ENVIRONMENTAL IMPACT STATEMENT

CONCEPT PROPOSAL AND STAGE 1 DEVELOPMENT APPLICATION

SCECGS Redlands, Cremorne

June 2015

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URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Tim Blythe
Senior Consultant	Alaine Roff
Job Code	SA5667
Report Number	SA5667_EIS

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Signed Declaration

SUBMISSION OF ENVIRONMENTAL IMPACT STATEMENT

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

Environmental Assessment prepared by:

Name	Alaine Roff (Senior Consultant) Bachelor of Arts, University of Newcastle, NSW Master of Town Planning, University of New South Wales Tim Blythe (Regional Director) Bachelor Applied Science - Planning, RMIT
Address	Urbis Pty Ltd Level 23, Darling Park Tower 2, 201 Sussex Street Sydney NSW 2000
In respect of	Staged development of SCECGS Redlands, Cremorne

Applicant and Land Details:

APPLICANT	SCECGS REDLANDS LTD C/- URBIS
Applicant Address	SCECGS Redlands, 272 Military Road, Cremorne
Land to be developed	Lot 11 DP877844, Lot 1 DP80618, Lot11 DP877879, Lot 1 DP343811, Lot 2 DP783664, Lot 3-4 DP783993, Lot 1 DP783663, SP13814, Lot 6 DP19382, SP15886, SP10384, Lot 1 DP90591, Lot 21 DP88932, Lot 1 DP783664, Lot 1 DP222013, Lot A DP107138, Lot 2 DP222013, Lot 1 DP713405, Lot 21A DP83152, Lot 22A DP152693, Lot 21 DP783663, Lot 1 DP81061 and Lot 1 DP83047
Project	Concept proposal for the school over six stages and a detailed proposal for the first stage development referred to as “Stage 1 - Learning Hub”

Declaration:

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

- In accordance with the requirements of Schedule 2 of the Environmental Planning and Assessment Regulations 2000; and State Environmental Planning Policy (State and Regional Development) 2011.
- The information contained in this report is true in all material particulars and is not misleading.

NAME	TIM BLYTHE, REGIONAL DIRECTOR	ALAINE ROFF, SENIOR CONSULTANT
Signature		
Date	12/6/15	12/6/15

Director General's Environmental Assessment Requirements (DGRs)

This EIS has been prepared to address the issues outlined in Schedule 2, Part 3, Clause 6 and 7 of the EP&A Regulations 2000 and the DGRs for the project issued on 23 April 2014. The DGRs address the concept proposal and Stage 1 of the project.

Table 1 summarises the DGRs and makes reference to where the key issues identified by DP&E are addressed in this report. A full copy of the DGRs is attached at Appendix A.

TABLE 1 – DIRECTOR GENERAL'S REQUIREMENTS

KEY ISSUES	DIRECTOR GENERAL'S REQUIREMENTS	EIS REF.	TECHNICAL REPORT
1. Statutory and Strategic Context	Address all relevant environmental planning instruments.	Chapter 6	N/A
i. Permissibility	Prohibitions that apply to the development and a comprehensive justification.	Section 6.5	N/A
ii. Development Standards	Compliance with the development standards applying to the site.	Section 6.5	N/A
iii. Strategic Policy Context	Relevant planning provisions, goals and strategic planning objectives.	Chapter 7	N/A
2. Built Form and Urban Design	<u>Concept Proposal</u>: ▪ Site analysis ▪ Building envelop study ▪ Plans and building envelopes detailing height, density, bulk and scale, setbacks in relation to the surrounding development and streetscape. ▪ Establish appropriate design guidelines and development parameters including: - Site layout - Gross floor area - Building footprints - Height and massing of the building envelopes - Open spaces and tree plants master plan.	Section 3.2.1	Appendix F

KEY ISSUES	DIRECTOR GENERAL'S REQUIREMENTS	EIS REF.	TECHNICAL REPORT
	First Stage: ▪ Height, bulk, scale and setbacks of the proposed development within the context of the locality, surrounding development, topography and streetscape. ▪ Demonstrate design quality with specific consideration of site layout, connectivity, open spaces and edges, interface with the public domain, gateways, facades, rooftop, massing, setbacks, building articulation, materials, choice of colours, signage or signage envelopes and an assessment against the Crime Prevention through Environmental Design principles. ▪ Services details including waste management, loading zones, mechanical plant.	Chapter 5	Appendix F
3. Environmental and Residential Amenity	▪ Assess solar access, overshadowing, visual privacy, servicing requirements (including waste management, loading zones and mechanical plant), acoustic impacts and wind impacts.	Chapter 8	Appendices F, J, L, M, P and T
4. Staging	▪ Staging details including proposed student and staffing numbers at each development stage.	Section 4.32 and 8.4	Appendix F
5. Transport and Accessibility	Traffic and Transport Impact Assessment addressing the following: Concept Proposal: ▪ Estimate of total daily and peak hour trips at each stage including vehicle, public transport, pedestrian and cycle trips. ▪ Identify current and future daily vehicle movements. ▪ Assess the impact of traffic on the local road network including intersection capacity, potential need for upgrading or road works.	Section 8.5	Appendix D

KEY ISSUES	DIRECTOR GENERAL'S REQUIREMENTS	EIS REF.	TECHNICAL REPORT
	▪ Existing pedestrian and cycle movements within the vicinity of the site. ▪ Likely future demand for increased public transport and pedestrian and cycle access. ▪ Proposed access arrangements at all stages. ▪ Mitigation measures to address traffic impacts, impacts on public transport, pedestrian and cycle networks. ▪ Measures to promote sustainable means of transport including public transport usage and pedestrian and bicycle linkages and potential for a sustainable travel plan. ▪ Travel choices that support State Plan targets. ▪ On-site car parking and pick up and drop off facilities. First Stage (construction): ▪ Construction access arrangements and mitigation measures associated with pedestrian, cycle, public transport or traffic impacts. ▪ Car parking arrangements during construction, including displacement of visitor and staff car parking. First Stage (operation): ▪ Access arrangements and mitigation of traffic impacts and impacts on public transport, pedestrian and cycle networks. ▪ On-site car parking and pick-up and drop-off facilities. ▪ Delivery, servicing and loading arrangements.		

KEY ISSUES	DIRECTOR GENERAL'S REQUIREMENTS	EIS REF.	TECHNICAL REPORT
6. ESD	▪ ESD Principles in design, construction and operation. ▪ Measures to minimise consumption of resources, water (including water sensitive urban design) and energy.	Section 8.6	Appendix K
7. Noise and vibration	▪ Identify main noise and vibration generating sources and activities at all stages and measures to mitigate noise and vibration impacts.	Section 8.7	Appendix P
8. Heritage	▪ Statement of significance and assessment of heritage impact on any heritage items (including 7 Cranbrook Avenue and 11 Cranbrook Avenue) and conservation areas. ▪ Archaeological potential	Sections 6.5.6 and 8.8	Appendices R and S
9. Aboriginal heritage	Aboriginal Cultural Heritage Impact Assessment	Section 8.9	Appendix R
10. Sediment, erosion and dust controls	▪ Measures and procedures to minimise and manage generation and off-site transmission of sediment, dust and fine particles.	Section 8.10	Appendix J
11. Flora and fauna	▪ Impacts on flora and fauna including known and potentially occurring threatened species, populations and endangered ecological communities and their habitats.	Section 8.11	Appendix E
12. Utilities	▪ Infrastructure Management Plan ▪ Integrated Water Management Plan	Section 8.12	Appendix L
13. Contributions	Section 94 Contribution Plan and / or any Voluntary Planning Agreement	Section 8.13	N/A
14. Flooding	▪ Flood risk including potential effects of climate change, sea level rise and an increase in rainfall intensity.	Section 8.14	Appendix J
15. Drainage	Concept Proposal: ▪ Stormwater concept plan	Section 8.15	Appendix J

KEY ISSUES	DIRECTOR GENERAL'S REQUIREMENTS	EIS REF.	TECHNICAL REPORT
	First Stage: ▪ Drainage details including stormwater and drainage infrastructure.		
16. Servicing and Waste	▪ Identify, quantity and classify waste streams during construction and operation. ▪ Measures to manage, reuse, recycle and safely dispose of waste. ▪ Servicing arrangements.	Section 8.16	Appendix M and N
Plans and Documents	▪ Architectural drawings ▪ Site survey plan ▪ Site analysis plan ▪ Shadow diagrams ▪ View analysis / photomontage ▪ Landscape plan ▪ Schedule of materials and finishes.		Appendix F
	▪ Stormwater concept plan		Appendix J
	▪ Preliminary construction management plan including construction traffic management plan		Appendix N
	▪ Geotechnical and structural report		Appendices O and W
Consultation	▪ North Sydney Council, State or Commonwealth Government authorities, service providers, community groups and affected landowners. ▪ Describe the consultation process and issues raised and identify design amendments in response to issues raised.	Chapter 9	Appendix X

Executive Summary

This Environmental Impact Statement (EIS) accompanies State Significant Development Application SSDA 6454 for the staged development of the SCECGS Redlands senior school campus at 272 Military Road, Cremorne. The EIS has been prepared on behalf of SCECGS Redlands School (the applicant) and is in accordance with the Director General's Requirements (DGRS) for the project, which were issued on 23 April 2014.

The SCECGS Redlands Staged Development Project sets out a 20 year programme for the delivery of new development, access, public domain and infrastructure works to support the strategic direction of the Redlands Senior School campus and the delivery of its teaching, education, performing arts and sporting programmes. It will facilitate the development of state-of-the-art teaching and sporting facilities, enhanced amenity for staff and students and importantly, improved traffic and parking arrangements.

The proposal applies to the Senior School campus as illustrated in Figure 1 below and is referred to as the "Staged Development Project" throughout this EIS.

FIGURE 1 – SITE PLAN

This application seeks a staged development approval comprising a concept proposal for the school over five stages and consent for a detailed proposal for the first stage development referred to as "Stage 1". Details of the project are described below:

Concept Proposal

A Concept Proposal has been prepared for the site to guide its future redevelopment and is intended to provide a statutory framework for the long term planning of the site. The proposal seeks consent for building envelopes and built form design controls, open space and transport infrastructure. Future specific and detailed buildings will be subject to subsequent detailed Development Applications or other approval pathways and will be generally consistent with the Concept Proposal SSD consent.

The Concept Proposal will be delivered in five stages and will generally involve the following buildings and works:

Stage 1 – New Learning Hub:

- Demolition of existing buildings and structures;
- Construction of a new multi-purpose education building with basement car park and associated vehicular entry off Gerard Street;
- Temporary fit-out of a portion of the basement car park shell for music and general education uses;
- Construction of landscaped podium over new basement car park and music facilities;
- Creation of a new internal vehicular link between Waters Rd and Military Road.

Stage 2 - Sports and Performing Arts Centre:

- Demolition of existing buildings and structures;
- Construction of a new sports and performing arts centre.

Stage 3 - Redlands Hall, Roseby Building and Liggins Building Refurbishment:

- Internal alterations and additions to the existing buildings.

Stage 4 - Humphery Learning Hub and Resource Centre:

- Construction of a new multi-purpose education building with swimming pool and associated facilities at roof top level.

Stage 5 - Adams Centre Extension:

- Alterations and additions to the Adams Centre at 219 Military Road.

Detailed Proposal for "Stage 1" development – New Learning Hub

- Demolition of existing buildings and structures (Mowll Building, Nos. 1, 3, 7, 9 and 11 Gerard Street, Nos. 7 and 8 Monford Place, staff offices, multi-purpose building and Design and Technology buildings on the western boundary);
- Refurbishment of Nos. 7 and 8 Monford Place for temporary use as an educational facility;
- Construction of a new purpose built education building generally comprising a four storey building with basement car park and outdoor learning area at roof level;
- Temporary fit out of a portion of the basement car park shell for music and general education uses;
- Construction of a landscaped podium over new basement car park and music facilities;
- Creation of new vehicular access road off Gerard Street for the new basement car park;
- Creation of new internal vehicular access link facilitating ingress from Waters Road and egress onto Military Road;
- Associated landscaping improvements;
- New services infrastructure;
- New servicing area including loading dock and waste enclosure; and,

- Erection of temporary demountable classrooms.

The objectives of the master plan redevelopment of the school are to:

- Enable an excellent academic programme;
- Support a fulfilling and diverse extra-curricular experience;
- Create an inclusive, supportive and secure pastoral environment;
- Attract and retain exceptional staff;
- Achieve productive industry, community and parental partnerships;
- Maintain a robust and flexible operational infrastructure;
- Develop efficient, effective, expressive and environmentally sustainable facilities; and
- Develop an inclusive, transparent and strong governance model.

A comprehensive suite of urban design/architectural plans are submitted in support of this SSDA. The plans provide site analysis investigations and proposed building envelopes which include 3D images illustrating potential built forms.

Consent is also sought as part of this application for the construction of Stage 1 of the Staged Development Project.

Redlands is recognised as one of Sydney's leading independent schools. The implementation of the concept proposal is instrumental in ensuring Redlands can continue to deliver its world-class teaching programmes and to continue to attract exceptional teaching staff.

The likely impacts of the proposal have been examined in depth and demonstrate that the potential environmental impacts of the Staged Development Project can be sustainably managed. The proposed building envelopes have been holistically planned to achieve compatibility between new and existing buildings, including heritage items. This analysis has also enabled detailed consideration of the surrounding context, particularly neighbouring residential areas.

The Concept Proposal Travel Plan is a key driver for achieving sustainable outcomes for transport and movement to the site. On-site car parking will be increased to respond to opportunities for multi-use facilities promoted by the Staged Development Project and to address the existing deficit of on-site parking.

New essential and support services and infrastructure will bring a range of social and public benefits to the local community and broader region. The Staged Development Project will provide enhanced sport and recreational facilities. At present, Redlands relies on off-site facilities for its sporting programmes. The introduction of purpose built facilities will help to relieve demand on these facilities generated by the school.

The Staged Development Project will entail an estimated capital investment of $114,411,000 (excluding GST) and will provide significant economic benefits such as sustaining 80 direct and indirect jobs during the construction period and up to 10 additional permanent jobs at the senior school campus. Other economic benefits include flow-on economic generation linked to construction and additional staff on campus. Refer to Appendix B for the Quantity Surveyor's Report.

The Staged Development Project will allow Redlands to properly plan and budget for future growth. It will also provide the appropriate mechanism for communicating this strategic growth with relevant Government and community stakeholders. Approval of the SCECGS Redlands Staged Development Project SSDA provides Government endorsement of the Concept Proposal which in turn will provide Redlands with a significant level of certainty in the implementation of detailed development throughout the lifetime of the project.

The Staged Development Project SSDA is supportable from a technical viewpoint and satisfies relevant Government policies. It provides significant benefits for a wide range of stakeholders and is in the general public interest. Development consent will allow the implementation of the project to commence, and enable these public benefits to be realised.

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1 Introduction

1.1 OVERVIEW

This Environmental Impact Statement (EIS) accompanies the SCECGS Redlands Staged Development Project (application number SSDA 6454).The project sets out a 20 year programme for the delivery of new development, access and infrastructure works to support the strategic direction of the School and delivery of its teaching, education, performing arts and sporting programmes. The proposal applies to the senior school campus, situated at 272 Military Road, Cremorne, and is referred to as the Staged Development Project throughout this EIS. No works are proposed to the primary school campus (Murdoch Street) as part of this application.

The Staged Development Project seeks consent for building envelopes and built form design controls, open space and transport infrastructure. Built form and development yields will be confirmed at detailed development application stage. Further specific and detailed buildings will be subject to subsequent detailed Development Applications or other approval pathways and will be generally consistent with the Staged Development Project SSD consent. Consent is also sought for the construction of Stage 1 as part of this application.

The EIS has been prepared in accordance with the Director General's Requirements (DGRs) for the project which were issued on 23 April 2014. A copy of the DGRs for the project is attached at Appendix A.

1.2 PROPONENT AND PROJECT CONTEXT

The applicant for the SSDA is SCECGS Redlands Pty Ltd (Redlands). Redlands was established in 1884 and was among the first independent schools in Sydney's Lower North Shore. It has earned a reputation as one of Sydney's leading independent schools providing co-educational teaching programmes for pre-school, primary and secondary students.

To continue to provide quality education services, the School must respond to the key market drivers changing the face of education. Key factors influencing change include the creation of new knowledge, developing concepts in pedagogy, the design of new generation learning environments, the role of information technology infrastructure, competition, Government regulations and policy and value for money.

The Staged Development Project is a key component of Redland's long term strategic aspirations for the senior school campus. The primary objective of the project is to improve the quality of the facilities currently provided across the campus. The project will play an important part in ensuring that Redlands continues to be a leading education institution. The project is a direct response to a recognised need for Redlands to upgrade its facilities to respond to increased competition, the emergence of new technology and to ultimately provide quality facilities for its students.

The Staged Development Project is about significantly boosting resources available within the senior school campus. It involves the construction of new infrastructure to meet the demand for new facilities within the senior school campus. New buildings will contribute to a high quality on-campus experience, making a positive impact on teaching and learning outcomes and will directly help Redlands to attract new students and quality teaching staff.

1.3 APPROVALS PATHWAY

Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (SEPP State and Regional Development) identifies development which is deemed to be State Significant Development. Clause 15 identifies that development for the purpose of educational establishments (including associated research facilities) that have a capital investment value (CIV) of more than $30 million is deemed to be State Significant Development.

As certified in the Quantity Surveyors Certificate of Cost which accompanies the application, the CIV for the project is $114,411,000. As the project has a CIV greater than $30 million it is categorised as State Significant Development in accordance with SEPP State and Regional Development.

Accordingly, this SSDA is lodged with the NSW Department of Planning and Environment (DP&E) pursuant to Part 4 of the EP&A Act. The Minister for Planning will be the determining authority for the project.

1.4 PROJECT TEAM

The preparation of the EIS has entailed a comprehensive project team as detailed below. The EIS includes a comprehensive suite of documents in support of the application attached at Appendices B-X.

DISCIPLINE	TECHNICAL CONSULTANT	TECHNICAL INPUT	APPENDIX
Project managers	Bloompark Consulting Pty Ltd		
Development managers	Sandrick Project Directions		
Urban planning	Urbis	EIS	
Quantity Surveyor	Ryder Levitt Bucknall	QS Report	B
Surveyor	Geometra Consulting	Land Survey	C
Traffic and parking consultant	Traffix	Traffic Impact Assessment	D
Flora and fauna consultant	Total Earth Care	Flora and Fauna Assessment	E
Architect	Tanner Kibble Denton Architects (TKD)	Architectural Package	F
Operations Management	Scecgs Redlands	Management Plan	G
Aborist	Bluegum Tree Care and Consultancy	Aboricutlural Impact Assessment	H
Landscape Architect	Silk Consulting Landscape Architects	Landscape Plan	I
Structural and civil engineer	TTW	Integrated Water Management Plan and civil package	J
ESD	Steensen Varming	ESD Report	K
Services and Utilities	Steensen Varming	Infrastructure Management Plan	L
Waste management consultant	Foresight Environmental	Operational Waste Management Plan	M
Construction Managers	TBH	Construction Management Plan	N

Structural Engineers	TTW	Structural Adequacy Letter	O
Acoustic consultant	Wilkinson Murray	Construction and Operation Noise Report	P
Structural Engineers	TTW	Structural Adequacy Letter	O
Contamination consultant	Environmental Investigation Services	Stage 1Environmental Site Assessment	Q
Archaeologist	Austral Archaeology	Aboriginal and Historical Archaeological Assessment, Statement of Heritage Impact	R
Heritage consultant	NBRS+Partners	Heritage Impact Statement	S
Wind consultant	ViPAC	Wind Effects Report	T
Hydraulic and Fire Services engineer	Insync Services	Hydraulic and Fire Services Report	U
BCA and Access	AED Consulting	BCA and Access	V
Geotechnical Investigators	JK Geotechnics	Geotechnical Investigations	W
Community Consultation Facilitator	Elton Consulting	Consultation Outcomes Report	X
Risk Management Assessor	Sandrick Project Directions	Environmental Risk Assessment	Y

1.5 STRUCTURE OF THE REPORT

The report is structured as follows:

- Section 2 provides a description of the site and surroundings.
- Section 3 provides a description of the proposed development.
- Section 4 provides an assessment of the proposal against the relevant planning controls, policies and guidelines.
- Section 5 provides an assessment of the key issues and impacts of the proposal.
- Section 6 provides details of the consultation undertaken with respect to the proposal.
- Our conclusions are set out in Section 7.

2 The Redlands Senior School Campus Site and Surrounds

2.1 LOCATION

The site comprises the existing Redlands senior school campus at 272 Military Road, Cremorne which is located in Sydney's lower north shore region approximately 6km to the north of the Sydney CBD and 2.5km to the north east of North Sydney CBD.

The site is surrounded by arterial roads and an established community. Existing land uses in the vicinity of the site generally include the following:

- A range of residential and commercial / retail premises fronting Military Road.
- Residential properties primarily consisting of walk up apartment style housing to the east on Monford Place, Waters Road and Winnie Street and single storey dwellings with frontage to Gerard Street, Military Road and Winnie Street.
- Seniors housing (independent living units) with frontage to Military Road and Waters Road to the west (Bougainvillea Resort).

FIGURE 2 – SITE LOCATION PLAN

2.2 CONTEXT

Redlands is an independent, co-educational day school that caters for pre-school to Year 12 students across two campuses within Cremorne (1) the senior school campus on Military Road; and (2) the pre-school, preparatory school and primary school campus on Murdoch Street. The Staged Development Project, the subject of this application, relates to the senior school campus only. No works are proposed to the Murdoch Street campus (SCECGS Redlands Primary School).

The senior school campus currently accommodates 920 students and a total of 150 staff. Student numbers have remained fairly constant since the 1980s and Redlands does not envisage further growth of student numbers into the future. The campus has the capacity for up to 950 students. The proposal does not seek to increase the capacity of the school above 950 students.

The senior school campus primarily accommodates learning and teaching spaces as well as academic staff support and some recreational spaces. Due to the absence of sports fields and sporting facilities within the senior school campus, the School's sporting programmes are largely delivered off-site. Students are currently required to travel by shuttle bus to other venues for these programmes.

Buildings within the campus have been variously modified and extended over the years. The most recent developments to occur within the site include:

- The Liggins Atrium project involving the major renovation of the science block (Roseby Building) in 2007.
- Acquisition and conversion of the Adams Centre for use as a training and function centre in 2007.
- Construction of the Lang Gymnasium in 1992.
- The acquisition and conversion of the Gerard Street cottages, six single storey detached dwellings which define the site's northern boundary. These buildings have been internally modified for use as classrooms and studios but retain the appearance of single storey dwelling houses when viewed from Gerard Street. The garden spaces of the cottages have been consolidated to form the school's principal recreation space.

2.3 SITE DETAILS

The site comprises two parts:

- The main school on the northern side of Military Road; and
- The Adams Centre directly opposite the main school on the southern side of Military Road.

The two sites are connected by a pedestrian foot bridge which projects over Military Road. Lift access is available. No changes are proposed to the pedestrian foot bridge by this application.

For the purposes of this application the main school and the Adams Centre are collectively referred to as "the site."

The site comprises an area of approximately 15,500m^2. It is entirely within the ownership of SCECGS Redlands and is legally described as follows:

TABLE 2 – PROPERTY DESCRIPTION

ADDRESS	LOT & DP	BUILDING DETAILS
Adams Centre, 219 Military Road	Lot 11 DP877844	Former post office building converted for use as a training and function centre by Redlands in 2007.
272 Military Road	Lot 1 DP80618 Lot11 DP877879 Lot 1 DP343811 Lot 2 DP783664 Lot 3-4 DP783993 Lot 1 DP783663	Collection of purpose built institutional buildings ranging in height from one to four storeys.
2 Monford Place	SP13814	Three storey walk up apartment building converted for use as the School's main reception and administration building.
5 Monford Place	Lot 6 DP19382	Three storey walk up residential flat building
7 Monford Place	SP15886	Three storey walk up residential flat building
8 Monford Place	SP10384	Three storey walk up residential flat building
6 Winnie Street	Lot 1 DP90591	Single storey dwelling house
21 Waters Road	Lot 21 DP88932	Single storey dwelling house converted for use by Design and Technology programmes
23 Waters Road	Lot 1 DP783664 Lot 1 DP222013	Humphery building occupied by humanities / library
25-27 Waters Road	Lot A DP107138 Lot 2 DP222013 Lot 1 DP713405	Lang gymnasium
1 – 11 Gerard Street	Lot 21A DP83152 Lot 22A DP152693 Lot 21 DP783663 Lot 1 DP81061 Lot 1 DP83047	Group of five single storey detached dwellings converted for classroom and studio use accommodating facilities / ICT, music, performing arts and visual arts.

FIGURE 3 – PROPERTY DETAILS

2.4 TOPOGRAPHY

The site is located close to the crest of a ridgeline orientated approximately east-west and gently sloping down to the north-west. Site levels across the site vary from a high point at Military Road of 83m AHD to a low point of 76m AHD at the Gerard Street frontage. A site survey is included at Appendix C.

2.5 SERVICES

All services are available to the site. The relevant utility service providers have been consulted; this has included consultation with Ausgrid regarding their requirements for a new substation to service the Staged Development Project.

2.6 EXISTING BUILDINGS

The site comprises an existing school and has been developed specifically for this purpose. The site is occupied by an ad hoc collection of buildings and structures which have been variously constructed and / or modified for teaching and administration purposes. The majority of these existing buildings will be incrementally demolished over the lifetime of the project. Building heights range from one to four storeys.

No. 272 Military Road and 219 Military Road (the Adams Centre) are listed as heritage items by the North Sydney LEP 2014 and include some buildings identified as being of local heritage significance.

A schedule of buildings on the site is provided in Figure 4 and Table 3.

FIGURE 4 – BUILDING IDENTIFICATION

TABLE 3 – BUILDING IDENTIFICATION

REF NUMBER	BUILDING DETAILS
1	Adams Centre
2	Staff offices
3	Main reception and administration (2 Monford Place)
4	Hattersley Sports Courts
5	Multi-purpose building accommodating medical room, meeting rooms, staff rooms and classroom
6	Liggins Building
7	Roseby Building (drama studio and science)
8	Residential flat building (8 Monford Place)
9	Residential flat building (7 Monford Place)
10	Residential flat building (5 Monford Place)
11	Dwelling house (6 Winnie Street)
12	Design and technology
13	Canteen & assembly hall
14	Mowll Building
15	Design and technology (21 Waters Road)
16	Humphery Building (Humanities / library)(23 Waters Road)
17	Lang Gymnasium (25-27 Waters Road)
18	Facilities / ICT (1 Gerard Street)

2.7 ACCESS AND PARKING

There are currently multiple access points into the main school site including:

- Vehicle access
  - Gerard Street: Access for service vehicles (waste collection and deliveries).
  - Military Road: Access for car park and mini bus zone.
  - Winnie Street: Emergency egress.
- Pedestrian access
  - Military Road: Providing access to the main reception building and direct pathways to the heart of the campus.
  - Waters Road and Gerard Street junction.

