recommendations of the Urbis report in relation to Aboriginal archaeology are:

- The Aboriginal archaeological potential of the site should be investigated through test excavation within the identified area of potential shown in Figure 40 of the Urbis Heritage Impact Statement and Archaeological Assessment.

  Test excavation should be undertaken in accordance with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW 2010 and Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW 2010.

- Prior to the commencement of test excavation, consultation with the Aboriginal community should be undertaken in accordance with the guidelines set out in the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.

- Management of any archaeological objects uncovered on site should be determined in consultation with the relevant Aboriginal stakeholders, as well as OEH.

Mitigation measures addressing the above recommendations have been applied in section 8.0.

6.11 Arboricultural matters

An arboricultural report has been prepared by Rain Tree Consulting and is found at **Appendix I**. As articulated in Section 2.8 of this EIS, trees on the school site number eighteen (18) mature planted trees with a further fifteen (15) Council verge street trees adjoining the site.

Tree removal of up to five (5) school site trees at the time of writing was to be undertaken via Exempt Development under the provisions of the Education SEPP as part of the demolition phase of the existing school via Complying Development under the same SEPP.

At least thirteen (13) school trees will remain on-site. Approval will be sought for the removal of all of these trees via this SSD DA. However, there is potential that three (3) school trees fronting Jones Street may be able to retained (if during works on site it can be established that their health and structural

integrity can be suitably maintained. In that event, they will be protected (if retained) during construction works.

None of Council's 15 trees are affected by the demolition works and these are also protected in accordance with the arborist's recommendations. Of the Council trees, 4 will be affected by the works proposed under this DA. This includes the removal of one street tree on Wattle Street to make way for the proposed new vehicular access point, and the pruning of 3 other trees as a result of the extent of new works and the building.

The proposed tree removal and pruning plan subject of this SSD DA is as shown below in Figure 29.

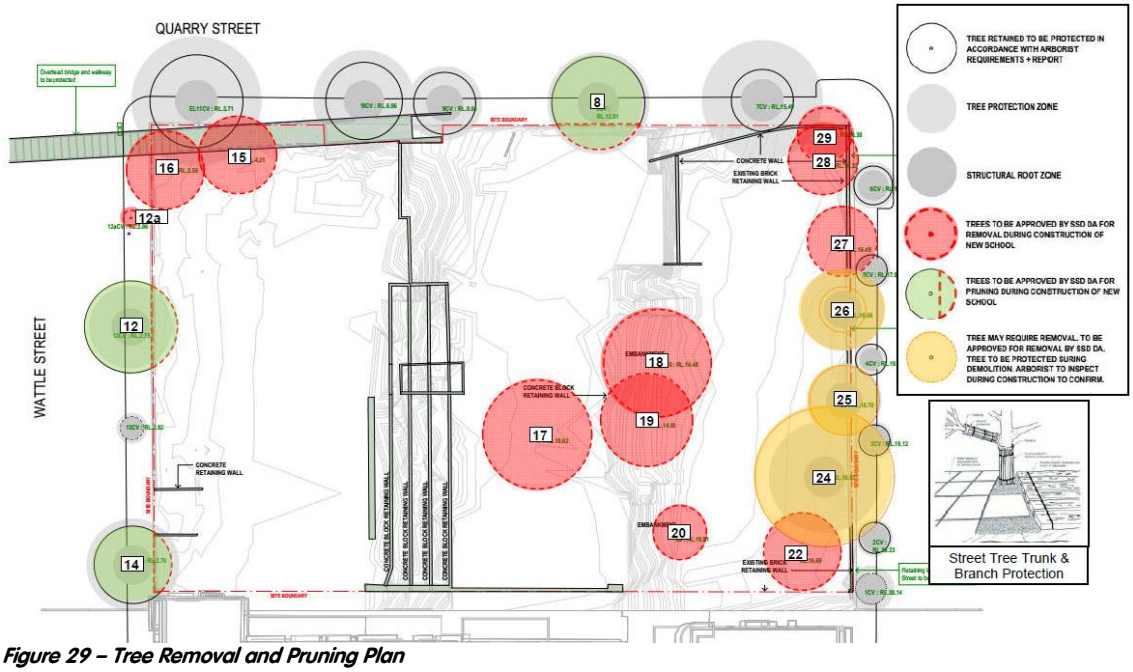

Figure 29 – Tree Removal and Pruning Plan

The trees requiring removal on the site because of the extent of the new works are as follows:

Tree	Species	Health / Condition
15	*Eucalyptus elata* - River Peppermint	22m in height and 14m spread Fair / Good health and condition Environmentally stressed, Slight decline in canopy + low foliage volume, minor lower trunk wounds STH to 1.5m, trunk indent & wound NTH/WST at base
16	*Melaleuca bracteata* - Tea tree	10m in height and 11m spread Fair / Good health and condition Main twin stems at ground level with stem inclusion development, suppressed canopy form biomass EST
17	*Platanus x acerfolia* - London Plane Tree	22m in height and 15m spread Good health and condition Tree with no significant defects noted. May pose allergy health risk during spring
18	*Platanus x acerfolia* - London Plane Tree	20m in height and 17m spread Good health and condition Tree with no significant defects noted, multi stemmed at ground level - base Ivey covered. May pose allergy health risk
19	*Platanus x acerfolia* - London Plane Tree	22m in height and 16m spread Good health and condition

		Tree with no significant defects noted, multi stemmed at ground level - base Ivey covered. May pose allergy health risk
20	*Araucaria columnaris* - Cooks Pine	21m in height and 5m spread Good health and condition Tree with no significant defects noted
22	*Eucalyptus sideroxylon* - Red Ironbark	20m in height and 11m spread Good health and condition Tree with no significant defects noted
27	*Eucalyptus sideroxylon* - Red Ironbark	14m in height and 10m spread Good health and condition Tree with no significant defects noted
28	*Eucalyptus camaldulensis* - River Red Gum	15m in height and 13m spread Fair/Good health and condition Slightly low foliage volume with no significant defects noted
29	*Melaleuca quinquenervia* - Paperbark	11m in height and 7m spread Good health and condition Suppressed canopy form biomass NTH

Trees 24 (*Eucalyptus sideroxylon* Red Ironbark), and 25 and 26 (both *Casaurina glauca* She Oaks) may require removal under this SSD DA.

The Council tree (12a) requiring removal as a result of the new vehicular access is a young Lombardy Poplar *Populus nigra 'Italica'* sapling of about 7m in height and 2m spread. It is a deciduous tree with no significant defects noted by the arborist and is in good health.

