



**SUSAN WAKIL AO HEALTH BUILDING  
HEALTH PRECINCT STAGE 1  
THE UNIVERSITY OF SYDNEY  
ENVIRONMENTAL IMPACT STATEMENT**

PREPARED FOR

**LAING O'ROURKE AUSTRALIA  
CONSTRUCTION PTY LTD**

SEPTEMBER 2017



**URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:**

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Project Code	SA6532
Report Number	Final

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# GLOSSARY

Council	City of Sydney Council
CLM Act	<i>Contaminated Land Management Act 1997</i>
CLEP	City of Sydney Local Environmental Plan 2012
SEARs	Secretary's Environmental Assessment Requirements
DPE	NSW Department of Planning
EEC	Ecologically Endangered Community
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPBC Act	<i>Commonwealth Environment Protection Biodiversity Conservation Act 1999</i>
ESD	Ecologically Sustainable Development
LGA	Local Government Area
NSW Government	State Government for NSW
Public Land	Open space, public reserve and road dedication lots
ISEPP	<i>State Environmental Planning Policy (Infrastructure) 2007</i>
REF	Review of Environmental Factors
SEPP (BASIX)	<i>State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004</i>
SEPP 55	<i>State Environmental Planning Policy 55 (Remediation of Land)</i>
SEPP 64	<i>State Environmental Planning Policy 64 (Advertising and Signage)</i>
SRD SEPP	<i>State Environmental Planning Policy (State and Regional Development) 2011</i>
SSD	State Significant Development
SSS	State Significant Site
Stage 1 DA	Concept proposal for the University of Sydney Campus Improvement Program 2014 – 2020
TOD	Transit Oriented Development
TSC Act	<i>NSW Threatened Species Conservation Act 1997</i>
WSUD	Water Sensitive Urban Design
WIK	Work in Kind
VMP	Vegetation Management Plan
VPA	Voluntary Planning Agreement

# SIGNED DECLARATION

## SUBMISSION OF ENVIRONMENTAL IMPACT STATEMENT

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

Environmental Assessment prepared by:

<b>Names:</b>	<b>Peter Strudwick</b> Bachelor of Town Planning, UNSW <b>Edward Green</b> Bachelor of Planning, UNSW
<b>Address:</b>	Urbis Pty Ltd Level 23, Darling Park Tower 2, 201 Sussex Street Sydney NSW 2000
<b>In respect of:</b>	The University of Sydney

Applicant and Land Details:

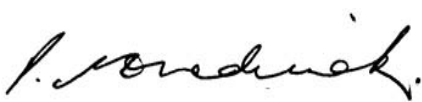

<b>Applicant:</b>	The University of Sydney
<b>Applicant Address:</b>	Services Building G12, 22 Codrington Street, Darlington NSW 2008
<b>Land to be Redeveloped:</b>	Land within the University of Sydney's Camperdown Campus, bound by Western Avenue to the east, Cadigal Lane and St. Andrews College to the South, the Royal Prince Alfred Hospital boundary to the west and the University Oval No 1 to the north.
<b>Lot and DP:</b>	Lot 1 in DP 1171804
<b>Project:</b>	The Health Precinct, Stage 1

Declaration:

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

In accordance with the requirements of the Schedule 2 of Environmental Planning and Assessment Regulation 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.

<b>Name</b>	Peter Strudwick, Director	Edward Green, Consultant
<b>Signature:</b>		
<b>Date:</b>	Friday, 29 September 2017	Friday, 29 September 2017

# EXECUTIVE SUMMARY

This Environmental Impact Statement (EIS) has been prepared in support of a Development Application by The University of Sydney (the University) for State Significant Development pursuant to Part 4, Division 4.1 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

Clause 226(1) of the *Environmental Planning & Assessment Regulation 2000* (the Regulations) provides that a development carried out by an Australian University (under the meaning of the Higher Education Act 2001) is a Crown development. The University is listed as an Australian University under Schedule 1 of the *Higher Education Act 2001*. Consequently, this SSD is a Crown development for the purposes of Division 4 of the EP&A Act).

The EIS has been prepared by Urbis. It is based on architectural and landscape plans detailing the proposed work, and other technical information in specialist consultant reports. The technical studies were undertaken to address the specific potential environmental impacts outlined in the SEARs and the relevant conditions of consent of the University's Stage 1 Campus Improvement Program (SSD 6123).

The development will comprise approximately 21,198 sqm of Gross Floor Area (GFA) and accommodate office, teaching, research, clinical and support spaces through the following components:

- Entry foyer and reception facilities.
- General Teaching Spaces.
- Specialist Teaching Spaces.
- A Clinical and Research Hub.
- Offices and workstations for academic and professional services.
- Breakout spaces and meeting rooms.
- Support and Back of House spaces.
- Significant landscaped areas.

The site is contained within the 'Heath Precinct' of the University of Sydney's Camperdown Campus. The subject site is bound by Western Avenue to the east, Cadigal Lane and St. Andrews College to the South, the Royal Prince Alfred Hospital boundary to the west and the University Oval No 1 to the north. The site is situated approximately 3km south west of the Sydney CBD.

The University of Sydney (the University) is committed to establishing a World-class range of educational establishment facilities that are adaptable to new pedagogies and team-based research programs, enabling the University's health disciplines to be at the forefront of innovation, teaching and learning; and to create unique inter-professional learning programs and multi-disciplinary research opportunities.

The University of Sydney undertook a Competitive Design Process, consistent with the City of Sydney's *Invited Competitive Design Alternatives Process* (provisions under *Sydney LEP 2012 clause 6.21 Design Excellence*), and with the jury panel incorporating a member from the City of Sydney and the NSW Office of the Government Architect. The competitive design process resulted in a vigorous examination of options for the site. The design was then subject to a Design Peer Review, with the final scheme amended to address this feedback, ensuring that the proposal will result in a suitable design outcome. The Design Competition Jury Assessment Report has concluded that the design, following various requested amendments during the design development phase, is of a design excellence standard suitable for an SSDA.

This SSD proposal fully complies with the Health precinct and associated controls under the University's Campus Improvement Program as approved by the Minister for Planning for SSD 6123 (approved 16 February 2015). The proposed development has been designed to ensure that the footprint and building form of the development will be fully contained within the approved Campus Improvement Program Stage 1 SSD building envelope.

The key potential environmental impacts that have been identified as part of the proposed development are as follows:

- Statutory and Strategic Context.
- Policies.
- Built Form and Urban Design.
- Environmental Amenity.
- Transport and Accessibility.
- Landscaping and Campus Domain Connections.
- Ecological Sustainable Development.
- Noise and Vibration.
- Non-Aboriginal and Aboriginal Heritage.
- Biodiversity.
- Contamination.
- Utilities.
- Contributions.
- Drainage and Flooding.
- Waste.

These issues align with the SEARs. The potential environmental impacts are considered to be either positive or able to be mitigated through the adoption of appropriate management measures.

A summary of environmental impact assessment recommendations and the adopted response is given in Section 9 of this report.

The design and mitigation measures of the proposed development has evolved through a design competition process, consultation with relevant Government agencies (City of Sydney, Office of Government Architect, Heritage Council, TfNSW and RMS), campus neighbours and user groups. The final design has satisfactorily addressed and resolved all relevant issues and suggestions raised through this consultative process.

This EIS has been prepared to assess the proposed erection and use of a new educational building at the University of Sydney, built to collocate the Faculty of Health Sciences, the Faculty of Nursing and Midwifery and the Central Clinical School.

It is justified to proceed with this proposal for the following reasons:

- The proposal demonstrates consistency with the relevant environmental planning instruments including strategic planning policy, State and local planning legislation, regulation and policies. The proposal also fully addresses the issues identified in the SEARs.
- The proposal will result in minimal environmental impacts, all of which can be mitigated through the recommendations detailed in this report.

Based upon the conclusions arising from the assessment of this SSDA, and imposition of the mitigation measures recommended, the project is considered to warrant approval.

# 1. INTRODUCTION

This Environmental Impact Statement (EIS) is submitted to the Department of Planning and Environment (DPE) in support of a State Significant Development Application (SSDA) (application number SSD 7974) for The University of Sydney's proposal to redevelop the first phase of the 'Health Precinct' at The University of Sydney's Camperdown Campus. This proposal is pursuant to Part 4, Division 4.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The proposal is a State Significant Development because it is development for the purposes of an educational establishment and will have a capital investment value of \$146,113,000 pursuant to clause 15 of Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (refer to the QS statement provided at Appendix A).

Clause 226(1) of the *Environmental Planning & Assessment Act Regulation 2000* (the Regulations) provides that a development carried out by an Australian University (under the meaning of the *Higher Education Act 2001*) is a Crown development. The University is listed as an Australian University under Schedule 1 of the *Higher Education Act 2001*. Consequently, this SSD is a Crown development for the purposes of Division 4 of the *Environmental Planning & Assessment Act 1979* (the Act).

The EIS has been prepared by Urbis. It is based on architectural and landscape plans detailing the proposed work, and other technical information in specialist consultant reports. The technical studies were undertaken to address the specific potential environmental impacts outlined in the SEARs (attached at Appendix B) and the relevant conditions of consent of the Stage 1 DA (SSD 6123) (attached at Appendix C).

This SSD submission consists of this EIS and supporting documentation at Appendix A to Appendix DD.

## 1.1. PROJECT OVERVIEW AND BACKGROUND

The Health Precinct site falls within the recently approved Concept Campus Improvement Program (CIP) – SSD 6123. The 13,000 sqm (Health Precinct) redevelopment site is located on an underutilised part of the campus and is essentially unseen from any major road or public areas.

The Health Precinct currently houses five separate buildings being the Bosch 1A and 1B Buildings, the Bosch Glasshouse, the Blackburn Building and the associated Dangerous Goods Store. These buildings have concept planning approval for demolition under the CIP. This application only pertains to the Blackburn Building and the Dangerous Goods Store sites.

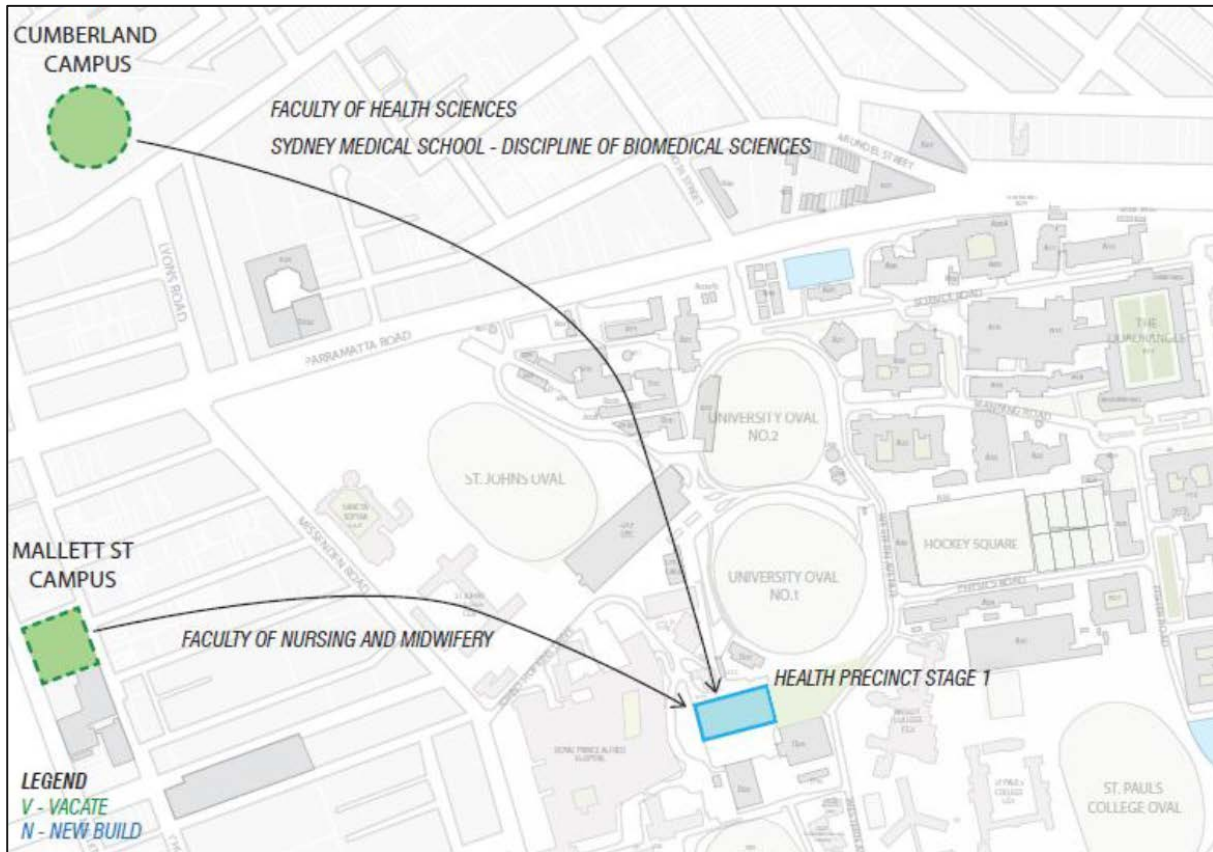
The demolition of the Blackburn Building and Dangerous Goods Store buildings has been approved under a separate early works package under the provisions of Clause 29 *Development Permitted Without Consent* of the *State Environmental Planning Policy (Infrastructure) 2007*, and not as part of this SSD application.

The demolition of the balance of the buildings within the Health Precinct boundary (i.e. Bosch 1A, Bosch 1B and Glasshouses), which have CIP Stage 1 approval for demolition will form part of future planning applications.

The Health Precinct Stage 1 will be designed to meet the relocation and accommodation requirements of the Faculty of Health Sciences (FHS) from Cumberland campus, the Faculty of Nursing and Midwifery (FNM) from Mallett Street Camperdown, and the Central Clinical School (CCS). The proposal also includes teaching, administrative and break out spaces along with approximately 30 on-site car parking spaces.

This SSD DA relates to the first phase of development within the 'Health Precinct'. There will be subsequent SSD DAs lodged for the other two buildings which form the balance of the precinct (and depicted indicatively by the CIP envelopes).

Figure 1 – Health Precinct Stage 1 Building – Decanting and Relocation Plan (CIS)



The development of the Health Precinct Stage 1 is designed to comply with the approved CIP building envelope. The building envelope depicted by the CIP for this development site permits a total GFA yield of 75,500 sqm (an additional CIP approved 56,700 sqm to supplement the 18,800 sqm already existing on the site). The new Stage 1 building has GFA of approximately 21,198 sqm.

The development will comprise educational establishment development which provides various general and speciality teaching spaces, a clinical and research hub, offices and workstations for academic and professional services, breakout spaces and meeting rooms. These teaching and learning spaces are supplemented by entry foyer and reception facilities, support and back of house spaces together with significant landscaped areas.

Figure 2 below indicates the extent of the works proposed as contained within the red line boundary for this application, and located within the University's Campus Improvement Program 'Health Precinct'.

The proposed 'Health Precinct' will further promote the University as a principal education, research, as well as a significant destination to national and international markets.

Figure 2 – Site Location (CIS)



## 1.2. STAGE 1 DA

This SSDA follows the approval of the Stage 1 DA (SSD 6123) which was lodged by the University of Sydney in December 2013, for a concept proposal which comprised a long-term master plan for the delivery of new development, access, public domain and infrastructure works across the University’s Camperdown and Darlington Campuses.

As this is a staged development application, Section 83C of the Act indicates that there is no requirement to undertake a Site-Specific Development Control Plan in line with Clause 7.20 of the City of Sydney LEP. This is because staged development applications are specifically exempted from this requirement.

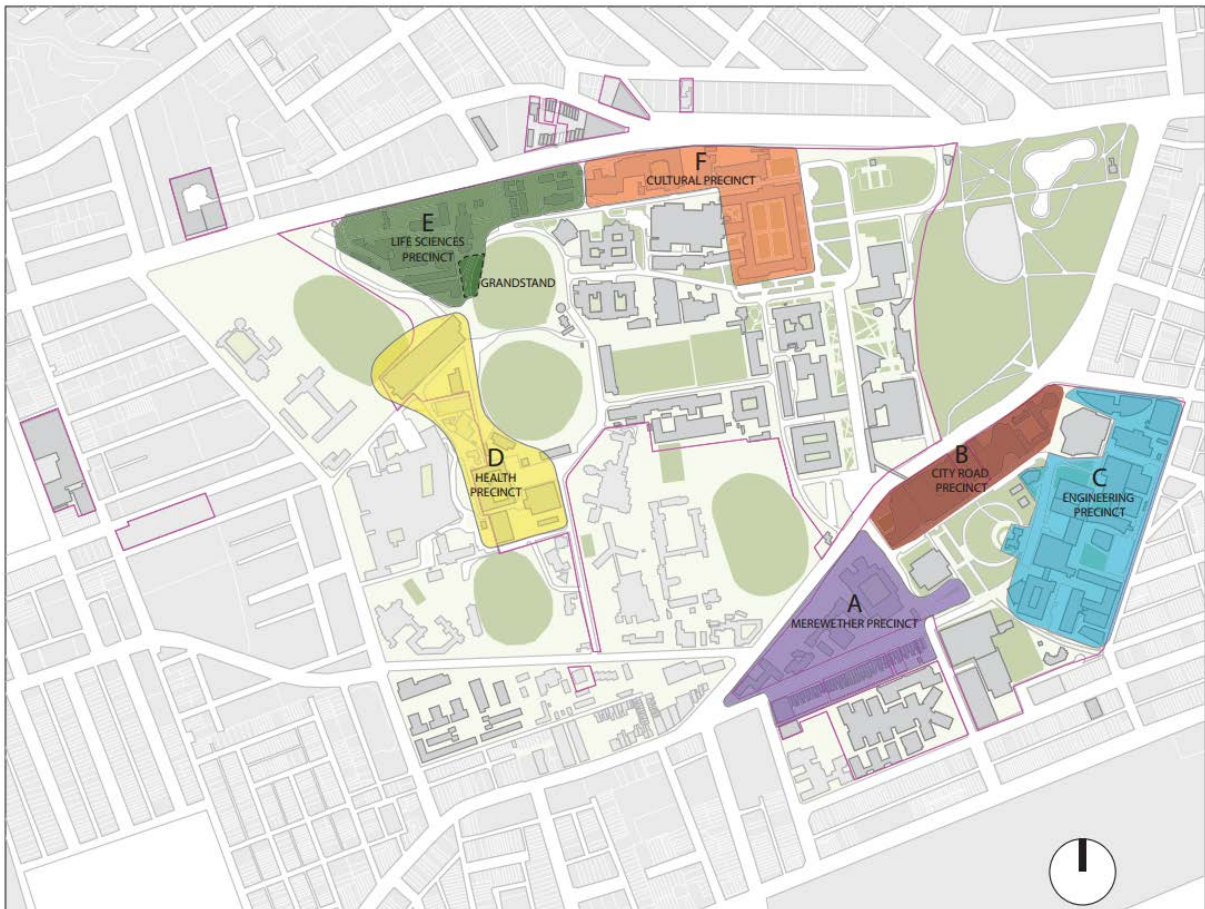
The project is known as the Campus Improvement Program (CIP) and the Stage 1 DA was approved by the Minister for Planning on 16 February 2015. This approval established:

- Precinct based building envelopes;
- The demolition and refurbishment of various buildings;
- Built form design controls;
- Open space;
- Transport linkages; and
- Indicative land uses.

Figure 3 below illustrates the six principle growth precincts/development sites which were subject to the CIP SSD approval. Of these precincts identified within the Precinct Plan, this SSDA relates to part of Precinct D which was known within the Stage 1 DA as the ‘Health Precinct’. This is situated at the western part of the campus adjoining Royal Prince Alfred Hospital.

The proposed development is contained within the built form parameters which were approved by the Stage 1 DA (SSD 6123).

Figure 3 – CIP Precincts



A-DIA-08 Rev B

Existing Buildings Sydney University Boundary

- |   |  |  |
|---|--|--|
| <p><b>A. MEREWETHER PRECINCT</b></p> <ul style="list-style-type: none"> <li>- REDEVELOPMENT MEREWETHER</li> <li>- FACULTY OF ARTS &amp; SOCIAL SCIENCES</li> <li>- INTERNATIONAL STUDIES</li> <li>- REDEVELOPMENT OF REGIMENT</li> <li>- MIXED USES INCLUDING STUDENT ACCOMMODATION, RETAIL, PARKING</li> </ul>           | <p><b>D. HEALTH PRECINCT</b></p> <ul style="list-style-type: none"> <li>- MULTI FUNCTION RESEARCH AND EDUCATION CENTRE</li> <li>- REDEVELOPMENT OF BLACKBURN/ BOSCH/ GLASSHOUSE</li> <li>- CO-LOCATION OF MEDICINE, NURSING, MIDWIFERY, SCIENCES, DENTISTRY, PHARMACY</li> </ul> | <p><b>F. CULTURAL PRECINCT</b></p> <ul style="list-style-type: none"> <li>- RELOCATING BIOSCIENCES TO HEALTH PRECINCT</li> <li>- CONSOLIDATE MUSEUMS AND ART</li> <li>- REDEVELOPMENT OF MACLEAY BUILDING</li> <li>- EXTENSION, MULTI FUNCTIONAL SPACE &amp; NEW CAFE</li> </ul> |
| <p><b>B. CITY ROAD PRECINCT</b></p> <ul style="list-style-type: none"> <li>- PRECINCT BUILDING ENVELOPES FOR FUTURE MIXED DEVELOPMENT</li> <li>- SITES INCLUDE INTERNATIONAL HOUSE, W.H. MAZE BUILDING, WILKINSON &amp; WENTWORTH</li> </ul>  | <p><b>E. LIFE SCIENCES PRECINCT</b></p> <ul style="list-style-type: none"> <li>- CO-LOCATION OF VET SCIENCES, AGRICULTURE BIOLOGICAL SCIENCES</li> <li>- ROSS STREET DEVELOPMENT &amp; MACMASTERS EXTENSION</li> </ul>   |  |
| <p><b>C. ENGINEERING PRECINCT</b></p> <ul style="list-style-type: none"> <li>- UPGRADE OF TEACHING, LEARNING AND RESEARCH FACILITIES, OPEN SPACE, GATEWAYS &amp; ANCILLARY USES</li> <li>- NEW DEVELOPMENT FOR FOOD &amp; BEVERAGE, LOADING DOCK &amp; CHEMISTRY BUILDING</li> <li>- REFURB FOR FUNCTION SPACE</li> </ul> | <p><b>GRANDSTAND</b></p> <ul style="list-style-type: none"> <li>- DEVELOPMENT OF GRANDSTAND ON OVAL</li> <li>- NO.2 FOR SUSF</li> <li>- MULTI-FUNCTIONAL SPACE FOR EVENTS, HIGH PERFORMANCE GYM, CRICKET NETS, EVENTS/ FUNCTION SPACE &amp; AMENITIES</li> </ul>                 |  |

### 1.3. PROJECT OBJECTIVES

The proposal seeks to provide to create a vibrant, multi-disciplinary research, teaching and learning environment. The proposed development is designed to achieve the following objectives:

- Enhance the University's reputation as a research innovator and leading educator in health.
- Create a contemporary, flexible and collaborative facility that aligns with the University's strategic vision.
- Make better and more effective use of an underutilised section of the campus that contains an ageing asset deemed to be beyond economic repair.

- To co-locate the Faculty of Health Sciences (FHS), the Faculty of Nursing and Midwifery (FNM) and the Central Clinical School (CCS) on the Camperdown Campus.
- Meet forecasted accommodation to meet the needs of the cohort.
- Create shared learning and teaching pedagogy between Faculties and the broader University cohort.
- Create a building that addresses the local environment and Faculty functional requirements.
- Design a new building which is compliant with building envelope controls for the site contained within the SSD Stage 1 DA approval (6123).