Vehicular access to the Adams Centre site is from Hampden Avenue (mini bus parking only). Car parking is not currently available within the Adams Centre site nor is it proposed as part of this application.

Parking within the site is extremely limited. A total of eight parking spaces are currently available; six spaces are allocated for visitor use with the remaining two spaces for use by the School Principal and Deputy Principal. All other staff members who choose to drive are required to park off-site. Parking is also available for the School's mini buses. Six mini bus spaces and associated bus turning area are provided adjacent to the Military Road frontage. An additional two spaces are available within the Adams Centre site.

Staff and visitors generally park on the surrounding streets which provide opportunities for paid / time restricted parking and some unrestricted parking (543 spaces in the vicinity of the site). An analysis of existing travel behaviour of staff indicates a strong reliance on private cars with staff being heavy users of the available on-street parking in the vicinity of the school.

The proposed development involves an increase in on-site parking through the introduction of a basement car park. This has the potential to help alleviate existing demand for on-street parking generated by school users. Alongside this, measures to help lower reliance on private cars are to be explored through the implementation of a green travel plan. This is discussed in further detail in Appendix D.

Pick up / drop off zones are available in proximity to the school and are heavily utilised by parents. These zones are located at:

- Winnie Street west of Gerard Street: 5 minute parking. Also utilised by Neutral Bay Kindergarten.
- Winnie Street east of Gerard Street: 2 minute parking.
- Waters Road east of Belgrave Street: 2 minute parking.

Further discussion regarding existing parking and access arrangements is provided within the Traffic Report at Appendix D.

2.8 VEGETATION

The site is located within an urban environment. It has been largely cleared of vegetation to accommodate built development. Within the main school site, vegetation comprises a combination of native and exotic tree species interspersed between buildings and along the site's street frontages. The majority of existing trees within the site will be removed. Compensatory measures to address the loss of trees, specifically the introduction of a comprehensive landscape strategy for the site, will be

implemented. The landscape qualities of the site will be greatly enhanced through the progressive implementation of this strategy over the lifetime of the project.

Further discussion regarding the impact of the proposal on flora and fauna is discussed in Section 8.11. The SSDA is accompanied by an assessment of impact on the site's flora and fauna, attached at Appendix E.

3 Proposal Overview – SCECGS Redlands Staged Development Project

The SSDA seeks consent for the staged development of the Redlands senior school campus to facilitate the development of state-of-the-art teaching and learning spaces and increased capacity for the school to deliver its sporting programmes on-site.

Ancillary works including the construction of car parking, alterations to access arrangements, landscaping and service infrastructure are also proposed.

This section details how the School's strategic drivers will be achieved through detailed project deliverables across the campus. It provides a detailed description of the way in which the school campus will be used, in particular:

- Outlining school land use activities.
- The desired use of open space.
- How traffic and transport is to be managed.
- How heritage will be integrated and protected.
- How infrastructure will be provided on campus.

The proposed building envelopes and floor space for each stage are also described.

3.1 PURPOSE AND OBJECTIVES OF THE STAGED DEVELOPMENT

The Staged Development Project seeks to achieve the following objectives:

- Build the capacity of the School to deliver its teaching, education and sporting programmes.
- Provide a safe and attractive school environment reflective of the School's reputation as a leading education facility.
- Create an environment that will help to attract and retain quality teaching staff.

A key purpose of the project is to establish an infrastructure and development programme for the senior school campus, outlining the indicative built form, uses and activities for the site. This timeframe has been notionally set at 20 years and is dependent on the School's requirements, future market conditions and attaining relevant approvals.

The staged development project seeks to pursue the necessary and sustainable growth of the campus through:

- Development of multi-purpose and adaptively flexible buildings.
- Rationalising access arrangements through the campus.
- The provision of high quality recreational and sporting facilities on-site.
- The provision of on-site car parking.

3.2 CAMPUS OPPORTUNITIES AND CONSTRAINTS

In identifying and developing future growth and infrastructure, the concept proposal identifies a number of key campus constraints and opportunities. These are significant in shaping and influencing the manner in which Redlands will manage the way in which the senior school campus will evolve over the next 20 years.

The Redlands senior school campus is subject to a number of constraints. In particular:

- The need to manage the staging and construction process while maintaining an operating school environment.
- It is land locked with limited opportunities for additional land acquisition and physical expansion beyond the existing site boundaries.
- Its heritage significance. The site is identified as a heritage item pursuant to the North Sydney LEP 2013. We note that the Adams Centre is the only building with heritage significance. Notwithstanding this, heritage has been a consideration for the manner in which built form modification or redevelopment opportunities are addressed.
- The School's relationship and interface with surrounding (non-school) land uses in terms of built form and environmental impact.
- A shortage of existing on-site parking.
- Lack of on-site sporting facilities requiring sporting programmes to be delivered off-site.
- Limited recreational / break out space.
- Evolving demands on the provision of teaching, learning, research and sporting facilities.

3.2.1 URBAN DESIGN, ARCHITECTURAL, LANDSCAPE AND HERITAGE PRINCIPLES

The proposed Redlands Senior Campus Master Plan provides a framework for the staged renewal of the school campus and is designed to support the school's excellent academic program and enable the ongoing development of the campus to provide the highest quality learning environment.

The existing campus is listed in the North Sydney Council Heritage Inventory. The Inventory mentions the Liggins Building which is one of the original school buildings on the school site and the Lang Gymnasium as an award winning architect designed contemporary building. The former Post Office, now known as the Adams Centre, is also a locally listed Heritage Item. The Master Plan retains the existing Liggins Building, the Lang Gymnasium and the Post Office. It also retains the recently refurbished Roseby Science Building and Liggins Courtyard which form a key hardstand space at the heart of the school. These structures are retained as important elements in the history of the development of the campus. They are integrated in the design as key components and new master plan buildings have been designed with consideration of the future context with these buildings including; views and important vistas, scale and building form relationships, and building alignment.

The completed Master Plan generally comprises of three main building wings radiating from a New Library Resource Building at the centre of the campus.

The main Learning Hubs, comprising the New Learning Hub constructed in Stage 1 and the Humphrey Learning Hub constructed in Stage 4 will include the core teaching facilities of the school. The New Learning Hub will replace the existing Mowll Building and will align in the east-west orientation extending from the eastern boundary to the new recourse centre. The Humphrey Learning Hub will extend from the Library Building in the north-west direction parallel with the Lang Gymnasium.

The Learning Hubs will connect with the Liggins Building and Roseby Building framed Liggins Courtyard at the centre. This spine will be extended south with a new sporting complex to be constructed under stage 2.

The proposed built form is to be 4 to 5 storey consistent with the scale the existing Roseby building. The buildings have been designed so that the buildings levels will align with existing floor levels allowing all buildings to connect with via external walkways for efficient circulation and providing compliant accessibility throughout the campus.

A key objective of the Master Plan is to relocate the main entry to the campus from Military Road at the south to Gerard Street at the northern end of the Campus under Stage 1. The arc of buildings formed by the new learning hubs and Library will frame a significant new green space with a new entry forecourt on the Gerard Street Frontage providing the school with a new presentation. The green space provides the school with an increased landscaped open space orientated to the north and providing a buffer to the street.

The following Urban Design, Architectural and Landscape Principles will inform the layout and design of the staging zones and future building design resolution. A summary of the main principles are addressed below. Further details are included within the Architectural Design Report and Landscape Report at Appendices F and G.

URBAN DESIGN PRINCIPLES

Tanner Kibble Denton Architects Pty Ltd (TKD Architects) have undertaken an envelope study and considered the parameters of the site and the development. The layout of the proposed buildings is such that it is almost a consolidated built form, which has enabled a larger consolidated area of open space to be achieved. The scale of buildings is consistent with the scale of existing buildings site and development along Military and Waters Roads. Setbacks are provided to adjoining residences to ensure an appropriate interface and ensure there are no significant adverse impacts on amenity. The Development Parameters of the proposal is included with the Architectural Drawings attached at Appendix F.

TKD have provided the urban design principles which have informed the proposed building envelopes, their inter-connections with surrounding streets and public domain, and the environmental impacts they generate on surrounding context:

> *"The form and scale of the master plan buildings have been designed with consideration of neighbouring developments and the general streetscape. At the southern end of the campus the building form is built-up at Military Road frontage, relating to the form and scale of adjacent commercial development. At the northern end of the campus the scale is more urban and in response the design for the development is setback from Gerard Street and Waters Road with the landscaped buffer to the street as described above.*
>
> *The buildings along the western boundary are also setback from the neighbouring properties by the access driveway which is limited to use by school and delivery vehicles only.*
>
> *The buildings along the eastern boundary will generally replace existing buildings although new buildings will coincide with the 4 storey height of the master plan buildings. Building facades have been designed with articulation, a variety of colour and quality materials to provide visual interest where adjacent to neighbouring properties.*
>
> *A façade concept has been developed for the Stage 1 NLH which will provide a basis for the architectural expression and design and detailing of the future stages. The façade concept utilizes a proprietary terracotta façade system which incorporates vertical blades and horizontal members, which work together, to screen the façade against direct solar gain under various sun angles, while allowing views and maximizing natural light. In locations adjacent to neighbouring properties deeper angled blades are used to ensure privacy. Alternatively solid components are used to respond to the requirements for fire protection and privacy in relation to adjacent properties. The varied distribution and shape of the terra-cotta blades which are offset from the glazing by the catwalk grilles provide the facade with a depth and texture and a high degree of visual interest. The orange terra-cotta facade material relates to the dominant use of terra-cotta roofing materials used in the area and its 'warm and earthy' qualities will provide the school with a building which is timeless, unique and recognizable and which reflects the schools high standing as an educational institution."*

ARCHITECTURAL PRINCIPLES

The following Design Statement, prepared by TKD, describes the design intent for the proposed works the Redlands Master plan and Stage 1 Buildings:

> *The Master plan provides the framework for the staged redevelopment of the school campus. It includes architectural principles to guide the design and detailing of future buildings which will allow for new developments in technology and accommodate flexibility for change while maintaining a consistency in architectural approach. Master plan buildings are to be designed;*
>
> - *Within building envelops ensuring a consistency of form scale and height, setbacks from neighbouring properties and relationship to outdoor space.*
> - *With aligning floor levels ensuring connectivity to existing buildings, ease of circulation, building alignment, height and scale*
> - *With a façade concept, as described above, which provide options for detailing in response to access to views and environmental constrains such as solar access. Façade concepts which provide detailing options in response to privacy and fire rating issues related to boundaries and façade concepts which allow for a high quality palette of materials to be used as a consistent pallet throughout the campus.*
> - *With a uniform structural grid which allows for a consistency of form, detailing and façade proportion as well as providing the school with large span flexible spaces*.

LANDSCAPE PRINCIPLES

Development proposals for each stage will provide specific landscape plans. TKD have described the overall design principles guiding the selection of Redlands' landscape elements:

> *"One of the key aims of the master plan is to provide the school with outdoor areas that will provide opportunities for outdoor learning and recreation and will improve the presentation and amenity of the campus. The master plan landscaping includes outdoor areas, courtyards between buildings and the use of rooftop spaces. The construction of these spaces is integrated with the Master plan stages and designed so that a significant area of open space is maintained through each stage including construction.*
>
> *Landscaped areas will provide:*
>
> - *Play space during school breaks*
> - *Space for physical education activities*
> - *Learning activities*
> - *Outdoor chess*
> - *Astronomy (Rooftop)*
> - *Science experiments*
> - *Teaching spaces (classes in outdoor areas)*
> - *hard surfaces and soft surfaces*
> - *School entry presentation*
> - *Shaded areas*
> - *Spaces for noisy/physical activities vs. spaces for quiet play/chat*
> - *Spaces to eat lunch*

- *Soft landscaping and landscape furniture*
- *Lighting*
- *Shelter from the weather*
- *Outdoor chess*
- *Working on artworks/TAS projects*
- *Northern green space above the Car park*

Key landscaped areas are:

Northern green space above the car park

- *The northern green space above the car park will is be the main open green space on the campus. This space will provide predominantly soft landscaped areas with some paved areas. The space is designed to allow for some active play although it will not be used for formal ball games.*
- *Planting will be a mixture of low shrubs and smaller trees. A deep soil plating zone to eastern boundary will provide a landscaped butter buffer to neighbouring properties.*
- *Low scale shade structures will be incorporated in the landscape.*

Landscaped Roof Terraces

- *Roof top space to a number of key master plan buildings have been designed as landscaped green spaces.*
- *The rooftop terraces are designed to include a mixture of green roof, hard paved surfaces. These spaces will be used predominantly as an outdoor learning area.*

The Entry Forecourt

- *The proposed Entry Forecourt has been designed as the new main pedestrian entry to the school. It will be completed in Stage 1.*

Liggins Courtyard

- *Existing hardstand courtyard to remain.*
- *Upgraded with landscape improvements."*

HERITAGE PRINCIPLES

The proposed building envelopes have been informed by a Heritage Impact Assessment (HIA) report. This report identifies heritage items within the site and has informed the appropriate siting and massing of building envelopes which will in turn guide the form and scale of future buildings.

The report identifies the heritage significance of buildings and landscape elements. This analysis ensures that heritage significance is appropriately managed as an integral part of any future development of the school campus.

4 Part 1 - Concept Proposal

The Staged Development Project seeks development consent for the following key elements:

- Building envelopes and design guidelines / parameters to guide future development and redevelopment of new and existing key teaching, learning and sporting facilities across the campus.
- Conceptual identification and location of:
  - Principal campus arrival points and access arrangements for pedestrians and vehicles.
  - Parking and servicing arrangements including the introduction of a new access driveway off Gerard Street and basement car park.
  - Bus pick up / drop zone.
- A total future campus parking provision of 115 spaces.

To assist in the assessment of the SSDA and to meet the requirements of the DGRs Redlands has prepared a comprehensive suite of site analysis and urban design / architectural plans (Appendix F). The plans provide site analysis investigations and proposed building envelopes. This documentation comprises the following:

- Existing Location and Site Plans;
- Envelope Diagrams, Elevations and Sections;
- Proposed Location and Site Plans;
- Existing and Proposed Master Plans drawings
- Elevations, including street elevations;
- Sections; and,
- Height Planes.

This package of plans identifies proposed building envelopes within which the indicative built forms will occur. These built forms, are indicative only at this stage and have been prepared to illustrate the sort of forms that may ultimately be proposed. Certainty is sought as part of this SSDA in relation to building envelopes. Separate and specific future development applications which will detail how future buildings will contextually fit within the approved building envelopes will be prepared (Stage 1 details are included as part of the current application).

4.1 LAND USE ACTIVITIES

The concept proposal accommodates a broad range of school related uses. These land uses are generic to schools across Australia. All uses are directly associated with the operation of the school.

The Staged Development Project seeks approval for the following future land use activities:

- Teaching and learning spaces including classrooms, studios, laboratories, libraries, outdoor learning areas.
- Performing and creative arts spaces.
- Sporting facilities including sports courts and swimming pool.
- Recreational spaces including canteen, playing field and toilet facilities.

- Administration spaces including staff offices, storage rooms.

The permissibility of the proposed land uses is addressed in Section 6.5. In summary, all land uses proposed are characterised as “educational establishment” being used for, or incidental to the use of the site for, teaching and education purposes.

4.2 STAGING

A Concept Proposal has been prepared for the site to guide its future development and is intended to provide a statutory framework for the long term planning of the site. The Concept Proposal will be delivered in five stages (the principal construction stages being Stages 1, 2 and 4 with less significant works being undertaken in Stages 3 and 5). Figure 5 – Stage 1A below demonstrates the overall staging program. Details of each Stage are described in the sections.

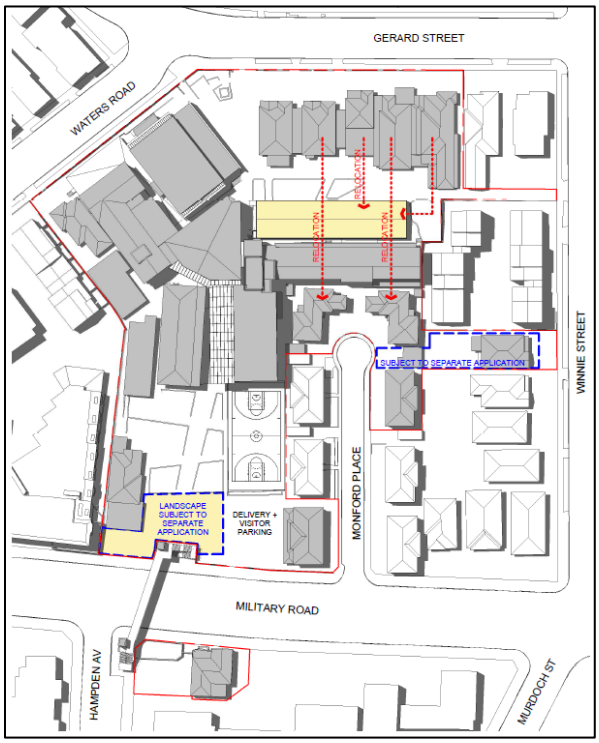
Stage 1 – New Learning Hub:

Stage 1 will be carried out over five sub-stages as follows:

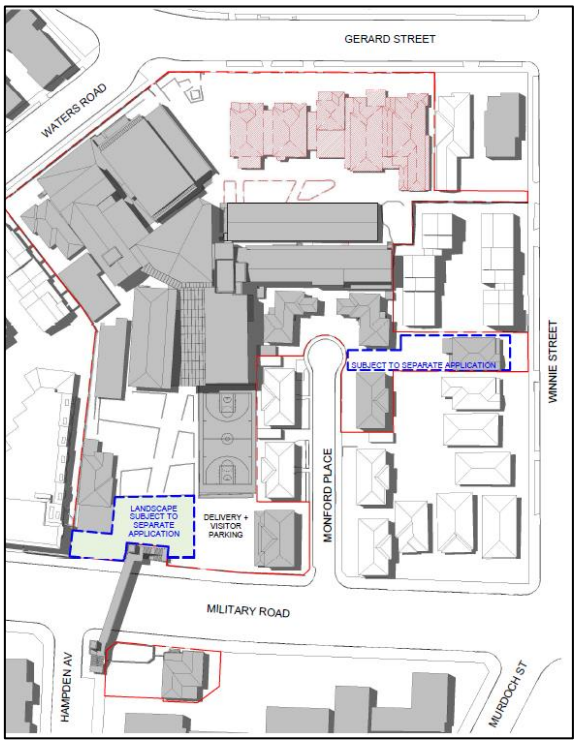
Stage 1A (Figure 5)

- Demolition of landscaping north of Mowll Building and erection of seven temporary demountable classrooms for relocation of visual and performing arts.
- Relocation of music, staff rooms and storage to 7 & 8 Monford Place.
- Demolition of existing buildings at Nos. 1, 3, 7, 9 and 11 Gerard Street following relocation of the above facilities.

FIGURE 5 – STAGE 1A



PICTURE 1 – PHASE 1

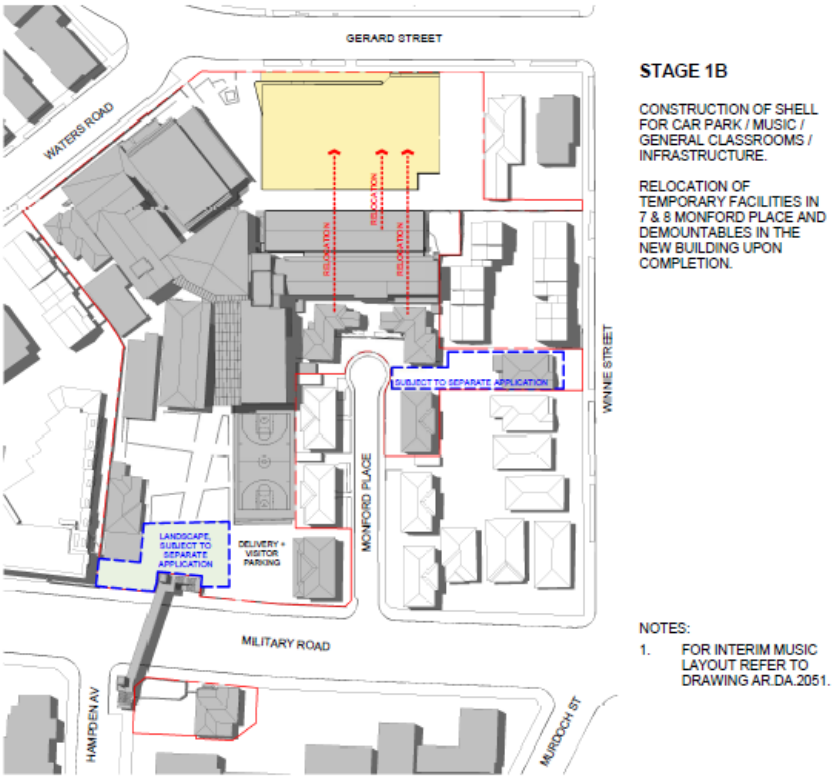


PICTURE 2 – PHASE 2

Stage 1B (Figure 6)

- Construction of the car park and interim music hub on Gerard Street with associated infrastructure.

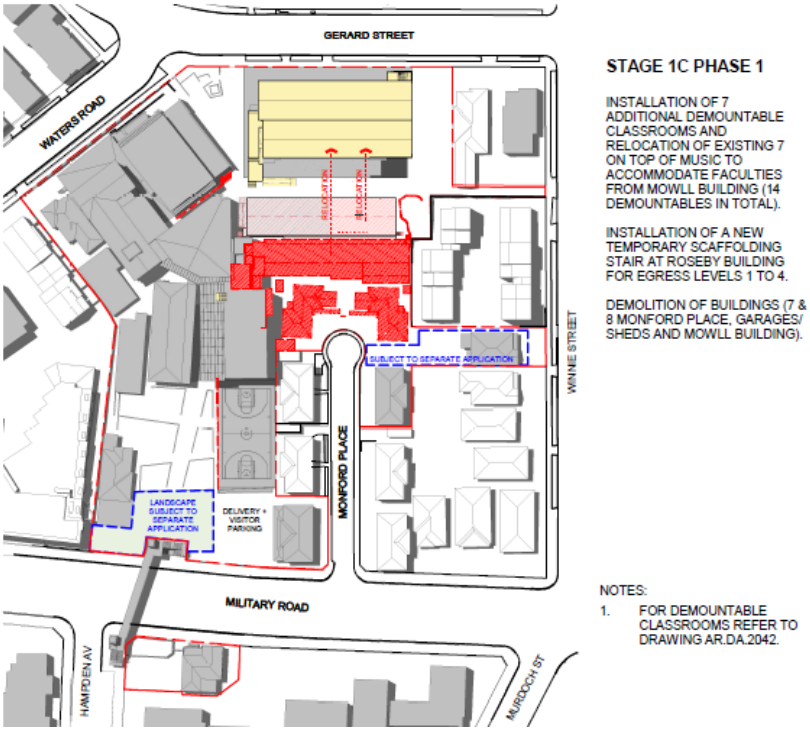
FIGURE 6 – STAGE 1B



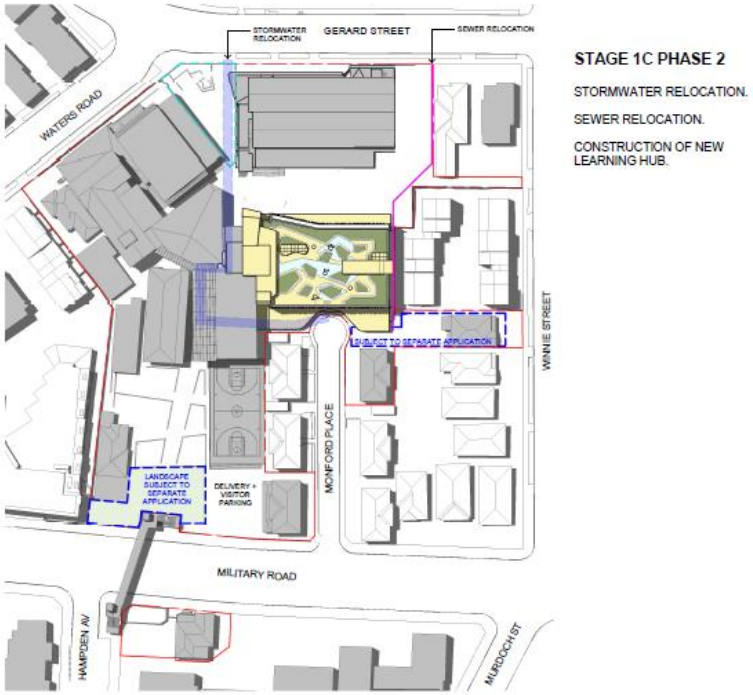
Stage 1C (Figure 7)

- Demolition of existing buildings and structures, including Mowll Building and Nos. 7 and 8 Monford Place;
- Erection of seven additional temporary demountable classrooms (14 in total) and relocation of Stage 1A demountables above the car park and interim music hub;
- New services infrastructure;
- Installation of a new temporary scaffolding stair at Roseby Building for egress levels 1 to 4;
- Construction of New Learning Hub at Mowll Building and Nos. 7 and 8 Monford Place. This will be a four storey multi-purpose education building with accessible roof top, basement car park, outdoor learning area at roof level; and,
- Construction of forecourt;
- Stormwater and sewer relocation.