The Council trees requiring pruning are as follows:

Tree	Species	Health / Condition	Reason for pruning
8	*Lophostemon confertus* Qld Brush Box	12m in height 13m spread Fair / Good health and condition No significant defects	Minor pruning required due to the Quarry Street elevation of the proposed building. Tree may receive substantial limb conflict due to the new building footprint at the boundary, and may likely receive potential root zone interference due to new excavations for footings adjacent the tree.
12	*Ficus microcarpa var hillii* Hills Figs	12m in height 14m spread Fair / Good health and condition Slight lean NTH, root girdled WST side, lower branch scaffolds with minor stem inclusion development, canopy extension 6m within site	The new building footprint is located on the boundary where canopy impacts by design occur to trees 12 & 14. Both trees contain canopy extension over the boundary to near 6m where pruning to AS-4373 standards would require greater reduction pruning back to main stem or branch collars.
14	*Ficus microcarpa var hillii* Hills Figs	15m in height 14m spread Fair / Good health and condition Sooty mold covering canopy foliage, lower NTH stem with minor stem inclusion, canopy extension 5m within site	The new building footprint is located on the boundary where canopy impacts by design occur to trees 12 & 14. Both trees contain canopy extension over the boundary to near 6m where pruning to AS-4373 standards would require greater reduction pruning back to main stem or branch collars.

The Landscape Plans at **Appendix M** indicate replacement planting of a range native tree species, including Tallowwood. These have the potential to grow to 40m in height and the potential to provide a similar type of canopy cover as per trees at the existing school site.

Plans showing the trees removed under Exempt Development provisions of the Education SEPP, trees retained and subject to removal and/or pruning under this DA, and trees to be retained and/or protected are included at **Appendix I**.

Standard tree protection requirements have been imposed in Section 8.0 – Mitigation Measures.

6.12 Social Impacts

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The new Ultimo Pyrmont School will build the existing student capacity of the site from about 300 to a future maximum capacity of up to 800 students - a net gain of 500 students over time.

The need for the new school and its increased capacity stems from growing and existing demand for student places within the inner Sydney area, particularly the suburbs of Ultimo, Pyrmont, Glebe and other adjoining areas within the school's existing catchment. Some areas within this catchment are subject to recent approvals or rezoning proposals for significant new residential developments. These will add pressure to existing schools and emphasise the need to address changes in demand resulting from this growth and for future-proofing of capacity. This need has been identified and budgeted for through NSW Government processes.

The recent NSW Parliamentary Inquiry into the Inner city public primary school enrolment capacity and redevelopment of Ultimo Public School (February 2017 Final Report 170213) recognised …
that enrolment pressures on inner city public primary schools will only increase in coming years, especially given urban transformation projects such as the Bays Precinct. Tools such as the department's inner city schools cluster model can be used effectively to manage these pressures, but they must also recognise the importance of connecting schools with their immediate neighbourhood and community.

The committee received evidence from a range of stakeholders identifying population growth and demographic changes as key factors affecting the enrolment capacity of public primary schools in the inner city. Other factors at play include the limited availability of public land in the inner city and the emergence of the Bays Precinct redevelopment. This is further emphasised in the fact that when land is available School Infrastructure NSW must pay market rates for scarce and desirable land subject to higher commercial value uses in the inner Sydney area. The redevelopment of the existing site is therefore a reasonable proposal in light of catchment growth and budget reasons.

The development facilitates future-proofing for the next generations of school children in this locality, providing new up-to-date and state-of-the art school accommodation within the existing community and social fabric of Ultimo-Pyrmont thereby ensuring a continuity of connectivity and identity with the established community networks.

From a physical infrastructure perspective, the new school and its community spaces will become an immediate community asset. New and expanded community spaces result from the development including the new community hall, sports courts and multi-function spaces and 40-space child care centre.

Additionally, the construction of the new school provides:

Economic stimulation to regional labour markets and investment during the construction phase of the project. Cost benefit analysis, economic appraisal, qualitative and quantitative measures confirm the project is cost effective and the best value for money.

Environmental design measures in building form, materials, thermal comfort, energy efficiency, water conservation, heritage conservation, landscaping, management of environmental hazards, waste management and construction standards.

Social benefits and prosperity from investment in social infrastructure and facilities which meet the educational objectives and goals of NSW 2021, Department of Education Facilities Standards and Guidelines and principles of future focussed learning. Key outcomes include:

- New educational facilities that make a major contribution to meeting short and long term growth in demand for primary school teaching facilities in the inner city;
- Creation of a cohesive and inspired new educational campus;
- Enhancement of the primary school community;
- Safe and secure school environment through the principles of crime prevention through environmental design; and
- New facilities that can be shared with community use.

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Sustainability Benefits

- Reuse of an existing Department of Education asset that is currently underutilised;
- Flexibility to ensure the ongoing functional operation of the facility without the need for costly work to accommodate the changing technological, security or procedural needs;
- Passive solar and shading design measures;
- Use of sustainable (non-rainforest) recycled, plantation or composite timbers;
- Use of materials with good thermal insulation performance;
- Energy efficient fittings and fixtures such as lighting, and any heating/cooling systems; and
- Environmental performance of new elements to be 'Best Industry Practice' and in compliance with section I and J of the BCA as required.

The social impacts of the development can only be summarised as being positive and as a necessary and timely action to ensure a seamless delivery of school education services by the State in recognition of the ongoing evolution of the inner Sydney area in terms of population change and re-use and renewal of previous industrial and port and employment lands for other uses.

6.13 Noise & Vibration

JHA has undertaken an assessment of the likely construction noise and vibration impacts upon the school's immediate environs as well as well as its operational impacts – see **Appendix Q**.

6.13.1 Construction Noise and Vibration

Applicable noise and vibration criteria for the project were determined in compliance with the NSW Industrial Noise Policy 2000 (INP) assessment procedure.

Type of Receiver	**Indicative Noise Amenity Area**	**Time of Day**	**Recommended LA_{eq} Noise Level dB(A)**	
			Acceptable (ANL)	**Recommended Maximum**
Residence	Urban	Day	60	65
		Evening	50	55
		Night	45	50
School Classroom – Internal	All	Noisiest 1-hour period when in use	35	40

Further, the NSW INP requires that the LAeq, 15 minute associated with the proposed school not exceed the background noise level LA90, 15 minute by more than 5dBA. Noise measurements performed at the site in April 2017, May 2017, and October 2017 documented the existing acoustic environment, including traffic noise[5]. Noise criteria at the nearest affected residential receiver at the Acacia Gardens unit development, immediately to the south of and facing the school site:

Time of Day	Intrusiveness Criterion	Amenity Criterion	Compliance upon completion of works
Day	**54 $LA_{eq,15min}$** (49+5)	60 $LA_{eq,15min}$	Yes
Evening	52 $LA_{eq,15min}$ (47+5)	**50 $LA_{eq,15min}$**	Yes
Night	47 $LA_{eq,15min}$ (42+5)	**45 $LA_{eq,15min}$**	Yes

The JHA report advises that upon completion of the works and with the implementation of the recommended acoustic treatments, the above noise criteria can be met.

Construction noise will be largely generated by the use of various types of machinery, the noisiest of which at the distances between Acacia Gardens and the site will be concrete saws, jackhammers, concrete pumps, and the like. Construction noise similarly will generally be able to be met at residential boundaries to the above criteria. When works are likely to exceed 60dB $LA_{eq,15min}$ at the nearest residences, the builder shall contact affected neighbours prior to the commencement of those works.

Vibration sources will principally relate to excavators, jack hammers, and truck traffic subject to certain ground and frequency of activity conditions. The vibration criteria set is as per the EPA's *Assessing Vibration: A technical guideline* (February 2006) and addresses disturbance to building occupants, effects on building contents, and effects on building structures.