## 1.4. STRUCTURE OF THIS REPORT

This EIS incorporates the following sections:

- **The Site and Contextual Analysis:** Provides a description of the site, the University of Sydney Campus and the local and wider regional context. This section also outlines the constraints and opportunities identified for development of the site.
- **The Proposal:** Provides a description of the proposed works.
- **Justification and Assessment of Alternatives:** Details the justification for the proposed works and consideration of alternatives.
- **Consultation:** Outlines the consultation process undertaken to date and the specific consultation undertaken as a part of this application.
- **Planning Framework Assessment:** Provides a detailed review of the proposal against the commonwealth, state and local planning framework including an assessment of statutory and strategic planning considerations.
- **Environmental Assessment:** Details an in-depth assessment of the existing environment and the potential impacts for each of the key criteria in the SEARs.
- **Recommendations and Mitigation Measures:** Identifies recommendations and mitigation measures based on the technical studies undertaken as part of this application.
- **Conclusion:** Provides a summary of the impact assessment with concluding comments.

## 1.5. SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

The Secretary's Environmental Assessment Requirements (SEARs) for SSD 7974 – "Health Precinct Stage 1 Development" were issued on 7 October 2016. A copy of the SEARs is included at Appendix B. Table 1 below summarises the requirements and identifies where responses to each of the SEARs are addressed in this report.

Table 1 – Secretary's Environmental Assessment Requirements

SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENT	REFERENCE
<b>General Requirements</b>	
The Environmental Impact Statement (EIS) must meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 the <i>Environmental Planning and Assessment Regulation 2000</i> .	Throughout EIS and appendices.
<b>Environmental Risk Assessment</b>	
EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development.	Section 9.

SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENT	REFERENCE
<p>Where relevant, the assessment of the key issues below, and any other significant issues identified in the risk assessment, must include:</p> <ul style="list-style-type: none"> <li>• adequate baseline data;</li> <li>• consideration of potential cumulative impacts due to other development in the vicinity; and</li> <li>• measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment.</li> </ul>	
<p><b>Capital Investment Value</b></p> <p>The EIS must be accompanied by a report from a qualified quantity surveyor providing:</p> <ul style="list-style-type: none"> <li>• a detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the Environmental Planning and Assessment Regulation 2000) of the proposal, including details of all assumptions and components from which the CIV calculation is derived;</li> <li>• an estimate of the jobs that will be created by the future development during the construction and operational phases of the development; and</li> <li>• certification that the information provided is accurate at the date of preparation.</li> </ul>	<p>QS Statement at Appendix A</p> <p>Section 7.1.1</p>
<p><b>Key issues: The EIS must address the key issues set out in points (1) to (14) below:</b></p>	
<p><b>Statutory and Strategic Context</b></p> <p><b>1. Statutory and Strategic Context</b></p> <p>Address the statutory provisions applying to the concept proposal contained in all relevant environmental planning instruments, including:</p> <ul style="list-style-type: none"> <li>• State Environmental Planning Policy (State &amp; Regional Development) 2011';</li> <li>• State Environmental Planning Policy (Infrastructure) 2007';</li> <li>• State Environmental Planning Policy No 33-Hazardous and Offensive Development;</li> <li>• State Environmental Planning Policy No.55 - Remediation of Land; and</li> <li>• Sydney Local Environmental Plan 2012.</li> </ul> <p><b>Permissibility</b></p> <p>Detail the nature and extent of any prohibitions that apply to the development.</p> <p><b>Development Standards</b></p> <p>Identify compliance with the development standards applying to the site and provide justification for any contravention of the development standards.</p> <p><i>Campus Improvement Program 2014 - 2020</i></p> <p>In accordance with section 83D (3) of the Environmental Planning and Assessment Act 1979, demonstrate that the proposal is not inconsistent with the development consent</p>	<p>Section 7</p>

SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENT	REFERENCE
<p>granted for The University of Sydney Campus Improvement Program concept proposal (SSD 6123).</p>	
<p><b>2. Policies</b></p> <p>Address the relevant planning provisions, goals and strategic planning objectives in the following:</p> <ul style="list-style-type: none"> <li>• NSW State Priorities;</li> <li>• A Plan for Growing Sydney;</li> <li>• NSW Long Term Transport Master Plan 2012;</li> <li>• Sustainable Sydney 2030;</li> <li>• Sydney's Bus Future 2013;</li> <li>• Sydney's Cycling Future 2013;</li> <li>• Sydney's Walking Future 2013;</li> <li>• Sustainable Sydney 2030 (the City of Sydney); and</li> <li>• Healthy Urban Development Checklist, NSW Health.</li> </ul>	<p>Section 7</p>
<p><b>3. Built Form and Urban Design</b></p> <ul style="list-style-type: none"> <li>• Address the height, density, bulk and scale, and setbacks of the proposal in relation to the locality and the surrounding development (including SSD 6123 Campus Improvement Program building envelopes), topography and streetscape.</li> <li>• Detail any proposed linkages between the subject development and the adjoining Royal Prince Alfred Hospital.</li> <li>• Address design quality, with specific consideration of the overall site layout, streetscape, open spaces, façade, rooftop, massing, setbacks, building articulation, materials, colours, landscaping and Crime Prevention Through Environmental Design Principles.</li> <li>• Demonstrate design excellence in accordance with the design excellence provisions of Sydney Local Environmental Plan 2012.</li> <li>• Detail how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development.</li> </ul>	<p>Section 8.1</p> <p>Architectural Design Report at Appendix D</p> <p>Design Excellence Summary at Appendix E</p>
<p><b>4. Environmental Amenity</b></p> <p>Detail amenity impacts including solar access, acoustic impacts, visual privacy, view loss, overshadowing, lighting impacts and wind impacts. A high level of environmental amenity for the surrounding locality must be demonstrated, including any adjoining Royal Prince Alfred Hospital buildings and surrounds.</p>	<p>Section 8.2</p> <p>Acoustic Report at Appendix F</p> <p>Wind Report at Appendix G</p> <p>Lighting Report at Appendix H</p>

	Architectural Design Report at Appendix D
<p><b>5. Transport and Accessibility</b></p> <p>Include a transport and accessibility impact assessment that provides, but is not limited to the following:</p> <ul style="list-style-type: none"> <li>• accurate details of the current daily and peak hour traffic, public transport, pedestrian and cycle movements and existing traffic and transport facilities provided within the vicinity of the site;</li> <li>• details of the provision of the current staff and visitor parking on site;</li> <li>• an assessment of future transport needs associated with the development, including a clear understanding of the travel task for all modes at different times of the day (peak and off peak) and weekends;</li> <li>• an estimate of the total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and cycle trips;</li> <li>• the adequacy of public transport, pedestrian and bicycle infrastructure to meet the likely future demand of the proposed development;</li> <li>• preparation of a Green Travel Plan that outlines proposals to encourage sustainable travel choices and details programs for implementation;</li> <li>• the daily and peak vehicle movements impact on nearby intersections, with consideration of the cumulative impacts from other approved developments in the vicinity, and the need/associated funding for upgrading or road improvement works (if required);</li> <li>• the proposed access arrangements and measures to mitigate any associated traffic impacts and impacts on public transport, walking and cycling;</li> <li>• the proposed car and bicycle parking provisions, including end-of-trip facilities, which must be taken into consideration of the availability of public transport and the requirements of the relevant parking codes and Australian Standards;</li> <li>• proposed location of pedestrian and bicycle facilities in secure, convenient, accessible areas close to main entrances that incorporate lighting and passive surveillance;</li> <li>• service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times); and</li> <li>• an assessment of traffic and transport impacts during construction and how these impacts will be mitigated for any associated traffic, pedestrian, cyclist, parking and public transport, including the preparation of a draft Construction Traffic Management Plan to demonstrate the proposed management of the impact.</li> </ul> <p><b>Relevant Policies and Guidelines</b></p> <ul style="list-style-type: none"> <li>• Guide to Traffic Generating Developments (Roads and Maritime Services).</li> <li>• EIS Guidelines - Road and Related Facilities (DoPI).</li> </ul>	<p>Section 8.3</p> <p>Transport and Accessibility Report at Appendix I</p>

<ul style="list-style-type: none"> <li>• NSW Planning Guidelines for Walking and Cycling.</li> <li>• Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development.</li> </ul>	
<p><b>6. Ecologically Sustainable Development (ESD)</b></p> <ul style="list-style-type: none"> <li>• Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000) will be incorporated in the design and ongoing operation phases of the development.</li> <li>• Demonstrate that the development has been assessed against a suitably accredited rating scheme to meet industry best practice.</li> <li>• Include a description of the measures that would be implemented to minimise consumption of resources, water (including water sensitive urban design) and energy.</li> </ul>	<p>Section 8.4</p> <p>ESD Report at Appendix J</p>
<p><b>7. Noise and Vibration</b></p> <p>Identify and provide a quantitative assessment of the main noise and vibration generating sources during construction and operation. Outline measures to minimise and mitigate the potential noise impacts on surrounding sensitive receivers.</p> <p><b>Relevant Policies and Guidelines:</b></p> <ul style="list-style-type: none"> <li>• NSW Industrial Noise Policy (EPA).</li> <li>• Interim Construction Noise Guidelines (DECC).</li> <li>• Assessing Vibration: A Technical Guideline 2006.</li> </ul>	<p>Section 8.5</p> <p>Acoustic Report at Appendix F</p>
<p><b>8. Heritage</b></p> <ul style="list-style-type: none"> <li>• Include a Heritage Impact Assessment prepared in accordance with the guidelines in the NSW Heritage Manual that addresses the policies in The University of Sydney Grounds Conservation Management Plan (2016), and the degree to which the design of the proposal will contribute to the character and heritage of The University of Sydney, University Colleges and Victoria Park as connected landscapes.</li> <li>• Provide a landscape heritage impact assessment, including consideration of the cultural landscape of The University of Sydney, University Colleges and Victoria Park as connected landscapes and address the policies in The University of Sydney Grounds Conservation Management Plan (2016).</li> <li>• Provide a view assessment identifying significant views and potential impacts of the proposal on the heritage significance of The University of Sydney, University Colleges and Victoria Park as connected landscapes.</li> <li>• Address any archaeological potential and significance on the development site and the impacts the development may have on this archaeology.</li> </ul>	<p>Section 8.6 and 8.7</p> <p>Statement of Heritage Impact at Appendix K</p>
<p><b>9. Aboriginal Heritage</b></p> <ul style="list-style-type: none"> <li>• Address Aboriginal Cultural Heritage (ACH) in accordance with the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011) and Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW).</li> </ul>	<p>Section 8.7</p> <p>Aboriginal Heritage Impact Assessment at Appendix L</p>

<ul style="list-style-type: none"> <li>The EIS must demonstrate attempts to avoid any impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the EIS must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.</li> </ul>	
<p><b>10. Biodiversity</b></p> <p>Biodiversity impacts related to the proposed development are to be assessed and documented in accordance with the Framework for Biodiversity Assessment, unless where otherwise agreed by the OEH, by a person accredited in accordance with s142B(1)(c) of the Threatened Species Conservation Act 1995.</p>	<p>Section 8.8</p> <p>Biodiversity Statement at Appendix M</p>
<p><b>11. Contamination</b></p> <p>Demonstrate that the site is suitable for the proposed use in accordance with SEPP 55</p> <p><i>Relevant Policies and Guidelines:</i></p> <ul style="list-style-type: none"> <li>Managing Land Contamination: Planning Guidelines – SEPP55 Remediation of Land (DUAP)</li> </ul>	<p>Section 8.9</p> <p>Contamination Assessment at Appendix N</p>
<p><b>12. Utilities</b></p> <ul style="list-style-type: none"> <li>Preparation of an Infrastructure Management Plan in consultation with relevant agencies, detailing information on the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure.</li> <li>Preparation of an Integrated Water Management Plan detailing any proposed alternative water supplies, proposed end uses of potable and non-potable water, and water sensitive urban design.</li> </ul>	<p>Section 3.14</p> <p>Infrastructure Management Plan and Integrated Water Management Plan at Appendix O and Appendix P</p>
<p><b>13. Contributions</b></p> <p>Address Council's Section 94 Contribution Plan and/or details of any Voluntary Planning Agreement.</p>	<p>Section 5</p>
<p><b>14. Drainage</b></p> <p>Detail drainage associated with the proposal, including stormwater and drainage infrastructure.</p>	<p>Section 8.12</p> <p>Civil Engineering Report at Appendix Q</p>
<p><b>15. Waste</b></p> <p>Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.</p>	<p>Section 8.13</p> <p>Waste Management Plan at Appendix W</p>
<p><b>Plans and Documents</b></p>	
<p>The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Environmental Planning and Assessment Regulation 2000. Provide these as part of the EIS rather than as separate documents.</p>	<p>Provided at various Appendices</p>

<p>In addition, the EIS must include the following:</p> <ul style="list-style-type: none"> <li>• Architectural drawings (dimensioned and including RLs);</li> <li>• A digital 3D CAD model (for submission to the City of Sydney, at a 1:500 scale);</li> <li>• Site survey plan, showing existing levels, location and height of existing and adjacent structures / buildings and boundaries;</li> <li>• Site analysis plan;</li> <li>• Stormwater concept plan;</li> <li>• Sediment and erosion control plan;</li> <li>• Shadow diagrams;</li> <li>• View analysis / photomontages;</li> <li>• Landscape plan (identifying any trees to be removed and trees to be retained or transplanted);</li> <li>• Draft Public Domain Plan;</li> <li>• Preliminary Construction Management Plan, inclusive of a</li> <li>• Preliminary Construction Traffic Management Plan;</li> <li>• Geotechnical and structural report;</li> <li>• Conservation Management Plans for each heritage listed building;</li> <li>• Accessibility report;</li> <li>• Arborist report;</li> <li>• Acid sulphate soils management plan (if required); and</li> <li>• Schedule of materials and finishes.</li> </ul>	
<b>Consultation</b>	
<p>During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners.</p> <p>In particular, you must consult with:</p> <ul style="list-style-type: none"> <li>• City of Sydney Council;</li> <li>• Heritage Council of NSW;</li> <li>• Transport for NSW; and</li> <li>• Roads and Maritime Services.</li> </ul> <p>The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.</p>	<p>Section 6</p>

## 1.6. STAGE 1 DA – CONDITIONS OF CONSENT

The SSD site is subject to a previous Stage 1 DA approval for the Campus Improvement Program (SSD 6123). The Stage 1 DA approval provided consent for precinct-based building envelopes and built form design controls, open space, pedestrian and vehicular access arrangements, public domain works, transport linkages and indicative land uses for each precinct.

The Stage 1 DA approval contains certain conditions of consent that are relevant to the proposed development because they address the specific built form and potential impacts of the proposal. In addition to the SEARs for SSDA 7974, the relevant conditions of SSD 6123 have been listed below in Table 2 and addressed throughout this EIS and the appendices.

**Note:** The Stage 1 DA approval was modified through SSD 6123 MOD 1 (approved 9 June 2015). This modification was limited to minor amendments to the development description, Condition A4 and Condition B13. Where relevant, the conditions as modified have been addressed in Table 2 below.

Table 2 – Conditions of Stage 1 DA Consent

STAGE 1 DA CONDITION OF CONSENT	REFERENCE
<b>Gross Floor Area</b>	
<p><b>A6</b></p> <p>The Maximum additional GFA allowed by this approval for new built form within the building envelope development sites for the Campus Improvement Program within each precinct is as follows:</p> <p>Health Precinct – Total Additional GFA 56,700 sqm</p>	<p>Section 3.7</p>
<b>Design Excellence</b>	
<p><b>B1</b></p> <p>Consent must not be granted to a new building or to external alterations to an existing building unless the consent authority has considered whether the proposed development exhibits design excellence.</p> <p>In considering whether proposed development exhibits design excellence, the consent authority must have regard to the following matters:</p> <ul style="list-style-type: none"> <li>• Whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved;</li> <li>• Whether the form and external appearance of the building will improve the quality and amenity of the public domain;</li> <li>• Whether the building meets sustainable design principles in terms of sunlight, natural ventilation, wind reflectivity, visual and acoustic privacy, safety and security and resource, energy and water efficiency;</li> <li>• If a design competition is held in accordance with the requirements of clause 6.21 Design Excellence of Sydney Local Environmental Plan 2012, the results of the competition.</li> </ul>	<p>Section 8.1.2</p> <p>Architectural Design Report at Appendix D</p> <p>The University has conducted and completed a design competition process for the proposed development.</p> <p>Refer to summary at summary at Appendix E</p>

STAGE 1 DA CONDITION OF CONSENT	REFERENCE
<p><i>Note: Where future development does not trigger the City of Sydney design competition process requirements under clause 6.21 of SLEP 2012, the applicant shall have regard to the University of Sydney's Architect Panel Establishment and Competitive Design Process.</i></p>	
<p><b>B3</b></p> <p>Future building demolition, site layout and architectural design of future development shall be generally consistent and have regard to the following:</p> <ul style="list-style-type: none"> <li>• Camperdown Darlington Campus Strategy Plans [Contained in Stage 1 DA approval]</li> <li>• Design Principles [Contained in Stage 1 DA approval]</li> <li>• Campus Improvement Program 2014-2020 State Significant Development Application (SSD 6123), Urban Design Justification prepared by Cox Richardson and The University of Sydney, dated June 2014.</li> </ul>	<p>Section 8.1</p> <p>Architectural Design Report at Appendix D</p>
<p><b>B4</b></p> <p>To ensure that the visual impact of rooftop plant and architectural roof features is minimised, the design of future built form shall be generally consistent with the following:</p> <ul style="list-style-type: none"> <li>• Rooftop plant and equipment shall be setback a minimum three metres from the building parapet.</li> <li>• Rooftop plant and equipment, including plant and lift overruns, communications devices, satellite dishes and the like are to be designed to minimise their visibility and their size.</li> <li>• The design of architectural roof features to integrate with the overall building design.</li> </ul>	<p>Section 8.1</p> <p>Architectural Design Report at Appendix D</p>
<p><b>B5</b></p> <p>Built form shall be sited to achieve a balance between cut and fill, minimise earthworks, provide adequate solar access and minimise impacts on privacy, amenity and overshadowing of land uses surrounding the site.</p>	<p>Section 8.1 and 8.12</p> <p>Architectural Design Report at Appendix D</p>
<p><b>B6</b></p> <p>Future Development Applications for new built form shall include a <i>Crime Prevention Through Environmental Design assessment</i>, including mitigation measures, where necessary.</p>	<p>Section 8.1.3</p> <p>Architectural Design Report at Appendix D</p>
<p><b>B7</b></p> <p>Development sited adjacent to the public domain shall be appropriately treated to maximise pedestrian and public safety through the implementation of the Crime Prevention through Environmental Design principles.</p>	<p>Section 8.1.3</p> <p>CPTED Letter at Appendix U</p>

STAGE 1 DA CONDITION OF CONSENT	REFERENCE
<b>Landscaping</b>	
<p><b>B8</b></p> <p>All future development applications for new built form must include detailed landscape plans identifying the vegetation to be removed or relocated and the location of replacement and additional landscaping, and must be generally in accordance with the approved landscape concept in Condition A4 of Part A of Schedule 2 and The University of Sydney Grounds Conservation Management Plan, dated July 2014.</p> <p>Detailed landscape plans should include relevant details of the species to be used in the various landscapes areas (preferably species indigenous to the area), including details of the informal native and cultural avenue plantings, and other soft and hard landscape treatments, including any pavement areas and modular and sculptural seating.</p>	<p>Section 3.8 and 8.9</p> <p>Landscape Plans at Appendix X</p>
<b>Heritage</b>	
<p><b>B10</b></p> <p>All future development applications shall be accompanied by a Heritage Impact Statement addressing their impacts and outlining how the recommendations of respective precinct-based heritage impact statements and policies outlined within <i>The University of Sydney Grounds Conservation Management Plan</i>, dated July 2014 have been satisfactorily addressed.</p>	<p>Section 8.6</p> <p>Statement of Heritage Impact at Appendix K</p>
<p><b>B11</b></p> <p>An experienced heritage consultant is to be commissioned to work with the consultant team throughout the design development of built form within each Campus Improvement Program Precinct. The nominated heritage consultant is to be involved in the resolution of all matters where existing significant fabric and spaces are to be subject to preservation, restoration, reconstruction, adaptive re-use, recording and demolition.</p>	<p>Section 8.6</p> <p>Included at various Appendices.</p>
<p><b>B13</b></p> <p>Future development applications (where relevant) for new built form shall include digital photographic archival recording and documentation of the following buildings and their curtilage in accordance with the NSW Heritage Office guidelines <i>How to Prepare Archival Records of Heritage Items</i> (1998) and <i>Photographic Recording of Heritage Items Using Film or Digital Capture</i> (2006):</p> <ul style="list-style-type: none"> <li>• Blackburn Building (D06).</li> </ul>	<p>Archival Recording at Appendix S</p>
<p><b>B14</b></p> <p>All future development applications for new built form that involves the demolition or alteration of existing items of heritage significance shall include a heritage interpretation plan in accordance with NSW Heritage Branch guidelines titled 'Interpreting Heritage Places and Items: guideline' and policy titles 'Heritage Information Series: Heritage Interpretation Policy' for assessment and approval.</p> <p>The interpretation plan must:</p>	<p>Heritage Interpretation Plan at Appendix Z</p>

STAGE 1 DA CONDITION OF CONSENT	REFERENCE
<ul style="list-style-type: none"> <li>Detail how information on the history and significance of the building within The University of Sydney will be provided for the public and include pictures, texts, and detailed designs for its implementation.</li> <li>Include significant themes, including the building's contribution to the development of the University and residential colleges.</li> </ul>	
<b>Traffic, Access and Car Parking</b>	
<p><b>B16</b></p> <p>All future development applications for new built form must include a detailed assessment of the traffic and transport impacts associated with the future development and shall address but not be limited to:</p> <ul style="list-style-type: none"> <li>Details of the total daily and peak hour trips generated by the proposed development, including accurate details of the current and future daily vehicle movements and assess the impacts of the traffic generated on the local road network;</li> <li>Detailed intersection analysis in consultation with Council and the RMS, where University roads connect with local or State roads, including intersection capacity (including University access points) and requirements for future road and intersection upgrading works;</li> <li>The cumulative traffic and parking impacts;</li> <li>Proposed mode share targets and appropriate measures to ensure they are satisfactorily achieved; and</li> <li>The status of the closure of existing at-grade car parking areas (where relevant).</li> </ul>	<p>Section 8.3</p> <p>Transport and Accessibility Report at Appendix I</p>
<p><b>B17</b></p> <p>To ensure that active transport modes are satisfactorily supported and promoted on campus, all future development applications for built form shall satisfactorily detail that pedestrian and cyclist facilities have been incorporated into the respective proposed development and how integration into broader campus strategies will be made.</p>	<p>Section 8.3</p> <p>Transport and Accessibility Report at Appendix I</p> <p>Project adheres to this condition.</p>
<p><b>B18</b></p> <p>All bicycle and motor cycle parking and associated end-of-trip facilities shall be provided in accordance with Council's relevant policies and controls.</p>	<p>Section 8.3</p> <p>End of trip facilities provided on Level 0 of the proposed building.</p>
<p><b>B19</b></p> <p>Future development applications for new built form shall include a sustainable travel plan, or where relevant, include a faculty/precinct based sustainable travel plan and accompany the first application within the respective CIP Precinct.</p>	<p>Section 8.3</p> <p>STAMP at Appendix AA</p>