FIGURE 7 – STAGE 1C



PICTURE 3 – PHASE 1



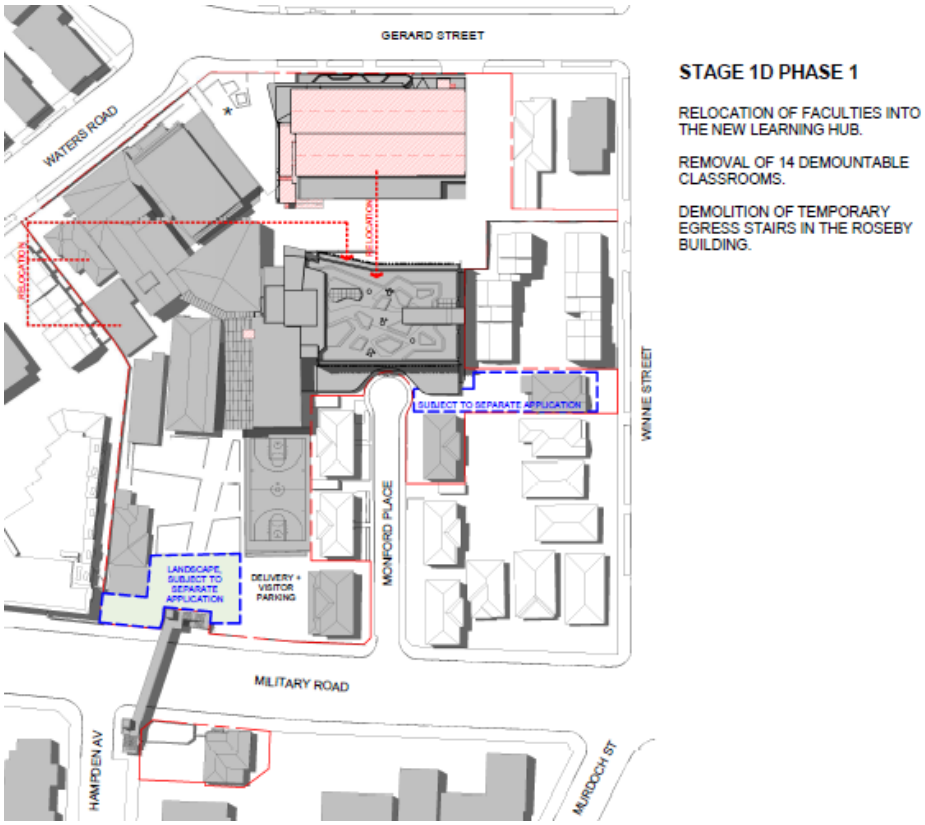
PICTURE 4 – PHASE 2

Stage 1D (Figure 8)

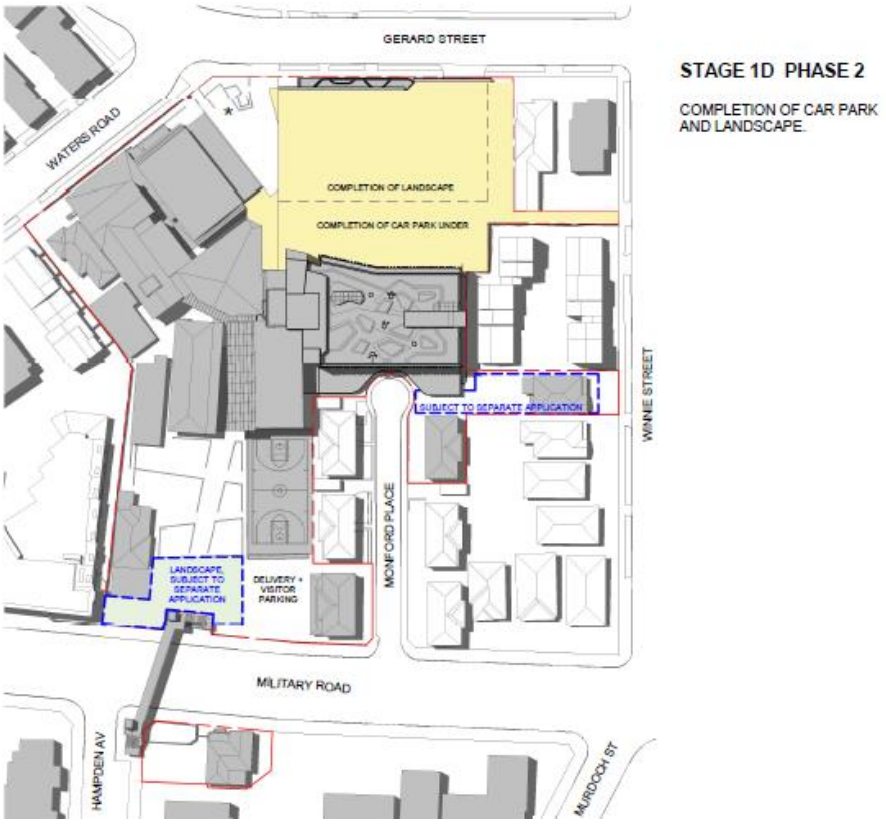
- Relocation of facilities into the new Learning Hub;
- Removal of 14 demountable classrooms;
- Demolition of temporary egress stairs in the Roseby Building;

- Completion of car park, driveway and landscape works.

FIGURE 8 – STAGE 1D



PICTURE 5 – PHASE 1

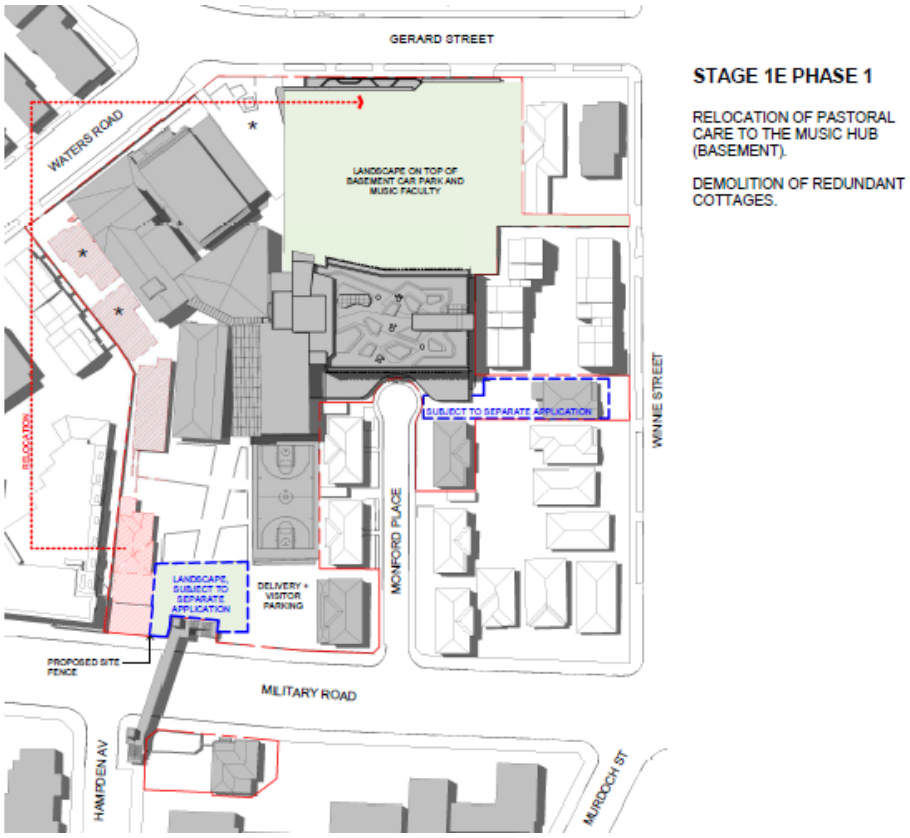


PICTURE 6 – PHASE 2

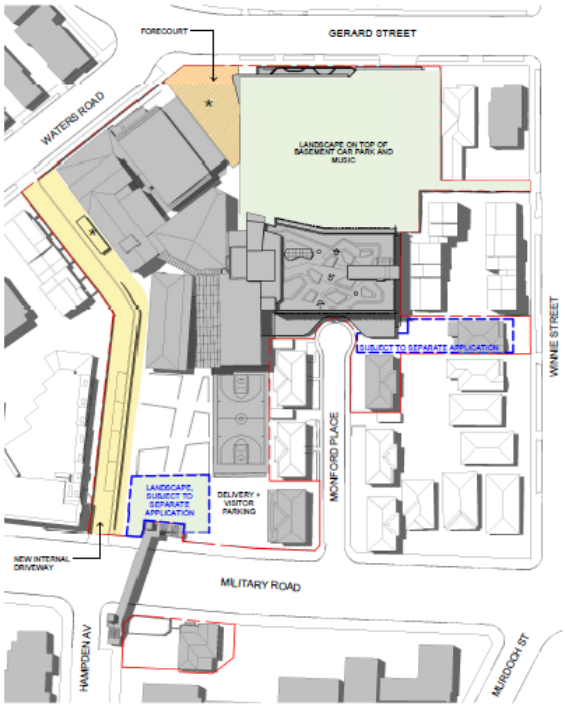
Stage 1E (Figure 9 – Stage 1E)

- Relocation of pastoral care to the music hub in the basement level;
- Demolition of redundant cottages, offices and staff offices on the western boundary of the site;
- Construction of a new internal vehicular access link facilitating ingress from Waters Rd and egress onto Military Road and bus parking; and,
- Garbage relocation along the new access road.

FIGURE 9 – STAGE 1E



PICTURE 7 – PHASE 1

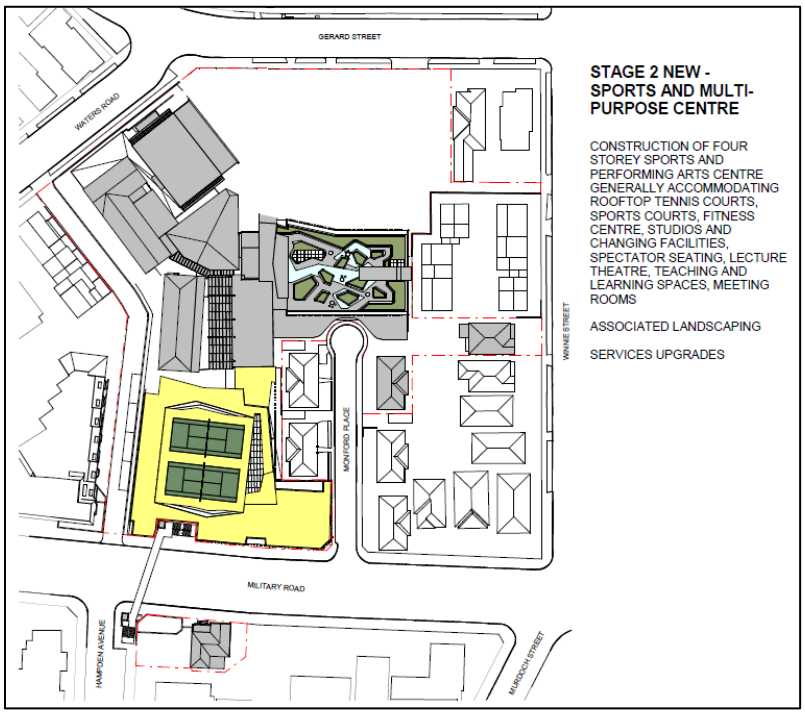


PICTURE 8 – PHASE 2

<u>Stage 2 - Sports and Performing Arts Centre</u>:

- Demolition of the main reception and administration building (No. 2 Monford Place);
- Construction of four storey sports and performing arts centre generally accommodating rooftop tennis courts, sports courts, fitness centre, studios and changing facilities, spectator seating, lecture theatre, teaching and learning spaces, meeting rooms;
- Associated landscaping; and,
- Services upgrades.

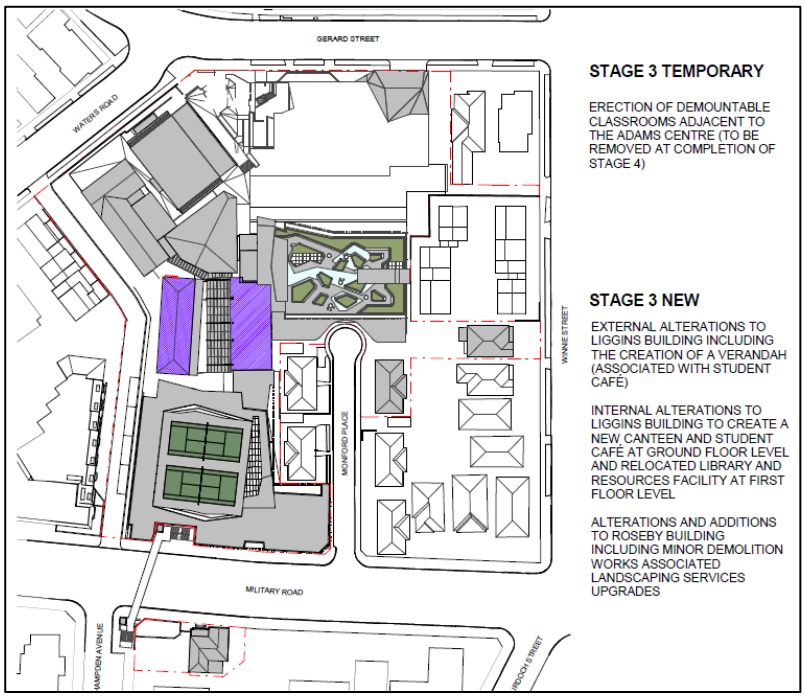
FIGURE 10 – SITE PLAN – STAGE 2



<u>Stage 3 - Redlands Hall, Roseby Building and Liggins Building Refurbishment</u>:

- Erection of demountable classrooms adjacent to the Adams Centre (to be removed at completion of Stage 4);
- External alterations to Liggins Building including the creation of a verandah (associated with student café);
- Internal alterations to Liggins Building to create a new canteen and student café at ground floor level and relocated library and resources facility at first floor level;
- Alterations and additions to Roseby building including minor demolition works associated landscaping;
- Services upgrades.

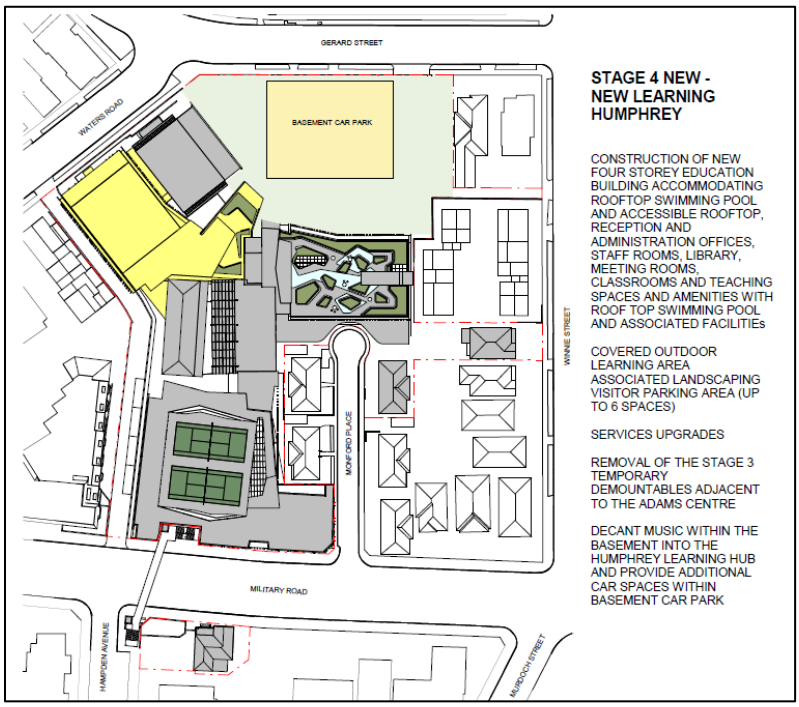
FIGURE 11 – SITE PLAN – STAGE 3



<u>Stage 4 - Humphery Learning Hub and Resource Centre</u>:

- Internal refurbishment of Lang Gymnasium to create classrooms;
- Demolition of existing buildings and structures including Humphery building and existing canteen/ assembly building;
- Construction of new four storey education building accommodating rooftop swimming pool and accessible rooftop, reception and administration offices, staff rooms, library, meeting rooms, classrooms and teaching spaces and amenities with roof top swimming pool and associated facilities;
- Covered outdoor learning area;
- Associated landscaping;
- Visitor parking area (up to 6 spaces);
- Services upgrades; and,
- Removal of the Stage 3 temporary demountables adjacent to the Adams Centre.

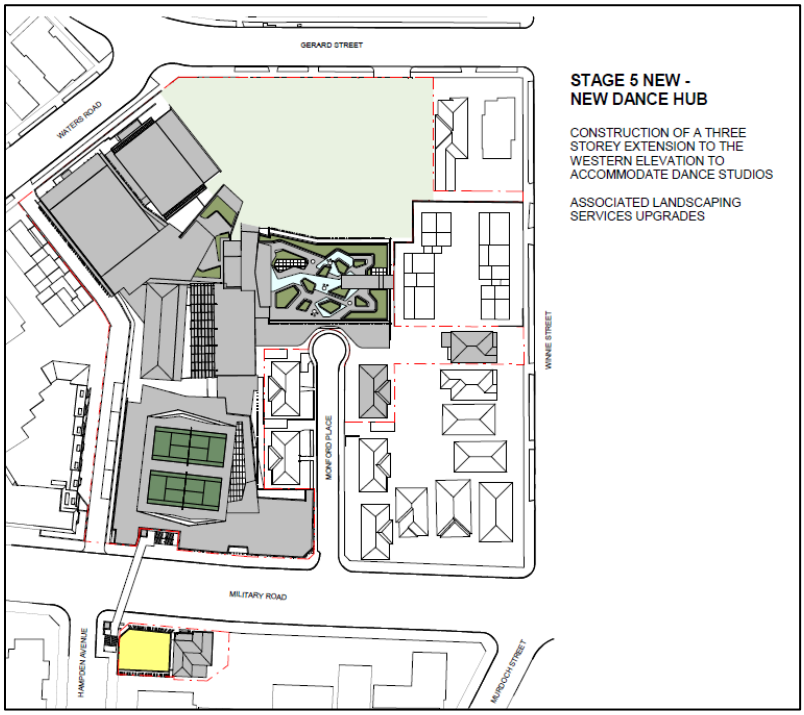
FIGURE 12 – SITE PLAN – STAGE 4



<u>Stage 5 - Adams Centre Extension</u>:

- Alterations and additions to Adams Centre at No. 219 Military Road including some minor demolition works and construction of a three storey extension to the western elevation to accommodate dance studios;
- Associated landscaping; and,
- Services upgrades.

FIGURE 13 – SITE PLAN – STAGE 5



The individual stages are described in further detail in Section 4.3 below. In summary, the project involves three phases of major building works (Stages 1, 2 and 4) which will involve the construction of significant new buildings within the site. Stages 3 and 5 involve comparatively minor works largely associated with the modification and refurbishment of existing buildings.

4.3 NUMERIC OVERVIEW

The key numerical details of the Concept Proposal are outlined in Table 6 below. These details are indicative as detailed design has not been undertaken for Stages 2 to 5.

TABLE 4 – CONCEPT PROPOSAL NUMERIC OVERVIEW

FEATURE	PROPOSED
Height	4 storeys / RL 100.54 AHD (Maximum)
Floor space	21,277m^2
Landscaping	6,907m^2 (44% of site area)
Deep Soil	1,346m^2 (32% of landscaped area)
Vehicle Parking	115 total
Motorcycle Parking	12 spaces
Bicycle Parking	20 spaces

4.4 PROPOSED BUILDING ENVELOPES

Proposed indicative land uses and building envelopes for each stage are described in the following section.

4.4.1 STAGE 1: THE LEARNING HUB

Building Envelope and Use

- The Learning Hub comprises a four storey building (maximum building height to RL 97.740) with roof top learning spaces and a single level basement. The scale of the building proposed is commensurate with its intended function as the School's main teaching building.
- The building will be orientated towards Gerard Street and will ultimately be framed by the proposed landscaped open space to the north creating a strong visual presence of the School when viewed from Gerard Street and reinforcing this frontage as the site's "front door."
- The building will accommodate flexible floor plates suitable for the School's English, Maths, Science and Humanities programmes.
- The roof top of the building will be occupied by a roof top garden which will be used for supervised teaching associated with the School's Science programme.
- A setback of 1 – 2 metres is proposed from the site's northern boundary at the interface with Nos. 8-12 Winnie Street.
- Setbacks to Monford Place properties to the south and west are 4.5 metres.

Timing

- Stage 1 is expected to commence following development approval (anticipated February/March 2016).

4.4.2 STAGE 2: SPORTS AND PERFORMING ARTS CENTRE

Building Envelope and Use

- The Sports and Multi-Purpose Centre comprises a four storey building (maximum building height to RL 100.540) with roof top covered tennis courts.
- The building will accommodate large flexible floor plates suitable for the School's sports and performing arts programmes. The centre will include sport courts, change rooms, meeting rooms, canteen, lecture theatre, drama studios and a fitness centre.
- A setback of 9 metres is proposed to the site's southern boundary (interface with Bougainvillea Resort). A setback of 1.5m is proposed to the western boundary at the interface with No. 4 Monford Place. The building is proposed to be built to the Military Road and Monford Place frontages.

Timing

- The detailed design planning for Stage 2 is expected to commence following development approval with construction within 5 - 7 years.

4.4.3 STAGE 3: REDLANDS HALL, ROSEBY BUILDING AND LIGGINS BUILDING REFURBISHMENT

Building Envelope and Use

- The proposed works will generally take place within the existing building envelopes of the buildings affected by this stage.
- The Liggins building is two storeys and will contain the canteen and a multi-purpose space. The Roseby Building is four storeys will contain amenities and existing science labs.

Timing

- Stage 3 is expected to commence within 8 - 20 years.

4.4.4 STAGE 4: HUMPHERY LEARNING HUB AND RESOURCE CENTRE

Building Envelope and Use

- The Humphery Learning Hub comprises a four storey building (maximum building height to RL 99.40) with rooftop swimming pool. This building is located towards the Waters Road frontage. The internal spaces of the building will accommodate administration and student services and classrooms. A covered swimming pool is proposed on the building's roof.
- A setback of 6.4 metres is proposed to the site's western boundary (interface with No. 19 Waters Road). The building will be setback 3 metres to Waters Road, consistent with the existing setback of the Lang Gymnasium building.

Timing

- Stage 4 is expected to commence within 8 - 20 years.

4.4.5 STAGE 5: ADAMS CENTRE EXTENSION

Building Envelope

- The Adams Centre comprises the existing single storey building with a three storey extension to accommodate a Dance Studio (maximum building height to RL 95.150). The existing building is to be retained with minimal alterations proposed to the heritage fabric and external appearance of this building.

Timing

- Stage 5 is expected to commence within 8 - 20 years.

4.5 FLOORSPACE

The concept proposal involves a notional floor space increase of approximately 12,504m^2 GFA across the site to a total of 21,277m². Consent under this SSDA is sought for the maximum building envelopes, the notional GFAs are provided as an indication of potential development yield assuming application of the proposed architecture and urban design principles.

These notional GFA figures are indicative only, and are designed to flexibly fit within the building envelopes. The proposed building envelopes allow for specific building designs to flexibly respond to specific site conditions and context, articulation and access, and realise a high quality building design to accommodate future uses.

TABLE 5 – INDICATIVE GFA AT END OF EACH STAGE

STAGE	ADDITIONAL GFA	TOTAL GFA
Existing	-	8,773m²
1	2,343m²	11,116m²
2	6,741m²	17,857m²
3	-	17,857m²
4	2,810m²	20,667m²
5	610m²	21,277m²
TOTAL	**12,504m²**	**21,277m²**

4.6 SCHOOL ACTIVITIES AND OUT HOURS OF OPERATION

The School operates a number and variety of activities outside the standard education curriculum, including swimming, sport, art, drama and school community events. An indication of the types of extra curricula activities that might occur in the year include:

- Swimming training, carnivals, water polo and diving
- Netball and basketball
- Music auditions
- Battle of the bands
- Musical auditions, rehearsals and performances
- Drama competitions
- Fairs
- Parent Teacher events
- Alumni events
- Orientation events

- Art exhibitions
- Board meetings

This list is indicative only and not exhaustive, with activities varying from term to term and year to year. The performing and creative arts activities and school community events mostly occur in different locations within the School campus. The proposal will not change activities relating to performance and creative arts and community events. These activities will continue to operate as they currently do.

The swimming and sport related activities currently occur off-site given that the School does not have the facilities within the campus. These activities occur off site in aquatic centres and sports venues in North Sydney, Warringah, Homebush and the School's Junior Campus. This requires considerable coordination, time and transportation. The proposal will provide a significant benefit to the School and it's community by having facilities on site that can accommodate these activities.

Swimming and sporting activities will occur on weekdays and weekends. This is consistent with current activities. Times of these activities will vary and will depend on the needs of the School and the users of the facilities. Circumstances may require times/hours to change. To give an indication, swim training generally starts at 6am however there are circumstances, perhaps in the lead up to a competition, where training may need to start earlier. Another example is music rehearsals and performances, which generally finish around 11pm. However, these may run overtime, as is typical of these types of activities.

The on-site swimming and sports activities are proposed in Stages 2 and 4 and will be subject to refinement based on the School's evolving requirements. Details of the activities for the swimming centre and sports hall will be provided in future development applications for those stages. A detailed management plan will be implemented by the School to ensure that all activities are coordinated and managed such that there will be minimal impacts on the surrounding residents. A preliminary Management Plan has been prepared that provides an indication of management strategies for the future activities (Appendix G).

4.7 TREE REMOVAL

The proposal includes the removal of 17 trees in Stage 1 and another 30 trees in future stages of development. Details of the proposed trees to be removed are provided in the Arboricultural Impact Assessment prepared by Bluegum Tree care and Consultancy (Appendix H)

4.8 OPEN SPACE AND LANDSCAPE

The Staged Development Project seeks to replace existing building footprints with upgraded or new building forms, and will develop formal and informal open spaces within, around and over future building envelopes. The landscape and open space use of the campus will enliven the school campus and will contribute to the physical and ecological quality and character of the public domain.

School buildings are set in landscaped gardens which consist of the following key spaces:

- Learning Hub roof top garden – 1010m²
- Main open space – 2895m²
- Liggins courtyard – 392m²
- Entry landscaping - 505m²

The proposal necessitates the loss of the majority of the existing trees within the site, including a number of trees identified as being of high retention value given their size, species and condition. The removal of these trees is unavoidable. Noting the space limitation within the site their retention would severely restrict future building envelopes and would result in a poorer design outcome for the site.

Significantly more trees and landscaping than currently exist within the site will be introduced through the implementation of the landscape strategy. A Landscape Plan is provided at Appendix I.