To mitigate and management noise generated as a result of the construction works upon Acacia Gardens, JHA has recommended the following:

- Erection prior to demolition works and earthworks of a temporary sound barrier wall (2.4m high with steel posts and 19mm thick plywood) along the perimeter of the school facing the residential receivers – noting this barrier will already be in place.
- Achievement of the following noise criteria (as set out in Table 7 of the JHA report (as derived from the EPA Interim Construction Noise Guideline 2009) for standard hours of construction from 7am to 6pm Monday to Friday and from 8am to 1pm Saturday only:
    - Noise Affected Rated Background Noise Level +10 dBA $_{LAeq,15min}$
    - Highly Noise affected at 75dBA $_{LA\ eq,15min}$
- Achievement of the following vibration criteria (from Tables 10 and 11 of the JHA Report)

Location	Assessment period[1]	Preferred values		Maximum values	
		z axis	x & y axis	z axis	x & y axis
Continuous vibration					
Residences	Daytime (7am-10pm)	0.010	0.0071	0.020	0.014
Impulsive vibration					
Residences	Daytime (7am-10pm)	0.30	0.21	0.60	0.42

[5] Long term noise logger monitoring was conducted at the boundary with (and within dwellings at) Acacia Gardens between 24 April 2017, 5 May 2017 and between 9 October and 21 October 2017. Short term (15-minutes) operator attended noise measurements were conducted at the site on 27 March and 24 April 2017.

Location	Daytime (7am-10pm) [1]		Night-time (10pm-7am) [1]	
	Preferred values	Maximum values	Preferred values	Maximum values
Residences	0.20	0.40	0.13	0.26

6.13.2 Operational Noise

Operational noise impacts will be characterised by both the impacts upon the school and its impacts upon other sensitive receivers, due principally to its plant and other general school-based noise sources.

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Noise impacts upon the school development

The high level of traffic noise from Wattle Street will require significant acoustic treatment to achieve an ambient noise level of 35dB(A) in the indoor learning and teaching spaces. The specifications of the building envelope and building glazing has been incorporated in the design documentation for the building. The noise level from student set downs and pickups on Jones and Quarry Streets will be similar to existing.

The NSW Department of Planning document "Development Near Rail Corridors and Busy Roads – Interim Guideline" (December 2008) refers to *State Environmental Planning Policy (Infrastructure) 2007* that requires the following:

> *Clauses: Road corridors*
> *Clause 102 Impact of road noise or vibration on non-road development*
> *(1) This clause applies to development for any of the following purposes that is on land in or adjacent to the road corridor for a freeway, a tollway or a transitway or any other road with an annual average daily traffic volume of more than 40,000 vehicles (based on the traffic volume data published on the website of RMS) and that the consent authority considers is likely to be adversely affected by road noise or vibration:*
> *(a) a building for residential use,*
> *(b) a place of public worship,*
> *(c) a hospital,*
> *(d) an educational establishment or child care centre.*

JHA has concluded that the daily traffic volume on Wattle Street is less than 40,000 vehicles based on the latest available data. Accordingly, the requirement of Clause 102 of *State Environmental Planning Policy (Infrastructure) 2007* is not applicable to this development. The proposed development site is also not affected by rail traffic noise, given its distance from any rail infrastructure.

In any case, the internal acoustic environment achieved in areas facing Wattle Street are deemed to be able to meet the relevant noise criteria.

Noise impacts of the school development upon sensitive receivers

The mechanical plant for the new Ultimo Pyrmont Public School Development will be acoustically treated to achieve the amenity and intrusiveness noise criteria (as set out above in the table) at the nearest affected residence as determined in accordance with the NSW Industrial Noise Policy.

The noise criteria at the nearest affected residence are 55 LAeq,15min during the day period, 50 LAeq, Evening during the evening period and 45 LAeq, Night during the night period.

The acoustic treatments for the mechanical plant has been designed to achieve the above criteria.

Mitigation measures as set out above are applied in Section 8.0 of this EIS.

6.14 Contamination

As noted in Sections 2.5 and 6.3.3 of this EIS, an Environmental Site Assessment (ESA) has been prepared by EIS (see **Appendix E**). Further, a survey of hazardous building materials has been undertaken by Greencap (see **Appendix F**).

The conceptual site model prepared as part of the ESA identified the following areas of environmental concern at the site:

- FILL MATERIAL - The site appears to have been historically filled to achieve the existing levels. The fill may have been imported from various sources and could be contaminated. Historical information indicated that the majority of the site was filled in the 1960's.
- PESTICIDES - may have been used beneath the buildings and/or around the site.
- HAZARDOUS BUILDING MATERIALS - may be present as a result of former building and demolition activities. These materials may also be present in the existing buildings/ structures on site.

In addition, previous investigations encountered heavy metals, total recoverable hydrocarbons, and polycyclic aromatic hydrocarbons (PAHs) in the fill material. The lead results in the fill in B6 and the Benzo(a)Pyrene TEQ (B(a)P TEQ) results in the fill in B1 and B2 were identified above the Health Investigation Level (HIL-A) criteria.

Soil sampling was collected from eight geotechnical boreholes and analysed with respect to contaminants of potential concern as identified by the conceptual site model with the following results exceeding the Site Assessment Criteria:

- HEAVY METALS – lead results exceeded the HIL-A criteria. Lead, nickel and zinc results exceeded the EIL-UR&POS criteria
- TRH – TRH F3 result exceeded the ESL-URPOS criterion.
- PAHs – B(a)P TEQ result exceeded the HIL-A criterion. B(a)P concentrations exceeded the CT1 criterion. All results but one (BH6) were less that the TCLP1 criteria[6]. All results were less than the SCC1 criteria.

The waste classification of fill material (including sand clay in BH3 identified as 'possibly fill') for off-site disposal is General Solid Waste (non-putrescible). Natural clayey sand and silty sand soil in BH1 and BH2 and sandstone bedrock across the site is classified as Virgin Excavated Natural Material suitable for reuse on-site.

EIS has identified the following and made the following recommendations based on its investigation:

- The source of the Polycyclic Aromatic Hydrocarbons (PAHs) and lead, including lead in the fill samples, is considered to be associated with the ash and slag inclusions encountered in the fill matrix. The natural soil samples analysed below the fill profile were not impacted by the contaminants.
- Lead and PAHs were identified above the relevant Health Investigation Levels. These results may present a risk to the site.
- Sampling was not undertaken beneath the existing buildings. The extent of contamination beneath the buildings is currently unknown. Due to the heterogeneous nature of the fill

[6] Note no TCLP could be prepared from BH6 as there was insufficient sample remaining after initial analysis. As samples above and below this sample were analysed for TCLP PAHs, this result is not considered to have impacted the reliability of the waste classification.

material and the 57% sampling density, no distinct hotspots can be identified at the site. Fill material in the vicinity of Bore Hole 5 (central) and Bore Hole 6 (north-east) appears to be impacted by the contaminants, however, the previous investigation encountered impacted fill material in the north-east and south-west sections of the site. It is possible that all fill material in the proposed development area could be contaminated and should be treated accordingly.