STAGE 1 DA CONDITION OF CONSENT	REFERENCE
<b>Noise and Vibratiion</b>	
<p><b>B20</b></p> <p>All future development applications for new built form shall be accompanies by a noise and vibration assessment that identifies and provides a qualitative assessment of the main noise generating sources and activities at all stages of construction, and any noise sources during operation. Details are to be provided outlining any mitigation measures to ensure the amenity of adjoining sensitive land uses is protected throughout the construction and operational periods.</p>	<p>Section 8.5</p> <p>Acoustic Report at Appendix F</p>
<p><b>B21</b></p> <p>All future development applications for new built form shall detail any noise mitigation measures associated with operational and mechanical plant noise impacts, and demonstrate that any noise generated plant will comply with the noise criteria detailed within noise and vibration assessments.</p>	<p>Section 8.5</p> <p>Acoustic Report at Appendix F</p>
<p><b>B22</b></p> <p>All future development applications for new built form shall consider potential noise impacts on adjoining residences, including noise generated from student and staff activities and broader associated ancillary community uses of buildings and other University facilities.</p>	<p>Section 8.5</p> <p>Acoustic Report at Appendix F</p>
<b>Aboriginal Heritage</b>	
<p><b>B23</b></p> <p>Where relevant, future development applications shall address Aboriginal Heritage in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005 and Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.</p>	<p>Section 8.7</p> <p>Aboriginal Heritage Impact Assessment at Appendix L</p>
<b>Amenity</b>	
<p><b>B24</b></p> <p>Future development applications for new built form shall address amenity impacts having regard to the location of intended future land uses, in particular the student accommodation and ancillary retail/commercial land uses, through the preparation of an analysis addressing solar access, overshadowing, visual privacy, views and vistas, servicing requirements (including waste management, loading zones and mechanical plant), acoustic impacts and wind impacts.</p>	<p>Section 8.2</p> <p>Various specialist reports.</p>
<b>Contamination</b>	
<p><b>B25</b></p> <p>Future development applications for new built form shall be accompanied by a detailed site investigation report, including an assessment of potential site contamination following the demolition of existing building and infrastructure, having regard to the</p>	<p>Section 8.9</p> <p>Contamination Assessment at Appendix N</p>

STAGE 1 DA CONDITION OF CONSENT	REFERENCE
recommendations provided within the Preliminary Site Investigation report, prepared by Douglas Partners, dated November 2013.	
<b>Ecologically Sustainable Development</b>	
<p><b>B26</b></p> <p>Future development applications for new built form shall demonstrate how the principles of ESD have been incorporated into the design, construction and on-going operation of future developments.</p>	<p>Section 8.4</p> <p>ESD report at Appendix J</p>
<b>Building Code of Australia</b>	
<p><b>B27</b></p> <p>All future development applications shall demonstrate compliance with the Building Code of Australia as relevant.</p>	<p>BCA Report attached at Appendix BB</p> <p>Structural Report at Appendix DD</p>
<b>Utilities</b>	
<p><b>B28</b></p> <p>All future development applications for new built form shall address the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure through the preparation of an Infrastructure Management Plan in consultation with relevant agencies and service providers.</p>	<p>Infrastructure Management Plan at Appendix O</p>
<b>Stormwater and Flooding</b>	
<p><b>B29</b></p> <p>Future development applications for new built form shall be accompanied by a stormwater management plan detailing an assessment of any flood risk on site and consideration of any relevant provisions of the NSW Floodplain Development Manual (2005), stormwater and drainage infrastructure, and details demonstrating that water sensitive urban design measures have been incorporated into the development.</p>	<p>Section 8.12</p> <p>Civil Engineering Report at Appendix Q</p>
<b>Disability Access</b>	
<p><b>B30</b></p> <p>Where relevant, future development applications shall include a Disability Access Review to demonstrate an appropriate degree of accessibility in accordance with the <i>Disability (Access to Premises – buildings) Standards 2010</i> (the Premises Standards).</p>	<p>Section 3.13</p> <p>Accessibility Report at Appendix R</p>
<b>Waste</b>	
<p><b>B31</b></p> <p>Where relevant, future development applications shall include a Waste Management Plan to address storage, collection, and management of waste and recycling within the development.</p>	<p>Section 8.13</p> <p>Waste Management Plan at Appendix W</p>

## 2. THE SITE

### 2.1. REGIONAL CONTEXT

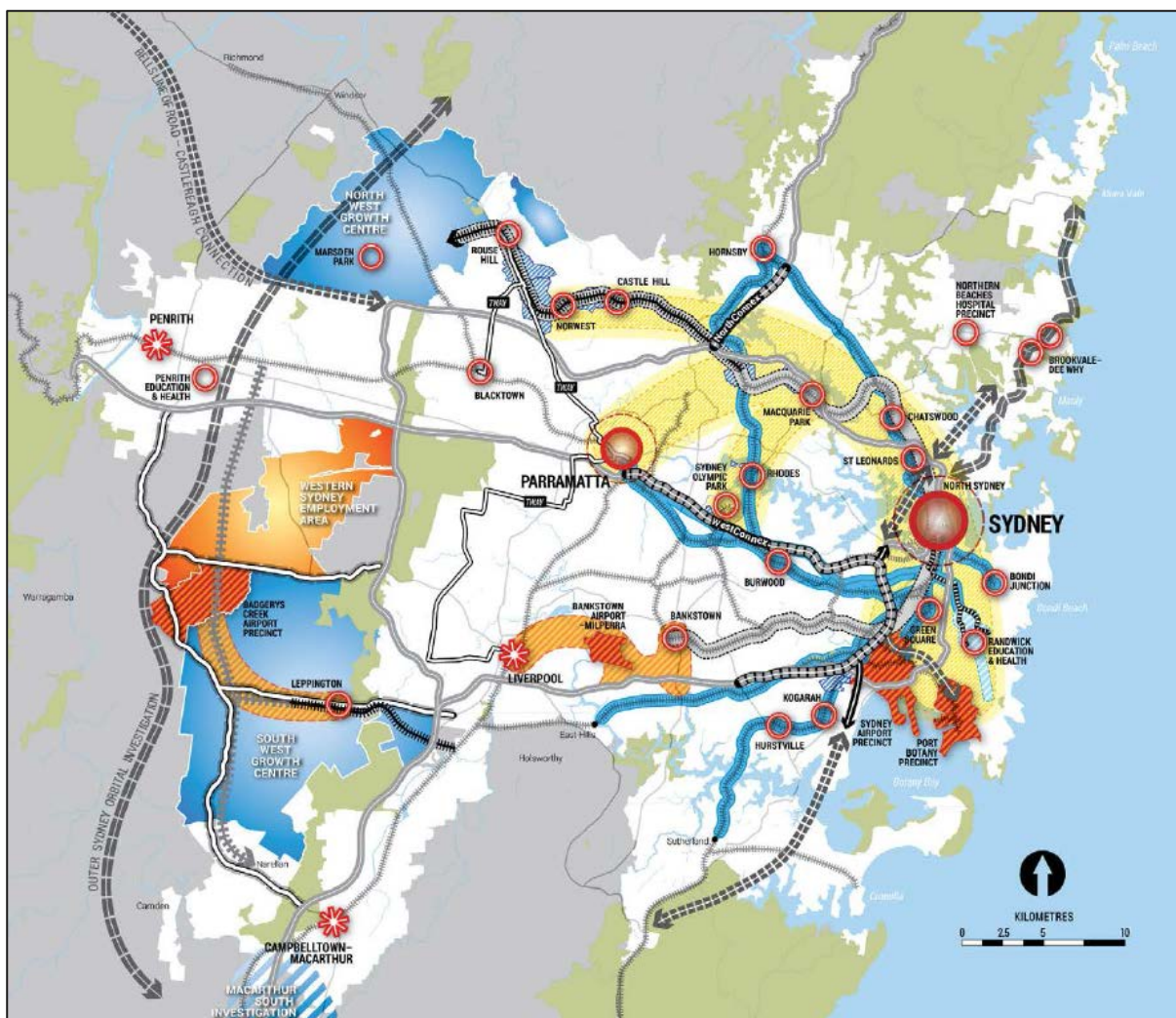
The subject site is located within The University of Sydney's Camperdown Campus.

The University was founded in 1850, and is one of Australia's oldest. It is recognised as one of the leading Group of Eight (Go8) universities in Australia as well as the nation's principal university specialising in tertiary educational and research pedagogy.

The University of Sydney's Camperdown and Darlington Campuses are located within the City of Sydney Local Government Area (LGA), and forms part of the city's 'Central Business District' (CBD) as shown by the enlarged red circle in Figure 4 below which is an extract from the Metropolitan Plan – 'A Plan for Growing Sydney' (2014). These inner-city campuses are surrounded by arterial roads, rail infrastructure, and growing residential and business communities.

*A Plan for Growing Sydney* identifies the University of Sydney as one of the key 'Knowledge Assets' of NSW. It is identified as a major activity precinct for education, research and technology based jobs within Sydney's Central Subregion.

Figure 4 – A Plan for Growing Sydney



Source: *A Plan for Growing Sydney* (2014)

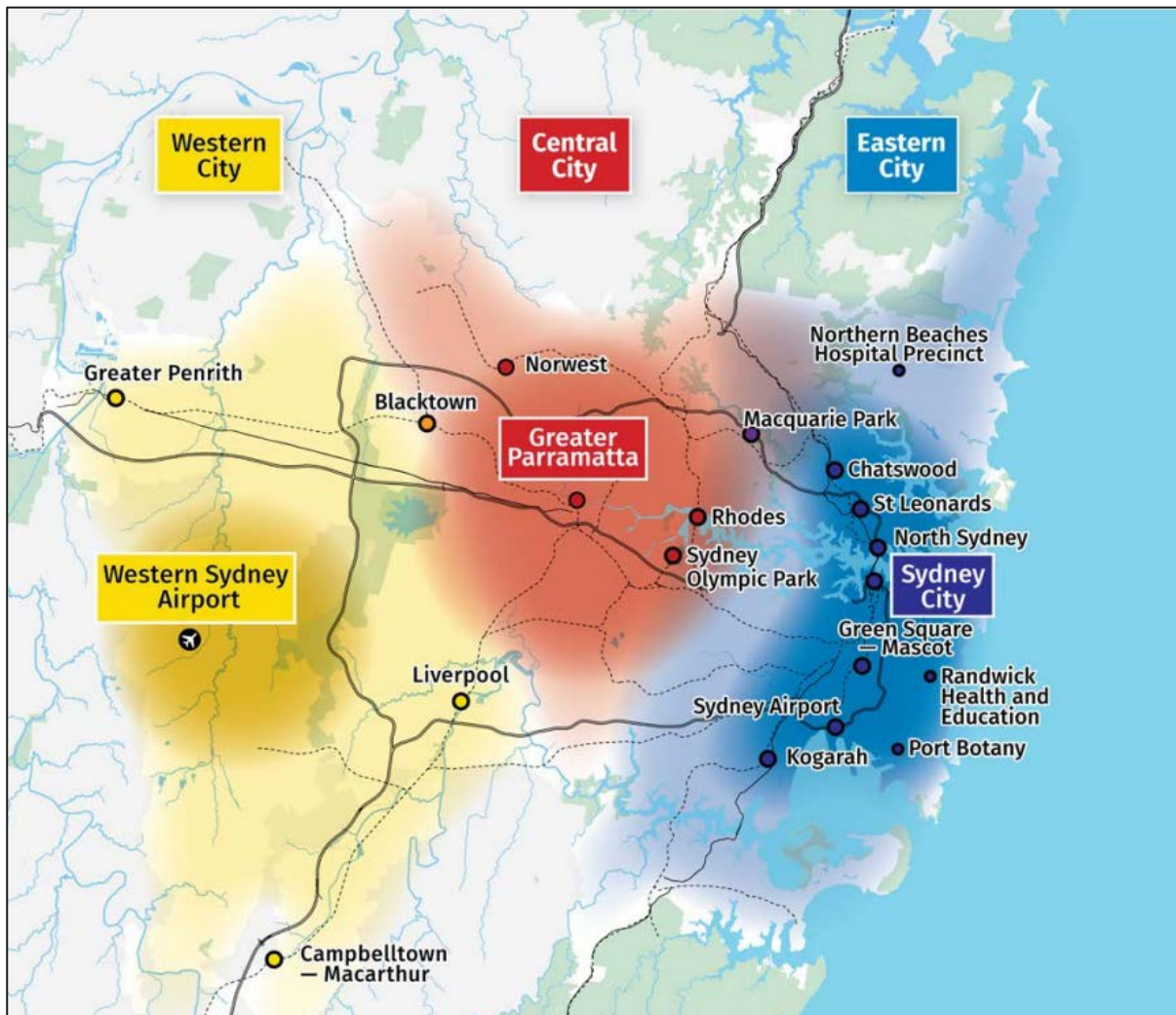
Sydney's CBD is the epicentre of the metropolitan region and is recognised as a "global city" that generates 28% of the wider metropolitan area's GDP. The University's Camperdown Campus is located at the south-western edge of the CBD and forms part of the "Broadway and Camperdown Education & Health Precinct".

The precinct is recognised as a significant area for world-class education, research, medical, and technology-based jobs and includes other significant infrastructure assets such as the University of Technology Sydney, the Sydney Institute of Technology as well as the Royal Prince Alfred Hospital (RPA) and the headquarters of the ABC.

In November 2016, the Greater Sydney Commission published a consultation document *'Towards Our Greater Sydney 2056'* which forms a draft amendment to the Metropolitan Plan. It sets out an ambitious future plan for Greater Sydney which focuses on the regional significance of central and western Sydney.

It promotes a strategy for a metropolis of three cities within a framework that seeks to better underpin strategic planning for a more productive, liveable and sustainable city. This strategy is illustrated in Figure 5 below.

Figure 5 – A Metropolis of Three Cities: Global Sydney



Source: *Towards Our Greater Sydney 2056*

In addition to the above, the Greater Sydney Commission exhibited six draft District Plans for Greater Sydney which was completed at the end of March 2017. District Plans sit in the middle of the hierarchy of metropolitan, district and local planning for the Greater Sydney Region and will:

- Implement a strategic and integrated approach to managing Greater Sydney's growth by linking State and regional-level aspirations with Local Environmental Plans (LEPs) and providing a clear line of sight between these documents;
- Align land use decisions and infrastructure planning through better research, decision-making and collaboration with local government and key State agencies and stakeholders; and
- Be monitored and reported on, with implementation managed by coordination across Government.

The University is situated within the Central District, within a 'knowledge precinct'. The vision for the draft Central District Plan seeks to support and grow knowledge and enterprise precincts. It promotes clusters of innovative businesses being located closer to the knowledge precinct in order to share workspaces, where students and industry partners can work together and support innovation.

The draft Plan also categorises the Camperdown-Ultimo area as a health and education super-precinct, in which knowledge intensive jobs, innovation and service delivery are promoted. Furthermore, within the super-precinct there is support to provide a range of housing choices which are at price points suitable for key workers and students.

It is evident that the above represent high level, long term strategic documents. The proposal will in the short term enhance the status of the Broadway and Camperdown Education & Health Precinct by creating a building that addresses the local environment and Faculty functional requirements, increases the collaboration and connection with industry partners including the Sydney Local Health District and replaces degraded and inefficient building stock that is beyond economic repair.

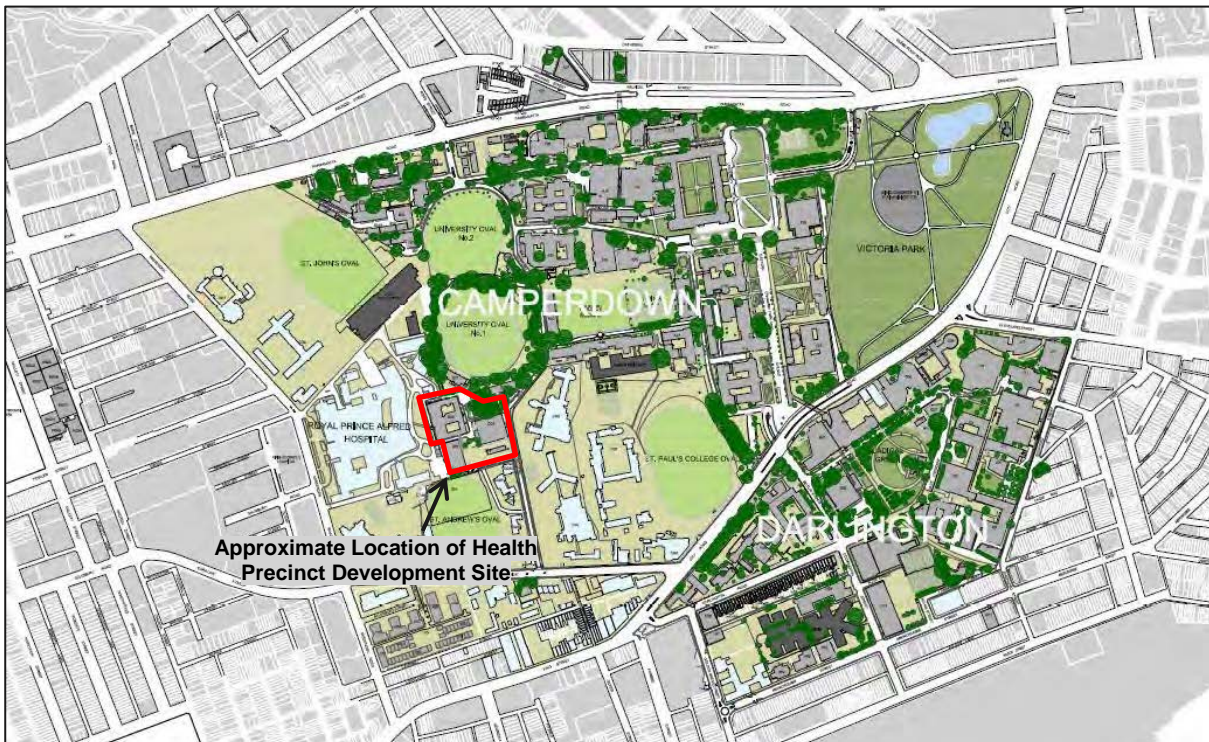
## 2.2. THE LOCAL CONTEXT

The Camperdown-Darlington Campus shown in Figure 6 is situated on the western edge of the Sydney CBD, and comprises two distinct 'sub-campuses', Camperdown and Darlington, divided by City Road. The Campus is approximately 49 hectares (ha) in area (Camperdown 33ha and Darlington 16ha).

The wider campus contains over 230 buildings including teaching and learning facilities for 11 faculties, residential colleges, museums and galleries, libraries, recreation facilities, food and beverage outlets and amenities. The buildings on campus vary in architectural style and design from 19th century sandstone heritage listed items to more contemporary structures.

The site is in the western portion of the Camperdown Campus, at the interface with Royal Prince Alfred Hospital.

Figure 6 – The Location of the site in the Camperdown Campus



### 2.2.1. Recent Developments in the Surrounding Area

The University is also currently managing the development of other transformational projects at the Camperdown-Darlington campus including the Life, Environment and Earth Sciences (LEES), F23 (Administration Building), and the Faculty of Arts and Social Science (FASS).

These surrounding developments are illustrated in the photographs below in Figure 7. It is evident that these buildings are typically of modern construction and developed at a variety of heights depending upon each location.

Figure 7 – Photographs of recent developments in surrounding area (CIS)



Picture 1 – LEES1 Building



Picture 2 – F23 Administration Building



Picture 3 – Faculty of Arts and Social Sciences (FAAS)

## 2.3. THE SITE

The land subject to the SSD 7974 application is within the University of Sydney Camperdown Campus and is legally described as Lot 1 in DP 1171804.

Land within the University of Sydney's Camperdown Campus, bound by Western Avenue to the east, Cadigal Lane and St. Andrews College to the South, the Royal Prince Alfred Hospital boundary to the east and the University Oval No 1 to the north. The site is situated approximately 3km south west of the Sydney CBD.

The Blackburn Building was established on site in circa 1933. The layout of the Blackburn Building appears to be similar to its current layout. The Bosch 1B Building was also established to the south of the site at this time. Land surrounding the site appeared to be in use as recreational space.

Further development surrounding the site occurred during the 1940's including the development of Royal Prince Alfred Hospital. Land to the south/southeast remained undeveloped although several zig zag trenches are noted which was suggested to relate to training areas for soldiers participating in World War II.

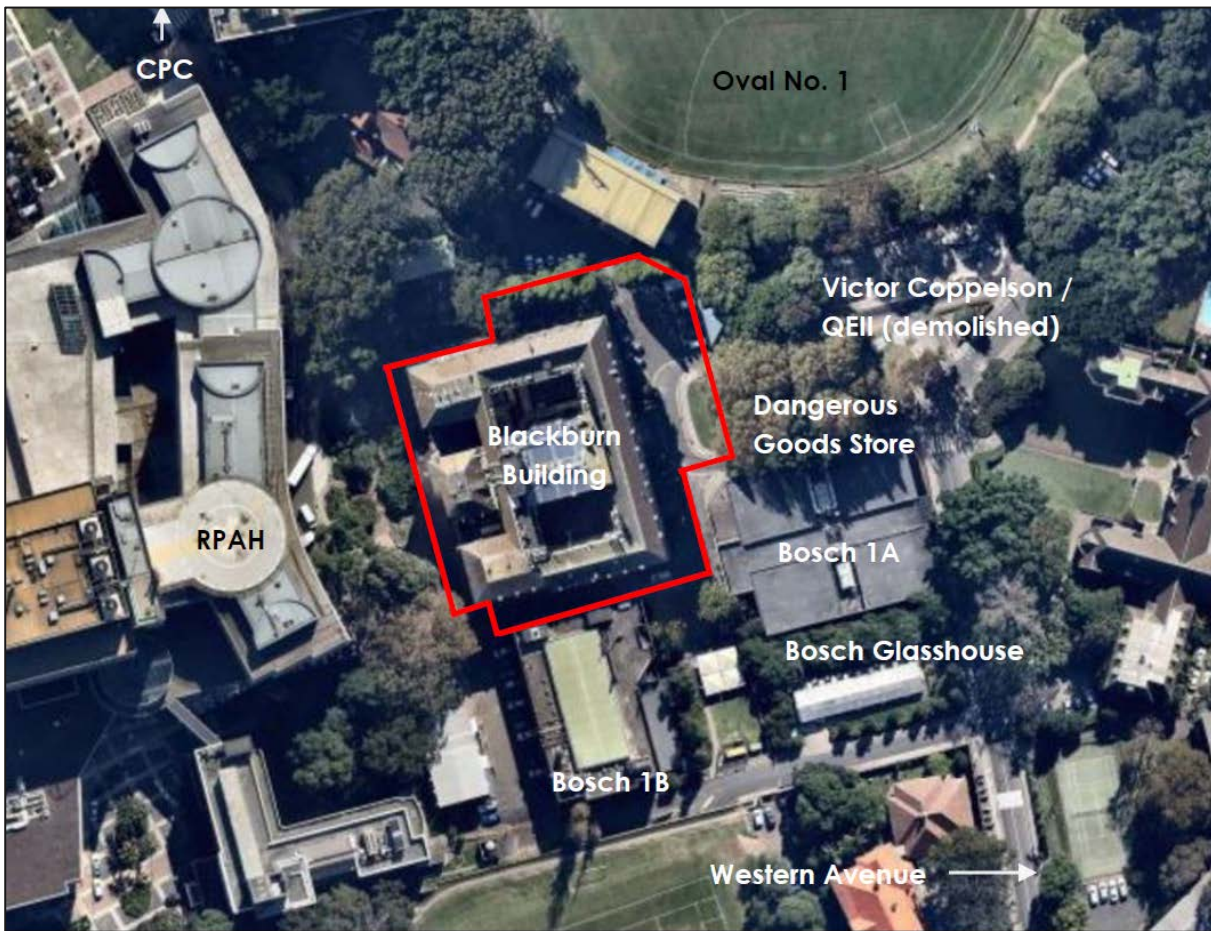
By 1970, land surrounding the site had been further developed in a manner that is similar to that observed today. The Dangerous Goods store was constructed some time during the period between 1994 and 2007.

Under a separate Part 5 approval process (REF dated 14 February 2017), the Blackburn Building and Dangerous Goods Store will be demolished to the ground level only. This SSD DA seeks approval for the excavation and earthworks associated with the erection of the building subject of this application.

The site is positioned in the western portion of the campus, and is essentially unseen from any major road or public areas. There is an existing interface with the adjacent Royal Prince Alfred Hospital (RPAH), which will be embellished as part of the public domain works pertaining to this application. The scope of works is contained to Stage 1 of the Health Precinct. However, to enable an orderly master planned outcome across

the balance of the Precinct, indicative envelopes and design assumptions have been made for subsequent Stages 2 and 3, which will be subject to separate (future) applications.