4.9 ACCESS, PARKING AND SERVICING

4.9.1 VEHICLE ACCESS

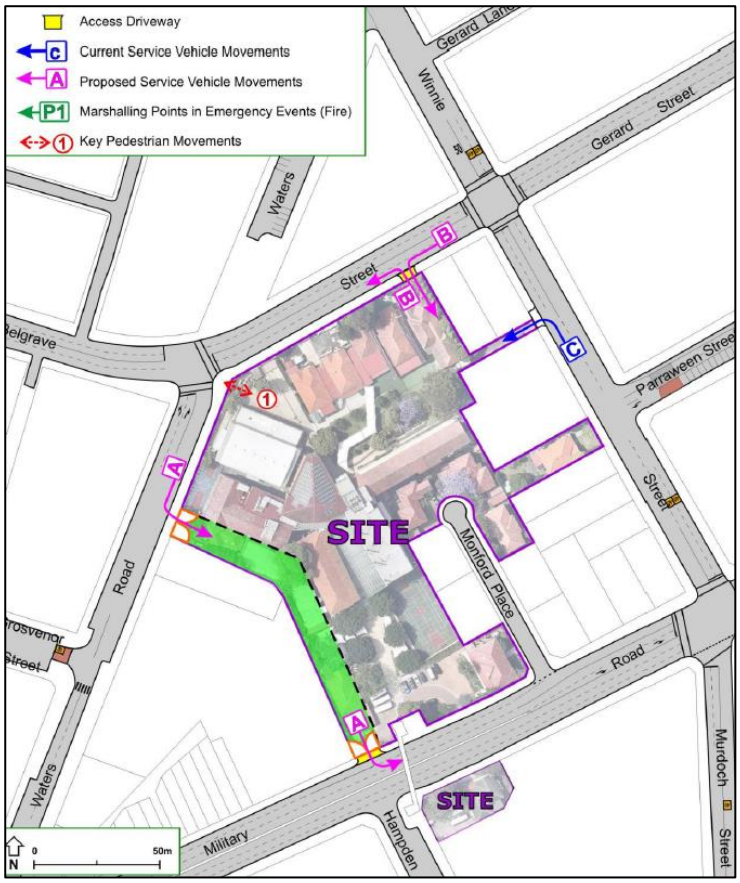
Vehicle access to the site will be as follows:

- Vehicle access to the site will primarily be from the new two-way driveway off Gerard Street. The driveway will facilitate access by cars to the new basement car park. The driveway will be delivered in Stage 1.

- One way bus access along the site's western boundary is proposed, allowing ingress from Waters Road and egress to Military Road. Cars will not be permitted to enter this zone. The driveway is not intended for use as a parent drop off / pick up zone and suitable measures will be implemented to ensure that unauthorised vehicles do not use the access. The bus access road will be delivered in Stage 2.

The proposed access strategy is detailed in Figure 14.

FIGURE 14 – ACCESS STRATEGY



4.9.2 PARKING

Existing on-site parking provision is extremely limited. The Staged Development Project seeks to:

- Create dedicated on-site parking that will cater for staff and event parking and contribute to alleviate existing pressure on on-street parking generated by staff.
- Improve parking management with changes to parking policy to encourage mode shift to active and public transport modes (through the implementation of the green travel plan).

A total of 115 parking spaces are proposed to be delivered in Stage 1. On-site parking will be provided for 6 buses within the dedicated bus access way along the site's western boundary (delivered in Stage 1).

The School's parking strategy is discussed in detail in the Traffic Report at Appendix D.

4.9.3 SERVICE VEHCILES

The proposed access road will accommodate entry manoeuvres from Waters Road and exit manoeuvres onto Military Road upon completion of Stage 1 works. This facility is fully capable of accommodating the school's waste collection vehicle, which typically range from 10-12metres in length.

4.9.4 PEDESTRIAN ACCESS

Opportunities to improve pedestrian linkages to the surrounding pedestrian network around the school have been explored and incorporated into the proposed development. Pedestrians will continue to primarily access the site from Military Road and Gerard Street (junction with Waters Road) with these entrance points being more clearly defined.

- The Gerard Street frontage will be reinforced as the front door to the site through the use of landscaping creating a clearly identifiable entry point to the campus and improve separation between vehicles and pedestrians.
- A new pedestrian access to Military Road is also provided.
- A new pedestrian entrance point off Monford Place will be available allowing direct access to the Learning Hub. This entrance is not intended to function as a primary access to the site for students, staff or visitors.
- General pedestrian access to the school from Winnie Street and Waters Road will not be available. The existing lane on Winnie Street will be retained to allow for emergency egress.

No changes to pedestrian access arrangements to the Adams Centre are proposed.

4.9.5 BICYCLE PARKING

The basement will include a total of 20 bicycle parking spaces, primarily for staff and some for students.

4.9.6 DROP OFF / PICK ZONE

A total of 20 drop-off and pick-up parking spaces are available within the vicinity of the site in three drop off zones:

- Zone 1 – Winnie Street which is north of Gerard Street near the Neutral Bay Kindergarten (7 spaces);
- Zone 2 – Winnie Street south of Gerard Street (5 spaces);
- Zone 3 – Waters Road east of Belgrave Street (8 space)

In relation to the drop off zones, the Traffic and Report prepared by Traffix makes the following recommendations:

- *It is clear from the parking surveys undertaken and on site observations that the Winnie street (south) pick-up drop-off facility (5 spaces) is not adequately utilised. It is recommended that parents are re-informed in relation to the dedicated areas for school use during these peak periods. This is in line with the recommendation outlined in the Lyle Marshall & Associates report which recommended a "Traffic Management Policy" document be prepared identifying signage and time restrictions of each zone to inform parents.*

- *Staff members to monitor zones and ensure time limits (2-5minute parking) are not exceeded.*

- *The travel mode questionnaire survey undertaken identified a demonstrated demand for drop off at Hampden Avenue. Although it is not relied upon, it is recommended that a formal pick up, drop off area be provided on the western side of Hampden Avenue in order to provide a safe pick up and drop off facility.*

These recommendations have been incorporated into the Travel Plan prepared for the school.

4.10 EQUITABLE ACCESS

The Staged Development Project will deliver a welcoming and accessible built environment for students, staff, visitors and adjoining neighbourhoods. This will be achieved by providing facilities which comply with access regulations in the Access to Premises Standard and Building Code of Australia. Fit-outs will be adapted or adaptable to meet the current or future needs of a welcoming campus environment.

The objective of a welcoming and accessible campus is to provide specific requirements in the detailed design of each stage. The proposal will include way finding, signage and accessible paths of travel and parking within the campus including the pedestrian bridge over Military Road. New and refurbished buildings will be designed and built to present day standards.

4.11 INFRASTRUCTURE

The Staged Development Project will increase energy consumption of electricity at the campus. Substation augmentation will be needed to supply electricity for planned growth. The School has prepared an infrastructure management plan, to address future energy supply security. This will primarily involve the introduction of a new kiosk substation.

Upgrades to water supply mains will also be required to provide secure supply for the existing and proposed developments. Parts of the sewerage network throughout the school campus will require localised amplification, redirection and safeguards.

Further discussion on infrastructure provision, stormwater and flood management is provided in Section 5.13 and within Appendix J.

4.12 SUSTAINABILITY

Redlands has developed a number of ESD strategies to improve the urban environment. These strategies deal with:

- Using natural resources efficiently in buildings, especially energy and water.

- Reducing carbon emissions by using more renewable energy and alternative energy sources with fewer carbon emissions.

- Enhancing opportunities for more sustainable and healthier modes of transport.

- Engaging the School's communities to advance and promote sustainability initiatives (through the Building Users Guide).

A number of initiatives will be adopted during the development of each stage of the concept proposal as follows:

- Ensuring a high level of occupant comfort and wellbeing.
- Creation of low energy high performance buildings.
- Adoption of passive design strategies such as natural ventilation and access to natural daylight.
- Inclusion of renewable energy opportunities which may include solar photovoltaics and roof top wind turbines for educational purposes.
- Implementation of a Green Travel Plan.

The ESD approach and initiatives are detailed further in the ESD Report prepared by Steensen Varming at Appendix K.

5 Detailed Proposal for “Stage 1” Development Learning Hub

5.1 OVERVIEW

This application seeks consent for the construction of Stage 1 of the Concept Proposal, which includes:

- Demolition of existing buildings and structures.
- Refurbishment of Nos. 7 and 8 Monford Place for temporary use as an educational facility.
- Construction of a new purpose built education building of four storeys with basement car parking and outdoor learning area at roof level.
- Creation of new vehicular access road off Gerard Street for the new basement car park.
- Creation of new internal vehicular access link facilitating ingress from Waters Road and egress onto Military Road.
- Associated landscaping improvements.
- New services infrastructure.
- New servicing area including loading dock and waste enclosure
- Erection of temporary demountable classrooms.

The proposed buildings and works are described below.

5.2 NUMERIC OVERVIEW

They key numerical details of Stage 1 are outlined in Table 6 below:

TABLE 6 – STAGE 1 LEARNING HUB - NUMERIC OVERVIEW

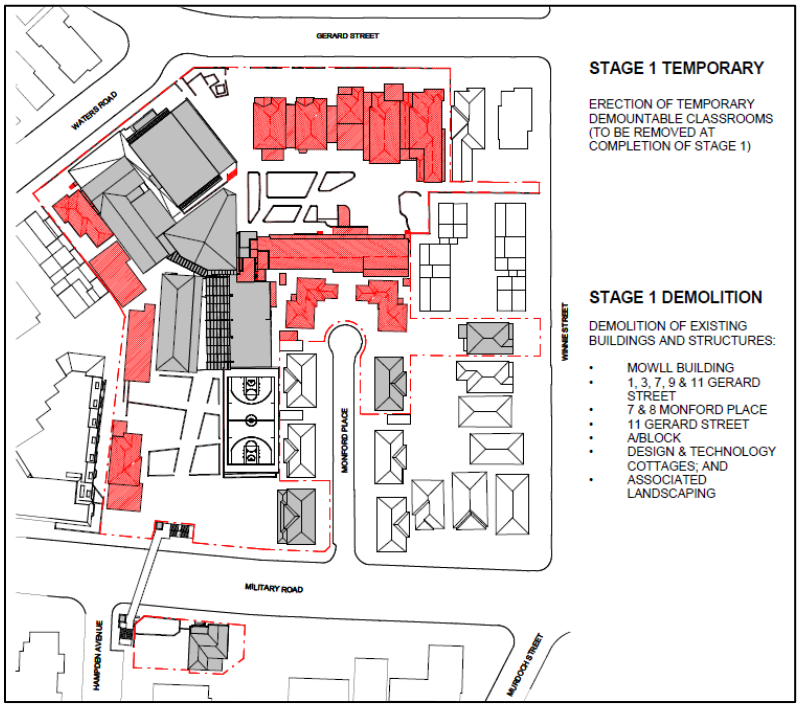
FEATURE	PROPOSED
Learning Hub	
Height	4 storeys / RL 97.740 AHD
Floor space	11,116m^2
Setbacks	South (6 Monford Place): 4 - 8.6m East (8-12 Winnie Street): 1.2 – 2.5m
Landscaping	3,386m^2 (22% of site area)
Deep Soil	1,346m^2 (37% of Stage 1 landscaped area)
Vehicle Parking	Cars - 68 (115 after completion of Stage 4)
Motorcycle Parking	7 spaces (12 after completion of Stage 4)
Bicycle Parking	15 spaces (20 after completion of Stage 4)

5.3 SITE PREPARATION WORKS

The proposal involves the demolition of the following buildings:

- Mowll building;
- Nos. 7 & 8 Monford Place;
- Nos. 1, 3, 7, 9 & 11 Gerard Street;
- Design and technology cottages;
- Associated landscaping.

FIGURE 15 – STAGE 1 DEMOLITION PLAN



The above buildings are all within the ownership of the School and are used for teaching and administration purposes.

Demountable classrooms are to be introduced to the site to provide temporary classroom accommodation for the duration of Stage 1. These buildings consist of one single storey prefabricated structures and will occupy the area north of the Mowll Building and then the area where the existing Gerard Street cottages are located.

Demolition will be undertaken in accordance with the final construction management plan to be prepared by the appointed contractor and approved by Council.

5.4 EXCAVATION

Bulk excavations to a maximum depth of 4.2 metres are proposed to create a single level basement for car parking and temporary music rooms/rehearsal spaces.

5.5 BUILDING PURPOSE

The Learning Hub will be the flagship of the Staged Development Project, and is one of three major new buildings that will be developed under the concept proposal. It is intended to supplement and progressively replace some of the facilities which currently accommodate classrooms.

The building will accommodate a number of key functional spaces required by the School's teaching activities including classrooms and laboratories. The building comprises the following key elements:

- Flexible internal learning spaces.
- Classrooms and laboratories for English, Mathematics, Visual Arts, Social Science and Technology and Applied Science (TAS faculties.
- Links and connections to courtyards and outdoor learning spaces.
- A music facility and pastoral care.
- Ancillary administrative offices.
- Amenities including break out spaces, toilet facilities and storage.

The building includes a roof top garden which will include spaces intended and purpose designed for teaching purposes. The garden is not intended for recreational purposes. Unsupervised access to the roof top garden by students will not be permitted at any time.

5.6 STUDENTS AND STAFF

The proposed development will not result in an increase in staff employed or students attending the site. The campus can currently accommodate up to 950 students. School functions will be decanted into the new buildings upon completion of each stage of the construction programme.

5.7 BUILDING FORM

The new Learning Hub building comprises:

- A four storey purpose built teaching facility.
- Associated facilities including road infrastructure, stormwater management works and basement car park.

The proposal is designed to improve the functioning and quality of Redland's facilities. This will be achieved through the consolidation of the School's space requirements into a purpose built building that is sympathetic in design, scale and massing to the surrounding context. The proposal involves the construction of a contemporary building which responds to the space and functional requirements of a leading school.

The built form of the development has been designed to:

- Contribute to the overall experience of staff, students and visitors to the campus.
- Sensitively respond to adjoining properties.

The Learning Hub is orientated towards Gerard Street and will be framed by a central recreational space. The building comprises floor space totalling approximately 6,097m^2.

Architectural plans are attached at Appendix F and the proposed built form is demonstrated in Figure 16, Figure 17 and Figure 18.

FIGURE 16 – LEARNING HUB LOOKING NORTH

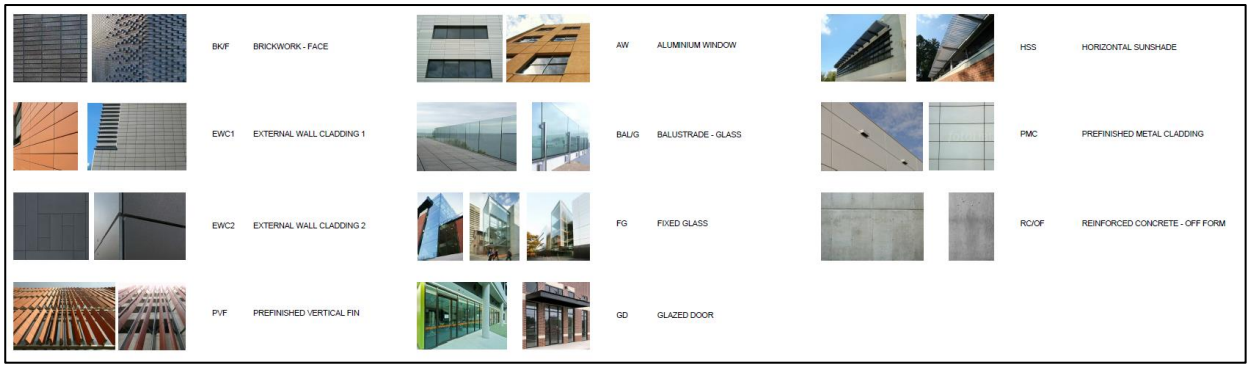
FIGURE 17 – LEARNING HUB SOUTH WEST

FIGURE 18 – LEARNING HUB LOOKING SOUTH EAST

5.8 FACADES

The proposal includes a variety of materials and finishes to create visual interest and diversity within the overall master planned site. The proposal materials include warm masonry tones with off form concrete and clear glass. Terracotta coloured cladding and perforated vertical fins are proposed for the façade system to provide warmth and texture appropriate for a learning centre. The vertical fins provide a strong vertical element (refer to Figure 19 and Appendix F).

FIGURE 19 – PROPOSED MATERIALS



5.9 GERARD STREET FRONTAGE

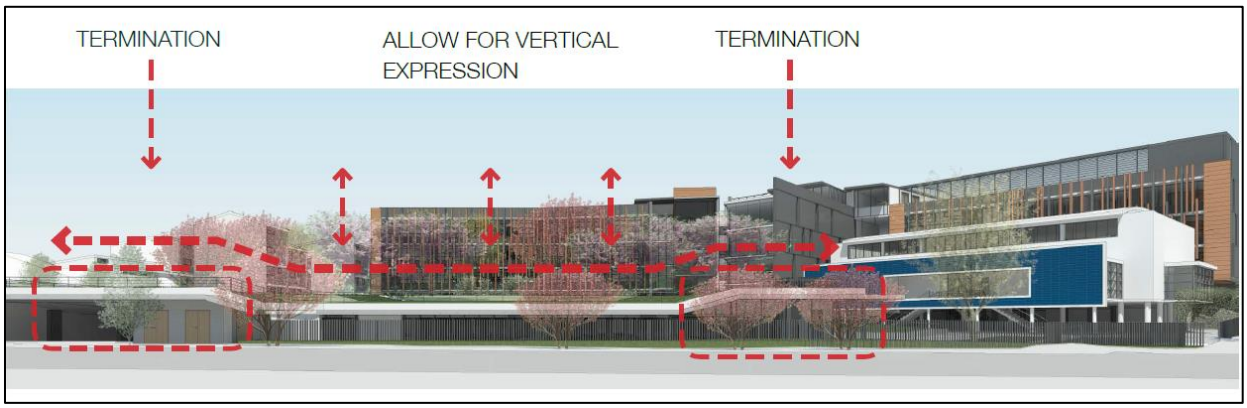
A key design objective of the proposal is to shift the primary public frontage of the school from the Military Road frontage to the quieter Gerard Street side of the site. This has provided an opportunity to better mark the entry to the School and will enable a better appreciation the built environment. To achieve the objective, the former residences on Gerard Street that have been used for educational purposes for many years will be demolished and replaced with a setting that is more appropriate for a leading educational institution. Key attributes of this setting are:

- Open landscape that represents the values of an educational institution;
- Clear visibility of critical educational teaching and learning buildings;
- Retention of buildings that clearly identify the long standing identity of Redlands;
- Provision of a modern, creative and usable place.

The new landscape podium that sits over the car park and interim music hub has been designed to include an undulating topography giving consideration to the changing form of buildings along Gerard and Belgrave Streets. The two ends of the podium rise up to address the car park entry / exit at the east and the more animated entry to the interim music hub to the west. In the centre, the podium dips down over the sunken court of the music hub to enable the landscape podium to sweep down to Gerard Street. The Gerard Street frontage is demonstrated in Figure 20.

The entry to the car park is located on Gerard Street as the project's Traffic and Parking consultant advised that a driveway entry via No. 6 Winnie St is prohibited by the relevant governing standards and therefore unsupportable.

FIGURE 20 – GERARD STREET FRONTAGE



PICTURE 9 – GERARD STREET FRONTAGE DESIGN

PICTURE 10 – VIEW OF ENTRY PAVILLION TO MUSIC HUB

PICTURE 11 – VIEW OF CAR PARK ENTRY

5.10 PEDESTRIAN ACCESS

Pedestrian access arrangements will remain unchanged during and following completion of Stage 1 with students continuing to access the site via the existing entrances on Military Road and Gerard Street.

5.11 VEHICULAR ACCESS

Vehicular access to the new car park is proposed off Gerard Street, approximately 38m to the west of the Winnie Street Intersection, and 70m to the east of the Waters Road intersection. Having considered options of access from Monford Place and Winnie Street, and noting that the school must maintain the day to day operation of the school during the various stages, the only viable option for access to the car park is via Gerard Street. Further detail on access is provided in the Traffic Impact Assessment at Appendix D.

During and on completion of Stage 1 service vehicles (waste collection and larger deliveries) will continue to access the site from the existing driveway on Gerard Street.

5.12 PARKING

The proposal includes:

- The construction of a basement car park accommodating 68 spaces in Stage 1 and a further 47 spaces in Stage 4. 3 disabled parking spaces are provided at the end of Stage 4.
- Two disabled parking spaces will be provided within the basement car park.
- The existing shuttle bus parking zone off Military Road will remain operational during and following completion of Stage 1.
- Parent drop off / pick up arrangements remain as existing.

An assessment of car parking provision is provided in the Traffic Impact Assessment at Appendix D.

5.13 LANDSCAPING AND PUBLIC DOMAIN

The proposed landscape strategy is intended to frame and add significance to the new building as well as integrating new development into the campus landscape. The land surrounding the new building will be regenerated and landscaped to reinforce the building. The landscape strategy will be progressively implemented over the lifetime of the concept proposal. The key landscaped areas proposed as part of Stage 1 include the following:

Northern green space above the car park

- The northern green space above the car park is to be the main open green space on the campus. This space will provide predominantly soft landscaped areas with some paved areas. The space is designed to allow for some active play although it will not be used for formal ball games.
- Planting will be a mixture of low shrubs and smaller trees. A deep soil plating zone to eastern boundary will provide a landscaped butter buffer to neighbouring properties.
- Low scale shade structures will be incorporated in the landscape.

Landscaped Roof Terraces

- Roof top space to a number of key master plan buildings have been designed as landscaped green spaces.
- The rooftop terraces are designed to include a mixture of green roof, hard paved surfaces. These spaces will be used predominantly as an outdoor learning area.

The main open space proposed to the north of the Learning Hub will be completed by the end of Stage 1 in conjunction with the completion of the basement car park. The landscape concept for Stage 1 is shown below.

FIGURE 21 – LANDSCAPE CONCEPT

5.14 DRAINAGE AND STORMWATER MANAGEMENT

An Integrated Water Management Plan has been prepared by Taylor Thomson Whitting (NSW) Pty Ltd Consulting Engineers (TTW) (refer to Appendix J). The TTW Report indicates a drainage easement in favour of North Sydney Council extending across the site from the north end of Monford Place to the intersection of Waters Road and Gerard Street near the northwest corner of the site. The proposal requires this existing easement/pipe to be relocated.

Stormwater management has been designed to comply with Council's DCP controls. The key features and measures of the Integrated Water Management Plan are as follows:

- The existing impervious fracting for this area is 87.3%. The proposed Stage 1 development incorporates green roof and ground level landscaping areas that reduce the site impervious fraction to 81.5%. Therefore, stormwater flows from the site are reduced from existing flows.

- A 30m^3 rainwater reuse tank is proposed for the Stage 1 redevelopment. Stormwater collected from the new building roof will be reused for landscape irrigation. The tank will remain in place throughout the concept development with additional piping for landscape irrigation as needed.

- Stormwater quality modelling in the MUSIC software program indicates that a treatment train including 310m^2 green roof, 30m^3 rainwater reuse tank, trash screen, and proprietary stormwater treatment devices, such as a SPEL Stormceptor and a SPEL Filter can be utilized to meet stormwater quality requirements.

- Principles of water sensitive urban design are adhered to (proposed green roof is a key feature of the proposal).

- Erosion and sediment control measures, which will most likely include sediment fences, sandbags around pits and a vehicle wash down.

5.15 UTILITY SERVICES

The existing infrastructure and utility services within the campus will be extended and modified to service the new Learning Hub. An Infrastructure Management Plan has been prepared by Steensen Varming that outlines the utilities upgrades for the proposal (Appendix L). In summary, there will be:

- A network of underground and overhead cabling routes for communications;
- A new site main switchboard that will feed the New Learning Hub;
- Electricity supplied to the temporary demountables from the existing old main switchboard via the Roseby building;
- Provision of a new substation.

5.16 WASTE MANAGEMENT

A Waste Management Plan has been prepared by Foresight Environmental, which details the waste to be generated and the management systems proposed (Appendix M). The Waste Management Plan notes that the primary waste streams expected to be generated in the ongoing operation of the development would be:

- Cardboard/paper recycling;
- Comingled recycling;
- Food organics recycling;
- General waste;
- Solvents, paints and liquid/chemical waste;
- Bulky DT waste e.g. timber, metals etc.

Additional smaller waste streams may include toner cartridge recycling, fluoro tube/globe recycling and battery recycling.

The Report demonstrates that the current onsite waste management systems, bin types, bin numbers and collection times provide ample capacity for the estimated waste volumes. The major components of the campus' operational waste management system will remain largely unchanged during Stage 1. The system adopts the principles of reduce, reuse, recycle, treat and dispose.

Separate receptacles for general and recyclable waste will be provided within the new building. Waste will be transferred to the new bin store area within the site.

The proposal involves the relocation of uses and activities that are already accommodated within the site and no increase in staff or student numbers is proposed. As such it will not result in any increase in waste generated within the school campus. Waste generated by the new building will be integrated into the school's existing waste management system.

5.17 CONSTRUCTION MANAGEMENT

The demolition and construction programme for Stage 1 is anticipated to span approximately 39 months, commencing in February/March 2016 (subject to approval) with completion anticipated in 2019.

The construction programme is divided into the following main stages:

- Site preparation: Further geotechnical investigative works to asses subsurface ground conditions and structures. These investigations will be phased, with activities occurring both before and after

demolition. All investigation works will be carried out prior to the commencement of development. The findings of the investigations will inform the detailed design of the construction strategy for the site.

Initial site establishment including temporary office set up, site services, logistics (including traffic management) and perimeter hoarding.

The demolition of the nominated buildings and structures for removal in Stage 1 will involve the use of heavy plant equipment, with the potential for on-site material selection, dependent on site establishment and space to facilitate necessary plant equipment. All works will be strictly managed to ensure that vehicle movement and dust is controlled and kept to a minimum. It is anticipated that a traditional top down demolition approach employing good building practices will be used.

- Excavation: Construction is likely to follow a traditional bottom up approach. A temporary perimeter retention system will be provided.
- Spoil arising will be checked for contamination and will be classified for removal off-site.
- Excavation techniques will be chosen to minimise vibration (and noise) in order to minimise damage and disturbance to surrounding properties and to reduce impact on the local community and school activities.
- Excavation will be undertaken in accordance with the Geotechnical Investigation by JK Geotechnics dated 30 April 2015.
- Construction: A piling rig and excavation machinery will be used for construction of building foundations and substructure.
- Scaffolding will be erected once construction reaches the first level
- A tower crane will be established on site.
- The internal fit out works will generally be labour intensive and include a mix of wet and dry trades to form the internal floors, ceilings, finishes and mechanical, electrical and hydraulic services works.

The external works will be undertaken at the end of the main construction works and will be coordinated with the progressive removal of the site hoardings, the completion of the ground floor cladding, final finishes / fixtures and the statutory incoming services works.