- The risk posed by the fill material at the site will require further assessment.
- No ground-borne asbestos was encountered at the site.
- Further investigation is considered necessary to better assess the nature and extent of the contamination.
- In its current configuration with pavement across much of the site, the risk posed by the contamination to site receptors is very low. However, in order to make the site suitable for the proposed new development, the recommendations listed below should be implemented to address the data gaps and to better characterise the risks:
    - Undertake a Stage 2 ESA to address the data gaps identified in Section 10.3 of the EIS Report (**Appendix E**);
    - Prepare a Remediation Action Plan (RAP) to outline remedial measures for the site;
    - In the event active remediation is preferred at the site, prepare a Validation Assessment (VA) report on completion of remediation;
    - In the event management is preferred over active remediation, prepare an Environmental Management Plan (EMP) for the ongoing management of contamination remaining on site. The EMP will require establishment of appropriate public notification under Section 149(2) of the E&PA Act or a covenant registered on the title to land under Section 88B of the *Conveyancing Act, 1919*; and
    - Undertake demolition of the building in accordance with the Hazardous Materials Assessment (Hazmat) previously prepared for the existing buildings.
- In the event unexpected conditions are encountered during development work or between sampling locations that may pose a contamination risk, all works should stop and an environmental consultant should be engaged to inspect the site and address the issue.

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Mitigation Measures to address these recommendations are included in Section 8.0.

6.15 Utilities

Existing lead-in arrangements are proposed to be diverted and/or augmented to serve the redeveloped school as summarised in the table below.

Details regarding authority approvals and staging of these works can be found in the Infrastructure & Water Management Report prepared by JHA, which accompanies this EIS at **Appendix H**.

TABLE – PROPOSED UTILITIES & INFRASTRUCTURE		
SERVICE	EXISTING INFRASTRUCTURE	PROPOSED INFRASTRUCTURE
ELECTRICAL	Existing lead-in cable installation from Ausgrid network (low voltage distributor, 400 amps, 3 phase) from Wattle Street. Current permitted electric capacity assumed to be 200 amps, 3 phase.	Anticipated electrical requirement of 860 Amps, 3 phase, is anticipated. A new single transformer surface chamber substation is required including main switchroom serving distribution boards due to an increase in required demand arising from the development. The new substation will sit in the lower part of the site addressing Wattle Street for optimal construction and later access requirements.

COMMUNICATIONS	Existing lead-in conduits containing fibre optic SMOF and copper cabling services originating from Wattle Street and Quarry Street.	Three (3) 50 mm underground conduits are proposed within each pit along Quarry Street to enable provision for up to three carriers to the main communication room serving the school. Three (3) 50 mm underground conduits are proposed within each pit along Jones Street to enable provision for up to three carriers to the OOSH tenancy.
HYDRAULIC	Existing lead-in arrangement originating from 400mm CV sewer main in Wattle Street. Existing 250mm cast iron cement lined (CICL) water main in Wattle Street and existing 150mm CICL water in Jones Street.	It is proposed that the redeveloped school drain to the same sewer main at a downstream location of the existing connection. The existing network capacity is sufficient to cater for the new school. Redeveloped school to connect to the 150 CICL water main in Jones Street, which is sufficient to serve the site.
NATURAL GAS	No gas services to the site presently. However, 32mm 210 kPa Nylon gas main in Wattle Street, 63mm 21kPa PE gas main in Quarry Street and 32mm 210 kPa Nylon gas main in Jones Street.	Redeveloped school to connect to the 63mm 21kPa PE gas main in Quarry Street. The existing network capacity is sufficient to cater for the new school.

No further Mitigation Measures are proposed.

6.16 Drainage

TTW has addressed site drainage as part of its Flood, Stormwater Concept Plan, and Sediment and Erosion Control Plan Report (see **Appendix K**).

The stormwater system design has been based on City of Sydney Water Quantity and Water Quality requirements from its DCP and its Stormwater Drainage Manual. The system's design objectives therefore seek to achieve the following:

Water Quantity

- The existing flow regimes and discharge for the full range of storm events should be maintained.
- A safe stormwater conveyance system should be provided for the major storm events.
- Any existing flows from external catchments will be safely mitigated through the site.
- The existing runoff from the development should be maintained.
- Safe mitigation measures should be provided to minimise any potential flooding impact on the site.
- Downstream properties are not to be adversely affected by the development.

Water Quality

- Stormwater leaving the site should meet the full range of pollutant reduction targets of the relevant authority.
- Site discharge should achieve natural dry and wet weather concentrations for the given catchment.

To achieve these water quantity objectives, TTW's design captures flows from impermeable surfaces including courtyards open to the sky.

The proposed stormwater management system for the development includes:

- Pit and pipe drainage network to collect runoff from areas;
- Stormwater flows up to the 5% annual exceedance probability event are conveyed by a minor drainage system; and
- Stormwater flows above the 5% annual exceedance probability event are conveyed by a major drainage system.

As the site is completely contained and there are no overland flow paths available, the pit and pipe drainage network has been sized to convey the full 1% Annual Exceedance Probability flow. Emergency high level overflow arrangements have been provided via rectangular hollow section connections to Quarry Street. These overflows have been provided so that water is able to leave the site before inundating the ground floor courtyards in the event of a downstream pipe blockage.

To further assist in the achievement of containing rainwater and limiting stormwater flows a 20kl rainwater tank forms part of the design.

A reduced set of the concept stormwater management plans are included in Appendix B to TTW's report at **Appendix K**.

The proposed water quality measures in the TTW design have sought to address the City of Sydney's water quality and pollutant reduction targets with respect to Gross Pollutants, Total Suspended Solids, Total Phosphorus, and Total Nitrogen. Based on MUSIC Modelling results the proposed treatment devices (filter cartridges, rainwater tanks, and gross pollutant traps) demonstrates that the post-development scenario has achieved the targeted outcomes required.

The final MUSIC model is attached at Appendix E of the TTW report – see **Appendix K**.

A sediment and erosion control plan is included in the TTW report at **Appendix K** setting out the relevant strategies and measures to limit impacts upon downstream land and waterways. Measures include the following as also set out in Section 3 and Appendix A of TTW's report:

- Barriers, fencing and hoardings;
- Stabilised access points;
- Silt fencing;
- Sediment trapping devices;
- Stockpile management; and
- Protection of drainage pits.

No further Mitigation Measures are proposed.

6.17 Flooding

As noted in Section 2.10 of this EIS, the site in part sits at or below the level of the 1:100 ARI (average recurrent interval) or 1% AEP flood event as identified in the Blackwattle Bay Catchment Flood Study 2015 and Flood Certificate for the school site as prepared by WMA.

The Flood Risk Assessment by TTW (as part of **Appendix K**) addresses existing flood behaviour, the relevant flood related controls applicable to the site and use, the impacts of the development upon flood behaviour and provides proposed flood planning levels at the site for the development.

Based on Council's Interim Floodplain Management Policy, the Flood Planning Level for a school is assessed on a merits basis with a minimum of 1% AEP flood level plus 0.5m freeboard for finished floor levels of habitable floor areas in tandem with the use of flood proof walls. The detailed assessment of the Flood Planning Levels for non-habitable floor areas and mechanical and electrical services areas is set out in Table 14 of TTW's report.