Figure 8 – Site Aerial (CIS)



The pictures contained in Figure 9 below illustrate the site and its surroundings:

Figure 9 – Photographs of Site and Surroundings (CIS)



Picture 4 – Blackburn Building (Eastern Elevation)



Picture 5 – Blackburn Building (Southern Elevation) and Bosch 1B Building



Picture 6 – Dangerous Goods Store (Northern Elevation)



Picture 7 – Blackburn Circuit looking towards Blackburn Building



Picture 8 – Site of demolished Victor Coppleson/Queen Victoria II (VC/QEII) Building



Picture 9 – Western Avenue looking towards Bosch 1A Building

## 2.4. CONSTRAINTS AND OPPORTUNITIES

Extensive site analysis has been undertaken as part of the detailed site planning and architectural development of the proposal. A broad overview of the primary spatial relationships and key site features is shown below in Figure 10, Figure 12 and in Table 3.

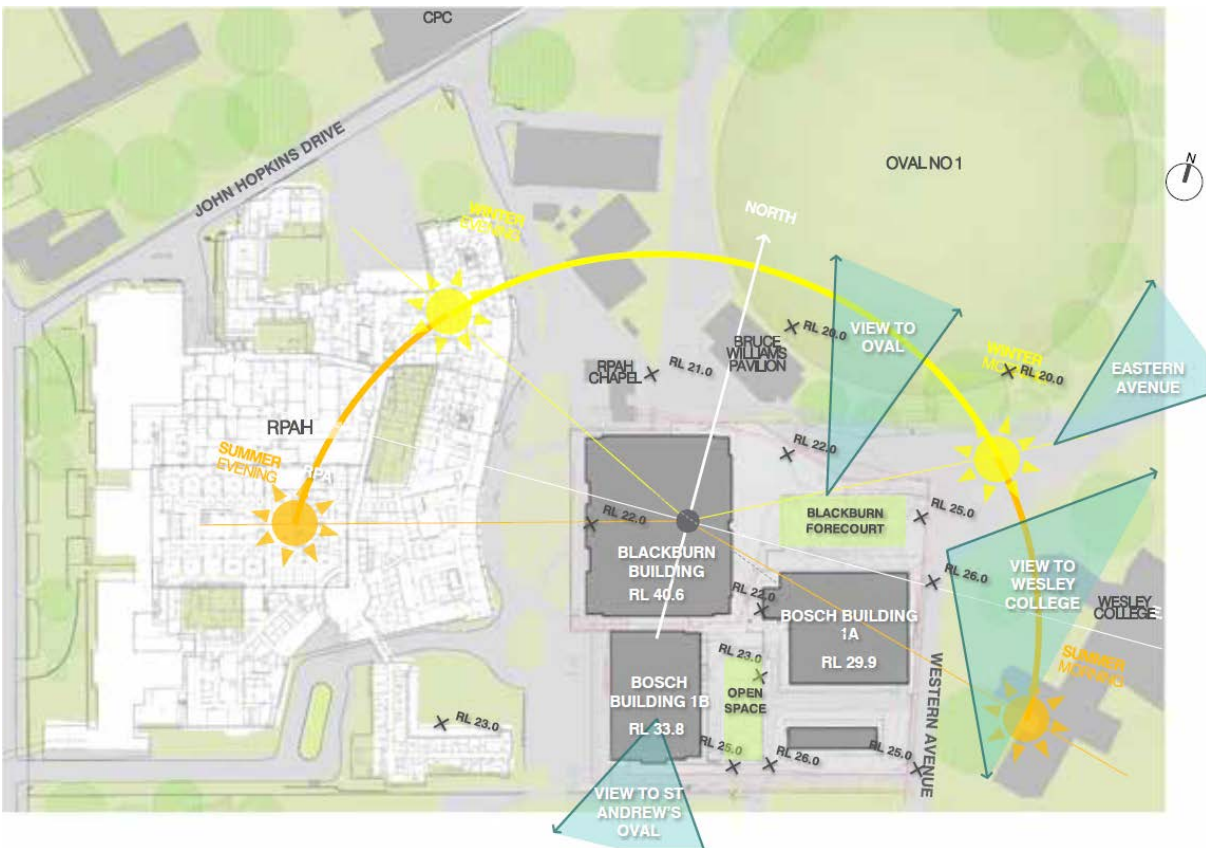
Table 3 – Constraints and Opportunities Table

Constraints	Opportunities
<ul style="list-style-type: none"> <li>The CIP envelope</li> </ul>	<ul style="list-style-type: none"> <li>Existing vistas and open spaces</li> </ul>
<ul style="list-style-type: none"> <li>The location of underground services including two major sewer lines</li> </ul>	<ul style="list-style-type: none"> <li>Potential to improve interface with Royal Prince Alfred Hospital (RPAH)</li> </ul>
<ul style="list-style-type: none"> <li>The requirement to maintain a significant landscaped area to the north east of the site</li> </ul>	<ul style="list-style-type: none"> <li>Opportunity to strengthen the pedestrian character of the precinct</li> </ul>
<ul style="list-style-type: none"> <li>The requirement to maintain the existing overland flow path</li> </ul>	<ul style="list-style-type: none"> <li>Chance to create new permeability and connections as part of a master planned solution</li> </ul>
<ul style="list-style-type: none"> <li>Changes in grade/elevation</li> </ul>	

Figure 10 – Site Constraints (BLP/DS+R)



Figure 11 – Existing Site Amenity (BLP/DR+R)

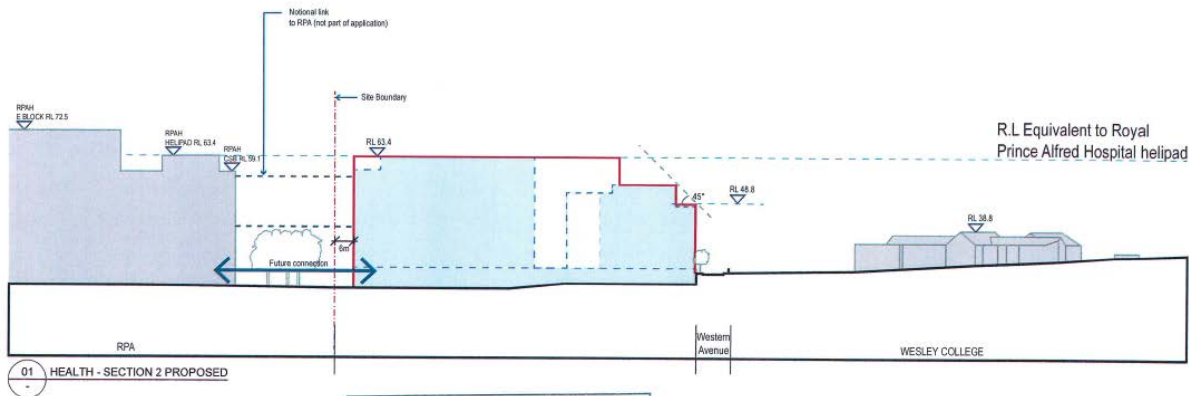


## 2.5. PROJECT EVOLUTION

The Stage 1 Campus Improvement Program (CIP – SSD 6123) for the delivery of new development, access, public domain and infrastructure works across the Camperdown and Darlingtong Campuses was approved by the Minister for Planning on 16 February 2015.

The proposed building will be compliant with the approved envelope from the Stage 1 DA. The CIP envelope maximum building height is RL 64.5m which meets the RL equivalent of the Royal Prince Alfred Hospital helipad, with the highest RL of the proposed development not exceeding this level.

Figure 12 – Health – Section 1 Proposed (Approved CIP Drawing 25 of 40)



The University of Sydney undertook a Competitive Design Process, consistent with the City of Sydney's *Invited Competitive Design Alternatives Process* (provisions under *Sydney LEP 2012 clause 6.21 Design Excellence*), and with the panel incorporating a member from the City of Sydney and the NSW Office of the Government Architect. The competitive design process resulted in a vigorous examination of options for the site. The design brief benchmark standards set out by the University were of a high standard and the investigation process to select the final design to be developed was lengthy and extensive.

The University of Sydney has retained the design competition jury members to continue their design excellence review role throughout the Early Contractor Involvement (ECI) phase of the project. The DERP members have met on three occasions with the design team since completion of the design competition process. At each review they have provided feedback on design excellence progress of the developing design.

The Design Excellence Review Panel (DERP) membership includes the Design Competition Jury members as listed below (N.B. these panel members were also the Design Competition Jury):

- Jesse McNicoll, The City of Sydney Representative
- Shaun Carter, Office of the Government Architect Representative
- Kim Crestani, The University of Sydney Representative
- Michael Tawa, The University of Sydney Representative

The Design Competition Jury Assessment Report identified 11 specific areas of the design that required refinement in order to achieve design excellence. Following the third DERP review session, jury members confirmed that the design had been refined to address these issues and was of a design excellence standard suitable for an SSDA submission. The issues and responses to each are included in the Design Excellence Summary at Appendix E.

## 3. PROPOSED DEVELOPMENT

### 3.1. OVERVIEW OF THE PROPOSED DEVELOPMENT

This SSD 7974 application seeks approval for the redevelopment of the 'Health Precinct – Stage 1' for the purposes of an educational establishment building.

The development will involve the construction of an 8 storey building which will comprise approximately 21,198 sqm of GFA, accommodating various office, teaching, research, clinical and support spaces. The development will provide a contemporary, flexible and collaborative facility that aligns with the University's strategic vision; and successfully co-locates the Faculty of Health Sciences (FHS), the Faculty of Nursing and Midwifery (FNM) and the Central Clinical School (CCS) on the Camperdown Campus by creating a building that addresses the local environment and Faculty functional requirements.

The proposed development will benefit from close ties and proximity to other University of Sydney and Allied Health facilities and operations.

Visual and pedestrian links will be incorporated into the design and will address the existing CIP design principals and relevant conservation management plans for adjoining heritage items.

The new building will be a maximum of 8 storeys high with a maximum RL of 61.8, some 1.6m below the CIP envelope RL of 63.4. It will comprise some 21,198 sqm of GFA for a range of uses which will incorporate:

- Entry foyer and reception facilities.
- General Teaching Spaces.
- Specialist Teaching Spaces.
- A Clinical and Research Hub.
- Offices and workstations for academic and professional services.
- Breakout spaces and meeting rooms.
- Support and Back of House spaces.
- Significant landscaped areas.

### 3.2. NUMERICAL OVERVIEW

Table 4 below provides a summary of the numerical information relating to this proposal.

Table 4 – Key Development Information

Component	Proposal
Site Area	8,711 sqm
GFA	21,198 sqm
Maximum Height	RL 61.8 (CIP envelope compliant)
Parking	<u>Car</u> : 30 spaces (25 in basement and 5 outside, including 1 accessible space). These are all proposed to be public spaces.  <u>Bicycle</u> : 69 staff bicycle parking racks; 88 student bicycle parking racks (these are located undercover, secured and at grade outside).

### 3.3. DEMOLITION REQUIREMENTS

The University intends to implement an approval under Part 5 of the Environmental Planning and Assessment Act (REF dated 14 February 2017) for the demolition of the Blackburn Building and Dangerous Goods Store. This approval only relates to structure to ground level and involves no excavation. Hence removal of sub structure and excavation will be addressed under this this SSD DA.

We note that both the Blackburn and Dangerous Goods Store buildings already have a concept approval for their demolition under SSD 6123 of the Campus Improvement Program (stamped Sheet 2 of 40), approved on 16 February 2016).

### 3.4. CIVIL WORKS

The excavation works on site will facilitate a lower ground floor to be developed. Excavation works pertain to the eastern side of the building (maximum depth approximately 2m, where the new building is adjacent Western Avenue) – refer architectural drawing DA18-0001 GA – Level 0. It is anticipated that approximately 1600m<sup>3</sup> of cut will be required for the building. As part of this process, erosion and sediment control measures will be utilised.

### 3.5. BUILT FORM

#### 3.5.1. Approved CIP Envelope

This SSD 7974 application is the detailed (Stage 2) DA for the construction of Stage 1 of the 'Health Precinct' as identified in the Building Footprint Plan at Figure 13.

The footprint and buildings shown in white and contained within the volumetric envelopes were indicative only and did not form part of the Stage 1 consent. The resolved buildings fit within the approved SSD 6123 axonometric 'envelope'.

Figure 13 – Health – Proposed Envelope Plan (Approved CIP Drawing 24 of 40)

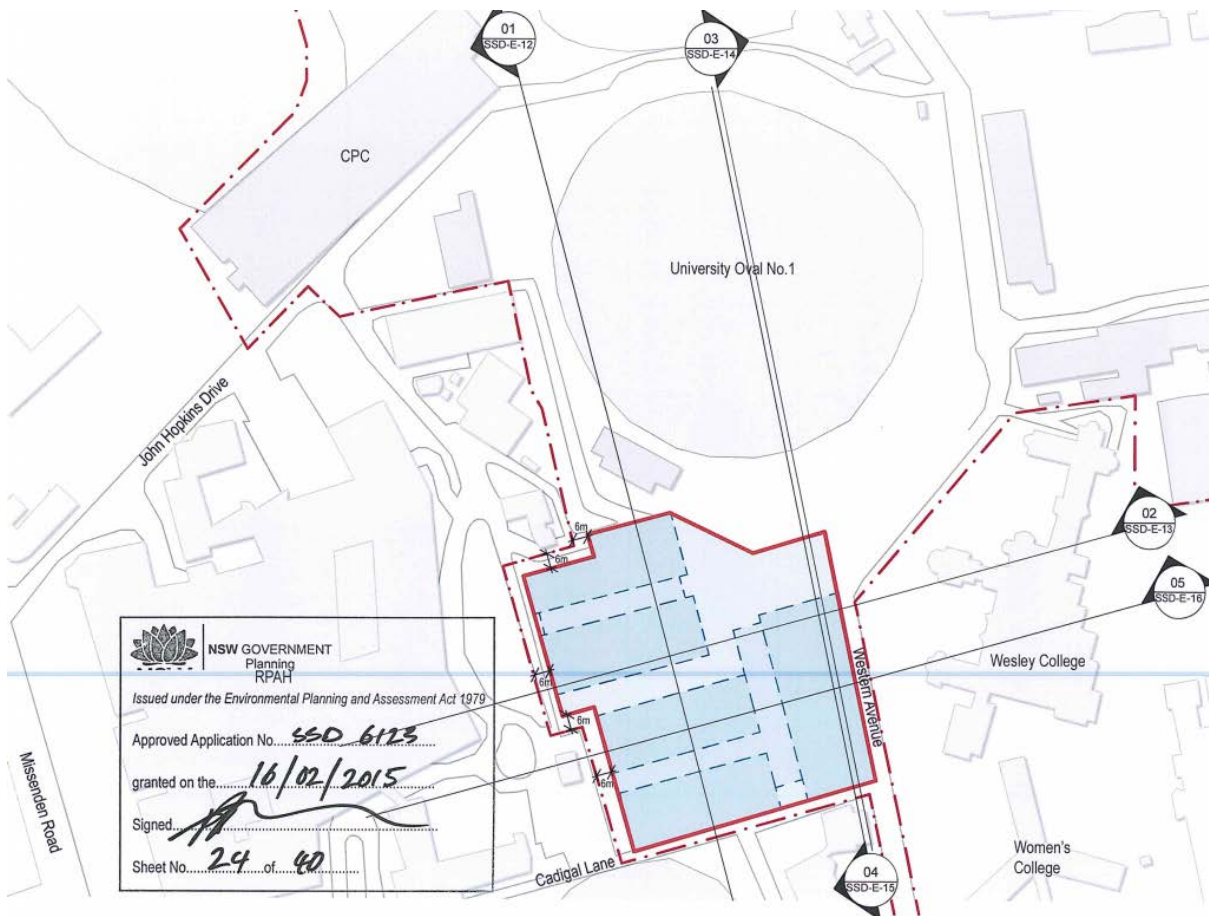


Figure 14 – Approved CIP Envelopes 3D Model



Picture 10 – CIP Approved Health Precinct - Western Avenue looking south



Picture 11 – CIP Approved Health Precinct - Western Avenue looking north



Picture 12 – CIP Approved Health Precinct - Oval No.1

### 3.5.2. Height and Massing

As noted above, the proposed building form sits entirely within the CIP Envelope Approval (SSD 6123). The maximum height of the building is RL 61.8. Refer to Figure 15, Figure 16, Figure 17 and Figure 18 below for an illustrative demonstration of CIP envelope compliance.

The built form aligns with the CIP envelope on the western and northern edges before stepping back from the east to create the entry forecourt, while maintaining vistas of the oval from Western Avenue.

Figure 15 – North Elevation (BLP/DS+R)

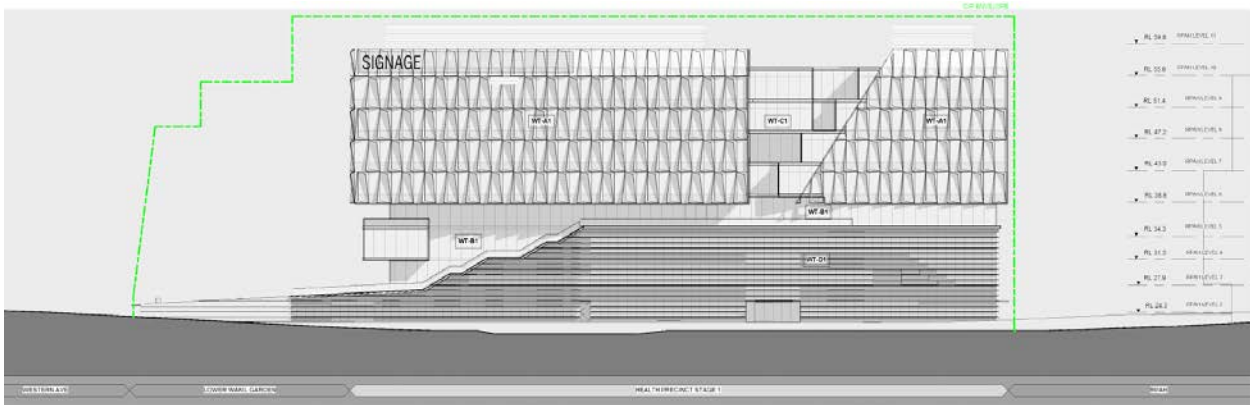


Figure 16 – South Elevation (BLP/DS+R)

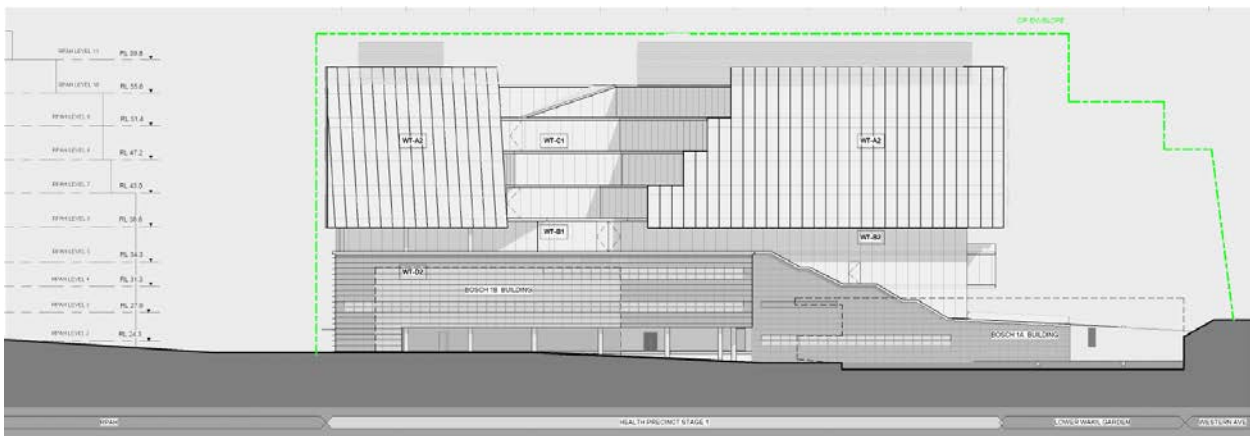


Figure 17 – East Elevation (BLP/DS+R)

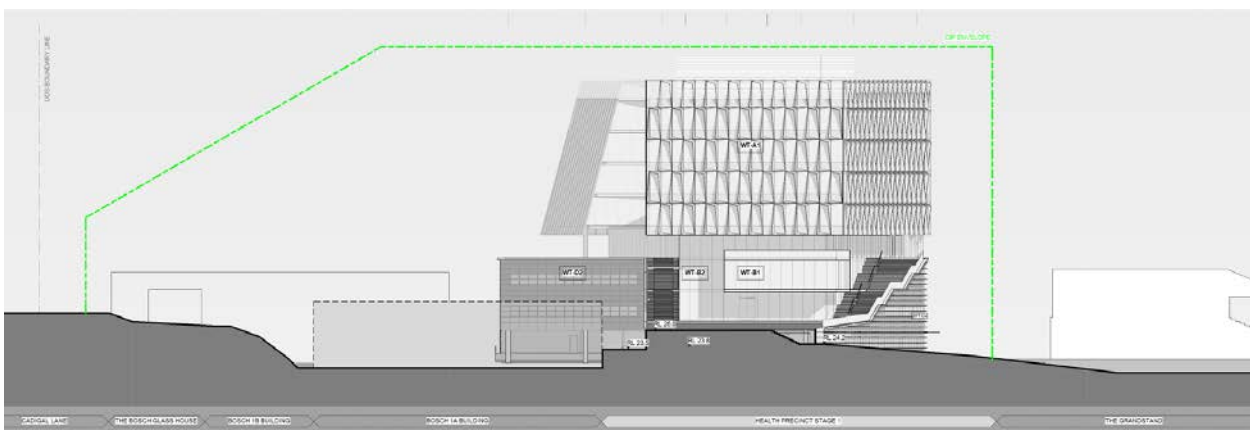
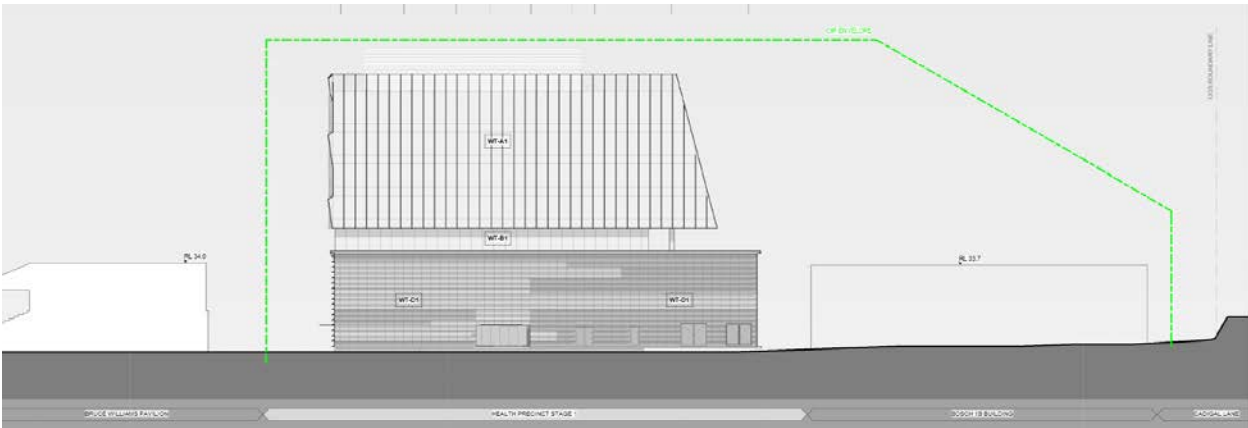


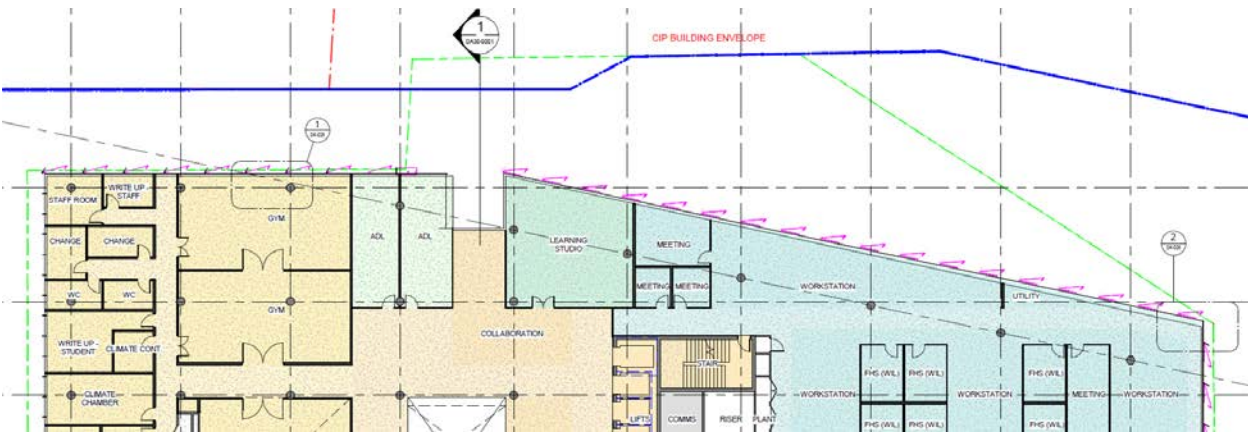
Figure 18 – West Elevation (BLP/DS+R)



### 3.5.3. Façade Sunshading

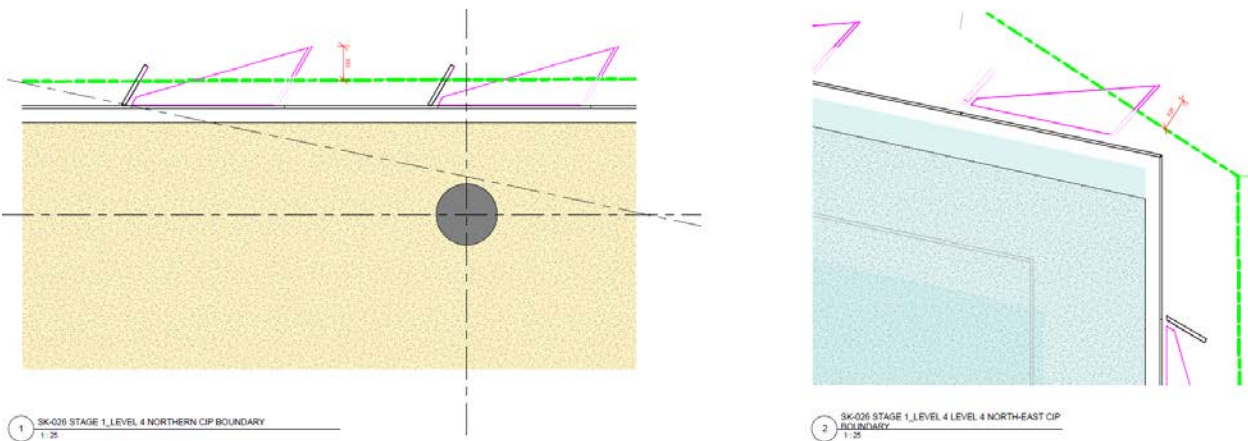
Whilst the proposed building is fully contained within the approved CIP envelope, there is a minor protrusion involved with the proposed sunshades fixed to the external facades (in only two specific locations). These protrusions are minor (in the order of 0.33m); occur in the horizontal plane only (i.e. they do not affect the overall height envelope); and only occur on the northern elevation. This is illustrated in Figure 19 and Figure 20 below:

Figure 19 – CIP Envelope Breach for Sunshading Devices (BLP/DS+R)



Further detailed design development is occurring in relation to these sunshades, however it is envisaged that the extent of the protrusion will only occur within the positions shown in this figure and in the order of that indicated. Further comments on this matter is provided in Section 8.1.1.