The ingress and egress of construction traffic will be carefully located to minimise any impact on surrounding roads and local road users. Construction access will be from Gerard Street, including construction zone, and egress for construction vehicles will vary according to the particular stage of construction (indicative details are provided in Appendix N). All construction traffic entering and leaving the site will be closely controlled. Notice regarding planned closures and diversions of roads and footpaths adjacent to the site (if and when necessary) will be given by the construction manager to North Sydney Council, NSW Police, the fire brigade and other emergency services sufficiently in advance of the required closure or diversion dates.

The anticipated construction impacts and the measures to be employed to manage these impacts are explored in the Construction Management Plan at Appendix N. Prior to any works commencing, a detailed Construction Environmental Management Plan will be prepared and implemented to manage all environmental aspects of the construction of the development. The CEMP will identify construction measures and practices to be established for the purposes of minimising potential construction impacts such as dust emission, erosion and sediment transfer, stormwater drainage, waste disposal, construction traffic and parking, noise, vibration and worker and pedestrian safety.

5.18 STRUCTURAL ENGINEERING

A Structural Adequacy Letter has been prepared by TTW for the proposed works. Foundation and shoring are proposed in accordance with the recommendations of the Geotechnical Investigation (discussed in Section 8.17.3):

- The proposed foundation system for the development is reinforced bored piles founded in at least Class V sandstone.

- The basement level shoring structure will be a 600mm diameter soldier piled wall with shotcrete infill and a spoon drain on the internal side to address any groundwater seepage.

The proposed building structure is a reinforced concrete frame (columns and slabs) with stability being derived from lift and stair cores, and isolated blade walls. The Letter from TTW concludes:

> *"The proposed structure will be designed in accordance with the relevant Australian Standards and be structurally adequate to support the required loads imposed for the building as detailed on the architectural drawings by TKD Architects."*

A copy of the Structural Adequacy Letter is attached at Appendix O.

5.19 ENVIRONMENTALLY SUSTAINABLE DEVELOPMENT

Redlands is committed to following environmentally sustainable design principles during the design, construction and operation of the proposed development.

Energy efficient and environmentally sustainable development practices have been incorporated into the design of the proposed development to ensure that the most energy efficient solutions using available technology have been incorporated where practicable. Lighting, ventilation and insulation will adhere to current guidelines (Section J – Energy Efficiency of the National Construction Code (NCC) 2013) and will incorporate environmentally sustainable design principles.

The scope and approach for sustainable design of the Stage 1 development include:

- Adoption of a natural ventilation strategy thereby reducing the need for air conditioning.

- Exposed thermal mass to facilitate passive solar heating and night.

- Tempered air system in place of air conditioning.

- Low energy lighting and control systems including sensor and timer operating systems.

- Water consideration measures including low flow fixtures and fittings, rainwater harvesting, low water landscaping and drip irrigation.

- Development and implementation of a Building User Guide to ensure that building users are familiar with the building's ESD features to ensure effective operation of these features.

Further information on the specific measures proposed is included at Appendix K.

6 Statutory Context

Various local and state wide statutory planning instruments and strategic planning documents are required to be considered. The DGRs refer to the following State Environmental Planning Policies (SEPPs) and Local Environmental Plan (LEP) applicable to the concept proposal:

- SEPP (State & Regional Development) 2011;
- SEPP (Infrastructure) 2007;
- SEPP No.55 – Remediation of Land;
- SEPP No.33 – Hazardous and Offensive Development; and
- North Sydney LEP 2014.

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

State Environmental Planning Policies (State and Regional Development) 2011 (SEPP SRD) identifies development types that are of state significance or that is state significant infrastructure or critical significant infrastructure.

The Redlands staged development project has been confirmed by the NSW State Government as SSD under the SEPP (State and Regional Development) 2011. The project work is defined as development for the purposes of an "educational establishment" and has a project value of more than $114,411,000, well in excess of the Capital Investment Value minimum threshold of $30 million under this SEPP.

6.2 STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

State Environmental Planning Policies (Infrastructure) 2007 (ISEPP) provides the legislative planning framework for infrastructure and the provision of services across NSW. The relevant provisions of this SEPP are discussed below:

- Provisions relating to '*educational establishments'* are provided in Part 3, Division 3 of this SEPP in respect to works that require development consent or are permitted without development consent. Future minor works will be reviewed relative to the assessment pathway specific to educational establishments. The proposal relies in part on the SEPP for permissibility (specifically the portion of the site zoned R4 High Density Residential). This is discussed in Section 6.5.1.
- Traffic related considerations under the SEPP are applicable to the project. As the site fronts onto Military Road and Gerard Street, classified roads, the following matters must be addressed:
  - Provision of vehicular access off a non-classified road if practicable;
  - Impacts upon the safety, efficiency and ongoing operation of Military Road and Gerard Street as a result of proposed vehicular accesses; smoke and dust emissions; and nature, volume and frequency of vehicles; and
  - Types of proposed developments along classified roads or the appropriate design and location of development sensitive to traffic noise or emissions to mitigate impacts from the operations of the road;

- Consideration of the NSW Government "*Development Near Rail Corridors and Busy Roads – Interim Guideline*" will be applied at the detailed DA stage for each development. Matters such as building design, orientation and room layout; design features and building treatment will be explored and adopted as part of the detailed DA stage. This will ensure that road related noise and air pollution impacts are mitigated to achieve internal conditions are appropriate for future school operations; and

- The SSD will be required to be referred to the RMS for comment under the SEPP. Any future submissions from the RMS will be reviewed and addressed by the proponent.

Traffic impact considerations are provided in the traffic report at Appendix D. "*Development Near Rail Corridors and Busy Roads – Interim Guideline*" is addressed in the Construction and Operation Noise Report at Appendix P with respect to the Stage 1 development.

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

SEPP55 requires the consent authority to consider whether the subject land of any rezoning or development application is contaminated. If the land requires remediation to ensure that it is made suitable for a proposed use or zoning, Council must be satisfied that the land can and will be remediated before the land is used for that purpose.

The proposed development involves the continuation of the existing use of the site for educational uses. The site has not been subject to any known contaminating uses.

A Stage 1 Environmental Site Assessment (ESA) report has been prepared for the Stage 1 development zone. The findings of this assessment are attached at Appendix Q. In accordance with the recommendations of the ESA further investigations (Stage 2 analysis) will be undertaken during demolition and excavation works. The Stage 1 ESA notes that the majority of the site is currently occupied by buildings and structures. Undertaking a Stage 2 ESA prior to demolition is not possible. Samples would need to be taken from a minimum of 15 additional locations to meet the requirements of a Stage 2 ESA. The Stage 1 ESA recommends that a Stage 2 ESA should be undertaken following demolition of the existing buildings.

The assessment identified elevated concentrations of benzo(a)pyrene TEQ and lead within soil samples, believed to have been imported into the site in fill material. Fill material to be removed from the site will be treated and disposed of in accordance with relevant guidelines. This process will be guided by the Stage 1 report and further investigations (Stage 2 Environmental Site Assessment) which will be undertaken during the demolition and excavation phase.

6.4 STATE ENVIRONMENTAL PLANNING POLICY NO. 33 – HAZARDOUS AND OFFENSIVE DEVELOPMENT

Development proposals for potentially hazardous and offensive industry or storage require assessment under SEPP No.33 – Hazardous and Offensive Development and include the preparation of a preliminary hazard analysis (PHA) for the potentially hazardous development. This DA does not seek approval for development of this nature.

6.5 NORTH SYDNEY LOCAL ENVIRONMENTAL PLAN 2013

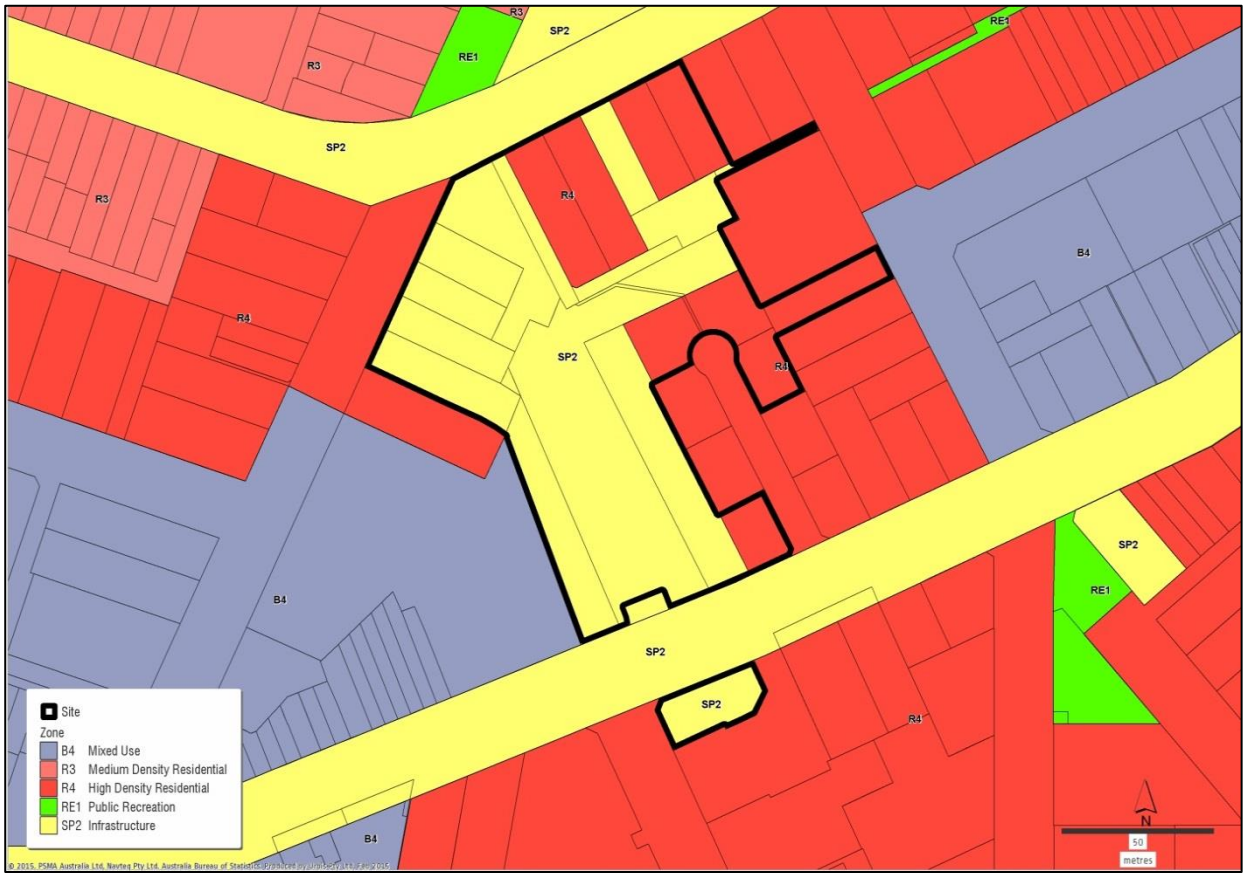
North Sydney Local Environmental Plan 2013 (NSLEP 2013) provides the local statutory planning provisions and controls to the site. The relevant NSLEP 2013 provisions applicable to concept proposal and Stage 1 works are addressed below. The table demonstrates that the proposal is consistent with the relevant objectives and provisions.

The majority of the site is zoned SP2 (Special Infrastructure – School) under the NSLEP 2013. The remainder of the site is zoned R4 High Density Residential (Figure 22).

TABLE 7 – NORTH SYDNEY LEP 2013 – ZONE OBJECTIVES

ZONE	OBJECTIVES	PROPOSED DEVELOPMENT
SP2 Zone (Special Infrastructure – School)	▪ *To provide for infrastructure and related uses.*	The proposed development is directly associated with the continued operation of Redlands and in this sense responds positively to the zone objectives.
	▪ *To prevent development that is not compatible with or that may detract from the provision of infrastructure.*	New buildings and structures have been carefully designed with regard to the site's sensitivities (including its heritage context) and its interface with neighbouring properties to ensure that potential impacts are minimised.
R4 High Density Residential	▪ *To provide for the housing needs of the community within a high density residential environment.*	No residential development is proposed. The proposal does not prevent the provision of adjacent land to be developed for high density residential uses.
	▪ *To provide a variety of housing types within a high density residential environment.*	The proposal involves an educational establishment. The proposal does not prevent the introduction of residential land uses elsewhere within the R4 zone and the wider Cremorne area.
	▪ *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*	The proposal directly contributes to this objective, being for development involving improvements to an existing school facility.
	▪ *To encourage the development of sites for high density housing if such development does not compromise the amenity of the surrounding area or the natural or cultural heritage of the area.*	N/A. The proposal does not involve residential development.
	▪ *To ensure that a reasonably high level of residential amenity is achieved and maintained.*	The proposal has been designed with regard to the amenity of neighbouring properties. Appropriate measures have been incorporated into the project design to ensure that loss of solar access is minimised. Acoustic and visual privacy are maintained to neighbouring properties through the provision of appropriate setbacks and façade treatments. Landscaping to property boundaries will further help to safeguard privacy.

FIGURE 22 – NORTH SYDNEY LEP 2013 – ZONING MAP EXTRACT



6.5.1 PERMISSIBILITY

CHARACTERISATION OF USE

The purpose of the development is to provide school facilities to be used for the delivery of education and teaching programmes to children. The proposal comprises an integrated facility that has been purpose designed to suit the specific needs and operational requirements of Redlands School.

Schools fall within the definition of educational establishments under the LEP:

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

The proposed use as a whole is appropriately characterised as a school and is permissible pursuant to the North Sydney LEP 2013 and the Infrastructure SEPP.

NSLEP 2013

The development of schools is permissible within the portion of the site zoned SP2, being the nominated land use.

ISEPP

The remainder of the site is zoned R4 High Density Residential. Under NSLEP 2013 educational establishments are prohibited within the R4 zone. The permissibility of the proposal therefore relies on *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) which permits certain development within specified zones. This includes the development of "educational establishments" within the R4 zone. Division 3 Clause 28 of the ISEPP states the following:

> *"(1) Development for the purpose of educational establishments may be carried out by any person with consent on land in a prescribed zone."*

The R4 zone is a prescribed zone pursuant to the ISEPP. The proposal is permissible pursuant to the ISEPP being for an educational establishment on land zoned R4 High Density Residential.

Clause 32 is relevant to the determination of development applications for schools lodged under the ISEPP. It states:

> *"(2) Before determining a development application for development for the purposes of a school, the consent authority must take into consideration all relevant standards in the following State government publications (as in force on the commencement of this Policy):*
>
> *(a) School Facilities Standards—Landscape Standard—Version 22 (March 2002),*
>
> *(b) Schools Facilities Standards—Design Standard (Version 1/09/2006),*
>
> *(c) Schools Facilities Standards—Specification Standard (Version 01/11/2008)."*

The above standards are no longer relied on as the guidelines for school design. The proposal has been designed with regard to a number of industry and government benchmarks including the NSW Educational Facilities Standards and Guidelines (EFSG). The proposed design also addresses new learning pedagogies and the aims and objectives of the school to provide a world class facility that fosters outstanding educational outcomes for flexible and future focused learning.

6.5.2 CLAUSE 4.3 HEIGHT OF BUILDINGS

The maximum height limit applicable to the site is 12 metres (refer to Figure 23). The proposed development will exceed this height limit. A Clause 4.6 statement justifying the departure from the control is included below.

6.5.3 CLAUSE 4.4 FLOOR SPACE RATIO

No maximum floor space ratio (FSR) is specified for the site.

6.5.4 CLAUSE 4.6 EXCEPTIONS TO DEVELOPMENT STANDARDS

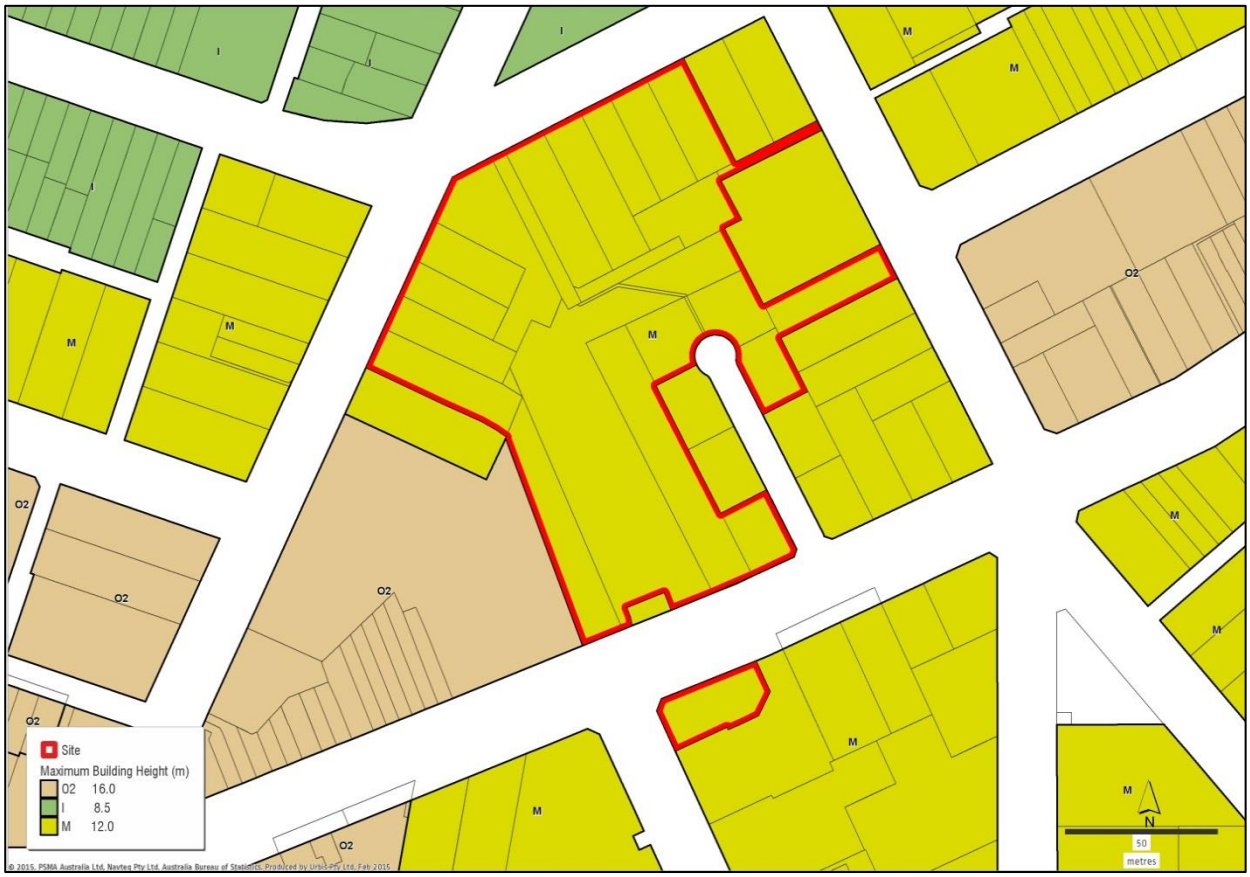
Clause 4.6 provides flexibility to vary the development standards specified within the LEP where it can be demonstrated that the development standard is unreasonable or unnecessary in the circumstances of the case and where there are sufficient environmental grounds to justify the departure. Clause 4.6 states the following:

> *"(2) Consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument...*
>
> *(3) Consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating:*

(a) That compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and

(b) That there are sufficient environmental planning grounds to justify contravening the development standard."

FIGURE 23 – NORTH SYDNEY LEP 2013 – HEIGHT MAP EXTRACT



Accordingly, we set out below the justification for the departure to the building height control applicable under North Sydney LEP 2013. The purpose of the information provided is to demonstrate that strict compliance with the standard is unreasonable or unnecessary in the circumstances of this particular case. It also provides justification for the departure from the control.

Proposed Variation

Pursuant to Clause 4.3 of the LEP, and the accompanying height map, a maximum height limit of 12m applies to the site. The proposal involves the construction of new school buildings. The height of the proposed buildings to the roof line varies from 12 metres to 22 metres (measured from natural ground level).

The three major new buildings proposed for the site will project above the 12 metre height limit (to a maximum of approximately 22 metres), and are therefore above the height limit (refer to Figure 24). The height limit has been breached for the following reasons:

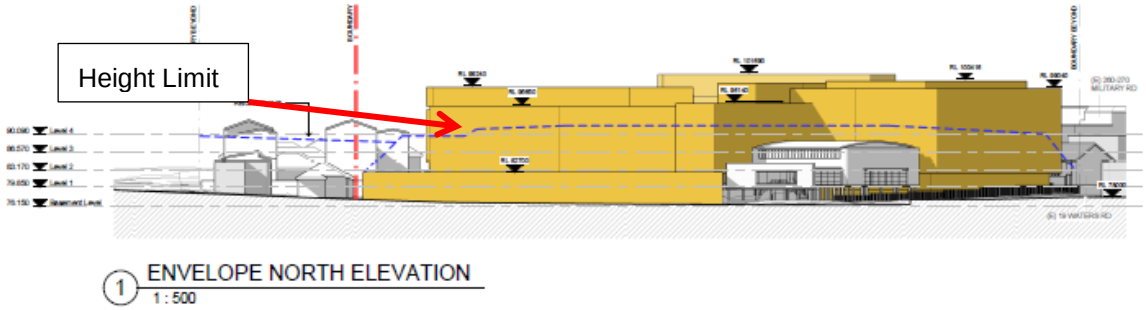
- Space within the site is extremely limited. To achieve the floor space requirements necessary for the School's operations it has been necessary to exceed the height limit.

- Development on the site however, is subject to a height control of 12 metres. This does not reflect existing building heights within the site; several existing buildings exceed the 12 metre height control limit.

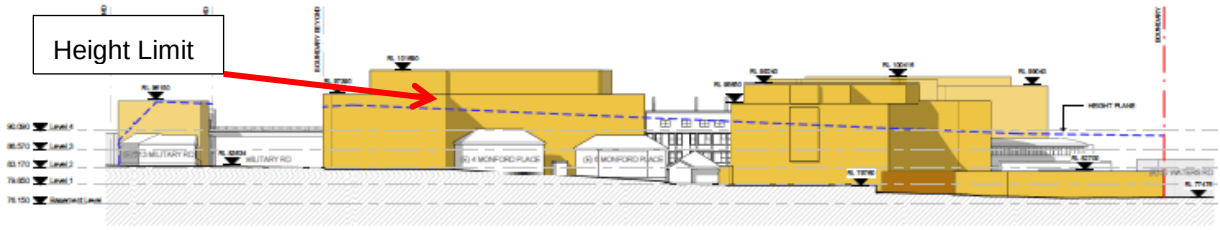
- The building height of the Bougainvillea Resort development to the west has been used as a guide to the potential height of new buildings within the site. This site is subject to a height control of 16 metres.

- The proposed building height responds to the height of existing buildings within and immediately adjoining the site, which exceed 12 metres.

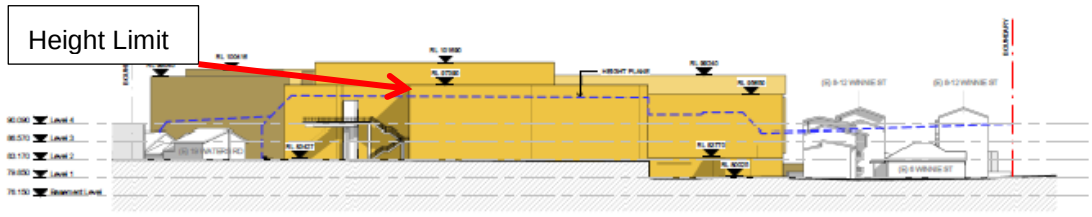
FIGURE 24 – BUILDINGS WHICH EXCEED 12 METRES



1 ENVELOPE NORTH ELEVATION
1 : 500



2 ENVELOPE EAST ELEVATION
1 : 500



3 ENVELOPE SOUTH ELEVATION
1 : 500

Clause 4.3 Objectives

The site is situated on land where a height limit of 12m applies. Clause 4.3 sets out the objectives of the maximum building height development standard. The consistency of the proposed development with these objectives is set out below.

TABLE 8 – CLAUSE 4.3 OBJECTIVES

OBJECTIVES	PROPOSED DEVELOPMENT
(a) to promote development that conforms to and reflects natural landforms, by stepping development on sloping land to follow the natural gradient,	Levels vary by approximately 6m between the Military Road frontage and Gerard Street. The built form responds to the change in levels.
(b) to promote the retention and, if appropriate, sharing of existing views,	The site is already densely built up and includes a number of tall buildings, including buildings of up to four storeys which block the potential for views through and / or over the site. The proposal will not result in the loss of any identified key views.
(c) to maintain solar access to existing dwellings, public reserves and streets, and to promote solar access for future development,	The proposed development will result in some additional overshadowing impacts. This is unavoidable noting the heavily built up nature of the site and surrounding land. Reasonable levels of solar access are nonetheless maintained to neighbouring properties, achieved through the provision of adequate setbacks.
(d) to maintain privacy for residents of existing dwellings and to promote privacy for residents of new buildings,	The privacy of residents in surrounding residential properties will be maintained through landscaping and building articulation. Windows of the new learning hub are not orientated directly towards neighbouring properties.
(e) to ensure compatibility between development, particularly at zone boundaries,	The building heights proposed are appropriate to the dense urban environment in which the site is located. The site is situated within an urban context being surrounded by land zoned R4 high density residential. This includes land to the south east, which is currently occupied by single storey dwelling houses but which is zoned R4. Given the zoning of this site it is reasonable to assume that these properties will be developed to accommodate taller building forms.
(f) to encourage an appropriate scale and density of development that is in accordance with, and promotes the character of, an area.	The site is situated adjacent and includes zoning for high density development. Comprising an existing school it is already heavily built up and includes buildings of up to four storeys (consistent with proposed building forms). The proposed development will take place within an established urban environment. Cremorne includes a number of tall buildings, most notably on Gerard Street to the north east of the site which accommodates several residential flat buildings ranging in heights from 8-10 storeys. The prevailing planning controls applicable to land surrounding the site support intensive development, land is zoned R4 High Density Residential.

In conclusion, the development, as proposed does not conflict with the objectives of Clause 4.3 of the LEP.

Justification for the Variation

In view of the particular circumstances of this case, strict compliance with Clause 4.3 of the LEP is considered to be both unnecessary and unreasonable. The proposed development does not conflict with the intent of Clause 4.3 which is to maintain existing views, to safeguard the amenity of existing dwellings and to maintain the visual character of the area. The proposed development achieves this outcome, notwithstanding the proposed numeric variation.