Based on the finished floor levels / flood proof walls requirements and the proposed design, TTW has compiled the development's required Flood Planning Level. (Table 15 of the TTW Report). The Flood Planning Levels range from RL 3.05 to RL 4.75 at the Wattle Street / Quarry Street frontage for the car park access, car park, and supply store; to RL 3.58 (with a 400mm freeboard) for the substation and switch room); and RL 5.65 for Ground and Lower Ground floor at Wattle Street, including a (500mm freeboard). The upper levels of the site also include Flood Planning Levels at the highest of which sits at RL 18.45 for the COLA at Level 4 off Jones Street (with a 500mm freeboard).

The school also serves as a potential evacuation centre due to the site being one of only a few identified 'flood free locations' under the WMA Flood Study. The Flood Planning Levels proposed by TTW will enhance the redevelopment's capacity to serve this purpose. In the event that the site is not capable of designation as an evacuation centre, various flood scenarios show Jones Street to be the most appropriate evacuation route.

Accordingly, and based on the above, TTW has recommended that:

- the Flood Planning Levels set out in its Table 15 be adopted;
- signage within the car park, an alarm warning system, flood warning and evacuation route signage be incorporated into the redevelopment of the school; and
- the building be constructed from flood compatible materials and be designed to withstand flood pressure and impacts from debris carried in flood waters. The design shall also be certified by the project's structural engineer.

See Section 6.20 below regarding Structural Reporting.

Mitigation measures are applied at Section 8.0.

6.18 Construction and Operational Waste Minimisation

A Construction and Operational Waste Management Plan has been prepared by Foresight Environmental to address the waste stream and recycling opportunities during construction and operation of the new school and its shared community facilities and child care centre. The report is appended to this EIS at **Appendix R**.

The Plan has considered the likely waste generation of the school use, waste management systems including for recycling, waste and recycling storage areas, on-site management protocols, and other waste handing opportunities, such as diversion of waste or waste prevention, and organics recovery/recycling.

The Plan sets a strategy and protocols for waste handling and minimisation arising from the waste demand of the use and capacity of the development. Based on the use and size of the school and facilities, some 39% of waste will be paper/cardboard; 25% food organics, 25% general waste, and 11% mixed recycling.

This mix of waste generates a likely quantum of about 11,000 litres (bin size capacity) or about 18 bins of various sizes per week. As a result, waste collection will likely be twice to three times per week by Council's regular timetabled service to the locality or other contractors.

In terms of construction-related waste the objective would be to avoid or reduce waste and where available or possible to reuse, recycle and recover waste. The report provides examples of a management regime that can be embodied in any final Construction Management Plan or be appended to it.

The likely composition and volumes of construction waste are estimated in the report. No further Mitigation Measures are proposed.

6.19 National Construction Code and Accessibility

6.19.1 National Construction Code / BCA Compliance

A BCA Compliance Assessment has been prepared by BCA Logic – see **Appendix S**.

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The Assessment has considered the development's compliance with the relevant Deemed-to-Satisfy provisions of the Building Code of Australia 2016 (BCA2016) and outlines areas where strict compliance is not achieved and where the design may be able to achieve compliance through performance-based measures.
The assessment has addressed:

- Essential fire safety measures
- Fire resistance and stability
- Compartment and separation
- Access and egress including fire exit distances, locations and capacities
- Protection of openings
- Fire fighting equipment, including hydrants and hose reels
- Services and equipment, including lifts
- Health and Amenity, including sanitary and other facilities, light and ventilation, sound transmission and insulation
- Building fabric
- Energy Efficiency

The assessment concludes that the development, subject to a list of nominated matters at Construction or Crown Certification stage can achieve BCA compliance.

A separate Fire Engineering report has been prepared and assessment is included below in Section 6.21 (and at **Appendix V**).

6.19.2 Accessibility

An Access Assessment Report has been prepared by BCA Logic – see **Appendix T**.

The assessment has considered the proposed development against the relevant Deemed-to-Satisfy provisions of the Building Code of Australia 2016 (BCA2016) and outlines those areas where compliance is not achieved and provide recommendations to upgrade such areas to achieve relevant compliance with:

- Disability Access to Premises Standards 2010 (Premises Standards);
- Building Code of Australia 2016 (BCA2016) – Part D3 and Clauses E3.6 and F2.4;
- Applicable Australian Standards AS1428.1:2009, AS1428.4.1:2009 and AS2890.6:2009

BCA Logic has advised that the aim of the Disability Access to Premises Standards 2010 (Premises Standards) is to provide the building and design industry with detailed information regarding the required access provisions associated with the design and construction of new buildings and upgrade to existing buildings.

The Premises Standards generally align with the BCA2016 and reference a range of Australian Standards relating to access and other associated matters. The Premises Standards aim to provide

certainty for the building industry in relation to meeting the requirements for access in new and upgraded buildings.

The Premises Standards will apply to this building, however being a new building, compliance under BCA2016 will be equivalent to achieve compliance with the Premises Standards.
In undertaking its assessment, BCA Logic has addressed the following matters under the BCA and relevant Australia Standards:

- Part D3 – Access for People with a Disability
- Specification D3.6 – Braille and tactile signs
- Part E3 – Lift Installations
- Part F2 – Sanitary and other facilities
- Accessibility under AS 1428.1 2009
- Design Certification under AS 1428.1 2009
- Specifications for doorways, ramps, handrails, parking and vehicular access, and WC facilities.

Overall, BCA Logic concludes that compliance with the BCA and relevant Australian Standards is readily achievable.

No further Mitigation Measures in relation to BCA and Accessibility matters are required. Appropriate conditions of consent would be applied to ensure compliance at Construction or Crown Certificate stage in any case arising from the Prescribed Conditions under the EP&A Act.

6.20 Structural

The Structural Report by TTW at **Appendix U** indicates that the proposal is able to satisfy and comply with all relevant Australian Standards related to structural elements of the design and development.

The Structural Report confirms the nature, form, and standard of the foundations, proposed structures, retaining structures on the site (including new walls), the lateral stability of the design, as well as the construction sequence. The design is confirmed as being able to withstand flood pressure and impacts from debris carried in flood waters as required by the TTW Flood Risk Assessment Recommendations, through the implementation of the proposed concrete upstand along Wattle Street.

No impediments to the achievement of the development are noted and no additional Mitigation Measures are required.

6.21 Fire Engineering

A Fire Engineering report has been prepared by Defire – see **Appendix V**. Defire has reviewed the plans prepared by DesignInc | Lacoste + Stevenson | bmc2 and has concluded that the design of the building achieves compliance with the relevant performance requirements of the BCA, subject to the following recommendations:

- This report and the fire safety measures listed in section 5 of the report must be implemented into the design and identified on the fire safety schedule for the building. They must be maintained and certified in accordance with the *Environmental Planning and Assessment Regulations 2000* and relevant Australian Standards.
- If there are building alterations or additions, a change in use or changes to the fire safety system in the future, a reassessment will be needed to verify consistency with the assessment contained in this report.

No further Mitigation Measures are proposed.