Figure 20 - CIP Envelope Breach for Sunshading Devices Inset (BLP/DS+R)



We note that protrusions of this nature are allowed under the Sydney LEP 2012 definition of building height, see copied below:

**building height (or height of building)** means:

(a) in relation to the height of a building in metres—the vertical distance from ground level (existing) to the highest point of the building, or

(b) in relation to the RL of a building—the vertical distance from the Australian Height Datum to the highest point of the building,

including plant and lift overruns, **but excluding communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flues and the like.**

[our emphasis]

## 3.6. SETBACKS

As above, the building sits entirely within the CIP Envelope established in SSD 6123 and provides adequate setbacks to existing adjoining buildings.

## 3.7. BUILDING LEVELS

### 3.7.1. Level 0

- Level 0 is entered via the lower forecourt through to the 24-hour multi-use commons which occupies the western half of this level.
- The lower forecourt connects pathways leading to RPAH on the west, Charles Perkins Centre (CPC) to the north and Physics Avenue to the east.
- The multi-use commons is a series of large open plan spaces with pods of bookable rooms interspersed among group and individual learning spaces. It has entries from the North and the West each adjacent to a stair in a double height void providing direct links to the main entry level.
- The Sim Studio is on the eastern half of this level. Simulation bedrooms are aligned in a central pod allowing flexible use of the adjacently located breakout rooms.
- This level also has the back of house and carpark, which is conceived as flexible soft space for future expansion once Stages 2 and 3 are completed. Visitors arriving at the carpark can find the central lift core via a short direct corridor. Cyclists can access the end of trip facilities on this level via Western Avenue.
- An entry on the south side provides student access to and from the existing open space off Cadigal Lane.

### 3.7.2. Level 1

- Level 1 is the main entry level for the building and connects the multi-use commons with the main learning commons. It is entered from Western Avenue via the Lower Wakil Garden, which is the forecourt to the building. The entry hub provides opportunity for a future café and social commons with garden views.
- Two wide stairs ascend from this level straddling the northern and southern facades connecting the Lower garden with its upper equivalent on level 3. These stairs are part of a system of stairs and voids connecting a central open learning commons that permeates through the building.
- At level 1 the main commons is located centrally beside the lift core with a visual connection to the theatre foyer above.
- The Resource Collection, Lecture Theatres, Seminar Rooms and a Specialist Cluster that includes the Super lab are collected around the main commons which provides open circulation and spill out space.
- Learning spaces are also organised around an open Resource Collection with secure gates and a central help desk. The book stacks provide separation between more focused Individual Commons and the Group Commons.

### **3.7.3. Level 2**

- Level 2 connects the main learning commons on Level 1 with the central theatre foyer beside the main lift core.
- The stairs on the north and the south discharge at this level. The generous width of these stairs allow informal gathering to happen on adjacent tiers.
- The theatre foyer forms the spill out space for the main lecture theatre, case study theatre and seminar rooms on this level and doubles as the event space next to the catering kitchen.
- The informal learning zone extends up from Level 1 and down from the Level 3 terrace to this level via stairs and double height voids. This provides further circulation and spill out space for the main theatres.
- As with Level 1, learning spaces are also organised around the remainder of the Resource Collection.
- The small mods specialist cluster is also on this level.

### **3.7.4. Level 3**

- Level 3 is defined by the Upper Wakil Garden. It's the central indoor-outdoor place of respite midway through the building and the heart of the health precinct master plan.
- The tiered stairs as well as the interconnected voids extend the learning commons up to this level making this terrace a major destination for the building users.
- The distributed commons and collaborative hubs extend up through the building from this level.
- The western half of Level 3 is occupied by the Clinic and Research Hub with the main lift core discharging directly to its front door. The Dean's Cluster occupies the eastern half of the level. A Dean's terrace at this level provides a strong visual link to the historic Quadrangle clock tower and Medical School.

### **3.7.5. Level 4**

- On Levels 4-6 Seminar Rooms and Learning Studios punctuate the sequence of cascading stairs and open voids that visually and physically link collaborative hubs and a central learning commons within the cleave.
- On Level 4 the western half contains further Clinic and Research Hub spaces with the Gyms lined up to provide the long movement space for the SBL Gym in the middle. The floor slab is also raised up to provide the height required for the SBL Gym which also presents an opportunity on the level above to create a mezzanine collaborative hub.
- The eastern half contains the Teaching & Research cluster consisting of WIL, CCS, CPS, Student Services and T&L Teams. It has easy stair access to the Dean's Cluster on the level below.

### **3.7.6. Level 5**

- Level 5 contains the FNM Teaching and Research cluster on the western half and part of the FHS Teaching & Research Cluster on the eastern half. The HDR clusters are interspersed with the teaching and research clusters to maximise interaction.
- The academic workplace references Workplace Option B and has been planned as an open, activity based, highly collaborative space that maximises opportunities for focused individual work.

### **3.7.7. Level 6**

- Level 6 contains the remainder of the FHS Teaching and Research cluster and HDR cluster. The Industry Hub is also located on this level. As with the level below the collaborative hubs in the central cleave provide an interface for the students and visitors to the workplace.

### **3.7.8. Level 7**

- Level 7 contains future Shell spaces.

### 3.7.9. Level 8

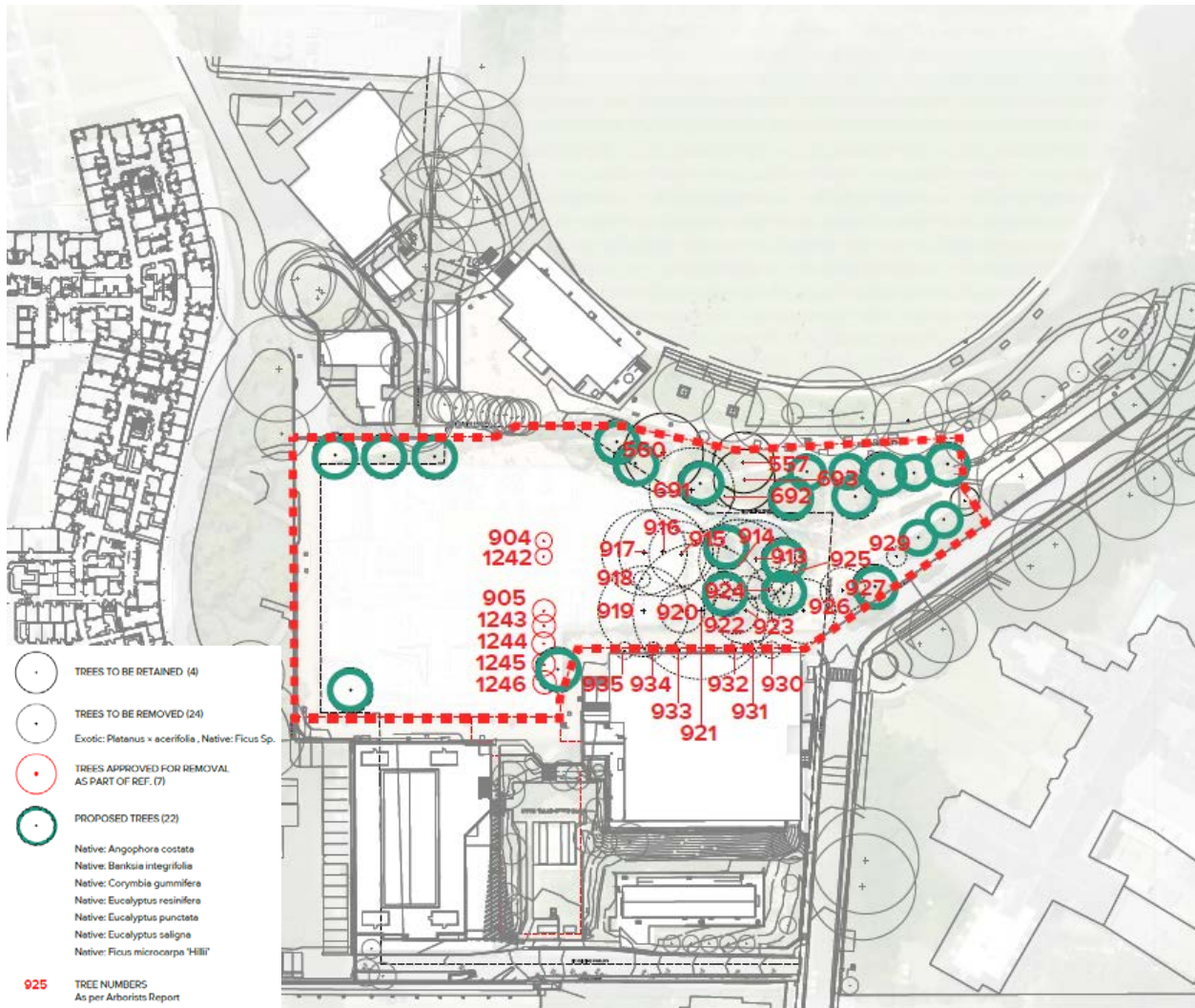
- Level 8 contains the central mechanical and hydraulics plant rooms to service the building including Level 7 shell space.

## 3.8. TREES AND LANDSCAPING

24 trees are proposed to be removed as part of this application to enable the proposed works across the Stage 1 of the Health Precinct.

In response, the landscape solution provides replacement of 22 trees including a 1000L ficus spp. (Fig), specifically to replace Tree 921 (existing Fig) restoring a significant tree canopy coverage to this part of the development site.

Figure 21 – Vegetation Management Plan (Arcadia)



A Biodiversity Statement has also been prepared, which concluded that removing the one large *ficus* species would not result in a significant ecological impact, and the Arborist Report concluded the tree is unsuitable for salvaging and replanting.

Further information regarding trees to be removed and the new plantings, refer to Section 8.9 of this report, the Arborist Report contained at Appendix Y and the Landscape Report at Appendix X.

## 3.9. MATERIALS AND FINISHES

The following materials are anticipated to be utilised within the scheme design. For further information refer to Architectural Plan Reference DA85-0001 and within the Architectural Design Report at Appendix D.

The materiality was discussed through the DERP, who gave support for the palette nominated below.

The materials used on the façade of the building will not have adverse reflectivity impacts.

TYPE	FAÇADE SYSTEM LOCATION	DESCRIPTION
WT-A1	UPPER BOXES (N,E,W)	STRUCTURALLY GLAZED UNITISED CURTAIN WALL WITH VERTICAL AND HORIZONTAL SUNSHADES, GLAZED SPANDREL SHADOW BOX
WT-A2	UPPER BOXES (S)	STRUCTURALLY GLAZED UNITISED CURTAIN WALL WITH GLAZED SPANDREL SHADOW BOX
WT-B1	CENTRE & ENTRY (E,S)	STRUCTURALLY FLUSH GLAZED FLOOR TO CEILING UNITISED WINDOW WALL WITH LOW-IRON GLASS, FIXED TO SECONDARY STEEL FRAMING
WT-B2	CENTRE & ENTRY (N,E,S,W)	STRUCTURALLY FLUSH GLAZED SEMI-UNITISED CURTAIN WALL, WITH LOW-IRON GLASS, FIXED TO SECONDARY STEEL FRAMING
WT-C1	CLEAVE (N,S)	STRUCTURALLY FLUSH GLAZED FLOOR TO CEILING UNITISED WINDOW WALL
WT-D1	BASE (N,W)	ALUMINIUM FRAMED STRIP WINDOWS, STEEL STUD FRAMED INSULATED SPANDREL WITH FC RAINSCREEN CLADDING, HORIZONTAL LOUVRES OF EXTRUDED ALUMINIUM, PERFORATED TRIANGULATED CLADDING
WT-D2	BASE (S,E)	ALUMINIUM FRAMED STRIP WINDOWS, STEEL STUD FRAMED INSULATED SPANDRELS WITH FC RAINSCREEN CLADDING (LOUVRES OMITTED)

Figure 22 – Anticipated Finishes (BLP/DS+R)

### WT-A1/2 (UPPER BOXES)



### WT-B1/2 WT-C (ENTRY & CLEAVE)



#### LEGEND

1. Insulated Glazing Unit in a Curtain Wall System
2. Composite Panel Glazed into Curtain Wall System with Insulated Panel behind
3. L shaped Folded Fins Fixed to Slab Edges
4. Composite Panel Glazed into Curtain Wall System with Insulated Panel behind
5. Horizontal Fins Fixed Fixed to Shopfront Framing System with powdercoat finish.
6. External tile panels with Concealed Fasteners on Light Weight Metal Framing System
8. Glazed Spandrel Panels with Selected ACP Back Fin

### WT-D1/2 (BASE)



## 3.10. SIGNAGE

Any wayfinding signage incorporated within the scheme would be implemented in accordance with the University's Signage Design Guidelines.

## 3.11. STORMWATER AND DRAINAGE

The concept stormwater drainage design has been provided in accordance with the requirements of the City of Sydney, Sydney Water and Australian Standard 3500.3 Plumbing and Drainage.

The stormwater strategy incorporates diversion of the existing 525mm diameter stormwater line to the east of the existing building, maintenance/enhancement of the existing overland flow paths through the site (by utilising sub-floor space under Level 0 of the proposed building), capture and reuse of roof water in a rainwater tank and podium drainage as required to capture and convey stormwater through the site. No on-site detention is proposed on site.

MUSIC modelling was undertaken to assess the impact of the redevelopment on water quality. The results show that the redeveloped provides water quality benefit when compared to the existing site.

## 3.12. TRAFFIC AND PARKING

30 car parking spaces (25 in the basement and 5 at grade outside) are proposed as part of this proposal. This meets the City of Sydney guidelines which indicative maximum parking levels (the maximum permitted at the site would be 105 spaces using Council's calculation). The campus at large is well serviced by public transport and is cycle and pedestrian friendly.

The proposal accommodated a total of 157 bicycle racks (69 for staff, and 88 for students). End of trip facilities will also be provided. The bike parking and end of trip facilities will be in an accessible location. These facilities will meet the applicable sustainability targets outlined within the University's Sustainable Transport & Mobility Plan (STAMP) at Appendix AA.

The following loading arrangements are proposed at the site:

- The loading dock can accommodate up to 1 x 8.8m medium rigid vehicle and 1 x 6.4m small rigid vehicle.
- The loading bay is designed to cater for all vehicles to reverse into and exit in a forward direction (see Figure 23 and Figure 24 below for explanation):

Figure 23 – Service Vehicle Entry to Loading Bay (GTA)

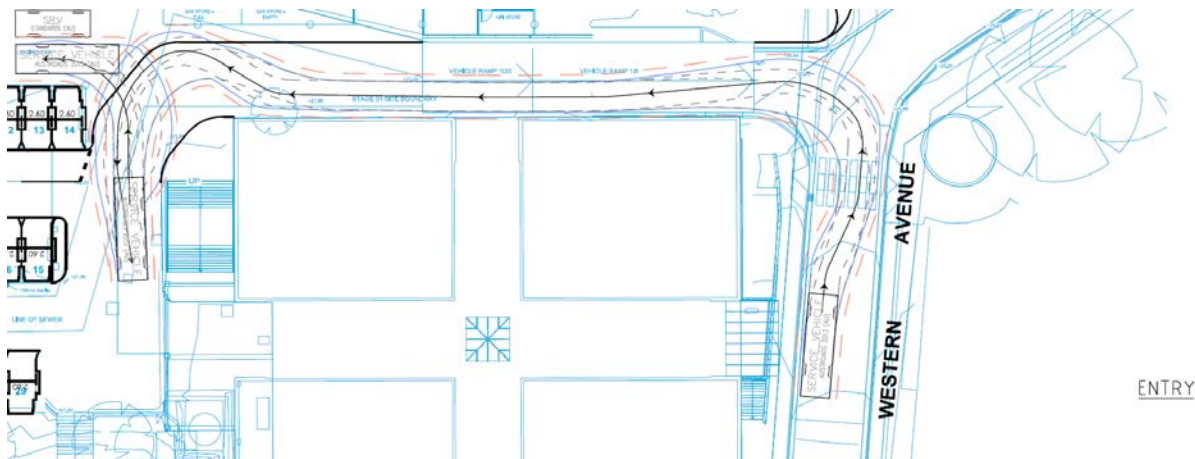
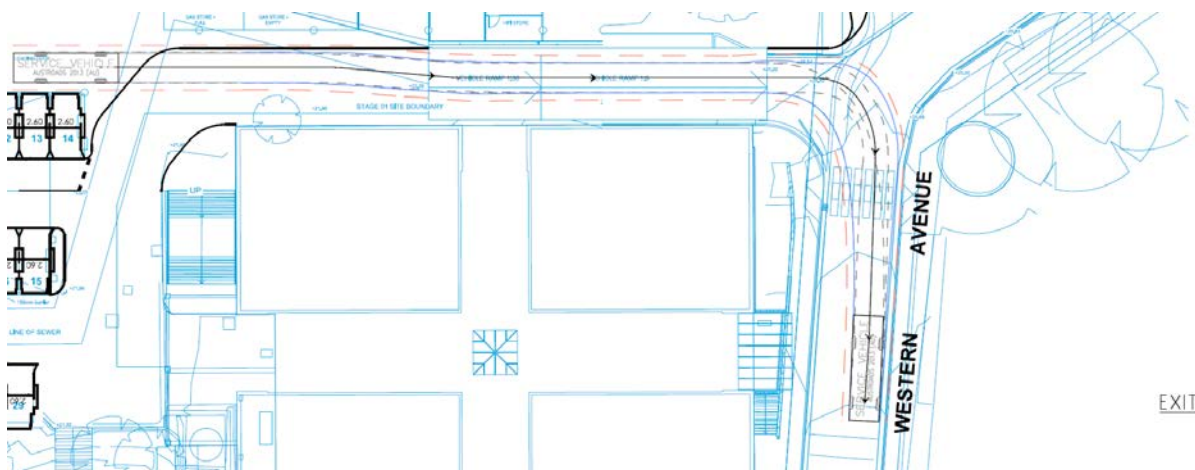


Figure 24 – Service Vehicle Exit from Loading Bay (GTA)



- Both loading vehicles will be required to utilise the full road width upon entry/exit to the loading dock. This is considered to be an acceptable outcome due to the infrequent vehicle movements within this area.
- Access to the existing loading dock for the Bosch Building 1b is maintained. The maximum size vehicle accessing this loading bay is an 8.8m medium rigid vehicle. This is required to utilise the paved area to the west of the three car bays that sit outside the main car park.

Regarding traffic, it is demonstrated within the Transport and Accessibility Report at Appendix I that:

- there is adequate capacity in the surrounding road network to cater for the traffic generated by the proposed development.
- Provision is made for all access arrangements to operate safely and efficiently (in accordance with the applicable Australian Standards)
- The proposal is consistent with the Sydney University Sustainable Transport and Mobility Plan requirements.

### **3.13. ACCESS**

The proposed development has been designed to be accessible for all. As such, a range of measures were considered and included within the scheme design to meet DDA Requirements, these are set out in more detail within the Access Report attached at Appendix R, which assesses the following considerations:

- Access and Approach – External Areas.
- Internal Areas.
- Vertical Circulation.
- Sanitary and Other Facilities.
- Various Additional Considerations.

### **3.14. UTILITIES AND INFRASTRUCTURE**

#### **Electrical:**

The development's power supply will be provided by a new dual or triple chamber Ausgrid substation.

#### **Communications:**

New in-ground communications 'conduit & pit' infrastructure have been deployed to the Health Precinct Stage 1 building in accordance with a previous infrastructure works approval (i.e. not part of this proposal).

#### **Water Service:**

A 450mm diameter DICL Sydney Water watermain is located within Western Avenue adjacent the proposed building footprint. This main has capacity to serve the proposed precinct as initial flow assessment indicates large volumes of water supply available.

#### **Fire Water Supply Infrastructure:**

A Grade 1 water supply will be provided to serve the fire services system throughout the building. The water supply will comprise a primary water supply as noted above from the existing water main, and a secondary water supply from fire tanks and associated pumps located in Level 0 of the Stage 1 building, and provided with compliant Fire & Rescue NSW access.

#### **Sewer Drainage:**

There are currently two significant main sewer reticulation sewer drainage pipe systems that traverse the site. To the north of the new building is a nominal 900x600 concrete sewer main and the outline of Level 0 of the new building will be designed to avoid the need to build near or over this sewer in order to maintain compliant Sydney Water access to the sewer.

The other sewer main to the south of the new building comprises a 450mm diameter sewer main that interconnects with a nominal size 1200x900 brick old (and fragile) sewer main at a manhole currently located in Blackburn Circuit. The outline of Level 0 of the Stage 1 building is designed to avoid the need to build near or over this sewer.

#### **Natural Gas:**

Natural gas will be extended from the University of Sydney private gas service network supply located in the road network around the proposed Stage 1 building. The incoming supply will incorporate a gas meter assembly and regulator system to control gas pressures. Isolation valves will be installed to all main lines and branches for maintenance purposes prior to any appliance.