The proposed development is justified on the following environmental planning grounds:

- It represents a logical and co-ordinated development of the site for school use.
- It will result in improvements to the physical appearance of the site through a carefully designed building that is responsive to site context and its intended function.
- The architectural design of the new development provides a good quality built form outcome for the site.
- New development will not result in overlooking, overshadowing or privacy issues.
- Development will be consistent in height with existing buildings and the desired future character of the area (noting that the single storey dwellings to the east are zoned R4 High Density Residential, the applicable height control for these properties allows for building heights of up to 16 metres).
- Compliance could be achieved by reducing the scale of the development but this would undermine the visual quality of the design and the School's accommodation requirements would not be met.

Community Benefits

The principle aim of the proposal is to provide improved infrastructure to service the educated needs of the community within a high density environment. The proposed variation to the height control of the LEP does not result in the loss of amenity to the adjoining properties as a result of overshadowing or loss of privacy and the proposed height is therefore considered to be acceptable particularly when balanced against the benefits of the project which are:

- Improved educational facilities on land zoned for this purpose.
- Visual improvements to the site contributing to the enhancement of the appearance of Military Road and Gerard Street.
- Increased provision of planting and green spaces will enhance the ecological and landscape qualities of the site.
- The provision of on-site parking which, coupled with a green travel plan for the site, will help to relieve pressure on on-street parking in the vicinity of the school.
- The provision of on-site sporting facilities will reduce the School's reliance on existing community facilities thereby reducing the travel demands of the School as well as freeing up capacity within these community facilities.

In summary, the proposal is considered appropriate and consistent with the objectives and intent of Clause 4.3 of the LEP. Strict compliance with the LEP in this case is considered to be unreasonable and unnecessary because:

- Strict compliance with the height limit would unreasonably restrict the potential to develop the facilities required by the School on a single site.
- The proposed development will take place within an established urban context where taller building forms are a common feature.

- The applicable height control does not reflect existing development within the site, with a number of existing buildings already exceeding the 12 metre height control which applies.
- The height control applicable to adjacent lands to the west is 16 metres.
- New development has been designed to respond to the height of neighbouring properties.
- The proposed development does not conflict with the intent of Clause 4.3 of the LEP which is to minimise adverse amenity impacts on neighbouring residential properties and to maintain the desired future character of the area.
- The proposal will not result in the loss of views as a result of the heights proposed.

6.5.5 CLAUSE 5.9 PRESERVATION OF TREES OR VEGETATION

Clause 5.9 Preservation of Trees or Vegetation seeks to safeguard existing trees and vegetation. The school campus has largely been cleared of vegetation but does include a number of mature trees within its existing landscaped areas and adjacent to the site boundaries. In developing the concept proposal opportunities to retain site vegetation have been explored. Space is at a premium within the site and the removal of a number of trees is unavoidable. The following is relevant:

- A comprehensive landscape strategy has been developed for the site and will be progressively implemented. New trees and landscaped spaces will be planted to compensate for the loss of vegetation.
- The landscape quality of the site will be considerable improved as a result of the proposal. More trees will be provided on the site than currently exist.
- Reducing the footprint of new development is not considered an option as this would not allow the floor space needed for the School's accommodation needs to be fully met.

On balance the loss of vegetation is considered to be acceptable given the substantial benefits associated with the project and the extent of new planting proposed, and the wider social benefits of the proposed development.

The application is accompanied by an Arborist Report which provides an assessment of the trees in the vicinity of the proposed works. Demolition and construction works will be undertaken in accordance with the recommendations of the Arborist report to ensure that the trees to be retained within the site are suitably protected.

6.5.6 CLAUSE 5.10 HERITAGE CONSERVATION

Clause 5.10 requires an assessment of heritage impact where development is proposed:

- On land on which a heritage item is located, or
- On land that is within a heritage conservation area, or
- On land that is within the vicinity of a heritage item or heritage conservation area.

The clause also requires consideration of the effect of a proposed development on Aboriginal heritage. A search of the AHIMS database confirms that no archaeological sites have been recorded within the development site. The application is accompanied by an Archaeology assessment at Appendix R. Site archaeology is discussed in Section 8.9.

The site includes locally heritage listed items identified as:

- SCEGGS Redlands 272 Military Road

Statement of Significance

"A group of buildings that form an elite private school that was established on the North Shore as early as 1884. The Liggins Building (exterior and interior) represents one of the original school buildings on this site. There are also Federation style dwellings that address Gerard St that contribute to the school's evolutionary heritage significance. The Gymnasium(exterior and interior), known as the Lang Building, is a good example of an unusual building type characteristic of modern school education and is an award winning design by Architect Alex Popov. The school also incorporates the Old Cremorne Post Office (Item 2181205). The landscape setting of the school site is also of significance."

- Former Cremorne Post Office / telephone exchange 219 Military Road, Cremorne

  Statement of Significance

  "Original Cremorne Post Office, vacated for that purpose and used for some years as part of adjacent telephone exchange, presently vacant. It is an intact Federation style small suburban post office and it's Free Classical porch indicative of civic tastes of the period. Of local significance for its role in the development of the area."

Refer to Figure 25 for local heritage items. The heritage impacts of the proposal are discussed in Section 8.8 and Appendix S.

FIGURE 25 – NORTH SYDNEY LEP 2013 – HERITAGE MAP EXTRACT

Note: we believe there is an error in Council's LEP heritage map which appears to exclude the Adams Centre building from the heritage listing applicable to the Cremorne Post Office site.

6.5.7 CLAUSE 6.10 EARTHWORKS

Clause 6.10 requires the consent authority to take into consideration the following matters:

(a) The likely disruption of, or any detrimental effect on:

(i) Drainage patterns and soil stability in the locality of the development, and

(ii) Natural features of, and vegetation on, the site and adjoining land,

A Stormwater Management Plan has been prepared for the site (Appendix J) to manage potential soil and water impacts associated with the construction and operation of the development. The key features of the stormwater management strategy are:

- Overland flow paths provided to convey flow for up to a 100 year ARI event.
- Principals of water sensitive urban design are adhered to (green roof is a key feature of the proposal).
- Erosion and sediment control measures.

(b) The effect of the development on the likely future use or redevelopment of the land,

The site comprises a school campus. Surrounding land is developed. Consideration has been given to the environmental flow on effects of the proposed development with particular regard to effects on surrounding buildings. The proposal development will not result in adverse impacts on the surrounding area.

(c) The quality of the fill or the soil to be excavated, or both,

Excavation works are proposed to create suitable building platforms and to create a basement car park.

The site will take place on previously developed land. A Stage 1 Environmental Site Assessment has been undertaken with respect to the development zone of the Stage 1 project. This investigation has identified potential contaminants within the site's soils associated with fill material brought into the site. Fill material will be appropriately disposed of. Further site investigations will be undertaken to inform the demolition and excavation process.

(d) The effect of the development on the existing and likely amenity of adjoining properties,

Construction traffic will be managed to ensure that potential impacts on residential properties in the vicinity of the campus are not adversely impacted by noise or vibration from these vehicles. Similarly, construction will be managed to ensure that potential impacts on existing employees, students and visitors to the campus by virtue of noise and dust are minimised.

(e) The source of any fill material and the destination of any excavated material,

Clean site certification will be obtained following completion of demolition and site clearance works. Further geotechnical and site investigations will be undertaken at this stage. Excavated material removed from the site will be disposed of appropriately.

A construction management plan will be prepared for the site at Construction Certificate stage. This plan will provide greater detail regarding the management of excavated material.

(f) The likelihood of disturbing Aboriginal objects or relics,

The potential for archaeological remains to be located within the site is considered to be very low. The proposed development will take place in a portion of the campus that is highly disturbed. As a result there is considered to be little potential for archaeological findings (refer to Appendix R).

(g) The proximity to, and potential for adverse impacts on, any waterway, drinking water catchment or environmentally sensitive area,

A stormwater management plan has been prepared for the site (Appendix J) and sets out the measures to be employed to manage water quantity and quality. This includes:

- Overland flow paths provided to convey flow for up to a 100 year ARI event.
- Principals of water sensitive urban design are adhered to (green roof is a key feature of the proposal).
- Erosion and sediment control measures.

(h) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

The works will be undertaken in accordance with the Construction Management Plan prepared by TBH and the standard conditions of consent.

6.5.8 SUMMARY

The proposal is permissible in the SP2 zone and is consistent with the relevant objectives. The permissibility of the works on the R4 zoned land relies on the ISEPP which permits development of "educational establishments". Although the proposal exceeds the LEP height limit, justification is provided under Clause 4.6 and concludes that the proposal is considered appropriate and consistent with the objectives and intent of Clause 4.3 of the LEP. Strict compliance with the LEP in this case is considered to be unreasonable and unnecessary.

The proposal is consistent with the provisions for tree preservation, heritage and earthworks.

6.6 NORTH SYDNEY DEVELOPMENT CONTROL PLAN 2013

North Sydney Development Control Plan 2013 (DCP 2013) provides the design guidelines for future developments. However, the SEPP (State and Regional Development) 2011 excludes the application of development control plans to SSD projects under Clause 11. Notwithstanding, an overall commentary of the project relative to key DCP 2013 guidelines is included below. Overall the proposal achieves a high level of compliance with the DCP. As discussed in the section below, where the proposal departs from certain controls, the design satisfies the objectives of the control and will result in an improved environmental or amenity outcome, achieving the objectives of, and facilitating the development.

6.6.1 NORTH CREMORNE PLANNING AREA

The site is situated within the Waters Neighbourhood within the North Cremorne Planning Area. SCECGS Redlands is identified as an identity / iconic building within the Waters Neighbourhood.

The relevant provisions relate to views. The proposed development does not impact on views along Park Avenue of Cammeray Park, vistas to Middle Harbour down Ben Boyd Road and Young Streets, or district views to Middle Harbour from the upper levels of buildings.

6.6.2 NON RESIDENTIAL DEVELOPMENT IN RESIDENTIAL ZONES

- Solar access: The solar access of Nos. 19 Waters Road and the Bougainvillea Apartments will be impacted at the Winter Solstice. These developments will receive sunlight partly through the day and different times of the year. A more detailed assessment of solar access is provided in Section 8 of this report.
- Visual privacy: Roof top spaces have been designed to ensure that overlooking into adjacent properties is avoided. Garden spaces above the Learning Hub building are set back from the edges of the building. It is also relevant to note that this space is intended for teaching purposes and will at no time be used for general recreation.

- Setbacks: The setbacks required by the DCP for development within the R4 zone are identified in the table below.

TABLE 9 – DCP 2013 SETBACK REQUIREMENTS

MINIMUM SETBACK	PROPOSED DEVELOPMENT	COMPLIANCE	DETAILS
Front setbacks To match alignment of buildings on adjoining properties	Learning Hub – Monford Place	N/A	No adjoining buildings to define alignment.
	Learning Hub – Gerard Street	Yes	Setback of over 50m to accommodate landscaped area and framing of Learning Hub Building.
	Humphery Learning Hub – Waters Lane	No	New building is forward of 19 Waters Road to the south but has been designed to align with the Lang gymnasium within the site. The building setback to Waters Road is irregular. The front setback of 19 Waters Road is greater than the other buildings within Waters Road. Buildings further south are built to the boundary (nil setback).
Side setbacks On land with a height limit of 12m or less 1.5m; and Building must not exceed a building height plane commencing at 3.5m above ground level (existing) from side boundaries and projected internally to the site at 45 degrees.	Humphery Learning Hub – Waters Lane	Yes	6 metre setback to 19 Waters Road
On land with a height limit greater than 12m 1-3 storey (up to 10m) – 4.5m Above level 3 (more than 10m) – 6m	Sports and Performing Arts Building – Monford Place	No	Built to Monford Place boundary to define the corner. 1m to No. 4 Monford Place, similar to the existing. No. 4 Monford Place has minimal windows to minimise privacy impacts.
	Sports and Performing Arts Building – Military Road	Yes	6 metre setback to Bougainvillea Resort

- Form, massing and scale: Number of storeys not specified for Waters Neighbourhood.

- Site coverage: The DCP requires a maximum site coverage of 45%. The proposal, at the completion of Stage 5 will have a site coverage of 70%. Notwithstanding the numeric non-compliance, the proposal will provide much more open space area for the students when compared to the existing, which the key objective of the development.

- Landscaped areas: The DCP requires minimum 40% landscaped area and 15% unbuilt upon area. The proposal has a landscaped area of 20% of the site and unbuilt upon are of 30%, which does not comply. However, the proposal is consistent with the objectives of the controls for the following reasons:

  - The proposal promotes the character of the neighbourhood by providing a large landscaped forecourt, which will improve the visual relationship between the public domain and the campus buildings.

  - The proposal provides more useable open space for the enjoyment of students;

  - The proposal maximises retention and absorption of surface drainage water on site. A stormwater concept design also accompanies the proposal;

  - A landscape concept has been prepared to ensure that there is substantial planting of trees that when mature will have significant canopy cover. The species have been selected to control site density, minimise site disturbance, contribute to streetscape and amenity, allow light to penetrate between buildings, encourage the provision of space for biodiversity conservation and ecological processes and provide a buffer between bushland areas and development.

6.6.3 CAR PARKING AND TRANSPORT

- Car parking: Maximum parking rate for educational establishments is 1 space / 6 staff. This triggers a maximum allocation of 25 parking spaces on the site. The maximum parking rate for recreational facilities is also applicable noting that the proposed sporting facilities will be in use at weekends. The rate is 1 space / 100m^2. A total of 115 parking spaces are proposed. The level of parking is a product of the demand for weekend parking associated with use of the recreational facilities.

- Loading: Off-street loading facilities are provided within the concept proposal.

- Bicycle parking: the proposal provides 15 bicycle spaces at the completion of Stage 1 (20 at the completion of Stage 4).

Car parking requirements and traffic management are discussed in Section 8.5.2 and within the traffic report at Appendix D.

7 Strategic Policy Context

The DGRS require the planning provisions, goals and strategic planning objectives of the following policies to be addressed:

- NSW Plan 2021;
- Draft Metropolitan Strategy for Sydney 2031;
- Inner North Subregion Draft Subregional Strategy;
- NSW Long Term Transport Master Plan 2012;
- NSW Bike Plan;
- Planning Guidelines for Walking and Cycling; and
- Healthy Urban Development Checklist, NSW Health.

Note: A Plan for a Growing Sydney is the current Strategic Plan for Metropolitan Sydney. This document replaces the draft Metropolitan Strategy for Sydney 2031 and the accompanying draft subregional strategies. Accordingly, this document is addressed in place of the former Metro Strategy and draft North Subregional Strategy.

7.1 NSW 2021

NSW 2021 is the NSW Government's strategic business plan for setting priorities for action and guiding resource allocation. NSW 2021 is a ten year plan to rebuild the economy, provide quality services, renovate infrastructure, restore government accountability and strengthen the local environment and communities. The proposal provides improved educational infrastructure within an existing school campus and proposed traffic and parking arrangements to minimise impacts on the surrounding community.

The Staged Development Project will provide public benefits to the wider community through the generation of new jobs (operational and construction) and will secure school places. The Concept Proposal would also facilitate the planned development of the campus over a period of 20 years.

7.2 A PLAN FOR A GROWING SYDNEY

A Plan for a Growing Sydney is the current Strategic Plan for Metropolitan Sydney. This document supersedes the draft Metropolitan Strategy for Sydney 2031. The site is not specifically referenced within the Plan.

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

- Goal 1: A competitive economy with world class services and transport: The proposal will result in the development of facilities commensurate with a leading independent school.
- Goal 3: A great place to live with communities that are strong, healthy and well: The school fosters a great sense of community amongst staff, students, parents and local residents. The new facilities of the school will be available to the public on weekends and week nights, which will provide a positive benefit to the local community.
- Goal 4: A sustainable and resilient city that protects the natural environment and has a balanced approach to the use of land and resources: The proposal will have minimal impact on the natural and built environment and maintains a valuable cultural and community resource.

The proposal therefore contributes to the goals of A Plan for Growing Sydney.

7.3 NSW LONG TERM TRANSPORT MASTER PLAN 2012

The NSW Government's *Long Term Transport Master Plan 2012* (LTTMP 2012) sets out the framework for the delivery of an integrated, modern transport system. The LTTMP 2012 is underpinned by a range of short to long terms actions to guide the transformation of the NSW transport system.

The School will contribute towards achieving the delivery of the objectives and actions outlined in the LTTMP 2012 as the concept proposal will deliver an Access Strategy that prioritises active travel modes and an integrated transport approach. The concept proposal will facilitate planning to:

- Create movement networks for people and their various forms of transport; and
- Ensure the campus includes a clear and interconnected set of movement networks that accentuate key site access points and fit with the public transport network and pedestrian infrastructure.

7.4 NSW BIKE PLAN

The NSW Bike Plan facilitates the delivery of new cycling infrastructure over a 10 year period funded through the Metropolitan Transport Plan commitment of $158 million. At present there are no marked cycle routes / bike paths which serve the school site. Given the heavy traffic in the vicinity of the site cycling is generally not encouraged in the interests of student safety. Notwithstanding, cycle facilities have been incorporated into the proposed design (generally for staff purposes) with flexibility for the introduction of additional facilities should the necessary infrastructure be introduced to further support cycling as a viable mode of transport into the future.

7.5 PLANNING GUIDELINES FOR WALKING AND CYCLING

NSW Government document *Planning Guidelines for Walking and Cycling* (PGWC) was prepared to provide guidelines for the consideration of walking and cycling in strategic planning and development assessment. Preparation of the concept proposal has been undertaken with an Access Strategy that reflects the guidelines and desired outcomes of the PGWC which includes the enhancement of pedestrian facilities including internal connectivity, access to public transport and access to surrounding areas and pedestrian networks. As noted above, given the heavy traffic in the vicinity of the site cycling is generally not encouraged in the interests of student safety.

7.6 HEALTHY URBAN DEVELOPMENT CHECKLIST, NSW HEALTH

The *Healthy Urban Development Checklist* (HUDC) was prepared by NSW Health to facilitate an understanding of health issues relative to urban development plans and proposals with the objective of promoting healthy communities in NSW. The document is primarily aimed towards officers of NSW Health to provide an understanding of the planning system and the manner for assessing and providing input into development plans and proposals with consideration to numerous health related checklist items.

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

- Well-connected leisure, sporting and recreational pursuits on campus to benefit students. staff and the wider community;
- Healthy teaching environments through the use of innovative design to support spaces that benefit from access to natural light and ventilation;
- Attractive break out / recreational spaces for students to play and socialise; and
- Improved permeability to and through the campus will support and promote the use of active and healthy transport options by students, linking into the surrounding pedestrian networks and reducing reliance on private vehicle use.

8 Key Assessment Issues

8.1 OVERVIEW

Tanner Kibble Denton (TKD) Architects have designed the Staged Development Project to meet the specific operational requirements of the School. The height and scale of the development specifically responds to the forecasted needs of expanding and improving the senior school campus.

The project has been designed to respond to the site's local context. The project has been specifically designed having regard to the following:

- Existing site conditions including topography, frontages, and heritage features.
- Strategic targets to accommodate school buildings that will support the long-term demands of Redlands.
- Minimising impacts on the surrounding sites with particular regard to the residential properties on Monford Place, Winnie Street, Gerard Street, Waters Road and Military Road.

These key considerations have been incorporated into the built form and urban design response, which has been assessed in accordance with the DGRs throughout this section and within the Architecture and Urban Design Report included at Appendix F**.**

8.2 BUILT FORM AND URBAN DESIGN

An assessment of the proposed building envelopes relative to the site context and its surrounds for each precinct is provided below. In addition, illustrative 3D images of the proposed building envelope with indicative built forms are contained at Appendix F to assist in visualising these matters.

8.2.1 SITE LAYOUT

The proposed siting of the project has been determined with regard to site constraints including:

- Restricted site access from Military Road and Gerard Street.
- Heritage items including the Lang gymnasium and the Liggins building.
- Potential noise impacts from Military Road on classroom activities.

The location of new buildings has been designed to allow for separation between new development and sensitive receivers (i.e. residential properties). The proposed location of the Learning Hub adjacent to a new primary open space zone has been selected to provide a landscaped setting when viewed from Gerard Street.

Sporting activities are less vulnerable to noise disturbance and accordingly the School's sports building and fitness centre are to be located towards the Military Road frontage with classroom based activities concentrated in the central portion of the site.

8.2.2 SETBACKS

The proposed siting of the Learning Hub has been designed to accommodate a flagship building element to Gerard Street. The setback from Gerard Street reduces the impact of the building bulk on this predominately residential street and the heritage listed church opposite, and allows for the provision of a generous recreational space which will benefit from good access to sunlight being positioned to the north.

The siting of the proposed bus access to the site's western boundary facilitates a setback of 6 metres to the site boundary. There is less scope for increased setbacks to the site's eastern property boundary. The setback of existing built form has been generally maintained (and in some cases increased) to this side.

The proposed separation between each of the key building elements within the site enables accessible connections between main entrances and serves to reduce building bulk. It also provides opportunities for landscaping.

8.2.3 HEIGHT

The built form and urban design of the project has been designed to respond to the surrounding context and includes the following:

- Considered site layout, incorporating appropriate setbacks, improved connectivity and visual presentation;
- Provides a positive visual impact in the locality.
- Proposes appropriate height, bulk and scale to accommodate high functionality for a leading school facility.
- Significant landscaping and open space across the site including the introduction of a primary open space to Gerard Street.

The building heights proposed are not excessive when viewed in the context of surrounding development. Building heights reflect the existing building forms within and adjoining the site (proposed heights are consistent with Bougainvillea Resort to the west).

The built form and urban design response for the project will make a positive contribution to the locality, and maximises opportunities for site landscaping and recreational space.

8.2.4 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

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

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

The guidelines provide four key principles to limit crime, including. These are:

- Surveillance.
- Access control.
- Territorial re-enforcement.
- Space/activity management.

Principle 1 - Surveillance

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

Good surveillance means that people can see what others are doing. People feel safe in public areas when they can easily see and interact with others. Would be offenders are often deterred from committing crime in areas with high levels of surveillance. From a design perspective, 'deterrence' can be achieved by:

- Clear sightlines between public and private places.
- Effective lighting of public places.
- Landscaping that makes places attractive, but does not provide offenders with a place to hide or entrap victims.

Master Plan Response

Surveillance will be maximised by:

- Lighting (automatic) will be installed at site entries.
- The main pedestrian paths through the site (including the main spine) will be well lit.
- CCTV will be installed.
- On site security patrols occur outside of school hours. Hours vary between term and non-term time, as well as between week day and weekend times.
- Extra security is engaged for larger events
- The landscape master plan improves sightlines and avoids opportunities for concealment.

Principle 2 - Access Control

Physical and symbolic barriers can be used to attract, channel or restrict the movement of people. They minimise opportunities for crime and increase the effort required to commit crime.

By making it clear where people are permitted to go or not go, it becomes difficult for potential offenders to reach and victimise people and their property. Illegible boundary markers and confusing spatial definition make it easy for criminals to make excuses for being in restricted areas. However, care needs to be taken to ensure that the barriers are not tall or hostile, creating the effect of a compound.

Effective access control can be achieved by creating:

- Landscapes and physical locations that channel and group pedestrians into target areas.
- Public spaces which attract, rather than discourage people from gathering.
- Restricted access to internal areas or high-risk areas (like car parks or other rarely visited areas). This is often achieved through the use of physical barriers.

Master Plan Response

Access control will be maximised by:

- Extending the School's strict control over entries to the school to the new development. Entry points are generally open only for morning drop off and afternoon pick up. Outside of these times, entry to the school is restricted to the Waters Rd and Military Rd entry only.
- Controlling public access to the site via fencing/gates.
- During school hours, access to the school only occurs after visitors sign-in at the main reception. Visitor badges are issued and any unidentified people on campus not displaying a visitor badge have their identify queried by staff.

Access to existing and proposed parking areas will be restricted as follows:

- Staff at manager level or higher.

- Staff with significant tenure.
- Visitors who have been issued a pass allowing them access to open the relevant car park gate.
- New driveways proposed will include secure, controlled access.
- Out of bounds areas are clearly marked and fenced off to ensure entry does not occur.
- All staff are issued keys which provide them access to buildings. Access levels vary according to the needs of staff and the performance needs of their roles.
- Visitors may be provided a key which allows them to access designated areas relevant to their purpose at the school.

Principle 3 - Territorial Reinforcement

Community ownership of public space sends positive signals. People often feel comfortable in, and are more likely to visit, places which feel owned and cared for. Well used places also reduce opportunities for crime and increase risk to criminals. If people feel that they have some ownership of public space, they are more likely to gather and to enjoy that space. Community ownership also increases the likelihood that people who witness crime will respond by quickly reporting it or by attempting to prevent it. Territorial reinforcement can be achieved through:

- Design that encourages people to gather in public space and to feel some responsibility for its use and condition.
- Design with clear transitions and boundaries between public and private space.
- Clear design cues on who is to use space and what it is to be used for. Care is needed to ensure that territorial reinforcement is not achieved by making public spaces private spaces, through gates and enclosures.

Master Plan Response

Territorial reinforcement will be maximised by:

- High quality landscaping and ongoing maintenance of grounds.
- Providing physical barriers (fencing) to preclude access from the street.
- Signage will be used to direct pedestrian and vehicular access.

Principle 4 - Space Management

Popular public space is often attractive, well maintained and well used space. Linked to the principle of territorial reinforcement, space management ensures that space is appropriately utilised and well cared for.

Space management strategies include activity coordination, site cleanliness, rapid repair of vandalism and graffiti, the replacement of burned out pedestrian and car park lighting and the removal or refurbishment of decayed physical elements.

Master Plan Response

Space management will be maximised by:

- The School's Facilities team monitors the buildings and spaces on campus to ensure that they are kept clean, tidy and that maintenance occurs in a timely manner.
- The School operates a rolling capital expenditure program to ensure that its buildings and spaces are well maintained and that regular maintenance work is scheduled.

- Ad hoc work such as vandalism and graffiti is reported to the Facilities team by staff or security who monitor the campus outside of school hours. Security report such work to Facilities in their daily reporting back to the School. The School provides sufficient financial resources to ensure that ad hoc repairs occur promptly.

The proposal will provide a high level of security and design elements will deter criminal behaviour. The proposal is therefore consistent with CPTED principles.

8.3 ENVIRONMENTAL AND RESIDENTIAL AMENITY

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

- Visual privacy
- Solar access
- Views and vistas in the locality
- Wind impacts

The project seeks to minimise adverse impacts on the surrounding locality. The development will not change the existing character of the site (the site is already occupied by substantial building forms commensurate with its school purpose) but will result in a further increase in built development. The proposal has been designed to reduce unnecessary impacts and provide a high quality architectural response and high quality public open space.