6.22 Construction Management

HKA has prepared a preliminary Construction Management Plan found at **Appendix W**.

The preliminary Construction Management Plan sets out School Infrastructure NSW's requirements for the control and management of the construction works at the site. A final detailed Construction Management Plan will be prepared by the Main Works Contractor who is yet to be engaged.

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The preliminary Construction Management Plan sets out an outline of the procedures and mechanisms that will be employed on the project during construction in order to minimise the impact on the local amenity, to ensure safety of the public, and to protect the environment. It addresses a range of issues associated with the civil works and construction process, amongst other things, including:

- Plant, equipment and materials
- Site establishment & construction zones
- Hoardings, fences and temporary protection
- Cranes
- Site notices and signage
- Contact details
- Hours of work
- Approvals and licenses
- Consultation
- People and Traffic management
- Tree Protection
- Parking
- Work Health and Safety
- Waste management
- Erosion and sediment control
- Soil and stormwater management and dewatering
- Air quality and dust management
- Noise and vibration management.

Prior to on-site activities commencing, the plan will be expanded upon by the Contractor to provide a site specific:

- Construction Management Plan
- WH&S Management Plan
- Waste Minimisation and Management Plan
- Environmental Management Plan
- Construction Traffic Management Plan
- Quality Management Plan
- Aboriginal Participation Plan
- Communications and Stakeholder Engagement Plan

No further Mitigation Measures are proposed.

6.23 CPTED

Crime Prevention through Environmental Design (CPTED) is a crime prevention strategy that focuses on the planning, design and structure of cities and neighbourhoods. It reduces opportunities for crime by

using design and place management principles that reduce the likelihood of essential crime ingredients (law, offender, victim or target, opportunity) from intersecting in time and space (source: NSW Police – Safer by Design).

The relevant CPTED Principles under the NSW Police Safer by Design guidelines are:

- Territorial Re-enforcement
- Surveillance
- Access Control
- Space/Activity Management

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These principles are addressed in turn below, relative to the design of the project.

Based on information made available on the NSW Bureau of Crime Statistics and Research (BOSCAR) webpage, Ultimo is generally identified as being subject to low levels of crime and anti-social behaviour. In summary, see BOSCAR's rating for different types of crime:

- Assault - low
- Homicide - low
- Robbery – low to medium
- Sexual offenses - low
- Theft – low to medium
- Malicious damage to property - low

Territorial Reinforcement

The development site and its curtilage is a generally highly trafficked place within Ultimo at most times of the day and evening. This is especially true of the western edge of the site which fronts Wattle Street and Wentworth Park. There is plentiful vehicular and pedestrian traffic and casual surveillance at this edge and on the footbridge which connects Wentworth Park to Quarry Street at the school's northern boundary. Jones Street also provides a trafficable environment. Pedestrian traffic around the site at present is relatively high and is unlikely to be reduced as a result of the works, and would in fact increase. The Ultimo area generally feels safe as a result of sufficient and continuous activity including high levels of activity at Wentworth Park.

The works will further enhance territorial reinforcement by providing new opportunities to demonstrate that there is ownership of, and pride in, this building and occupation of its immediate frontages and spaces under its influence. The development will further promote an openness, visibility and connection with adjacent spaces to detract from creating areas to hide. The new building serves after-school and weekend use and will therefore further reduce the propensity for any criminal or anti-social behaviour. The development will reinforce appropriate behaviour.

Surveillance

The building and its curtilage presently enjoys high levels of wide-ranging passive or casual surveillance from both inside and outside of the building. This will be reinforced by the works in creating enhanced access and visibility.

The building will promote interaction between people and articulate that its external and internal spaces are supervised.

Natural surveillance is achieved through the building layout, orientation and its location making it a well-used space. Surveillance is further improved with effective circulation to, around and through the building, clear sight lines, effective lighting and appropriate landscaping treatments. Neighbouring residential uses will have casual sight lines around the building's edges and with obscured views into its interior courtyards, further reinforcing surveillance and security.

Technical/mechanical surveillance is achieved through mechanical/electronic measures such as CCTV.

The building would not be considered a high risk environment.

Access Control
As the building is built to the boundaries and has limited access points, access control will be to a high level. The building will also be subject to a range of security control measures for its various 'zones'. For example, school areas will be open and freely accessible during the building's typical hours of operation. Appropriate and typical levels of security will apply as per NSW Department of Education / SI requirements.

The building will continue to be access controlled after hours with alarms, security hardware, locks, pass-swipes, and lift locks, as relevant. Reception areas and visibility into and within the building will reinforce passive surveillance and a level of access control. Way-finding will also be improved within the building assisting to detract from any criminal or anti-social behaviour.

Natural access control at the development site includes design measures such as the location of including building configuration, formal pathways and landscaping within and around the site.

After-hours and weekend usage of the building will be controlled via 'zones'. Other non-public parts of the school during these times will be access controlled areas.

Space/Activity Management
Space/Activity Management strategies are an important way to develop and maintain natural community control. Space management involves the formal supervision, control and care of the development. NSW Department of Education / SI will maintain and manage the building in accordance with its current practices ensuring there is no deterioration or decay of the building or its surrounds that may attract crime or the sense of a lack of safety.

6.24 Risk Assessment

The Environmental Risk Assessment (ERA) establishes a residual risk by reviewing the significance of environmental impacts and the ability to manage those impacts. The ERA for the school site has been adapted from Australian Standard AS4369.1999 Risk Management and Environmental Risk Tools.

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

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

Figure 28 below indicates the likely significance of environmental impacts from both construction and operation of the new Ultimo Pyrmont Public School and assigns a value between 2 and 10 based on the likelihood of an impact occurring and the consequences of that impact. For example, an Almost Certain and Catastrophic Risk is rated as having value of 10; a Possible Catastrophic Risk is rated as having a value of 8 as is a Likely Major event. A Rare Insignificant risk is rated as having a value of 2.

Based on the rating of the risk, appropriate risk control actions can then be applied. The sum of the values assigned provides an indicative rating of potential residual impacts after the mitigation measures are implemented.

Consequence / Likelihood	Insignificant = 1	Minor = 2	Moderate = 3	Major = 4	Catastrophic = 5
Almost Certain = 5	Significant	Significant	High	High	High
Likely = 4	Medium	Significant	Significant	High	High
Possible = 3	Medium	Medium	Significant	Significant	High
Unlikely = 2	Low	Medium	Medium	Significant	Significant
Rare = 1	Low	Low	Medium	Medium	Significant

Likelihood		Consequence	
Almost Certain	Is expected to occur in most circumstances	Catastrophic	Severe adverse impact - (Death)
Likely	Will probably occur in most circumstances	Major	Major adverse impact - (Extensive Injuries)
Possible	Might occur at some time	Moderate	Moderate adverse impact - (Medical treatment required)
Unlikely	Could occur at some time	Minor	Minor adverse impact - (First aid treatment)
Rare	May only occur in exceptional circumstances	Insignificant	Insignificant adverse impact - (No injuries)

	Risk Control Actions
High	The risk is unacceptable. Eliminate the design feature
Significant	High Priority for action
Medium	Responsibility to be allocated
Low	Manage by routine procedure and control

Figure 30 – Risk Management and Environmental Risk Matrix

The following sets out the likely impacts of the project (Construction and Operational), potential mitigation measures, and the Risk Assessment.