**Integrated Water Management:**

The integrated water plan consists of the interconnection of sewer drainage, domestic potable water services, recycled water and re-use water systems and fire service water re-use. Refer to the Integrated Water Management Plan at Appendix P for more information.

## 4. JUSTIFICATION AND ASSESSMENT OF ALTERNATIVES

Under the provisions of Environmental Planning and Assessment Regulation 2000, Schedule 2, Clause 7 there is a requirement to analyse any feasible alternatives to carrying out the development, including the consequences of not carrying out the development.

The vision for the site is to create a new multifacility space for health disciplines, which will make better and more effective use of an underutilised section of the campus that contains an ageing asset deemed to be beyond economic repair. The new building will meet forecasted accommodation to facilitate the colocation needs of the Faculty of Health Sciences, Faculty of Nursing and Midwifery, and the Central Clinical School.

### 4.1. DO NOTHING SCENARIO

If the proposed development is not progressed, the University would not be able to meet forecasted accommodation needs, which would in turn would significantly restrict the University's ambition to provide health disciplines and facilities which are at the forefront of innovation, teaching and learning.

This approach will not facilitate an improvement of the operating capacity of the University, and will also not help achieve the redevelopment of the Health Precinct as envisaged by the University's Campus Improvement Program – SSD 6123, approved by the Minister for Planning on 16 February 2015. Accordingly, the 'do nothing' scenario for the site was not considered an appropriate course of action.

### 4.2. ALTERNATIVE DESIGN

The University of Sydney undertook a Competitive Design Process, consistent with the City of Sydney's *Invited Competitive Design Alternatives Process* (provisions under *Sydney LEP 2012 clause 6.21 Design Excellence*). The design competition resulted in a vigorous examination of options for the site. Upon winning the design competition, the scheme (Laing O'Rourke, BLP and DS+R) has undergone continuous review, with the Design Excellence Review Panel (DERP) members meeting on three occasions since the competition was completed.

The Design Competition Jury Assessment Report identified 11 specific areas of the design that required refinement in order to achieve design excellence. Following the third DERP review session, **jury members confirmed that the design had been refined to address these issues and was of a design excellence standard suitable for an SSDA.**

Given the extensive design development that has been undertaken, the present design represents a refined and considered design response that complements the established urban form and massing, along with respecting the environmental characteristics of the site.

As such, several design options have been explored and the present design has been settled upon as most suitable approach to the redevelopment of the site from the University.

### 4.3. PROPOSED DESIGN

The proposed redevelopment of the site will facilitate the erection of a new building, providing a significant improvement on the existing infrastructure, facilitating much needed educational floor space in line with forecasted enrolments and the desired future character of the precinct per the CIP (SSD 6132) Consent.

The proposed development will strengthen the University's role in contributing to the growth of the Sydney Education and Health Precinct within the Central Sydney Subregion, the University's Camperdown campus and more broadly the NSW economy.

In light of the above options and competitive design process, the final design for this application is considered to be suitable for the site and its context. It is the most appropriate solution which offers the best outcome for students and the University.



## 2. **Public benefit:**

The Stage 1 redevelopment of the Health Precinct will provide a significant material public benefit to the wider public. It will provide linked services and facilities with the adjoining Royal Prince Alfred Hospital and will also provide services and consulting rooms available to the public. The development will also incorporate a new child care facility.

Where the Crown is proposing to provide a public service with significant public benefits, exemption from contributions is supported by Planning Circular (DUAP Circular D6) relating to Crown Development Applications, noting that:

*“Crown activities providing a public service or facility lead to significant benefits for the public in terms of essential community services and employment opportunities. Therefore, it is important that these essential community services are not delayed by unnecessary disputes over conditions of consent. These activities are not likely to require the provision of public services and amenities in the same way as developments undertaken with a commercial objective”.*

## 3. **Material benefits provided by University:**

A consent authority may accept “a material public benefit (other than the dedication of land or the payment of a monetary contribution) in part or full satisfaction of a [development contributions condition] (Section 94(5)(b) of the EP&A Act)”. The University considers that the public amenities and public services must be taken into account when assessing whether local infrastructure contributions are to be imposed on a development.

The University has a public charter, is open to the public and provides material public benefits. The University has already provided an extensive array of material public benefits over and above its core focus on education and research. These include a past \$27 million expenditure and commitment to campus infrastructure (including stormwater), open space, community facilities (including child care, library facilities and museums), sports facilities (including aquatic centre, gymnasium, tennis and squash courts, playing fields and stadiums), traffic and transport facilities, entertainment spaces, retail facilities and professional services. All of the facilities and services are accessible by and available to the general public. These are all analogous to the public amenities and services which the Council provides for its local government area.

## 4. **Other Justifications:**

- The University is a not-for profit organisation and its developments provide a distinct community benefit on a not-for-profit basis.
- The University is not a developer in the traditional sense. It relies on grants, donations and external funding to provide new facilities for the University and wider community.
- There is no nexus between development contributions and the demand generated for facilities outside the University given the nature and scale of the facilities provided by the University; and/or
- Exemption from development contributions is supported by the Department’s Circular D6 relating to Crown development applications relating to Educational Services.
- Other recent and similar University approved development have not attracted S94 Contributions for the reasons stated above. These include the Faculty of Arts & Social Sciences (SSD 7081), F23 Administrative building (SSD 7055); and LEES 1 Building extension to the Faculty off Sciences (SSD 7054).

Given the proposed development by the University constitutes development by a non-profit organisation, provides a distinct community benefit through a world class Health precinct accessible by the public, does not invoke additional worker or staff population, and provides a significant quantum of budgeted/financed infrastructure works already dedicated by the university on campus, the proposed development therefore qualifies for exemption from the City of Sydney’s Development Contributions Plan.

## **6. CONSULTATION**

### **6.1. OVERVIEW**

The SEARs response identified that during the preparation of the EIS, consultation must be undertaken with relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners.

Specifically, SEARs identified the following authorities that consultation must be carried out with. The University and its design team have met with or consulted each of these authorities as part of the preparation of this EIS.

In view of this requirement the University has undertaken consultation with the following parties:

- City of Sydney Council;
- Office of Government Architect;
- Heritage Council of NSW;
- Transport for NSW;
- Roads and Maritime Services;
- Royal Prince Alfred Hospital;
- Adjoining residential colleges;
- Community;
- Newtown Public School; and
- Carillon Avenue Child Care Centre.

Further information about the consultations is outlined in Section 6.2 and 6.3 below.

### **6.2. STAKEHOLDER INFORMATION SESSION**

Having regard to the particular 'internal' location of the Health Precinct within the Campus, information sessions and/or meetings were held with the following groups during the preparation of the EIS:

- Royal Prince Alfred Hospital (RPAH) – 30th June 2017
- St Paul's College – 18th May 2017
- Wesley & The Women's Colleges – 3rd August 2017
- St Andrews College – 6th September 2017
- Community – 23rd August 2017
- Newtown Public School – no response received to invitation
- Child Care – no response received to invitation

The following table provides a summary of the key issues raised together with a response to each issue.

Table 5 – Key Issues and Responses from the various Consultation Sessions listed above

<b>Key Issue</b>	<b>Response</b>
Wesley College raised a concern the new building may overshadow their grounds on the eastern side of Western Avenue	UoS issued Wesley College Shadow Diagrams which demonstrated that at the Winter Solstice (worst case), the proposed overshadowing does not progress beyond the western edge of Western Avenue (with Wesley College situated on the eastern side of Western Avenue).
The Women's College raised concern the new Health Precinct would put pressure on the St Andrews Oval Carpark which is accessed via Cadigal Lane	UoS confirmed Health Precinct Stage 1 allows for carpark access via the existing Blackburn Circuit and therefore would have no impact on the vehicle traffic entering or existing Cadigal Lane.
The Community queried the permeability of the new precinct with respect to access between the University Campus and RPAH	UoS identified the Health Precinct Stage 1 Building has three main entrances at the eastern, northern and western elevations which allow for public to traverse through the building at the ground plane. The external landscaping design also promotes on grade pedestrian access across the northern plane which links Western Avenue to RPAH.

### 6.3. PUBLIC AUTHORITY CONSULTATION

As part of the consultation process with each of the public authorities, draft plans and information were issued to each authority ahead of a pre-arranged meeting. In each meeting the University and design team presented the analysis and details of the proposal, and facilitated a question and answer session around the key issues.

The following table provides a summary of the key issues raised together with a response to each issue.

Table 6 – Key Issues and Responses from the Public Authority Consultation Sessions

<b>Public Authority Consultation</b>	
<u>Public Authority</u>	<u>City of Sydney Council</u>
Meeting Held	14 August 2017
<b>Key Issue</b>	<b>Response</b>
The relationship of Health Precinct Stage 1 to RPAH and the ground plane access was discussed in detail.	UoS confirmed the vast majority of the land between HPS1 and RPAH is on RPAH land and is therefore activation is RPAH's responsibility. UoS are committed to continue collaborating with RPAH to achieve an integrated design outcome which is best for the campus.
<u>Public Authority</u>	<u>Office of Government Architect</u>
	OGA confirmed they would not require a meeting pre-DA given Shaun Carter of OGA has been a member of the Design Review Panel since November 2016 and has confirmed in writing the current design achieves Design Excellence.

<b>Public Authority Consultation</b>	
<u>Public Authority</u>	<u>Heritage Council of NSW</u>
Meeting Held	Ian Kelly of the UoS has contacted Heritage Council on 31 July and 9 August 2017 in an attempt to schedule a pre-DA consultation meeting. UoS are yet to receive a response, and will continue to attempt to meeting as soon as possible.
<u>Public Authority</u>	<u>Transport for NSW</u>
RMS committed to refer the Draft plans and Traffic Report to TfNSW in email correspondence to the University's Building Contractor on 18 July 2017. No meeting conducted	Draft plans and Traffic Report provided to TfNSW (via RMS) seeking a pre-lodgement meeting. No response received at the time of finalising this EIS.
<b>Key Issue</b>	<b>Response</b>
No issued raised as part of pre-lodgement consultation process.	No response required from the Proponent as part of the pre-lodgement consultation process. A response can be provided to any relevant issues as part of the formal 'Response to Submissions' phase following public exhibition of the SSDA and after a formal review has been provided by TfNSW
<u>Public Authority</u>	<u>Roads and Maritime Services</u>
Draft plans and Traffic Report provided to RMS seeking a pre-lodgement meeting. No meeting conducted.	RMS Land Use Planner Jana Jegathesan confirmed (via email on 18 July 2017) to the University's Building Contractor that it had conducted a preliminary assessment of the information provided and identified the works are well within the University internal road network with about 30 car parking spaces being proposed. Accordingly, it was advised that a pre-lodgement meeting was not required and that the RMS would comment on the proposal through the formal SSD consultation process.
<b>Key Issue</b>	<b>Response</b>
No issued raised as part of pre-lodgement consultation process.	No response required from the Proponent as part of the pre-lodgement consultation process. A response can be provided to any relevant issues as part of the formal 'Response to Submissions' phase following public exhibition of the SSDA and after a formal review has been provided by the RMS.

# 7. PLANNING FRAMEWORK ASSESSMENT

## 7.1. STRATEGIC FRAMEWORK

The following planning policies and guidelines are relevant to the proposed development and identified within the SEARs response:

- NSW State Priorities.
- A Plan for Growing Sydney.
- Draft Central District Plan (Greater Sydney Commission).
- NSW Long Term Transport Master Plan 2012.
- Sustainable Sydney 2030.
- Sydney's Bus Future 2013;
- Sydney's Cycling Future 2013.
- Sydney's Walking Future 2013.
- Sustainable Sydney 2030 (the City of Sydney); and
- Healthy Urban Development Checklist (NSW Health).

The following sections assess the proposed development against these strategic planning policies and guidelines as relevant.

### 7.1.1. NSW State Priorities

In September 2015, NSW Premier Mike Baird, unveiled 30 key policy priorities to grow the economy, deliver infrastructure, protect the vulnerable, and improve health, education and public services across NSW. These priorities set the agenda for the NSW Government Sector over the coming years.

In terms of compliance, the proposed development would help to meet several these priorities, including:

- Creating jobs;
- Building infrastructure; and
- Improving education results.

The proposal will help to generate employment in the construction phase of the development. The entire project has a forecasted perceived employment contribution throughout the community of 536 construction jobs during the life of the project from 2018 to 2020 refer to RLB Employment Contribution Letter at Appendix A.

The student and staff population accommodated in the new building will be 683 full time building staff and 1752 students (refer to the Transport and Accessibility report at Appendix I for further detail).

As noted above, the project is part of a broader consolidation exercise across the University of Sydney campus. Accordingly, no additional 'operational' jobs or staff/student numbers are being generated per se.

The scheme will also implement new University infrastructure in Sydney and will contribute to the improvement of education results, as students would benefit from a new high quality, affordable and sustainable campus. The development therefore complies with the relevant State Priorities.

### 7.1.2. A Plan for Growing Sydney

"A Plan for Growing Sydney" was published in December 2014 and replaced the previous Metropolitan Plan 2031 as the key growth strategy to guide development across the Sydney Metropolitan Region. It therefore sets out the State Government's plan for Sydney's future over the next two decades.

As a strategic growth plans, “*A Plan for Growing Sydney*” adopts a series of Key Directions and Actions around four (4) principle goals of growth. These four (4) goals include:

- **Goal 1:** A competitive economy with world class services and transport;
- **Goal 2:** A City of housing choice, with homes that meet our needs and lifestyles;
- **Goal 3:** A great place to live with communities that are strong, healthy and well connected; and
- **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 proposed development is entirely consistent with and supports the relevant Key Directions and Actions of “*A Plan for Growing Sydney*” in that:

- **Direction 1.6: Expand the Global Economic Corridor:** Ongoing upgrade of the University’s facilities ensures that the University of Sydney retains and reinforces its position as a prominent and respected member of the “Group of Eight” tertiary education institutions in Australia.

The University is a significant generator of employment both directly and indirectly and has ties with other specialised and priority industries, which together make a significant contribution on the local and regional economy.

- **Direction 1.7: Grow Strategic Centres – providing more jobs closer to home:** The University is located in one of the most densely developed areas of the Metropolitan region and is well connected to areas such as Sydney Inner West by public transport.

The development will provide for short term employment opportunities through construction and will promote continued operation of the University further supporting its growth in education and research, attracting foreign and domestic investment.

- **Direction 1.9: Support priority economic sectors:** International education and research is identified as a “priority industry” in the plan. This is reflected in the establishment or recognition under the plan in the establishment of the “*Broadway and Camperdown Health and Education Precinct*”, the plan encourages the adoption of “*appropriate*” planning controls as a means of creating conditions that foster and encourage growth within specialise and priority industries as key to strengthening the economic role of the City.

It is also noted that:

- The CIP Concept Approval established suitable GFA and building heights that respond to the site’s heritage, landscaping and urban form constraints. It achieves an economic and orderly use of the land and delivering affordable, highly functional world class facilities in-line with the University of Sydney’s international reputation and standards.
- The proposed development, along with the other redevelopment works envisaged for the University under the CIP, will contribute to the market growth of the University that attracts substantial national and international research and student funding per year. This has flow-on effects to the broader economy.

### 7.1.3. Draft Central District Plan

The University is situated within the Central District, within a ‘knowledge precinct’. The vision for the draft Central District Plan seeks to support and grow knowledge and enterprise precincts. It promotes clusters of innovative businesses being located closer to the knowledge precinct to share workspaces, where students and industry partners can work together and support innovation.

The draft Plan also categorises the Camperdown-Ultimo area as a ‘Health and Education Super-Precinct’, in which knowledge intensive jobs, innovation and service delivery are promoted.

The proposed development will therefore benefit both the University and the students in the short term, and will assist in meeting a number of the long term strategic goals.

### 7.1.4. NSW Long Term Transport Master Plan 2012

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

A long-term plan associated with the LTTMP is to have a modern bus and rail, along with a fully integrated transport system. These plans will enhance public transport accessibility and contribute towards increased visitation to the site by public transport.

The LTTMP also seeks to boost walking and cycling, and the proposed development seek to ensure a safe, navigable and equitable access to and through campus for all students. This is a positive approach towards improving the accessibility and permeability of the site and will help to achieve the aims of the LTTMP.

In response to this, the proposed development incorporates a significant provision of cycle parking within the basement as well as end of trip facilities. It is also located close to busy public transport corridors encouraging active, sustainable modes of transit.

### **7.1.5. Sydney's Bus Future 2013**

Sydney's Bus Future 2013 identifies the need for new and improved bus services in inner Sydney (within 10 kms of Sydney CBD). The document identifies potential for rapid bus routes with upgraded and new bus priority features will operate on Parramatta Road, which would pass Sydney University.

The proposal is consistent with the aims of the document (and the University's own Sustainable Transport and Mobility Plan) with the University geographically located to take advantage of established bus networks through and connecting the inner west and CBD areas.

### **7.1.6. Sydney's Cycling Future 2013**

Sydney Cycling Future was released by NSW Government in December 2013 to facilitate improved bicycle networks as an integrated component when planning for new transport and infrastructure projects.

The report identified four (4) broad themes in bicycle journeys including:

- Connectivity and Separation;
- Safe behaviour;
- Delivery of supporting facilities; and
- Health well-being and confidence.

The proposal is consistent with the aims of the program and the University is geographically located to take advantage of established bicycle networks through and connecting the inner west and CBD areas.

The development promotes the use of active modes of transport through the provision of bicycle parking spaces associated with the development site, and end of trip facilities to support the use of alternative and active modes of transport as a means of encouraging active lifestyles and reduced reliance on private motor vehicles.

### **7.1.7. Sydney's Walking Future 2013**

The Sydney Walking Future 2013 was released by NSW Government in December 2013. It seeks to create culture of walking for transport by promoting walking as a viable and attractive transport choice. The Strategy aims to focus infrastructure investment on completing connections within two kilometres of centres and public transport interchanges. In addition to this, the Strategy aims to link walking to urban growth and to prioritise the needs of pedestrians in the planning, design and construction of new transport and urban development projects.

The site is generally well connected by suitable public and private domain spaces that encourage pedestrian comfort and safety. It is anticipated that the proposed development will not significantly impact on existing walking trips to the site itself and is unlikely to result in any additional capacity stress on the current pedestrian network. However, the new development will be more permeable thereby assisting existing walking trips. The proposal is therefore consistent with the overall objectives of this policy.

### **7.1.8. Sustainable Sydney 2030**

Sustainable Sydney 2030 is the Community Strategic Plan for the City of Sydney which was published in 2013. It contains a set of goals to help to make the city green, global and connected. There are ten (10) Strategic Directions contained within the Plan which includes (amongst others) the following aspirations for Sydney:

- A globally competitive and innovative city;

- A leading environmental performer;
- Housing for a diverse population; and
- Sustainable development, renewal and design.

In terms of compliance with this Community Strategic Plan, the development of this new building on the Camperdown Campus will help to reinforce the University's position as a prominent and respected tertiary education establishment which attracts students from all over the globe. It is also a hub of innovation and research with the Federal Government rating all the University's fields of research as 'world standard' or above as part of the Excellence in Research Australia initiative in 2012.

The proposal will assist with the implementation of the Greening Sydney Plan through the well landscaped surroundings to the proposed development and the promotion of a landscaped podium terrace.

The proposed development will also align with the sustainable development, renewal and design objective, as the development will introduce a modern and efficient building on site. The University also adopts a Sustainability Framework which includes design features such as solar passive building design and renewable solar technologies to reduce utility consumption. This helps the development meet the Sustainable Sydney 2030 requirements.

### **7.1.9. Healthy Urban Development Checklist**

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

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

The principal users of the checklist are intended to be Area Health Service Workers and are designed to apply over large regions, whole LGAs and large precincts. The policy indicates that its application to plans and proposals relates to developments of the following kind:

- Master plans;
- Town Centre Plans; and
- Development applications for projects involving large housing developments, shopping centres and community and health facilities.

The subject application is for a, stand alone, urban infill site within a broader land use and single holding. The principles adopted by the plan are fundamental planning principles that are reflected in key planning controls. While the application of this policy is not necessarily related to the scale of the development proposed, the proposal is consistent with principles for healthy urban development, in that:

- The development has access to green space and natural areas. The University grounds provide a range of open space and recreational facilities, ranging from informal "break out" spaces to formal recreation options such as gyms and swimming pools.
- The Campus layout encourages incidental activity of staff and students due to its expansive layout and defined "faculty based" precincts. Students and staff can readily walk between teaching and learning facilities, libraries, recreation facilities, administration areas and support services such as cafes and retail services.
- The proposal provides end of trip facilities including bicycle parking racks.
- The site is located within the CBD of Sydney with superior public transport access to bus and rail, which reduces car dependency.

## **7.2. STATUTORY PLANNING FRAMEWORK**

The following Acts are of relevance to this application:

- Environmental Planning and Assessment Act 1979.

As noted in the SEARs, the following local and state-wide statutory planning instruments are to be considered in relation to the proposed development:

- State Environmental Planning Policy (State and Regional Development) 2011;
- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy No. 33 – Hazardous and Offensive Development;
- State Environmental Planning Policy No.55 – Remediation of Land; and
- Sydney LEP 2012.

The following sections assess the proposed development against these planning instruments as relevant.

## **7.3. LEGISLATION**

### **7.3.1. Environmental Planning and Assessment Act 1979**

As outlined in Section 1.2 of this EIS the University prepared and received Minister for Planning approval for State Significant Development Application SSD 6123 *Campus Improvement Program for Camperdown-Darlington Campus* (CIP) on 16 February 2015.

The SEARs require consideration and demonstration of consistency with the provisions of section 83D (2) of the Environmental Planning and Assessment Act 1979 (EP&A Act), in relation to the approved scope of the CIP approval and the proposed development. Section 83D (2) of the EP&A Act states the following:

#### **83D Status of concept development applications and consents**

*(2) While any consent granted on the determination of a concept development application for a site remains in force, the determination of any further development application in respect of the site cannot be inconsistent with the consent for the concept proposals for the development of the site.*

The proposed redevelopment of the site is within the Health Precinct of the CIP Stage 1 SSDA (SSD 6123). As discussed in Section 1.2, the proposed development will comply with the relevant conditions and the built form envelope that was approved as part of the SSD 6123.

## **7.4. STATE ENVIRONMENTAL PLANNING INSTRUMENTS**

### **7.4.1. State Environmental Planning Policy (SEPP) (State and Regional Development) 2011**

State Environmental Planning Policy (State and Regional Development) 2011 (SEPP SRD) was gazetted on 1 October 2011, identifying various types of development and sites upon which certain development is defined as Stage Significant Development (SSD).

The NSW State Government has confirmed the project as SSD under the SEPP SRD. The proposal is SSD because it is development for the purposes of educational establishment for a University and will have a capital investment value in excess of \$30 million pursuant to clause 15 of Schedule 1 of the SEPP SRD.

### **7.4.2. SEPP (Infrastructure) 2007**

*State Environmental Planning Policy (Infrastructure) 2007* (Infrastructure SEPP) came into force in December 2007 and aims to facilitate the effective delivery of infrastructure across the State. The SEPP identifies matters for consideration in the assessment of types of infrastructure development, including all new development that generates large amounts of traffic in a local area.

The SSD will be required to be referred to the RMS for comment under the SEPP. It is anticipated that the RMS will provide further comments (in addition to those made as part of the pre-submission consultation) during the formal public exhibition period post SSD lodgement.

### **7.4.3. SEPP No.33 Hazardous and Offensive Development**

Development proposals for potentially hazardous and offensive industry or storage require assessment under *State Environmental Planning Policy No.33 – Hazardous and Offensive Development* (SEPP 33) and include the preparation of a PHA for the potentially hazardous development.

While there will be various goods/equipment stored on site used for the purposes of the educational facility, these will not trigger the thresholds under SEPP 33 and accordingly a PHA is not required.

#### 7.4.4. SEPP No.55 Remediation of Land

SEPP No.55 relates to use and development of potentially contaminated land. The policy provides a consistent policy approach to the consideration of potential contamination and remediation to reduce the risk for harm to human health.

A Contamination Assessment has been undertaken by Coffey. The report is included at Appendix N and is explained in detail in Section 8.9.