8.3.1 VISUAL PRIVACY

The Learning Hub will be four storeys and therefore has the potential to overlook properties in the immediate vicinity. The potential for overlooking has been minimised by the following:

- The façade of the building allows natural light and ventilation into the building, and obstructs external views to the east.
- The roof top terrace will provide outdoor teaching spaces. The area is not intended for passive recreation. Students will at no time be permitted on the roof terrace unsupervised.
- The roof top is over 4m from the apartments in Nos. 8-12 Winnie Street, separated by landscaped areas that will not be trafficable. This ensures an appropriate separation. Further, the roof top will generally be used during class times between 9am and 3.30pm, not in the evenings or weekends.

It is considered that the proposed façade design will provide appropriate mitigation to safeguard the privacy of adjacent residents.

Overall, the concept proposal has been designed and sited to minimise privacy impacts:

- A large landscaped forecourt will now adjoin the cottages on Gerard Street. Boundary fencing between the school and this property will ensure there is no overlooking opportunities.
- The new sports centre and Humphrey Buildings are 8m and 6m from adjoining development on Military Road and Waters Road, respectively. A new access land provides that separation to ensure minimal visual privacy impacts.
- Detailed design and mitigation measures will be included in future development applications for the later stages of the Concept Plan.

8.3.2 SOLAR ACCESS

The project has been orientated to provide maximum solar access to all buildings and open space within the site. The project benefits from solar access as follows:

- The principal open space proposed on the site is prominently positioned to the north, receiving sunlight throughout the year.

- The Learning Hub is orientated north and will receive sunlight throughout the day.

The project has been designed having regard to the solar access requirements of the surrounding properties. Shadow diagrams and elevational shadow diagrams have been included at Appendix F to illustrate the impact of the proposed development on solar access of surrounding properties. The diagrams include the Winter Solstice, Summer Solstice and March and September Equinox. The diagrams are summarised as follows:

- No. 19 Waters Road: The taller buildings proposed will result in loss of solar access to properties to the west when compared to the current situation during the Winter Solstice. The north eastern elevation of No. 19 Waters Road is already fully impacted on by the existing buildings in the morning. Further, the existing boundary fence casts shadow on the ground floor living room and terraces. The proposal will impact on the solar access in the midday and afternoon hours. We understand that these dwellings have private open space small balconies facing south and roof terraces that will not be impacted on by the proposal. No. 19 Waters will receive good solar access at all other times of the year.

- Bougainvillea Apartments: The proposal will impact on the solar access of these apartments in the morning hours only. The proposal does not significantly impact on the adjoining development during the midday hours and does not cast any additional shadow in the afternoon hours.

- Nos. 8-12 Winnie Street: These dwellings are shadowed by existing buildings throughout the day. The proposal does not cast any additional shadow.

- No. 6 Monford Place: The Stage 1 Learning Hub building will not impact on No. 6 Monford Place in the morning hours. The northern elevation will be impacted on in the midday and afternoon hours. However, this building is oriented to Monford Place and will receive easterly sun in the midday hours.

Shadow diagrams are based on indicative built forms only and specific shadow diagrams will be provided with future DAs.

Accordingly, the proposed built form and layout is appropriate in terms of solar access. No. 19 Waters Road is impacted on by the future Humphery building during the Winter Solstice. However, these dwellings have private open space on the other side of the development that will not be impacted on. These dwellings will also have good solar access at all other times of the year.

8.3.3 VIEWS AND VISTAS

No views or vistas will be impacted by the proposed development.

8.3.4 WIND IMPACTS

Vipac Engineers and Scientists Ltd has prepared a Wind effect Statement, which is an assessment of the wind effects of the proposal in pedestrian environments and in adjacent areas (Appendix T). The key points raised in the Wind Effect Statement are:

- *The proposed development incorporates a number of wind mitigating features, such as set back frontages from boundary, keeping most of existing street trees, and new landscaping at some open spaces, etc. These features help to decrease the wind speeds at the footpaths at the ground level and the entrance areas.*

- *The proposed development is considered likely to have wind conditions on the adjacent ground floor public access-ways that fulfil the required criteria for walking with proposed design."*

- *The proposed development would not have significant adverse effects to the footpaths around the site. The concept design retains most street trees at Belgrave Rd and Waters Rd and proposed landscaping at open spaces inside the boundary which can help to reduce the high winds. The wind conditions at the footpaths would be expected within the recommended walking criterion.*

- *The proposed development would not have significant adverse effects to the footpaths around the site. The concept design retains most street trees at Belgrave Rd and Waters Rd and proposed landscaping at open spaces inside the boundary which can help to reduce the high winds. The wind conditions at the footpaths would be expected within the recommended walking criterion.*

- *The proposed building entrances for different stages are located at relative sheltered areas and would be expected to have wind conditions within the recommended standing criterion.*

The Report concludes, inter alia:

> *"The proposed development would be expected to fulfil the recommended criterion for walking in all ground level footpath areas with the proposed design.*
>
> *Wind conditions in the entrance areas would be expected to fulfil the recommended criterion for standing with the proposed design.*
>
> *The proposed development has natural ventilation conditions. Vipac recommends a study of natural ventilation for the proposed development."*

The assessment identifies that wind conditions around the existing site are generally suitable for pedestrians. Following the construction of the proposed development the surrounding streets will remain suitable for pedestrians.

8.4 STAGING

The project will be delivered in five stages over a 20 year (approximately) period as described in Section 4.2.

8.5 TRANSPORT AND ACCESSIBILITY

This SSDA is accompanied by an Access Strategy developed by Traffix, which provides a holistic strategy on movements to and through the senior school campus. This Access Strategy addresses the DGRs and includes matters such as vehicle access, parking, servicing, pedestrian, cycling, travel demand and accessibility.

Traffix has also provided an assessment of the traffic and transport impacts of the concept proposal, which are included within the Access Strategy, attached at Appendix D. The following summary provides an overview on the project travel demand management, parking provision, vehicular access and traffic impacts.

8.5.1 SUSTAINABLE TRAVEL PLAN

A comprehensive Workplace Travel Plan (WTP) is considered to be the most effective travel planning measure to encourage travel by alternative means other than private car. Redlands will adopt a strategy to achieve and encourage staff, students and visitors to adopt more sustainable forms of travel.

A draft Travel Access Guide has been prepared by Traffix and will provide relevant transport and access information to school employees. This WTP information that would be provided to staff includes local bus facilities and network maps and local cycle route maps. A WTP will be developed and implemented prior to occupation of any development stage.

Traffix also recommends that a car pool scheme be considered by the school. Travel Mode data gathered indicates that there is a staff car occupancy of 1.14 people. By developing such a scheme, the school will actively attempt to reduce vehicular reliance.

Bicycle usage is encouraged by further provision for bicycle parking and end of trip facilities within the new developments of the project.

8.5.2 VEHICLE PARKING

Stage 1

A total of 68 parking spaces are provided upon completion of all Stage 1 works. As discussed in the Traffic Impact Assessment, this parking provision is supported for the following reasons:

- The travel mode questionnaire undertaken for the concept proposal identified that a maximum demand of 82 staff spaces is generated and these spaces are presently accommodated on-street. The proposed relocation of the current parking demand to the on-site car park (Monday-Friday) will improve on-street parking conditions. The provision of 68 parking spaces will satisfy a high proportion of the existing parking demand on site.

- The provision of 68 parking spaces in Stage 1 is forward planning and results in an ability for this car park to satisfy the Stage 2 proposed works, being the sports hall and drama building.

- Under the DCP, the recreational facility has a maximum parking rate of 1 space per 100m^2, which generates a demand for 87 parking spaces. The proposed 68 spaces in Stage 1 complies with the DCP.

Concept Proposal

The Traffic Impact Assessment notes a number of key primary considerations in relation to the parking demand aspects of the site redevelopment. These are:

- The completion of the overall site redevelopment and ability to accommodate the future demand of the Sports and Performing Arts Centre (Stage 2) and the swimming pool (to be constructed in Stage 4) both of which would reach peak utilisation during weekend periods (Saturday); and

- Acknowledging the direct consequential benefit of the parking provided for this weekend demand being available to serve the needs of staff who presently park on-street on weekdays. This will release on-street parking for the use of the general public and residents in particular, which is a significant public amenity benefit.

- There are a number of performing arts, creative arts and school community events that are currently held on school grounds. No increase is proposed in either the frequency or capacity of these events. These existing events accommodate all parking demands on-street and the proposed 115 spaces will provide a significant improvement in on-street parking conditions in the locality.

Weekend Car Parking Demand

The weekend car parking demand generated by each stage is as follows:

- Stage 2: 87 spaces generated by the sports hall and drama building.

- Stage 3: The proposed works are associated with internal alterations and additions of existing buildings and will not resulting in any additional parking demand.

- Stage 4: The swimming pool will generate a demand for 10 weekend spaces in accordance with Council's DCP rate of 1 space per 100m^2. The DCP rate is considered an underestimate based on the operational needs of the school. The peak usage of the swimming pool will attract high usage during weekend periods with an expected demand of up to 80 people per hour (students, staff and spectators). This is a demand of 160 person trips per hour. The Traffic Impact Assessment considers there to be an actual demand of 43 spaces.

- Stage 5: The proposed alterations and additions to the existing Adams Centre building will not result in any additional parking demand. Stage 4 will complete the extension of the car park which will result in a total of 115 parking spaces.

In relation to the weekend parking demand, the Traffic Impact Assessment states, inter alia:

> *"It is clear from Table 14 that an overall parking requirement of 112 spaces is derived from the parking assessment and upon the completion of the overall site re-development, the car park layout will provide a total of 115 parking spaces generally satisfying this demand. Any provision below this level would introduce a potential for unfavourable on-street parking impacts and the provision of 115 spaces is considered an appropriate balance, having regard for Council's objective to minimise parking as far as practicable. This will ensure that there is reduced reliance upon on-street parking during the weekend peak periods once the facility is fully operational."*

The car parking demand can therefore be accommodated on site at all times and is generally compliant with Council's DCP.

Weekday Car Parking Demand

Council's DCP requires parking to be provided at a rate of 1 space per 6 staff for 'Educational Establishments'. The existing 150 staff (100 full time staff & 50 support staff) would nominally require 25 parking spaces. However, RMS Guidelines recommend surveys of these existing demands as the preferred methodology for parking generation.

The existing parking demand of Redlands School is 82 staff spaces, which are presently accommodated on-street at any one time on a typical weekday, and 17 on-site parking spaces. The proposed relocation of the current parking demand to the on-site car park (Monday-Friday) will significantly improve on-street parking conditions and by reducing the on-street parking pressure.

The required car parking spaces will be relocated within the basement car park for general staff use only Monday to Friday. The Traffic Impact assessment also considers it appropriate to provide an additional 14 spaces for parents/visitors for normal weekday demands, based on experience and the existing provision of parking for visitor use. This results in an overall requirement of 113 parking spaces for the existing typical weekday peak operational requirements

In terms of weekday car parking, the Traffic Impact Assessment concludes:

> *"The total resultant demands (existing plus expansion) will be 115 parking spaces on weekdays. The ultimate provision of 115 parking spaces (required for weekend conditions) will accommodate this and also provide some level of spare capacity to accommodate occasional (non-design) peaks. Importantly, the removal of extensive existing kerbside parking in the locality will improve the amenity of area, most notably for local residents. This on-street parking capacity improvement will occur progressively over time, with 68 parking spaces delivered upon completion of Stage 1 and 115 parking spaces on the completion of Stage 4."*

Accordingly, the proposal car parking provision is considered to satisfy the weekday and weekend demand. The proposed car parking is consistent with Council's DCP which aims to ensure that sufficient car parking is provided on site for the users of the development.

8.5.3 MOTORCYCLE PARKING

Motorcycle parking is required to be provided at a minimum rate of 1 space per 10 cars or part thereof. The proposal generates a demand for 12 motorcycle parking spaces on the basis of 115 spaces following completion of Stage 4. The development proposes 12 motorcycle parking spaces which complies with the DCP provision.

The Traffic Impact Assessment confirms that the proposal comply with Council's DCP requirement for motorcycle spaces to be designed with minimum dimension of 1.2m x 3m.

8.5.4 BICYCLE PARKING

Council's DCP does not specify bicycle parking requirements for a secondary school. It does refer to Tertiary Educational Institution which requires minimums of 1 per 10 staff and 1 space per 10 students. The DCP also notes that Council will give consideration to the rates for "other" types of development contained within the Planning guidelines for walking and cycling 2004 which requires:

- Long Term Use: 3-5% Staff (5-8 spaces)
- Short Term Use: 5-10% Staff (8-16 spaces)

On this basis, the development is required to provide 13-24 bicycle parking spaces. The proposal provides 20 bicycle parking spaces within the basement car park suitable for use by staff.

8.5.5 SERVICE VEHICLES

Waste Collection is currently undertaken with access onto Gerard Street by a private contractor. The waste collection vehicle currently enters the site in a forward direction, collects the waste, undertakes a reverse manoeuvre on site and exits the site in a forward direction.

Collection of bins from the temporary storage area created in Stage 1 will be via the newly established access road. Waste trucks would enter from Waters Road and exit onto Military Road. Collections would be scheduled to occur in the early hours of the morning to minimise disruptions to school activities and other vehicle movements through the access road i.e. buses.

8.5.6 GENERAL VEHICLE STRATEGY AND TRAFFIC IMPACTS

The Traffic Impact Assessment addresses the traffic impacts of the concept proposal redevelopment. In summary:

- The existing 920 students and 150 staff members generate a total of 283 arrival vehicle trips - 196 students related vehicular trips and 87 staff related vehicle trips.
- The existing 920 students and 150 staff members generate a total of 200 departure vehicle trips - 113 students related vehicular trips and 87 staff related vehicle trips. The school has enrolment capacity of 950 students and 10 additional teachers.
- Based on the operational requirements of the school the overall development may generate a turnover of up to 550 people per hour including 150 people (75in, 75 out) for the swimming pool weekend operations and 400 people (200in, 200 out) for the sport facilities building weekend operations.
- The development may generate 146 vehicle trips per hour between 8am and 2pm.
- It is not anticipated that the 146 veh/hr will have a major impact on the road network as the nearby intersections currently operate with acceptable Level of Service. The proposal will have a negligible effect on the nearby intersections with very minor increases in delay estimated. The intersections will continue to operate at an acceptable Level of Service during the weekend peak periods which for analysis purposes occurs from 12noon to 1pm.

In terms of traffic impacts, the Traffic Impact Assessment concludes, inter alia:

> *"In summary, the concept proposal and redevelopment of the site does not create significant traffic impacts during the weekday operation of the school or during the weekend operation of the extra-curricular school activities. The proposed modifications will create additional demand during the weekend (Saturday) period which as demonstrated above can be accommodated within the external road network*."

The proposal is supported by a Traffic Impact Assessment and will have no adverse impacts on the road system for the general operation activities of the site.

8.6 ECOLOGICAL SUSTAINABLE DEVELOPMENT

The DGRs require consideration of the ESD principles defined in Clause 7(4) of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (The Regs) in the design, future construction and ongoing operation of the school. Redlands is committed to developing an ecologically sustainable campus to provide world class, teaching and learning facility and a vibrant school environment. It will

embrace ESD principles by ensuring the built environment is operationally efficient and conserves and enhances natural resources.

Under clause 7(4) of Schedule 2 of The Regs, the principles of ecologically sustainable development are as follows:

(a) *The **precautionary principle**, namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:*
   i. *careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and*
   ii. *an assessment of the risk-weighted consequences of various options,*

(b) ***Inter-generational equity**, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,*

(c) ***Conservation of biological diversity and ecological integrity**, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,*

(d) ***Improved valuation, pricing and incentive mechanisms**, namely, that environmental factors should be included in the valuation of assets and services, such as:*
   i. *polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,*
   ii. *the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,*
   iii. *environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.*

A response to the above principles is provided below.

The Precautionary Principle

There are no threats or serious or irreversible environmental damage resulting from the proposal. The School is an existing development and the proposal is for an upgrade to the School's facilities. Careful evaluation of the environmental impacts of the proposal has been undertaken throughout this EIS and the accompanying technical reports. Where an impact or risk may occur, recommendations for mitigations measures have been made to ensure that there will not be any serious or irreversible damage to the environment.

Inter-Generational Equity

The proposal ensures that the educational use of the site continues for the benefit of current and future generations. The new and upgraded facilities on the site will enhance the educational experience of current and future staff and students. The proposal ensures equity for inter-generations.

Conservation of biological diversity and ecological integrity

A Flora and Fauna Assessment has been undertaken which has determined that the original vegetation that would have occurred on the site has been cleared and the area fully developed. The subject site does not contain a fully or partially structured native vegetation community, nor possesses open areas with the potential for bushland regeneration.

Further, no threatened flora populations or threatened Ecological Communities were recorded on the subject site during the investigation. The proposal will therefore not impact on the ecological integrity of the site.

The proposed landscaping includes plant species that are indicative of the desired character of the planting in the campus landscape. The proposal will contribute to biological diversity of the area with new plant species that may also attract new fauna species.

Improved valuation, pricing and incentive mechanisms

No valuation, pricing and incentive mechanisms are proposed as part of this application. The proposal will investigate the feasibility and educational benefit of incorporating the following ecologically sustainable design features:

- LCD screens are being considered in public areas of the New Learning Hub to display the environmental features of the building. The intent is to raise awareness about sustainability and the impact occupants have on resource consumption.
- Solar photovoltaics have been proposed for the New Learning Hub for educational purposes.
- High performance building envelope.
- Narrow plan design, with denser classrooms along the façade line.
- Natural Ventilation has been included in the New Learning Hub to service the classrooms, learning spaces and offices. Ceiling fans to assist natural ventilation in the movement of air.
- Night-purge ventilation and exposed thermal mass (in ceilings and several walls) assists in regulating internal conditions.
- Maximising natural daylight and integrating with high efficiency electric lighting.
- Lighting control to general learning areas will be via local switching combined with daylight sensors to reduce energy when sufficient daylight is present.
- Within corridors and circulation areas lighting can be controlled by BMCS, timer or by central switching, to suit the operational requirements of the school.
- Store rooms and amenities can be controlled by occupancy sensors and timer so that lighting automatically turns off and movement is not detected for a pre-set time.

The ESD report at Appendix K demonstrates in detail the project's commitment to ESD principles. Accordingly, the EIS has addressed the ESD principles in The Regs and will have some benefits to the community. The proposal will not cause serious or irreversible damage to the environment. Mitigation measures have been recommended where a potential risk has been identified. The proposal maintains and enhances the education use for future generations. The site will not impact on threatened species or ecological communities. New species proposed will contribute to ecological diversity. The proposal incorporates a number of measures that contribute to an ecologically sustainable development.

8.7 NOISE AND VIBRATION

8.7.1 CONSTRUCTION NOISE

The Construction and Operational Noise Report prepared by Wilkinson Murray has been determined that noise from construction activities during the day period will potentially exceed established construction noise management levels. Therefore, the planning and management of construction activities must take into account the sensitivities of surrounding residents so as to minimise the impact of construction activities at these receivers. The control of construction noise and vibration should be addressed in a Noise and Vibration Management for Stage 1.

The Construction and Operational Noise Report recommends the following project specific mitigation measures:

- Selection of quietest feasible construction equipment;
- A 2.4 m plywood hoarding around the construction site;
- Use of rocksaws and ripping in preference to rockbreakers;

- Localised treatment such as barriers, shrouds and the like around fixed plant such as pumps, generators and concrete pumps;

- Provision of respite periods, particularly on Saturdays;

- Trial testing of vibration levels is conducted where equipment identified as having the potential to exceed the human comfort criteria.

In the case of potential vibration the following measures are recommended:

- Use rock saws in lieu of rockbreaker or alternatively use smaller rockbreakers in the eastern side of the site;

- Conduct trail vibration testing prior to use of rockbreakers when near the eastern site boundary.

These measures can be incorporated in the final Construction Management Plan and are aimed at working towards achieving the noise management levels established at surrounding receivers.

8.7.2 OPERATIONAL NOISE

Operational noise is limited to mechanical plant and exhausts. Mechanical plant such as car park exhaust fans, rooftop exhausts, and VRFs associated with the development should be assessed at the time of detailed design and selection, having regard to nearby residential and commercial properties surrounding the development, and to future uses in the school area.

The Construction and Operational Noise Report recommends that to mitigate noise from mechanical plant, silencers could be incorporated in the outlets of the exhaust fans and roof top plant. These could be covered with louvred acoustic barriers if required. The mechanical plant noise emission will be designed to meet the relevant noise criteria.

8.7.3 TRAFFIC NOISE

Noise levels associated with weekday and weekend traffic have been predicted by the Construction and Operational Noise Report. Based on these predictions and the road classification the operation of the facility will not result in unacceptable traffic noise impacts at surrounding residences.

8.8 HERITAGE

The site includes a number of heritage buildings of cultural, aesthetic, historical and social significance. These items demonstrate the different phases of the school's development. 272 Military Road and 219 Military Road (the Adams Centre) are listed as locally significant heritage items under the North Sydney LEP 2012.

The Staged Development Project aims to protect the school's heritage significance and the heritage qualities of the campus by retaining the site's key heritage buildings. A Heritage Impact Statement is attached at Appendix S. The following buildings have been identified as being of heritage significance:

- The Adams Centre: The former Cremorne Post Office which was constructed in 1917 and operated until 1971. The building comprises a single storey Federation style post office. The building is listed as a local heritage item.

- The Liggins Building: Liggins House was built as a junior school in 1923. It comprises a two storey Federation style building with open verandah supported on timber and cast iron posts. The building is identified has having potential heritage value being one of the original school buildings on the site.

- The Lang Gymnasium: Designed by architect Alex Popov and constructed between1988-91. The gymnasium was awarded the Sulman Merit Award for Architecture in 1992 and is identified as having potential aesthetic heritage significance

These buildings will be retained but are proposed to be altered and extended in future stages of the project. Further assessment of the potential impacts of development on these buildings will be undertaken as part of future DAs.

Nos. 7 and 8 Monford Place (proposed for demolition in Stage 1 of the project) are not heritage listed.

The HIS identifies a number of aspects of the proposal that respect or enhance the heritage significance of the item or conservation area:

- *S.C.E.C.G.S Redlands has historic significance as an elite private school that was established in 1884 on Sydney's lower North Shore. The works proposed in the Stage 1 works form part of the Redlands Masterplan aims and objectives to ensure the school continues to provide a place of educational excellence that serves the local community.*

- *Liggins Building (6) is one of the original school buildings on the site and is itemised on the Redlands heritage listing. Liggins Building is a place of "High" heritage significance. The Stage 1 works propose to retain the building.*

- *The proposed Stage 1 works for Redlands propose Former Cremorne Post Office (1), a place assessed as having high heritage significance, be retained and conserved. No works are proposed to this building as part of the Stage 1 works.*

The HIS also identifies those works that could impact on heritage significance:

- The proposed Stage 1 works will alter much of the Redlands School campus. The adaptive re-use of residential buildings will result in change to the physical character of Redlands school, loss of buildings with some heritage potential and changes to the streetscape character of the surrounding area.

- The proposed the new four-storey Learning Hub adjoining the existing Roseby Building could dominate the heritage item. Care needs to be taken in the design development to ensure the proposed use does not negatively impact on original curtilage, fabric, configuration, height, views, form, siting, proportions and design.

The HIS concludes, inter alia:

> *"The proposed works described above will alter some significant historic layers of the Redlands campus. While these layers give an understanding of the historic development and expansion of Redlands school, and residential patterns on the perimeter of the original school, they are not so significant to the schools heritage that they need to be retained at the expense of providing improved educational facilities and do not adversely affect the identified heritage significance of the property. An Interpretation Strategy would assist in explaining the historic phases of development of the school and ameliorate the loss of physical evidence of these phases. We recommend the heritage aspects of this application be approved*."

The HIS includes a number of recommendations to mitigate the heritage impacts that may arise from the concept proposal. These recommendations will inform and guide the future detailed planning and design of the staged development of the site. Further information is contained in Appendix S.

8.9 ABORIGINAL HERITAGE

An Archaeological Assessment and Statement of Heritage Impact has been prepared by Austral Archaeology. The objectives of this report are to provide an archaeological assessment of the whole study area and a statement of heritage impact (for Stage 1) (Appendix R).

The Archaeological Assessment concludes, inter alia:

> *"A search of the Aboriginal Heritage Information Management System (AHIMS) database regarding the study area returned a result of no sites within at least a 200 metre radius of the study area. Given the documented history of use and continuous development since the mid to late 19th*

century within the study area, it is clear that the study area qualifies as 'disturbed' land under the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (DECCW 2010b).

In regard to the proposed development in Stage 1 for the New Learning Hub, one small part of the study area has been identified as being archaeologically sensitive and it is considered to have low potential to contain in situ historical archaeological material relating to the remains of a wooden structure built circa 1863, identified as being a toilet or shed (see Figure 11.1). There is a very low potential for in situ Aboriginal remains and/or deposits in this area. It is therefore considered that the proposed Learning Hub has minimal potential to harm any archaeological resources.

It is concluded generally that some parts of the remainder of the study area (outside the Stage 1 development area) have very low to low archaeological potential and any possible features would be of local significance with low research potential (see Figure 11.1). The assessment of potential impacts on any archaeological resources from future development activities under later stages of the campus master plan was outside the scope of this study.

It is considered that the recommendations in this report provide adequate mitigative strategies for management of the archaeological values of the Stage 1 development area of the site."

The Assessment makes the following recommendations

"The following recommendations are made in conjunction with Figure 11.1. It is recommended that:

1. *No further investigative work need be undertaken in regards to the Aboriginal cultural heritage at SCECGS Redlands, Cremorne. This report documents the results of a site inspection in November 2014 that resulted in no Aboriginal sites being located within the study area. The survey and background research also confirmed the disturbed nature of the study area.*
2. *The area to be developed under Stage 1 of the campus master plan has been investigated in detail in this Statement of Heritage Impact. No further archaeological investigation needs to be undertaken in this area as it has been assessed to contain very low or nil archaeological potential; works in these areas can proceed with caution.*
3. *As future stages of the campus master plan are developed, the locations of all impacts should be checked in the zoning plan (Figure 11.1). Any impacts in areas of designated archaeological potential will require the creation of an individual Statement of Heritage Impact.*
4. *Should the proposed development be altered significantly from the proposed concept design, then a reassessment of the heritage/archaeological impact may be required.*
5. *In the event that historical archaeological relics not assessed or anticipated by this report are found during the works, all works in the immediate vicinity are to cease immediately and a qualified archaeologist be contacted to assess the situation and consult with the Heritage Branch of the OEH regarding the most appropriate course of action.*
6. *In the event that Aboriginal archaeological material or deposits are encountered during earthworks, all works affecting that material or deposits must cease immediately to allow an archaeologist to make an assessment of the find. The archaeologist may need to consult with the Office of Environment and Heritage (OEH) and the relevant Aboriginal stakeholders, regarding the find. Section 89A of the NPW Act 1974 requires that the OEH must be notified of any Aboriginal objects discovered within a reasonable time.*
7. *One copy of this report should be lodged with the local studies collection of the local library, a copy should be lodged with AHIMS, and an additional copy should be lodged with the New South Wales Heritage Branch library at:*
   Heritage Branch
   3 Marist Place
   Parramatta NSW 2150"

Accordingly, no further investigative work needs to be undertaken in regards to the Aboriginal cultural heritage of the site.