Noise and Vibration *(Construction and Operational)*

- Increased noise and vibration during construction
- Increased noise during operation and function of the building

Mitigation through adoption of a noise management plan to minimise noise impacts from the construction phase. Further, operational mitigation with appropriate plant selection, noise suppression and shielding within the plant and machinery.

Risk Assessment Rating = Possible Likelihood + Moderate Consequence = **6 (Significant).**

Mitigation Measures at Section 8.0 will suitably address this risk.

Traffic and Parking *(Construction and Operational)*

- Increased localised traffic on roads and at intersections.
- Increased parking at and around the school on local streets.

It is unlikely that any significant new traffic or parking issues will arise given the reuse of the existing school site and existing access routes and known and understood patterns of visitation to the site. The ultimate increase in student numbers will likely only mean a comparable increase in the already minor car-based usage to the site. The vast majority of students will walk or ride to the school given its catchment base and ease of access. No new demand for on-site parking will be created by the development. The construction traffic and parking can be adequately managed within the immediately accessible wider regional road network, also noting the breadth of public transport options for travel to and from the site.

Risk Assessment Rating = Unlikely + Minor Consequence = **4 (Medium).**

No additional Mitigation Measures are required.

Visual *(Operational)*

- Visual impact from local residences, public roads, and public open space.

The bulk, scale and form of the development, when viewed from outside of the site will not be perceptively greater. No significant or iconic views are likely to affected.

Risk Assessment Rating = Rare likelihood + Insignificant Consequence = **2 (Low).**

No Mitigation Measures are required.

Heritage *(Construction and Operational)*

- Material impacts upon any listed heritage items, conservation areas, and Aboriginal relics.

The development is unlikely to impact upon any local or State heritage items or conservation areas in the vicinity of the site or any mapped or identified Aboriginal sites or relics.

Risk Assessment Rating = Rare likelihood + Insignificant Consequence = **2 (Low).**

Mitigation Measures are included in the unlikely event any European or Aboriginal heritage or relics are discovered during works.

Air Quality *(Construction and Operational)*

- Decrease in air quality.

The development is likely to only impact upon air quality through dust generation during the construction phase of the project. Any dust generated will be managed via a Construction Management Plan. A HAZMAT Assessment under that Construction Management Plan will also identify the handling procedures required for any such materials, including their potential impact on localised air quality.

Risk Assessment Rating = Possible Likelihood + Minor Consequence = **5 (Medium).**

No Mitigation Measures are required.

Biodiversity *(Construction and Operational)*

- Loss of remnant bushland or planted trees within the development site
- Significant impact upon flora and fauna

The development will have no impact upon significant remnant bushland, flora or fauna. The school site and Ultimo generally is largely a modified urban environment with areas of planted landscaping. Tree removal will occur prior to and with the proposed construction works in a staged manner and subject to review by an arborist. Council / street trees will be protected in accordance with relevant Australian Standards. The canopies of Fig trees in Wentworth Park over Wattle Street will be unaffected by the construction works, and also protected if and as relevant. Replacement planting on the school site is proposed, as set out in this EIS and the Landscape Plan.

Risk Assessment Rating = Rare likelihood + Insignificant Consequence = **2 (Low).** No Mitigation Measures are required. Standard tree protection measures are included as Mitigation Measures.

Contamination and Acid Sulphate Soils *(Construction)*

- Exposure of contamination, hazardous materials or acid sulphate soils during construction causing harm to human health.
- Contamination reducing the suitability of the site to continue as an education facility.

Based on information secured, it is unlikely that the sub-surface conditions will be contaminated to any extent likely to require discontinuation of the use of the site for an educational purpose. The site is mapped as being subject to the lowest category of acid sulphate soils.

Risk Assessment Rating = Unlikely likelihood + Moderate Consequence = **5 (Medium).**

Mitigation Measures will be applied in relation to contamination to ensure it is appropriately assessed and managed.

Water Quality *(Construction and Operational)*

- Stormwater run-off impacts.

Stormwater management is addressed via a Stormwater Concept Plan and Sediment and Erosion Control Plan (see **Appendix K**). Existing drainage arrangements (including impervious areas) will not be affected by the works / project and the current engineered level of stormwater run-off / quantity will be unaffected. Similarly, the water quality of the run-off will be managed in the same accepted manner as present.

Stormwater controls on site will be detailed in an erosion and sediment control plan, generally in accordance with the "Blue Book" - Managing Urban Stormwater: Soils and Construction (Landcom NSW). The plan will vary based on construction staging and methodology, but will typically include: upstream clean water diversion; silt fences; sedimentation basin; dust control; and vehicle wash down.

Risk Management Rating = Possible likelihood + Minor Consequence = **5 (Medium)**

No additional Mitigation Measures are required.

Waste *(Construction and Operational)*

- Generation of construction and operational waste.

A Construction Waste Management Plan will need to be prepared in tandem with the final Construction Management Plan (see Appendix W). An Operational Waste Management Plan has been prepared and is included at **Appendix R**).

Risk Management Rating = Unlikely + Minor Consequence = **4 (Medium)**

No additional Mitigation Measures are required.

Crime *(Operational)*

- Potential areas of criminal or anti-social behaviour

The review of the design and operation of the building against the CPTED Principles (see Section 6.23) has revealed that the potential for any new safety or security concerns as well as criminal or anti-social behaviour is low.

Risk Assessment Rating = Unlikely likelihood + Insignificant Consequence = **2 (Low).**

No additional Mitigation Measures are required.

Greenhouse *(Construction and Operational)*

- Potential increase in emissions.

Based on the ESD credentials for the development being a substantive reuse of an existing site the development with concurrently reduce waste and seek to upgrade the environmental performance of the site with new and contemporary methods – as set out in Section 6.9. Appropriate ESD targets will be set for the building's operation. The development will provide fewer car parking spaces and will continue to foster public transport use, walking and cycling as means of getting to and from the school.

Risk Assessment Rating = Unlikely likelihood + Insignificant Consequence = **2 (Low).**

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No additional Mitigation Measures are required.

6.25 Cumulative Environmental Impacts

In light of the above and the assessment in Section 6.0 of this EIS, it is considered that the proposed development, whether on its own or in conjunction with other developments occurring concurrently nearby, does not give rise to any cumulative environmental impacts that cannot be appropriately managed through the mitigation measures identified in Section 8.0.

There are no concurrent significant projects or redevelopments in the vicinity of the site that will impact the construction program during 2018-2019. The Bays Precinct transformation projects will largely occur following the development of the new Ultimo Pyrmont Public School. Of the only major development nearby that is announced to proceed – the development of the new Sydney Fish Market / Bays Market District – this in unlikely to impact of the development, as the SEARs Request for that project is yet to lodged meaning the announced commencement of construction is unlikely to occur within 2018, and more likely during 2019, at which point the school project would be nearing completion. The likely overlap of construction related impacts of these developments will be minor and manageable. Any impacts or conflicts can be suitably addressed in the conditions of consent for this DA and the SEARs and reporting for the new Sydney Fish Market / Bays Market District application.