The findings of the Coffey Contamination Assessment did not identify contamination within soil or groundwater at the site warranted the need for remediation or management. Accordingly, Coffey concluded that the site is suitable for the proposed development subject to the development of an Unexpected Finds Procedure for implementation during the site redevelopment works. This document has been prepared and is also contained at Appendix N.

## 7.5. LOCAL ENVIRONMENTAL PLANNING INSTRUMENTS

### 7.5.1. City of Sydney Local Environmental Plan 2012

Sydney Local Environmental Plan 2012 (SLEP 2012) provides the local statutory planning provisions and controls for the site. The relevant SLEP 2012 provisions applicable to the SSD are reviewed in Table 7 below. The proposal is consistent with the relevant objectives and provision of SLEP 2012.

Table 7 – Sydney Local Environmental Plan 2012

PROVISION	RESPONSE
<b>Zoning and Land Use (Clause 2.3)</b>	<p>The site is zoned SP2 Infrastructure and is identified on the zoning maps as “Educational Establishment”.</p> <p>We note that <b>“educational establishment”</b> means a building or place used for education (including teaching), being:</p> <p>(a) a school, or</p> <p>(b) a tertiary institution, including a university or a TAFE establishment, that provides formal education and is constituted by or under an Act.”</p> <p>The proposed development is consistent with the definition of “educational establishment” in SLEP 2012 and is therefore permissible with development consent.</p>
<b>Building Height (clause 4.3)</b>	No maximum building height applies to the site under SLEP 2012.
<b>Floor Space Ratio (Clause 4.4)</b>	No maximum floor space ratio applies to the site under SLEP 2012.
<b>Preservation of Tree or Vegetation (Clause 5.9)</b>	<p>Clause 5.9 aims to preserve the amenity of the area, including biodiversity values, through the preservation of trees and other vegetation.</p> <p>A detailed Arborist Report has been provided which assesses the impact of the proposed development on the existing trees within and surrounding the development site.</p> <p>It is attached at Appendix Y and the recommendations of this report will be implemented during the construction and operation of the proposed development.</p>

PROVISION	RESPONSE
	<p>A Biodiversity Statement has also been prepared, which provides an assessment of a single <i>Ficus</i> sp which will be removed as part of the proposed works. The <i>Ficus</i> does not contain roosting habitat for any threatened species and does not form part of an endangered ecological community. An assessment of the ecological impact of removing the vegetation was made and it was concluded that the impact would not be significant. For further information, refer to the Biodiversity Statement which is attached at Appendix M.</p> <p>The landscaping solution for the site includes the replacement planting of 22 trees, including a 1000L <i>Ficus</i> spp. (Fig) to replace the existing <i>Ficus</i> (Fig) currently on site.</p>
<p><b>Heritage Conservation (Clause 5.10)</b></p>	<p>Clause 5.10 aims to conserve environment heritage, heritage items, conservation areas, archaeological sites and places of significance.</p> <p>The Camperdown Campus contains local listed items of heritage significance proximate to the SSD site. The site itself sites within a listed as a Conservation Area C5: University of Sydney under Sydney LEP 2012.</p> <p>Detailed heritage assessment of the proposal in relation to its context has been undertaken in a Heritage Impact Assessment provided at Appendix K.</p>
<p><b>Clause 6.21 Design Excellence</b></p>	<p>Clause. 6.21 states that development consent is not to be granted unless the consent authority considers the development exhibits design excellence.</p> <p>In accordance with clause 6.21, a design competition process is required for the proposed building as it exceeds both the 25m and \$100,000,000 thresholds.</p> <ul style="list-style-type: none"> <li>• Exceed 25 metres in height above natural ground level</li> <li>• Have a CIV of more than \$100,000,000</li> <li>• Require a DCP to be prepared under Clause 7.20</li> </ul> <p>Accordingly, a design competition has been undertaken, consistent with the City of Sydney's <i>Invited Competitive Design Alternatives Process</i> (provisions under <i>Sydney LEP 2012 clause 6.21 Design Excellence</i>), and with the jury panel incorporating a member from the City of Sydney and the NSW Office of the Government Architect. This process is described in Appendix E and incorporates the findings of the design panel.</p> <p>The Design Competition Jury Assessment Report identified 11 specific areas of the design that required refinement in order to achieve design excellence. Following the third DERP review session, jury members confirmed that the design had been refined to address these issues and was of a design excellence standard suitable for an SSDA submission. The issues and responses to each are included in the Design Excellence Summary at Appendix E.</p>
<p><b>Other land uses (car parking) (Clause 7.9)</b></p>	<p>The provisions of Part 7 Division 1 seek to implement maximum parking provisions, aimed at limiting the number of car spaces as a means of reducing vehicular traffic.</p> <p>The maximum number of car parking spaces for a building used for the purposes of information and education facilities is 1 space for every 200 square metres of the gross floor area of the building used for those purposes.</p> <p><u>Proposed GFA</u>: 21,198 sqm (therefore maximum permissible car spaces: 105 spaces)</p> <p><u>Proposed Car Parking</u>: 30 spaces (<b>complies</b>)</p>

PROVISION	RESPONSE
<p><b>Acid Sulfate Soils (Clause 7.14)</b></p>	<p>The site is identified on the Acid Sulfate Soils planning maps as containing class 5 soils. As the site is not located within 500 metres of Class 2 or 3 soils, a detailed ASS management plan is not required.</p> <p>The Geotechnical Report at Appendix T confirms that the site is within an area where there is a low probability of occurrence of acid sulfate soils. The geotechnical investigation did not encounter alluvial soils, so the presence of Acid Sulfate Soil would not be feasible.</p>
<p><b>Flood planning (clause 7.15)</b></p>	<p>Clause 7.15 aims to minimise the flood risk to life and property, allow development compatible with a flood hazard and avoid significant impacts on flood behaviour and the environment.</p> <p>The site is affected by flooding. To resolve this, Bonacci (project engineers) have relied on the following documents to develop a flood strategy for the site:</p> <ul style="list-style-type: none"> <li>• WMA Water - University of Sydney Camperdown Campus Flood Mitigation Master Plan, and</li> <li>• WMA Water – University of Sydney Flood Risk Management Stage 1 – Flood Study Review</li> </ul> <p>The campus wide strategy detailed in the Flood Mitigation Master Plan requires the redevelopment of the Health Precinct to maintain existing flow paths. Level 0 of the proposed building has been set above the existing 1% AEP flood level which complies with the City of Sydney’s Flood Planning Level Requirements. The implementation of an enhanced stormwater overland flow path and subfloor flood flow path (beneath the proposed building) has the dual effect of reduces flooding impacts in the area and also ensuring no additional flood levels/affectation to RPAH to the west.</p> <p>For further information, refer to the Civil Engineering Report at Appendix Q. The conclusions and recommendations of this report will be implemented during the construction and operational phases of the proposed development.</p>
<p><b>Airspace Operations (Clause 7.16)</b></p>	<p>The site is located on land identified on the Sydney Airport Prescribed Obstacle Limitation Surfaces Drawing No FSS6934 Revision 1, Declared by the Commonwealth Department of Infrastructure and Regional Development on 20 March 2015 as being located between horizontal surface limits of 80 - 90 metres (AHD).</p> <p>The proposal will have a maximum height of building RL 61.8 metres (CIP envelope compliant) and will therefore not penetrate the OLS.</p>

## 7.6. DEVELOPMENT CONTROL PLANS

Clause 11 of SEPP (State and Regional Development) 2011 excludes the application of development control plans to SSD projects. Notwithstanding, consideration has been given to the relevant key development controls in *Sydney Development Control Plan 2012* (DCP 2012).

Table 8 – Sydney Development Control Plan 2012

PROVISION	RESPONSE
<b>Locality Statement</b>	<p>The Sydney University, Camperdown Campus is identified in the <i>City Locality Area Map</i> within the DCP, as being situated in area 2.3 “<i>Chippendale, Camperdown, Darlington</i>”.</p> <p>Subsection 2.3.5 identifies the site as being located within the <i>University of Sydney/Royal Prince Alfred Hospital</i> locality. The proposed development within the University lands demonstrates that effective urban infill and orderly and economic use of land that is considered to align with Council’s outcomes expressed in the character statement and supporting principles as follows:</p> <ul style="list-style-type: none"> <li>• The development will not adversely impact on any listed heritage items.</li> <li>• Existing trees have been retained where possible, with 22 replacement trees being provided as part of a master planned landscape solution, including a 1000L Ficus spp. (Fig) to replace the existing Fig currently on site.</li> <li>• It retains and enhances the significant role of the University in the city as a specialised centre for education and research.</li> <li>• The proposed development will effectively activate an otherwise underutilised space.</li> <li>• The building siting, scale and mass has been designed to respond to the existing and desired built form and character of the Camperdown Campus and the development as dictated by the approved CIP.</li> </ul>
<b>GENERAL PROVISIONS</b>	
<b>The relevant sections of the SDCP 2012 are considered below.</b>	
3.1 Public Domain Elements	<p>The development has been designed to make a positive contribution to the public domain through detailed planning of the campus interface with the site surroundings.</p> <p>The site is essentially unseen from any major road or public areas and will not impinge on any sensitive frontages/street elevations, or important public domain elements.</p>
3.2.8. External Lighting	All external/outdoor lighting components will be designed in a manner that is bound by the relevant standards, including University of Sydney standards.
3.3 Design Excellence	<p>The University of Sydney undertook a Competitive Design Process which resulted in a vigorous examination of options for the site.</p> <p>The design brief benchmark standards set out by the University were of a high standard and the investigation process to select the final design to be developed was lengthy and extensive.</p> <p>Following the third DERP review session, jury members confirmed that the design had been refined to address these issues and was of a design excellence standard suitable for an SSDA submission.</p>

PROVISION	RESPONSE
3.5 Urban Ecology	<p>The proposed works will ensure that there are no adverse impacts on the urban ecology of the site and its surroundings. The recommendations of the Arborist report will be implemented during the construction and operation of the proposed development.</p> <p>A Biodiversity Statement has also been prepared, which concluded that removing the one large <i>ficus</i> species would not result in a significant ecological impact.</p>
3.6 Ecological Sustainable development	<p>The DCP seeks to implement the principles of ecologically sustainable development (ESD) within future development through various design and construction measures. The University aims to ensure a built environment that is energy efficient, cost-effective to operate and provides improved environmental, economic and social benefits to its student, staff and surrounding communities. This will be achieved by embedding sustainability initiatives into the planning, design, procurement, construction and commissioning process of future campus development.</p> <p>Further discussion on the University's Sustainability Framework is contained within the ESD Report which is attached at Appendix J.</p>
3.7 Water and Flood Management	<p>The subject site is affected by flooding. Accordingly, a performance based solution has been devised (in accordance with the WMA Water - University of Sydney Camperdown Campus Flood Mitigation Master Plan) which requires the redevelopment of the Health Precinct to maintain existing flow paths. This has been achieved.</p> <p>Refer to Appendix Q for details on stormwater and flood management.</p>
3.9 Heritage	<p>A Heritage Impact Assessment has been prepared and supports the proposed development – report provided at Appendix K.</p>
3.11 Transport and Parking	<p>A Transport and Accessibility Report has been prepared and supports the proposed development – report provided at Appendix I.</p>
3.12 Accessible Design	<p>The proposed development is capable of complying with the provisions of the Access to Premises Standards of the <i>Disability Discrimination Act 1992</i> and the Building Code of Australia. Refer to the Accessibility report at Appendix R.</p>
3.13 CPTED	<p>The design and layout of the building aligns with the principles of Crime Prevention through Environmental Design (CPTED) as indicated in the CPTED Letter, at Appendix U.</p> <p>The site, as part of a broader University campus, is actively used throughout day and early evening. The University grounds are also managed in terms of grounds keeping and security that maintain the appearance of the site.</p>
3.14 Waste	<p>A <u>Construction Management Plan (CMP)</u> has been prepared and is provided at Appendix U. The CMP outlines the design objectives, a description of the works and staging, the proposed work program (including working hours), and site specific management plans.</p> <p>A <u>Waste Management Plan (WMP)</u> has been prepared and is provided at Appendix W. The WMP provides calculations of projected operational general waste and recycling, based on floor areas and expected future occupancy and usage of the building. It recommends suitable equipment and storage and handling practices that have been incorporated into the design of the buildings.</p>
3.17 Contamination	<p>Consideration of the SEPP 55 is provided in Section 7.4.4 of the EIS and supported by a Site Contamination Assessment at Appendix N.</p>

## 7.7. SECTION 79C ASSESSMENT SUMMARY

The proposed development has been assessed in accordance with the matters of consideration listed in Section 79C of the *Environmental Planning and Assessment Act 1979* as outlined below:

Table 9 – Section 79C Assessment

CONSIDERATION	COMMENT
<b>Environmental Planning Instrument</b>	State and Local Environmental Planning Instruments have been assessed in Section 7.
<b>Draft Environmental Planning Instruments</b>	None relevant to this proposal.
<b>Development Control Plans</b>	The proposed development has been assessed against the Sydney Development Control Plan 2012 in Section 0. Although we note the provision of Clause 11 of the SEPP (State and Regional Development) 2011 which excludes the application of DCPs to SSD.
<b>Any Matters Prescribed by the Regulations</b>	This EIS has been prepared in accordance with Sections 6 and 7 of Part 3 of the <i>Environmental Planning and Assessment Regulation 2000</i> .
<b>Likely Impacts of the Development</b>	An impact and risk assessment has been provided in Section 8 of this report. Mitigation measures to the risks and impacts identified within Section 9 and the relevant Appendices are contained at the end of this Report.
<b>Suitability of the Site</b>	The site is entirely suitable for the development of the proposal as development that is for the purposes of an educational establishment and has previously gained Stage 1 consent.
<b>Any Submission made in accordance with this Act or the Regulations</b>	Submissions will be considered following exhibition of the application.
<b>The Public Interest</b>	<p>The development is compliant with the relevant planning instruments and controls as well as the Stage 1 Campus Improvement Program SSD 6123 approved by the Minister for Planning and incorporating building envelope and conditions applying to this site.</p> <p>The proposal will not create any adverse significant social, economic or amenity impacts.</p> <p>This project represents a significant opportunity to promote and enhance the University of Sydney as an important place of education and research within the Global Corridor of Metropolitan Sydney.</p>

## 8. ENVIRONMENTAL ASSESSMENT

### 8.1. BUILT FORM AND URBAN DESIGN

#### 8.1.1. General Considerations

The Health Precinct site is part of the SSD approval for the Campus Improvement Program (SSD 6123). The CIP approval provides built form envelopes for the future redevelopment of the site. The competitive design excellence process required that a Health Precinct Masterplan was developed which identified the proposed Stage 1 building in the context of future stages. These future stages (Stages 2 and 3) will be the subject of separate SSDAs.

In respect to the design solution associated with the proposed Stage 1 building, The proposed development has been designed to ensure that the footprint and building form of the development will be fully contained within the approved Stage 1 SSD envelope. Moreover, it will not impact on the Obstacle Limitation Surface (OLS) for Sydney Airport and complies with the requirements of the Federal Department of Infrastructure and Regional Development.

For context purposes, the following provides a description of the masterplan concept. It is then followed by a description and assessment of the Stage 1 building envelope.

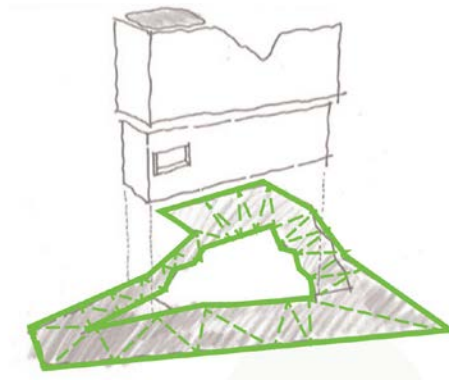
#### Masterplan Concept

- The intention of the masterplan is to respect the former history while reinforcing its current designation within a modern University context, both physically and programmatically. The themes of landscape and healing permeate all aspects of the design, from healing gardens to the concept of the Health(y) buildings.
- The site is conceived of as a broad Ground upon which the building is founded. The ground plane is folded and rises up from University Oval No 1, through the Stage 1 building entry and up to an outdoor commons at level 3, creating rooms and spaces as it rises. This plane is used to resolve the many differing levels of the site while at the same time allowing for the flow between interior and exterior of the building.
- The heart of the Masterplan is the outdoor commons at Upper Wakil Garden. The Commons is formed by the ground plane rising up in the center of the site. The three stages of the Health Precinct face the central commons and paths radiate out from the commons to connect the New Health Precinct to the Historic Campus, City, Hospital and CPC.
- Each building faces an adjacent green: the Oval to the north, Wesley College to the east, and St. Andrew's College oval to the south. The carve on the north side draws daylight while terraces provide immediate access to outdoor space and fresh air for lower classrooms, middle clinical and research spaces, upper offices.
- The Upper Wakil Garden gives the new Health Precinct a heart. In Stage 1 the gardens of Upper Wakil commons flow out onto the pathways that connect to the building to the Campus beyond. The outdoor stairways provide circulation for the Stage I building tying together exterior gathering terraces and interior commons.

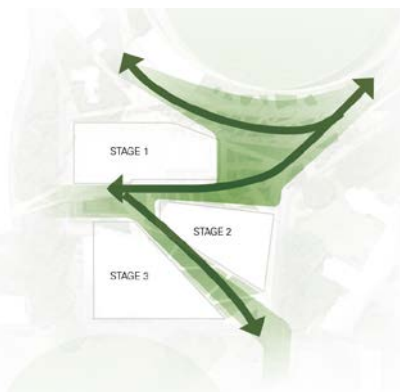
Figure 25 – Masterplanning Principles (BLP/DS+R)



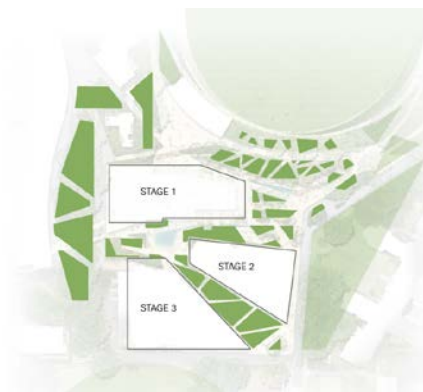
Picture 13 – Creating Connections



Picture 14 – The Folded Landscape



Picture 15 – The Connected Landscape



Picture 16 – Building and Landscape as one

### Stage 1 Built Form Envelope

The design and built form massing process has following the following process:

- The folded/raised ground plane serves to tie the Stage 1 building to the land and bring the ground into the buildings. It creates a porosity of the ground floor that welcomes users and visitors.
- The building provides an open ground floor, with the building volume appearing to float above. The floating 'boxes' are broken into two by the 'cleave' to create a central atrium providing light into the building and breaking down its scale as viewed from University Oval No 1 (the Oval).
- Lifting the expression of the building's mass up above the tree line generates an inviting open entry. It sets a new datum that aligns with the entry to the hospital. Effectively, it creates a new raised ground plane along the south of the building. The ground rises up from the main entrance at the northeast up to the central Health Precinct commons, Upper Wakil Garden.
- The building no longer has a 'back door' but porous lower entry levels. By having entrances at multiple levels, it effectively shortens the distance people travel within the building, making use of stairs more inviting and manageable.
- The Lower Wakil Garden is the forecourt to the building and primary entry space. The centrepiece of the completed development is the Upper Wakil Garden, lifted two floors above the entry to the building. Broad internal and external stairways connect lower floors to the Upper garden, and provide terraces for informal learning.
- The rising ground plane allows for larger floor plates to the lower levels, where large general and specialist teaching facilities are accommodated. Above the Upper Wakil Garden the building form reduces and is 'cleaved' to allow extended solar access to the garden.

The 'cleave' forms the central circulation spine at the upper levels of the building, with open stairs and voids that visually and physically link collaborative hubs and learning commons. In the upper levels the clinic, academic workplace and the teaching and learning spaces are stacked up side by side rather than on top of one another to encourage mixing.

- The Stage 1 building is oriented to the northwest to create visual connection to the historic Medical School tower as well as providing expansive views across University Oval No.1 to the north and linking into the precinct's health mission. The future Stage 2/3 buildings (the subject of future SSD DAs) face south to take advantage of long views across St. Andrew's College Oval.
- The raised ground plane lifts the public plaza level allowing views over the Bruce Williams Pavilion to University Oval No. 1 from the Stage 1 site.
- Whilst the proposed building is fully contained within the approved CIP envelope, there is a minor protrusion involved with the proposed sunshades fixed to the external facades (in only two specific locations). These protrusions are minor (in the order of 0.33m); occur in the horizontal plane only (i.e. they do not affect the overall height envelope); and only occur on the northern elevation. These light weight structures provide detail to the building façade, rather than increase the building mass. Furthermore, the limited extent of protrusion on the northern façade does not interfere with any identified view corridors heritage curtilage.

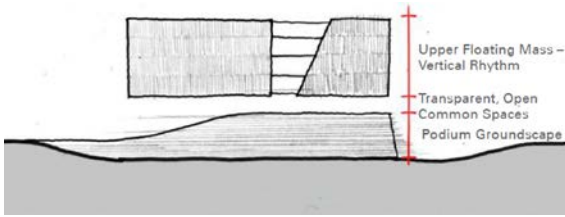
Figure 26 – Building Massing Concept (BLP/DS+R)



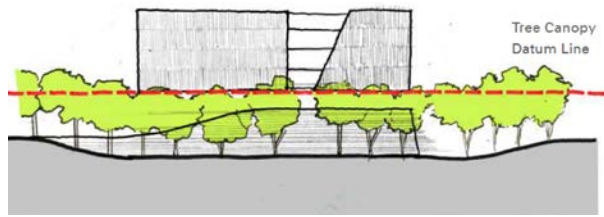
Figure 27 – Illustrative Building Cross Section (BLP/DS+R)



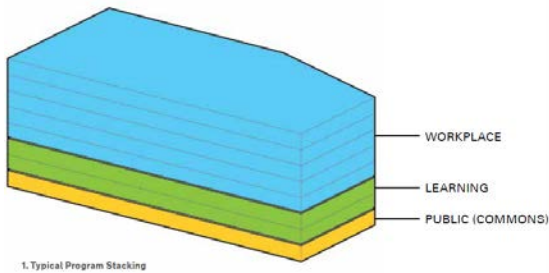
Figure 28 – Illustrative Massing Diagrams (BLP/DS+R)



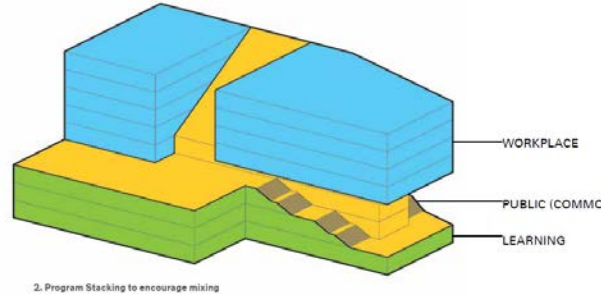
Picture 17 – Section



Picture 18 – Section and Tree Canopy Datum Line



Picture 19 – Typical Building Stacking



Picture 20 – Program Stacking to Encourage Mixing

Through the implementation of these objectives and the careful consideration of the environmental constraints of the site, the proposed development can:

- Provide an iconic building, which achieves design excellence.
- Respect the environmental context of the site and surrounding buildings.
- Provide an improved interface with RPAH.
- Improve permeability and pedestrian access through the campus.
- Deliver an enhanced landscaped environment surrounding the proposed built form.
- Incorporate materials, finishes and colours which forms a modern, dynamic and appropriate building on site, which fits its context.

Refer to Figure 29 for photomontages of the proposed development.

Figure 29 – Photomontages (BLP/DS+R)



## 8.1.2. Design Excellence

As explained in Section 2.5 earlier, the University has conducted a competitive design process. The Design Competition Jury Assessment Report identified 11 specific areas of the design that required refinement to achieve design excellence. Following the third DERP review session, jury members confirmed that the design had been refined to address these issues and was of a design excellence standard suitable for an SSDA submission. The issues respective responses are included in Appendix E.