8.10 SEDIMENT, EROSION AND DUST CONTROLS

A Sediment, Erosion and Dust Control Plan is contained within the Civil package prepared by TTW and attached at Appendix J.

8.11 FLORA AND FAUNA

A Flora and Fauna assessment has been undertaken by Total Earth Care to identify the potential impacts of the proposal on flora and fauna. The results of these investigations identify the following:

- The site comprises a highly modified environment and vegetation is limited to lawn, garden beds and tree plantings which consist of a mix of native and introduced species.
- No threatened plant species are expected to occur within the site of the school campus.
- Only commonly occurring fauna species were recorded during the site visit and there are no records of threatened species occurring within the site.

Flora

- The original vegetation that would have occurred on the site has been cleared and the area developed.
- The site does not contain a fully or partially structured native vegetation community, nor does it possess open areas with the potential for bushland regeneration.
- 27 plant species comprising 2 locally occurring native species, 8 non-locally occurring native species (including planted natives) and 17 introduced species.
- One species Olea europea ssp cuspidate African Olive is listed as noxious under Order 30 of the NSW Noxious Weeds Act 1993.
- No threatened flora populations listed under the TSC Act or EPBC Act were recorded within the site during site investigations. Similarly, no Threatened Ecological Communities listed under the TSC Act or EPBC Act were recorded on the site.

Fauna

- A total of 6 vertebrate fauna species were recorded during field surveys including 5 birds and 1 reptile.
- The majority of the fauna species recorded within the subject site are typical within urban areas, urban fringes and adjoining natural areas within the Sydney basin Bioregion and are widespread in distribution.
- No threatened fauna species listed under the TSC Act were recorded during site investigations/

Conclusion

The Report concludes, inter alia:

> *"This flora and fauna assessment has considered the flora and fauna species, vegetation communities and habitat components occurring or previously recorded within the study area. The assessment identified one plant community consisting of a mixture of planted exotic and non-locally indigenous native species. No fully or partially structured native vegetation community exists on the subject site. One plant species, Eucalyptus nicholii, listed as a Vulnerable under both the NSW Threatened Species Conservation Act 1995 and Commonwealth Environmental Protection and Biodiversity Conservation Act 1999 was found to occur onsite. However, given that this species is naturally rare, has a restricted distribution in the New England Tablelands, and it commonly planted around Sydney as a street tree, it has been assessed that the specimen onsite is planted thus an Assessment of Significance is not warranted.*

The assessment found no fully or partially structured native vegetation onsite. There are a number of large, non-locally indigenous planted canopy trees onsite; some of these canopy trees will be removed as part of the proposal. The largest of these being a Eucalyptus viminalis (Tree 63, identified as Eucalyptus maidenii in Bluegum (2014)) which will be removed as part of the proposal. No tree hollows were observed within any of the canopy trees being retained or removed onsite.

The site contains marginal and poor quality habitat for the majority of threatened species likely to occur within the locality; although it may be possible that some species periodically take refuge onsite as they transit between larger areas of good quality habitat. It is likely that various species of microchiropteran bats (microbats), including two threatened species Eastern Bent-wing Bat Miniopterus schreibersii oceanensis, Eastern Freetail Bat Mormopterus norfolkensis utilise the subject site as foraging habitat; the site contains no roosting or breeding habitat for microbats.

A 7-part Test has been undertaken for the two threatened microbats that may be foraging on the subject site (Appendix C), setting out the factors to consider when determining whether the proposed development will have a significant effect on this threatened entities. The Assessment of Significance (7-part test) has concluded that the proposal is unlikely to have a 'significant impact' on the entities assessed. Therefore a Species Impact Statement will be not be required."

To minimise or control potential impacts of the current proposal on the native flora and fauna of the subject site and study area, the report recommends the following to guide the proposed development application:

- *The current proposal is to be carried out in accordance with all policies, operational procedures and guidelines in place as part of a consent condition or EPI relating to environmental management or impact minimisation for construction projects of the scope for current proposal.*
- *Implementation of tree protection measures as recommended in the Arboricultural Impact Assessment (Bluegum, 2014).*
- *Installation, maintenance and decommissioning of sediment and erosion controls as required and as specified in any consent and soil and water management plan.*
- *A local wildlife rescue service is to be contacted if native or introduced fauna are injured or disturbed from nesting or sheltering habitat during construction works.*
- *Relevant recommendations above are to be incorporated into a construction environmental management plan or similar, prepared for the subject site.*

Accordingly, the Flora and Fauna Assessment has concluded that the current proposal is unlikely to significantly impact on the native flora and fauna of the study area and wider locality, including threatened species.

8.12 UTILITIES

Infrastructure Management Plan: An Infrastructure Management Plan has been prepared in consultation with council and relevant agencies, detailing information on the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure shall be addressed. This is discussed in Section 5.14 of this report and Appendix L.

Further, a Hydraulic & Fire Services Report has been prepared by Insync Service Pty Ltd, which considers the following elements:

- Authority Infrastructure
- Sewer Drainage Services
- Potable Cold Water Services

- Natural Gas Services
- Fire Hydrant Services
- Fire Sprinkler Services

Details are provided in Appendix U.

Integrated Water Management Plan: An Integrated Water Management Plan has been prepared that details proposed alternative water supplies, proposed end uses of potable and non-potable water, and water sensitive urban design. This is discussed in Section 5.13 of this report and Appendix J.

8.13 CONTRIBUTIONS

Section 94 Contributions will be calculated by Council in accordance with the North Sydney Section 94 Contributions Plan 2013.

8.14 FLOODING

The Integrated Water Management Plan has reviewed North Sydney Council 1m Contour Maps. The maps indicate that the site is located near the top of a ridge falling at approximately 4% grade from Military Road toward the northwest.

The proposed development scheme requires this existing easement/pipe to be relocated. TTW has considered four stormwater diversion options sized to cater for the 100-year ARI storm event including inlet capacity in Monford Street due to lack of overland flowpath through the site. These options were reviewed with North Sydney Council at a meeting held on the 20th January 2015.

The Integrated Water Management Plan attached at Appendix J describes the proposed stormwater and drainage strategy for the site. On-site flooding is not a significant risk on the site.

8.15 DRAINAGE

The Integrated Water Management Plan proposes a concept drainage plan, which is described in detail in 5.13 of this report.

8.16 SERVICING AND WASTE

Waste and construction management are described in detailed in Sections 5.15 and 5.16 of this report. Further, a Waste Management Plan and Construction Management Plan have been prepared that Identifies, quantifies and classifies the likely waste streams to be generated during each construction stage and operation, and describes the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. These technical reports also identify appropriate servicing arrangements.

8.17 OTHER ASSESSMENT ISSUES

8.17.1 ACCESS

An Accessibility Design Assessment has been undertaken by AED Access to identify compliance with the accessibility provisions of BCA 2015 and the *Disability (Access to Premises – Building) Standards 2010: (Premises Standards).* The Accessibility Design Assessment concludes:

> *"As this School is a single tenant, then any future work to the building(s) will trigger the 'affected part' and therefore, upgrade of the building entry, to and through to the area(s) of new work will be required.*

The Masterplan results in new buildings with compliant access and an access upgrade across the whole school site / grounds, such that at completion of the Masterplan, compliance with the Access Code / Premises Standards will be achieved.

During staged development, access compliance to and throughout the school / buildings will be continually assessed / managed to ensure a compliant level of access is maintained."

The proposal therefore satisfies the relevant provisions of BCA 2015 and the *Disability (Access to Premises – Building) Standards 2010.*

8.17.2 BCA

AED Consulting has undertaken an assessment of the proposed change of use of Monford Place buildings against the Deemed-to-Satisfy (DTS) provisions of the Building Code of Australia (BCA) 2014. The two Class 2 residential buildings at Nos. 7 and 8 Monford Place are proposed to be used for Class 9b educational purposes. AED has identified compliance issues and provided guidance relevant to achieving compliance with the BCA Performance Requirements by satisfying the DTS provisions, or through provision of suitable alternative solutions. A copy of the BCA compliance is attached at Appendix V.

8.17.3 GEOTECHNICAL

JK Geotechincs have prepared a Geotechnical Investigation to obtain geotechnical information on subsurface conditions and make recommendations on excavation, temporary batters, retention, groundwater, site classification to AS2870, footings, earthworks, on-ground floor slabs, external paved areas, drainage, soil aggression and hydrogeology (Appendix W). The findings of the investigation are summarised:

- The site is underlain by Hawkesbury Sandstone.
- The boreholes have revealed a subsurface profile comprising a limited thickness of fill over natural silty and sandy clays with sandstone bedrock encountered at moderate depth.
- Intermittent groundwater seepage was encountered at moderate depth.
- A brick paved surface and was underlain by a 'bedding layer' of gravelly silty sand approximately 150mm thick.
- Beneath the paved surfaces and from surface level, clayey and silty fill and sandy fill were encountered in all the boreholes and extended to depths ranging between 0.4m and 1.2m.
- Residual silty clay (occasionally sandy) assessed to be of medium (occasionally low or low to medium) plasticity and typically stiff to very stiff (occasionally firm or hard) strength was encountered beneath the fill in all the boreholes.
- Groundwater seepage was not encountered in the boreholes during auger drilling. On, and within a few hours of completion of auger drilling, standing water levels were recorded at depths of 4.3m (BH1), 6.2m (BH3), 6.3m (BH4) and 5.9m (BH6). The remaining boreholes were 'dry on completion.

The Investigation makes a number of recommendations to address specific issues during the demolition, excavation and construction phases of the project. The proposal will be undertaken in accordance with the techniques and recommendations made in JK Geotechincs' Geotechnical Investigation and standard conditions of consent.

9 Consultation

9.1 OVERVIEW

Consultation has commenced on the project and will continue as the assessment of the application progresses.

Community consultation commenced following lodgement of the request for DGRs and involved providing detailed information about the content of the project to the community and other stakeholders and providing range of opportunities for feedback and contact with the project team. At this time, the proponent had not formed a view on the preferred configuration of the concept proposal. The design of the project has subsequently progressed. The design team were advised of the concerns and issues identified during this preliminary round of consultation and sought to address these matters as the details design planning progressed. The feedback provided by stakeholders during this informal consultation process has helped to inform the detailed design of the concept proposal and the Stage 1 project.

Initial consultation has focused on providing preliminary information about the proposal to the community. The purpose of the consultation process to date has been to inform the community about the proposal for the site. The consultation process so far has provided the opportunity for the project team to listen to, inform and seek feedback from key stakeholders to ensure relevant issues are considered during the development of the proposal and scope for the preparation of technical assessments included in the EIS. Early consultation has also been designed to gauge the level of community support and acceptance of the proposal. The objectives of the preliminary consultation were as follows:

- Identify key community stakeholders with an interest in the project.
- Provide relevant information about the proposal to local residents and community stakeholders to create awareness about the proposal and forthcoming SSDA.
- Provide a means by which stakeholders could provide comment on the development of the proposal.
- Provide the project team with the opportunity to incorporate stakeholder feedback into the planning and development process.

The preliminary consultation undertaken in respect of the proposed development to date is documented in the Consultation Report attached at X. The key initiatives identified in this report are summarised below.

9.2 NORTH SYDNEY COUNCIL

A pre-lodgement meeting to discuss the proposed development was held with North Sydney Council on 26 May 2014. A number of matters were discussed during this meeting as outlined below. A further meeting was held on 9 February 2015 to update Council on the concept proposal. Council provided comments on landscaping, traffic, green travel plans, car parking, stormwater and heritage. The comments made by Council have been incorporated into the design where feasible.

9.3 ROADS AND MARITIME SERVICES (RMS)

An initial meeting was held with the RMS in January 2014 to introduce them to the project and the proposed approach to access. This meeting, together with subsequent consultation, formed the basis for the approach adopted.

9.4 SERVICE PROVIDERS

Consultation has been undertaken with the relevant services and infrastructure providers to identify existing capacity and scope for augmentation of existing networks and infrastructure to support the proposal. This has included the following agencies:

- Telstra
- Sydney Water
- Ausgrid

The requirements of these agencies have been incorporated into the scheme design.

9.5 LOCAL COMMUNITY

In 2014, Elton Consulting undertook a community consultation process for the proposed redevelopment of the senior campus to support the School's vision for active and engaging 21st century learning for students.

Engagement activities supporting this stage of consultation include:

- Distribution of a flyer to local residents, inviting them to the Community Information and Feedback Session on 9 February 2015. This flyer was distributed two weeks prior to the event and also emailed to those on the pre-existing consultation database compiled during the 2014 consultation.
- A briefing session was held on 9 February 2015 for representatives of the Bougainvillea Retirement Village. This provided residents, staff and Board members with an opportunity to learn more about the Concept Proposal, view more detailed plans for Stage 1 works and ask questions of representatives of the School and the project planning team.
- A second Community Information and Feedback Session was held on 9 February 2015 and attended by six local residents. This provided an opportunity for the surrounding community to learn more about the Concept Proposal.
- An information line was established to receive calls from the community about the proposed Community Information and Feedback Sessions. No calls were received.
- An email address was also established and used to mail out invitations to the pre-existing community database. No feedback was received and there were no email bounce backs.
- The keys issues raised related to overall design and traffic and parking:
- Proximity of the Sports and Multi-Purpose Centre (Stage 2) to the adjacent Bougainvillea Retirement Village and potential impacts on solar access, privacy, views (aesthetics), reflection and heat radiation.
- Solar access (especially during winter time), privacy and views (aesthetics) for town houses at Nos. 19 Waters Road.
- Desire for the pine trees to be removed.
- The new through-link is in the best interests of the students and bus drivers but may impact on parking and traffic flow in the afternoon peak.
- Uncertainty around the right-turn into 11 Gerard Street and whether approval will be granted for it.
- The types of vehicles using the site's through-link and will this be managed.
- Use of the proposed car parks during weekend periods.

Elton Consulting provided answers to the above issues and questions, which are summarised in the Consultation Outcomes Summary Report at Appendix X.

The proposed concept plan and Stage 1 design have considered the issues raised in this consultation process. The Concept Proposal and Stage 1 application will be put on public exhibition for comment and formal submission.

Redlands is committed to working closely with its neighbours throughout the construction process.

10 Recommendations and Mitigation Measures

As a result of the EIS process and based on the technical studies completed, a range of mitigation measures are proposed to reduce any potential environmental and social impact of the proposal. Table 10 below provides a summary of the environmental management measures proposed.

TABLE 10 – DETAILED DESIGN ENVIRONMENTAL MANAGEMENT MEASURES

ITEM	POTENTIAL IMPACT	ENVIRONMENTAL MANAGEMENT MEASURE
Residential amenity	Overshadowing of No. 19 Waters Road	▪ Setback of 6m from the boundary. ▪ Not impact on south facing balconies facing and building heights that ensure No. 19 Waters will receive good solar access at all other times of the year.
	Visual privacy impacts to adjoining residences	▪ The façade of the building allows natural light and ventilation into the building, and obstructs external views to the east. ▪ The roof top terrace is not intended for passive recreation but for learning. Students will at no time be permitted on the roof terrace unsupervised. ▪ The roof top is over 4m from the apartments in Nos. 8-12 Winnie Street, separated by landscaped areas that will not be trafficable. This ensures an appropriate separation. Further, the roof top will generally be used during class times between 9am and 3.30pm, not in the evenings or weekends. ▪ A large landscaped forecourt will now adjoin the cottages on Gerard Street. Boundary fencing between the school and this property will ensure there are no overlooking opportunities. ▪ The new sports centre and Humphrey Buildings are 8m and 6m from adjoining development on Military Road and Waters Road, respectively. A new access land provides that separation to ensure minimal visual privacy impacts. ▪ Detailed design and mitigation measures will be included in future development applications for the later stages of the Concept Plan.
	Wind impacts on pedestrian walkaways and building entrances.	▪ Most street trees on Gerard Street and Waters Road are retained and open spaces within the boundaries reduce high winds.
Access		

ITEM	POTENTIAL IMPACT	ENVIRONMENTAL MANAGEMENT MEASURE
Parking	Disruption to street parking	▪ Site specific Construction Traffic Management Plan to be prepared and implemented by the head Contractor throughout the construction period and adjusted accordingly as required. ▪ Recommendations contained within the Traffic Impact Assessment for Stage 1 prepared by Traffix to be implemented ▪ Significant increase in on-site parking proposed within basement level of development
Traffic	Increased traffic congestion during construction	▪ Construction vehicles to enter and exit the site via Gerard St (for Stages 1A to 1D inclusive) and Waters Rd (for 1E) in a forward direction at all times. ▪ Where practical, materials and equipment to be delivered and off-loaded within site boundary to avoid disruption to public roadways. ▪ Heavy vehicle movements in and out of the construction zone to be minimised where practical during AM and PM peak periods. ▪ No impact on current out-of-hours operations of facilities on account of Stage 1. ▪ Allocation of dedicated car spaces for staff to be considered during preparation of an Operational Management Plan.
	Conflicts with cyclists and pedestrians	▪ Traffic management controllers to be available as required. ▪ Pedestrian traffic to take priority over construction vehicles. ▪ Increased bicycle storage and end-of-trip facilities for both students and staff. ▪ Allocation of dedicated car spaces for staff to be considered during preparation of an Operational Management Plan.

ITEM	POTENTIAL IMPACT	ENVIRONMENTAL MANAGEMENT MEASURE
Noise and Vibration	Noise generation during construction	▪ Construction noise levels generally to achieve site specific targets established by the appointed acoustician. ▪ Use of large noise emitting machinery to be prioritised during standard construction hours where practical. ▪ Scheduled construction activities expected to generate excessive noise to be communicated with impacted residents. ▪ Noise levels to be closely monitored from nearby receivers. ▪ Minimise need for reversing of construction vehicles by implementing sufficient signage and appropriate site safety strategies. ▪ Noise emitting plant and equipment to be acoustically treated in order to achieve site specific noise criteria as established by the appointed acoustician. ▪ Site specific noise criteria to be achieved by implementing advice provided by acoustician in design stage.
	Damage to buildings from vibration	▪ Undertake pre and post construction dilapidation reports. ▪ If required, isolate equipment such as pumps, compressors, generators etc. from ground level via spring mounts, rubber mounts, floating plinths etc. as prescribed by acoustician. ▪ Monitor effected locations during peak construction activities and implement additional mitigation measures as necessary.
European Heritage	Impact on heritage buildings identified in the SoHI prepared by NBRS as having high heritage significance, being the Liggins Building and Adams Centre	▪ Undertake works in accordance with the measures identified in “Noise and Vibration”. ▪ Ensure demolition contractors are appropriately licensed and experienced contractors. ▪ Erect suitable scaffold/hoardings and establish clear and safe work zones. ▪ Implement specific plans to ensure works appropriately deal with safety and environmental

ITEM	POTENTIAL IMPACT	ENVIRONMENTAL MANAGEMENT MEASURE
		issues.
Aboriginal and Archaeological Heritage	Impact on areas containing high archaeological potential.	▪ The Aboriginal and Historical Archaeological Assessment prepared by Austral Archaeology has concluded that the Stage 1 development has very low to low archaeological potential and that any possible features would be of local significance with low research potential. No further investigative work is required in regards to the Aboriginal cultural heritage at SCECGS Redlands. ▪ If items perceived to be of heritage significance are uncovered during the course of construction activities, advice will be sought from an appropriately qualified consultant.
Flora and Fauna	Impact on native flora and fauna species.	▪ Undertake work in accordance with all policies, operational procedures and guidelines in place as part of a consent condition or EPI relating to environmental management or impact minimisation for construction projects of the scope for current proposal. ▪ Implementation of tree protection measures as recommended in the Arboricultural Impact Assessment. ▪ Installation, maintenance and decommissioning of sediment and erosion controls as required and as specified in any consent and soil and water management plan. ▪ A local wildlife rescue service is to be contacted if native or introduced fauna are injured or disturbed from nesting or sheltering habitat during construction works.
Flooding	Limited capacity of existing 375mm pipe to cope with the 100-year flood.	▪ Two diversion options including a 2.5m easement over the proposed stormwater pipe diversion (sized for the 1:20 year ARI storm event) and a 1.6m easement over the propose overland flow diversion (sized for the 1:100 year ARI storm event).
Aboricultural	Damage to trees nominated to be retained	▪ Implement tree protection measures in accordance with Arboricultural Impact Assessment prepared by Bluegum Tree and Care Consultancy. ▪ Exercise diligence by regularly monitoring the effectiveness and condition of specific tree treatment

ITEM	POTENTIAL IMPACT	ENVIRONMENTAL MANAGEMENT MEASURE
		measures and make adjustments as necessary.
Waste	Excessive waste generation	▪ Waste generated during construction for disposal to be removed by a licensed waste contractor and disposed of in a licensed landfill facility if/as required. ▪ Segregate and recycle solid wastes generated by construction activities Reduce wastes by selecting, in order of preference, avoidance, reduction, reuse and recycling. ▪ Make purchasing decisions that consider recycled products. ▪ Consider measures and performance based targets for reduction, reuse and recycling options.
Land Contamination	Soil contamination from elevated concentrations of Elevated concentrations of benzo(a)pyrene TEQ and lead.	▪ Undertake a Stage 2 ESA and prepare a Remediation Action Plan (RAP). The RAP will include remedial measures to be implemented to render the site suitable for the proposed development; ▪ Prepare a Validation Assessment report to document the remediation action undertaken at the site; ▪ Prepare a Hazardous Materials Assessment for the existing buildings prior to the commencement of demolition works; ▪ Prepare a Work, Health and Safety (WHS) plan for the contaminants encountered at this site;
Sediment and Erosion	Contamination through sediment and erosion run off	▪ Install temporary sediment and erosion controls around stockpiles and storm water drains as prescribed by the appointed Civil Engineer. ▪ Undertake inspections of sediment control measures and surface run off after each storm event. ▪ Minimise quantity of soil exposure at any one time. ▪ Ground stability to be re-established as soon as practical. ▪ Clean water runoff to be directed away from construction areas. ▪ Vehicles to be cleaned/washed down prior to exiting the construction site to minimise cartage of loose

ITEM	POTENTIAL IMPACT	ENVIRONMENTAL MANAGEMENT MEASURE
		material which may dislodge during transport.
Dust	Excessive dust generation	▪ Minimise external works during windy conditions. ▪ Water exposed/destabilised stockpiles to suppress dust. ▪ Place covers on loads. ▪ Minimise quantity of soil exposure at any one time. ▪ Provide a dedicated vehicle wash down area for construction vehicles prior to leaving site.
Contamination	Contamination through spills of fuels and chemicals	▪ Procedures to rapidly respond, contain and treat spills to be implemented throughout the course of construction. ▪ Establish exclusion zones for fuels and chemicals as required.
Air Quality	Health risk or loss of amenity due to emission of exhaust gases to the environment (e.g. construction plant and equipment)	▪ Ensure contractors undertake routine maintenance of construction plant and equipment. ▪ Ensure that all vehicles and machinery are fitted with appropriate emission control equipment, maintained in accordance with relevant specifications.

Sandrick Project Directions have prepared an Environmental Risk Assessment to identify the potential environmental impacts associated with the constriction of the development. The impacts and mitigations of that risk assessment have been incorporated into the above table. A full copy of the Risk Assessment is attached at Appendix X.

11 Conclusion

This EIS has assessed a Concept Proposal and Stage 1 development application for the redevelopment of the SCECGS Redlands, Cremorne senior campus. The SCECGS Redlands Staged Development Project sets out a 20 year programme for the delivery of new development, access, public domain and infrastructure works to support the strategic direction of the Redlands Senior School campus and the delivery of its teaching, education, performing arts and sporting programmes.

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

- It has been prepared having regard to ISEPP 2007 and the works are permissible with consent.
- It has been prepared having regard to Council's planning policies and generally complies with the aims and objectives of the planning controls for the site.
- While the proposal results in a numeric non-compliance with the height standard in the LEP, a justification has been provided under Clause 4.6 that finds that the standard is unnecessary and unreasonable in the circumstances.
- The proposal is suitable for the site as evidenced by the site analysis and various site investigations, including geotechnical, site contamination, flora and fauna and heritage.
- The proposal does not have any unacceptable off-site impacts on adjoining or surrounding properties or the public domain, in terms of traffic, social and environmental impacts. The proposal relocates on-street parking to a basement level, relieving pressure on the constrained parking situation.
- The proposal provides 12 motorcycle and 20 bicycle parking spaces to encourage walking and cycling to and from the site.
- The proposal will not increase the number of students at the school and as such does not constitute an intensification of the use of the site.
- The proposed development is of a high quality in terms of built form, bulk and architectural treatment and responds positively to proportions of adjoining development. The proposal will make a positive contribution to the built form of the school and create an attractive streetscape along Military Road and Gerard Street.
- The proposal significantly improves the landscaping and open space areas of the school with a large northern forecourt, roof top gardens and learning areas, entry forecourt as the new main pedestrian entry and upgraded landscape improvements.
- The proposed development will result in an improved educational environment for the school through:
  - Providing additional open space for students;
  - Enabling an excellent academic programme;
  - Supporting a fulfilling and diverse extra-curricular experience;
  - Create an inclusive, supportive and secure pastoral environment;
  - Developing efficient, effective, expressive and environmentally sustainable facilities; and
  - Providing a better organisation of classrooms, locating individual departments on single levels and grouping them so that common facilities can be shared in a coherent and consolidated manner.
- The proposed development will contribute positively to energy efficiency and environmental sustainability. The proposed development has adopted and incorporated many ESD features to reduce energy consumption during the life of the proposed development.

In summary, the development warrants the support of the Minister and we therefore recommend that approval be granted to concept proposal and Stage 1 works, subject to conditions.

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