7.0 CONCLUSION

This EIS has been prepared to consider the environmental, social and economic impacts of the New Ultimo Pyrmont Public School project.

The EIS has addressed the issues outlined in the SEARs and satisfies the requirements of the EP&A Act and Schedule 2 of the EP&A Regulation with respect to consideration of relevant environmental planning instruments, built form, social and environmental impacts including heritage, traffic, noise, construction impacts and stormwater.

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The assessment concludes that a range of construction and operational impacts are able to be suitably addressed, managed and mitigated. On balance a limited number of impacts have been found to be acceptable in light of the prevailing context of the site, its current operation as a school, and the built form context and environs of the site.

The Project warrants approval for the following reasons:

- It provides for new state-of-the-art and purpose-built teaching and learning spaces;
- It provides for a new development that is able to provide for an effective and efficient use of a site that is currently under-utilised in the context of significant population growth and change in inner Sydney;
- It meets the expectations of the growing needs of inner Sydney's communities;
- It provides for new and expanded community facilities and multi-purpose spaces for wider community us, include space for a new 40-space child care centre; and
- It demonstrates School Infrastructure NSW's commitment to leadership in sustainability.

Given the planning merits described above, and significant public benefits proposed, it is requested that the Minister approve the SSD DA.

8.0 MITIGATION MEASURES

Mitigation measures required to address the potential impacts of the development (as derived from various specialist's studies and reports supporting this DA) are listed below:

8.1 Noise and Vibration impacts at the construction stage

To mitigate and management noise generated as a result of the construction works upon Acacia Gardens, JHA has recommended the following:

- Erection prior to demolition works and earthworks of a temporary sound barrier wall (2.4m high with steel posts and 19mm thick plywood) along the perimeter of the school facing the residential receivers – noting this barrier is already in place.
- When works are likely to exceed 60dB LAeq,15min at the nearest residences, the builder shall contact affected neighbours prior to the commencement of those works.
- Achievement of the following noise criteria (as set out in Table 7 of the JHA report (as derived from the EPA Interim Construction Noise Guideline 2009) for standard hours of construction from 7am to 6pm Monday to Friday and from 8am to 1pm Saturday only:
    - Noise Affected Rated Background Noise Level +10 dBA $_{LAeq,15min}$
    - Highly Noise affected at 75dBA $_{LA\ eq,15min}$
- Achievement of the following vibration criteria (from Tables 10 and 11 of the JHA Report)

Location	Assessment period[1]	Preferred values		Maximum values	
		z axis	x & y axis	z axis	x & y axis
Continuous vibration					
Residences	Daytime (7am-10pm)	0.010	0.0071	0.020	0.014
Impulsive vibration					
Residences	Daytime (7am-10pm)	0.30	0.21	0.60	0.42

Location	Daytime (7am-10pm) [1]		Night-time (10pm-7am) [1]	
	Preferred values	Maximum values	Preferred values	Maximum values
Residences	0.20	0.40	0.13	0.26

8.2 European or Aboriginal Heritage

- Archaeological monitoring or a watching brief should be undertaken during demolition and excavation works that occur within the area of identified historical archaeological potential, as shown in Figure 41 of the Urbis Heritage Impact Statement and Archaeological Assessment.

  Monitoring should be undertaken by a suitably qualitied historical archaeologist with experience working at similar sites, and should be informed by a Research Design and Methodology. This document, which sets out how the archaeological resource is to be investigated and managed, must also be prepared by a suitably qualified archaeologist, and should be submitted to the NSW Heritage Division for comment and review prior to demolition and excavation works commencing on site.

  As the project is a declared SSD, the relevant archaeological permits under S140 or s139 of the Heritage Act 1977 are not required to facilitate archaeological monitoring in this instance. Permit requirements should, however, be clarified with the engaged archaeologist prior to works commencing to confirm that no changes to the relevant approval pathway has occurred.

- In the event that historical archaeological material is uncovered on site, provision should be made for the incorporation of this material into interpretative displays or media within the new school. This should be undertaken in consultation with the school, NSW Heritage Division, and the engaged architects/design team and consultant archaeologist.

- The Aboriginal archaeological potential of the site should be investigated through test excavation within the identified area of potential shown in Figure 40 of the Urbis Heritage Impact Statement and Archaeological Assessment.

  Test excavation should be undertaken in accordance with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW 2010 and Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW 2010.

- Prior to the commencement of test excavation, consultation with the Aboriginal community should be undertaken in accordance with the guidelines set out in the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.

- Management of any archaeological objects uncovered on site should be determined in consultation with the relevant Aboriginal stakeholders, as well as OEH.

8.3 Tree protection measures

- Trees not approved for removal are to be protected in accordance with Australian Standard AS4970-2009.
- No building materials, builder sheds and the like are permitted to be stored under the canopy of existing trees.
- All trees identified for retention/protection within the subject site are to be clearly identified by signage as protected trees.
- The primary root zone areas of trees identified for protection are to be protected by fencing during the entire construction period except for specific areas directly required to achieve construction works.
- The tree protection fence shall be constructed of galvanised pipe at 2.4 metre spacing and connected by securely attached chain mesh fencing to a minimum height of 1.8 metres prior to work commencing.
- To prevent soil compaction or contamination no storage or mixing of construction materials shall be allowed within the primary root zone area of trees identified for protection.
- Canopy pruning of trees identified for protection which is necessary to accommodate approved building works shall be undertaken by an experienced Horticulturist/ Arborist, with a minimum qualification of the Horticulture Certificate or Tree Surgery Certificate and in accordance with Australian Standard 4373-2007 'Pruning of Amenity Trees'.

8.4 Contamination and remediation reporting and actions

- In its current configuration with pavement across much of the site, the risk posed by the contamination to site receptors is very low. However, in order to make the site suitable for the proposed new development, the recommendations listed below should be implemented to address the data gaps and to better characterise the risks:
  - Undertake a Stage 2 ESA to address the data gaps identified in Section 10.3 of the EIS Report (**Appendix E**);
  - Prepare a Remediation Action Plan (RAP) to outline remedial measures for the site;
  - In the event active remediation is preferred at the site, prepare a Validation Assessment (VA) report on completion of remediation;
  - In the event management is preferred over active remediation, prepare an Environmental Management Plan (EMP) for the ongoing management of

contamination remaining on site. The EMP will require establishment of appropriate public notification under Section 149(2) of the E&PA Act or a covenant registered on the title to land under Section 88B of the *Conveyancing Act, 1919*; and

- In the event unexpected conditions are encountered during development work or between sampling locations that may pose a contamination risk, all works should stop and an environmental consultant should be engaged to inspect the site and address the issue.

8.5 Flood Risk

- The Flood Planning Levels as set out in Table 15 of the TTW Flood, Stormwater Concept Plan, and Sediment and Erosion Control Plan Report shall be adopted;
- signage within the car park, an alarm warning system, flood warning and evacuation route signage be incorporated into the redevelopment of the school; and
- the building be constructed from flood compatible materials and be designed to withstand flood pressure and impacts from debris carried in flood waters. The design shall also be certified by the project's structural engineer.