## 8.1.3. Crime Prevention

The NSW Guidelines for Crime Prevention and the assessment of development applications: Guidelines Under section 79C of the Environmental Planning and Assessment Act 1979 has been used to inform the assessment of the application in relation to the primary principles of CPTED.

The application of CPTED on this project is multifaceted, and creates synergy between the following four basic principles of the methodology:

- Natural access control.
- Natural surveillance.
- Territorial reinforcement.
- Management and maintenance.

Some general features related to CPTED and external security for the University follow:

1. As vehicles are expected to access pedestrian areas the following will be provided:
  - Accessible, legible and clearly defined demarcated paths for both vehicles and pedestrians.
  - To prevent vehicle borne attacks static bollards/ landscaping features/ fixed seatings will be provided around the building to demarcate and to define a no go zone for vehicles around the building façade.
2. As a clear definition of the boundary is not readily achievable (and possibly not desirable), the provision of architectural features for territorial reinforcement is proposed. Use of landscaping, art, signage, screening and fences to define and outline ownership of space especially important as the area is bounded by 24-hour operating spaces managed by others.
3. Landscaping features, plantings, architectural design features and static signs will be used to clearly guide public or patrons to building entrances and exits. The landscaping features, plantings and static signs around the building will be designed to allow natural surveillance from inside and to prevent its use as weapons or concealment spaces.
4. Building design will seek to eliminate climbing points including toe-holds, external pipe work and easily accessible louvres.
5. The external lighting design will avoid poorly lit spaces, blind spots and too bright lighting that create glare and deep shadows. It is understood that the University operates into the night, so lighting and natural surveillance will be key considerations with respect to creating a safe and secure facility as part of this project.
6. Use of building materials and finishes that are of an appropriate quality in a manner to reduce opportunities for graffiti and vandalism, facilitate cleaning and replacement and avoid illegal access to the building.
7. The local utility facilities including meter boxes, air-conditioning plant and other services plant areas will be located within a secure building/enclosure to facilitate protection and mitigate against tampering.
8. Electronic security services will be provided to meet the requirements of the new project, leveraging existing campus wide systems and headend equipment. Services will include access control and intruder detection, CCTV monitoring, duress alarms, assistance points and intercoms.

## 8.2. ENVIRONMENTAL AMENITY

### 8.2.1. Solar Access and Overshadowing

Shadow diagrams have been prepared by BLP/DS+R and are included within the architectural plan set at Appendix D and show the extent of overshadowing and solar access.

It is considered that:

- Adequate solar access is provided throughout the year to Lower Wakil Garden and the existing public central (future) open space between the Bosch buildings.
- The central cleave through the building allows good solar access to the Upper Wakil Garden throughout the year.
- The proposal will not affect existing public open spaces, or other sensitive areas (i.e. RPAH to the West, Wesley College to the East, St Andrews College to the South West and The Women's College to the South East).

Ultimately, the proposed development does not result in any significant adverse amenity impacts from a solar access or overshadowing perspective.

### 8.2.2. Visual and View Impacts

The proposed development will sit within the approved CIP envelope, including in terms of horizontal extent and building height. The site is essentially unseen from any major road or public areas and will not impinge on any sensitive frontages/street elevations, or important public domain elements.

Ian Kelly (Heritage Consultant) has confirmed that the proposal will enhance two visual and planning axes identified under the University of Sydney Grounds Conservation Management Plan (2017), with the proposal representing an acceptable impact.

The proposal has achieved 'design excellence' per a competitive process and will feature modern, high quality materials and finishes which will serve to enhance the visual presentation of the building as viewed from various vantage points throughout the campus.

### 8.2.3. Lighting Impacts

#### Spill of Interior Lighting

Spill of interior lighting from the lower levels of the building will be minimal, with spillage from Level 3 upwards being moderated by the façade treatment. The luminaires for these areas will be selected to comply with the spill lighting and glare indices required by AS~1680 – Interior Lighting.

#### External Lighting

All external/outdoor lighting components will be designed in a manner that is bound by the relevant standards, specifically:

- AS~1158.3.1 – Pedestrian Area (Category P) Lighting – Performance and Design Requirements.
- AS~1158.4 – Lighting of Urban Roads and Other Public Thoroughfares.
- AS~4252 - Control of the Obtrusive Effects of Outdoor Lighting.

Moreover, all luminaires selected for use within the external and outdoor lighting areas associated with the Health Precinct Stage 1 will be designed to control light spill, particularly in an upward direction. This will be achieved by careful selection of the photometric properties of the luminaires for control of side spill lighting and glare.

Selection of luminaires will be made in consultation with the security consultant for the Health Precinct, to ensure that fittings and placement are consistent with CPTED principles and that adequate lighting without veiling glare is provided for areas with CCTV cameras.

### 8.2.4. Reflectivity Impacts

There are not expected to be any reflectivity impacts resulting from the proposal as the materials used on the façade of the building will not have adverse reflectivity impacts.

### 8.2.5. Wind Impacts

A Wind Report prepared by CPP is attached at Appendix G. The report concludes:

*“Wind conditions around the site are not expected to be significantly affected by the development of the University of Sydney Health Precinct. On average, the wind conditions around the site would be expected to be similar to existing conditions with the pedestrian level wind environment for most locations being classified as suitable for pedestrian standing”.*

No further mitigation measures are required in this regard.

## 8.3. TRANSPORT AND ACCESSIBILITY

GTA Consultants have prepared a Transport and Accessibility report and is attached at Appendix I. The findings of the report are summarised in the sections below:

### 8.3.1. Public Transport

Public transport to the Campus is primarily provided by bus and train services. The Arup Access Strategy report (December 2013) indicates that some 53% of the Campus' mode share is via public transport.

In the vicinity of the site, access to public transport is largely reliant on the high frequency bus route services along the Parramatta Road corridor. There are many bus stops along Parramatta Road within walking distance of the site which provide high frequency connecting services between the western suburbs and the CBD. Transport options, include:

- Central Station and Redfern Station - within 2 km walking distance, providing access to all the suburban and intercity services.
- Various bus services along Parramatta Road - within a 50 metre walking distance, providing access to the CBD, and services to Leichhardt, Strathfield, Burwood, Campsie, Abbotsford, Rozelle, Five Dock, Mortlake, and Earlwood.
- Various bus services along City Road – within 1 km walking distance, providing access to the CBD, and services to Newtown, Canterbury, Kingsgrove, Kogarah, Dulwich Hill, Coogee, Tempe, Marrickville, and Sydenham.

### 8.3.2. Active Transport

In 2015 the University prepared a draft Sustainable Transport and Mobility Plan (STAMP) refer to Appendix AA. This seeks to increase the uptake of active and public transport options by the University's students and staff. The STAMP complements the CIP which aims to improve Campus liveability, accessibility and connectivity by providing students and staff with economic choices and incentives to adopt more sustainable travel modes. It is also consistent with the University's Environmental Sustainability Policy's objective to promote sustainable transport.

The provision for bicycle facilities together with End of trip facilities including 7 showers and 26 lockers for staff, and 18 showers and 54 lockers for students is consistent with the Sydney University Sustainable Transport and Mobility Plan requirements.

Overall, the proposal will encourage affordable and sustainable modes of transport and will improve campus liveability by creating an accessible, pedestrian-friendly and healthier University environment for both students and staff.

### 8.3.3. Vehicle Access

Provision is made for all access arrangements to operate safely and efficiently. The proposed vehicle access layout has been assessed in respect to the relevant Australian Standards. A summary of compliance is set out below.

- A maximum ramp grade of 1:4 is provided on all ramps. Grade transitions not exceeding 1:8 will be provided at the top and bottom of all ramps.
- A minimum height clearance of 2.2m will be provided on all ramps and within basements to be used by cars and a minimum height clearance of 4.5m for all areas used by larger vehicles, measured from the

ground to the underside of any overhead obstructions. This provision satisfies the relevant Australian Standards.

- The vehicle access is 6.0m wide with 300mm clearance provided to walls. A swept path assessment of the car park, loading dock and drop off/pick up facility is shown in GTA's Transport and Accessibility Assessment at Appendix I.

#### **8.3.4. Parking**

The proposed development provides 30 car parking spaces and a drop off/pick up space. The provision is considered to be appropriate and consistent with transport policies relevant to the site. The proposed parking layout is consistent with the dimensional requirements as set out in the Australian /New Zealand Standard for Off Street Car Parking (AS/NZS2890.1:2004 and AS/NZS2890.6:2009).

#### **8.3.5. Servicing**

It is expected that the Health Precinct will generate the following service vehicle movements:

- Removal of waste and recycling materials.
- Delivery of office and medical supplies.
- Maintenance and security (generally University vehicles).

The collection of waste across the University is co-ordinated through a private contractor with building specific requirements considered in the selection of the vehicle type used to service individual buildings.

In this context, it is expected that the largest vehicle accessing the building under typical circumstances would be a Medium Rigid Vehicle (MRV- 8.8m long) for waste collections and the like. This vehicle would access the site via Western Avenue and enter the loading dock, where bins would be moved for collection via a kerbside arrangement outside of peak periods.

For further information regarding compliance, refer to the swept path analysis contained within the Transport and Accessibility report at Appendix I.

#### **8.3.6. Traffic Generation**

The results show that against existing traffic volumes in the vicinity of the site, the additional traffic generated by the proposed development is marginal and has a less than minor impact on the intersection operations. The additional traffic could not be expected to compromise the safety or function of the surrounding road network and is indeed less than the daily fluctuation of traffic across each peak hour.

The site is expected to generate up to 22 vehicle movements in the AM peak hour and up to 44 vehicle movements in the PM peak hour. There is adequate capacity in the surrounding road network to cater for the traffic generated by the proposed development.

Traffic generation impacts will be mitigated during the construction phase by the measures contained within the Construction Traffic Management Plan – see Section 8.3.7 below.

#### **8.3.7. Construction Traffic Management**

A Construction Traffic Management Plan (CTMP) has been prepared for this application and includes the following considerations:

- Overview of truck movements and truck movement types.
- Impact assessment of traffic routes, and upon existing roads
- Determines the impact upon the ability of emergency and service vehicle access
- Guidelines for restricted access vehicles, parking and public transport
- Establishes main works guidelines
- Emergency and service vehicle impact assessment
- Load management
- Traffic Control Plans

- Pedestrian management

The CTMP has been prepared in accordance with the Transport Management Centre's Road Occupancy Manual as well as legislative requirements, guidelines and standards (as outlined Section 3). It is a dynamic document and will be updated throughout delivery of the project, as required to reflect changes and agreed workflows with the University's Campus Infrastructure Services (CIS).

### **8.3.8. Disabled Access**

The proposed development has been designed to be accessible for all. As such, a range of measures were considered and included within the scheme design to meet DDA Requirements. This includes A DDA compliant car bay, which is located within the pick-up/drop-off facility and is 7.8m long and 3.2m wide, compliant with the parallel parking bay Australian standard requirements. The access report at Appendix R confirms compliance with the applicable DDA standards.

## **8.4. ECOLOGICALLY SUSTAINABLE DEVELOPMENT**

An Ecologically Sustainable Development Report (ESD Report) has been prepared by Umow Lai to accompany this EIS and is attached at Appendix J.

This ESD Report identifies how the principles of ESD will be incorporated into the design and ongoing operational phases of the proposed development, in line with the SEARs requirements.

The project is assessed against the University of Sydney Sustainability Framework rating scheme and is targeted to achieve at least a silver sustainability rating (in addition to the minimum compliance requirements of the NCC – Section J), which would result in a high-quality sustainability outcome for the University.

The University's Sustainability Framework is a holistic rating scheme with many similarities to the widely-adopted industry standard 'Green Star' rating scheme, but tailored to suit the requirements of new University developments.

It is understood that the Sustainability Framework meets the SSDA and SEARs requirements as a suitably accredited rating scheme to meet industry best practice. The detailed credits being claimed by the Health Precinct Stage 1 project under the Sustainability Framework are detailed in the ESD report. This rating scheme has been used and accepted before on other State Significant Development Applications.

The following key factors were considered during the design of the proposed development:

- Passive design features
- Energy efficiency
- Indoor environment quality
- Water conservation
- Sustainable materials
- Transport
- Waste management
- WSUD initiatives

## **8.5. NOISE AND VIBRATION**

An Acoustic Report has been prepared which assesses the impacts of construction and operational noise at the site. This report is attached at Appendix F.

### **Construction**

The noise and vibration criteria used to carry out the preliminary noise and vibration assessment were:

- Existing noise monitoring data for the site
- The Interim Construction Noise Guideline (ICNG)

- Assessing Vibration – a technical guideline (the Vibration Guideline).

Based on the preliminary assessment, it is anticipated that some noise and vibration impacts may occur during construction at the Royal Prince Alfred Hospital and Wesley College on the University of Sydney Campus. Limited noise impacts may also occur at the University of Sydney Oval to the north of the site.

Refer to Chapter 9 for mitigation measures proposed.

## Operational

Operational noise emission criteria for the development have been established in accordance with the NSW Industrial Noise Policy (INP).

Noise emissions from the development will predominantly be a result of rooftop mechanical plant including a rooftop plant room, water-cooled chiller and cooling towers, and emergency generator. Detailed information on the rooftop plant selection is not available at this stage but noise mitigation techniques will be investigated and determined during the detailed design stage. Considerations are included at Chapter 9. The measures will be selected and designed to ensure that compliance is achieved with the INP noise emission criteria.

## 8.6. HERITAGE

The Statement of Heritage Impact has been prepared by Ian Kelly (attached at Appendix K) describes the heritage significance of the buildings on and adjoining the SSD site, and provides an assessment of the impacts on these items arising from the proposed development.

The proposed development complies with the approved CIP envelope as established under the Stage 1 DA consent. It is noted that the demolition of the Blackburn Building was approved in concept under the CIP (SSD 6123) and later, formally, via a Part 5 approval process.

The HIS notes that the impact of the proposal on surrounding heritage items is acceptable, and provides support for the contemporary landscaping solution.

The University of Sydney Grounds Conservation Management Plan (2017) sites several significant visual and planning axes. It is noted by Ian Kelly that the proposal enhances two of these axes (A5 and B3).

The report concludes:

*“The overall conclusion of this heritage assessment is that the proposed Susan Wakil AO Health Building (Health Precinct Stage 1) will improve the overall character and heritage of the University of Sydney, University Colleges and Victoria Park as connected landscapes”*

As a mitigation measure built into the consent conditions of SSD 6123, Digital Photographic Archival Recording and the preparation of a Heritage Interpretation Plan are required for this SSD application per CIP SSD 6123 Consent Condition B13 and B14. The Heritage Interpretation Plan has been submitted and is included at Appendix Z. The Digital Photographic Archival Recording has been substantially completed and will be provided at formal lodgement stage at Appendix S.

## 8.7. ABORIGINAL HERITAGE

An Aboriginal Heritage Impact Assessment (AHIA) has been prepared by AHMS in February 2016 and is included at Appendix L. The scope of the report covers the entire Camperdown campus, including the Health Precinct. It identifies any known items and places of potential Aboriginal cultural heritage value across the campus.

The AHIA has been prepared in accordance with the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011) and Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW).

The AHIA concludes that *“geotechnical investigations within the university grounds indicate that natural soil horizons may be preserved below 3-5m of fill in areas in close proximity to the former Orphan School Creek, beneath the western portion of the Life Sciences and Health Precincts.”* (AHIA, p.6). As discussed in Section 6.7 of the HIS, while this is the case in the northern portion of the Health Precinct, under the RMC Gunn Building and the adjacent University Oval No.2, it is not the case in the site, where the natural ground level was extensively disturbed during the construction of the New Medical School (Blackburn Building) in the

early 1930s. Further disturbance ground occurred in this area when the Bosch Complex (Building 1A and Building 1B) and landscaped forecourt were built in the 1960s.

The potential for the preservation of in-situ Aboriginal archaeological deposits within the site is low due to previous extensive ground disturbance, however it would be prudent to prepare an 'unexpected finds' procedure.

## 8.8. BIODIVERSITY

An ecological assessment was undertaken by Eco Logical and is included at Appendix M. The report provides an ecological assessment of a single *Ficus sp.* to be removed as part of the works.

This assessment considers whether the removal of the tree would have a significant impact on endangered ecological communities or threatened species listed under the NSW Threatened Species Conservation Act 1995 or the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

The assessment found that the *ficus* does not contain roosting habitat for any threatened species and does not form part of an endangered ecological community. An assessment of the ecological impact of removing the vegetation was made and concluded that the impact would not be significant.

## 8.9. TREES AND LANDSCAPING

To enable the proposed built form and landscape design outcome, 24 trees are proposed to be removed as part of this application.

As noted above a Biodiversity Statement has also been prepared, which concluded that this tree removal, including the removal of one large *ficus* species would not result in a significant ecological impact.

The Statement of Heritage Impact prepared by Ian Kelly at Appendix K confirms that the impact of the proposal and its associated landscaping on the cultural landscape is acceptable.<sup>91</sup>

In response, the landscape solution provides replacement of 22 trees including a 1000L *ficus* spp. (*Fig*), specifically to replace Tree 921 (existing *Fig*) restoring a significant tree canopy coverage to this part of the development site.

The Arborist Report recommends tree protection measures to ensure trees that the 3 trees to be retained are not adversely impacted or damaged throughout the construction and future occupation of the proposed development.

The landscape design solution has been carefully considered relative to the overall built form outcome for the precinct. The scope of this application pertains to creating new public plazas (being the Upper and Lower Wakil Gardens), creating improved entrance conditions to the proposed northern forecourt and the ground level interface with RPAH to the west.

It also responds to the various future uses of the plaza spaces, the potential for future public art and the following key principles:

- **Establishing the precinct**
  - The scheme focuses on creating fluid connection with the university while seamlessly integrating with the adjacent landscape.
  - The spaces and elements will enhance the user experience beyond the immediate surroundings creating a precinct.
  - The Wakil Garden is to traverse levels encompassing a substantial area within the Cadigal Ground.
- **Connecting building and landscape**
  - The ground plane is folded and rises up from the oval, through the building entry to Upper Wakil Garden, creating rooms and spaces as it rises. These are both enclosed internal spaces as well as external rooms. In some areas the change in level can resemble a cliff, in others a gentler slope.
  - The folding planes are used to resolve the many differing levels to the site while at the same time allowing for the free flow of the overland flow under the building.

- **Forming landscapes that heal**

- Layering healing into the landscape and building is central to the design.
- Through programme, orientation and material, the landscape experience is curated, enhancing the building function and experience for users.

The Landscape Report identifies that a significant level of new planting will be introduced as part of the proposal. This will be at ground level and on the new Wakil Gardens (Upper and Lower). This planting will serve to soften the built form and integrate the new development into the immediate surroundings, and set up the overall landscaping solution for the balance of the precinct.

The planting strategy aims to strengthen the indigenous vegetation of the local area to create an Urban Bushland character. By employing an Urban Bushland approach, the site will not only enhance the character and culture of the area, but also serve as a site of shelter and food for local fauna.

For further information, refer to the Landscape Design Report and Plans at Appendix X.

## **8.10. CONTAMINATION**

A Contamination Assessment has been undertaken by Coffey. The report is included at Appendix N and investigates the potential for contamination on site, the suitability of the site for the proposal in accordance with SEPP 55, and any further management or remediation actions required.

The findings of the Coffey Contamination Assessment did not identify contamination within soil or groundwater at the site warranted, or the need for remediation or management. Coffey noted that investigations completed to date have established sampling locations within accessible areas of the site which gave rise to several data gaps.

Based on the findings of the assessment, Coffey concluded that the site is suitable for the proposed development subject to the development of an Unexpected Finds Procedure for implementation during the site redevelopment works. The Unexpected Finds Procedure outlined at Appendix N has been developed based on the findings of the initial investigation.

Based on the above, the site has limited potential for contamination with the Unexpected Finds presenting an appropriate mitigation measure in the event contamination is found once excavation has begun.

## **8.11. UTILITIES**

An Infrastructure Management Plan and Integrated Water Management Plan has been prepared by Umow Lai and is attached at Appendix O and Appendix P respectively.

These reports identify the servicing/utility requirements of the new building as proposed including a new dual or triple chamber Ausgrid substation (part of this application); and new in-ground communications 'conduit & pit' infrastructure.

These upgrades can readily be undertaken (subject to obtaining the relevant authority requirements) prior to construction.

The Integrated Water Management Plan also identifies the interconnection of sewer drainage, domestic potable water services, recycled water and re-use water systems and fire service water re-use in accordance with ESD principles.

## **8.12. FLOODING AND DRAINAGE**

Bonacci have prepared a Civil Engineering Report which is attached at Appendix Q. The Report considers the following matters:

- Excavation
- Flooding
- Concept Stormwater Design
- On Site Detention

- Water Quality
- Subsoil Drainage
- Erosion and Sediment Control
- Excavation

The report relies on the following documents which have been accepted as a basis for flood design/assessment at the Sydney University campus:

- WMA Water – University of Sydney Camperdown Campus Flood Mitigation Master Plan (October 2015)
- Warren Smith and Partners University of Sydney Camperdown Campus Stormwater Concept Design Report (December 2015)

### **Excavation**

Excavation of the eastern side of the building (maximum depth approximately 2m, where the new building is adjacent Western Avenue) – refer architectural drawing DA18-0001 GA – Level 0. It is anticipated that approximately 1600m<sup>3</sup> of cut will be required for the building.

### **Flooding**

The site is affected by flooding, as described in WMA Water Flood Study, with flood flows passing around the existing Blackburn building. The campus wide strategy detailed in the Flood Mitigation Master Plan requires the redevelopment of the health precinct to maintain existing flowpaths.

The excavated level below the proposed building floor level will be utilised as a subfloor flood flowpath. This area will also provide flood storage. This will alleviate any increase in flood level to the RPA land as a result of the Stage 1 redevelopment.

Level 0 of the proposed building has been set at RL 23.00m AHD. This is above the existing 1% AEP flood level (which is approximately RL 22.5m AHD at the south east corner of the site, where the loading dock entrance is located), compliant with the City of Sydney flood planning level requirements.

The intention for the Stage 1 health precinct redevelopment is to maintain the existing drainage conditions around the site as far as possible, in order to minimise any risk of causing adverse flood impacts. The implementation of an enhanced stormwater overland flow path (reducing the building blockage by moving the building extent to the east in addition to providing the sub-floor space flowpath) further reduces flooding impacts in the area.

### **Concept Stormwater Design and On Site Detention**

The concept stormwater drainage design has been provided in accordance with the requirements of the City of Sydney, Sydney Water and Australian Standard 3500.3 Plumbing and Drainage. For further information, refer to Appendix Q Stormwater Drainage Concept Plan.

On site detention is not required for this site in accordance with the methodology in the WMA Water – University of Sydney Camperdown Campus Flood Mitigation Master Plan.

### **Water Quality**

MUSIC modelling was undertaken to assess the impact of the redevelopment on water quality. The results show that the redeveloped site provides water quality benefit when compared to the existing site.

### **Subsoil Drainage**

Sub-soil drainage will be provided to retaining walls, sub-floor space and podium planting/landscaping in accordance with structural engineer and landscape architect's requirements. The sub-soil drainage will discharge into the stormwater drainage system.

### **Erosion and Sediment Control**

A sediment and erosion control plan has been prepared in accordance with Landcom *Managing Urban Stormwater: Soils and Construction Volume 1* (the "Blue Book"). For further information refer to the Sediment and Erosion Control Plan (Drawings 2021876 01C – C005, C006 and C007) at Appendix Q.

## 8.13. WASTE

A Waste Management Plan has been prepared by Waste Audit and is attached at Appendix W. The following paragraphs cover operational and construction waste management procedures associated with the development.

### Construction

The construction waste management plan identifies the different streams of waste likely to be generated during the construction phase of the project and provides a breakdown of waste management principles, estimated volumes of materials, monitoring and reporting requirements, and performance measures for the management of these waste streams.

The plan also identifies the appropriate storage requirements as well as what waste streams can be reused, recycled or disposed of. Implement waste storage and disposal measures in line with the Waste Management Plan at Appendix W.

### Operational

The Waste Management Plan identifies that University of Sydney cleaners will be responsible for collecting and transporting all waste and recycling to the ground level storage rooms where the materials will be deposited in the designated bins. The waste and recycling systems to be implemented will comply with the City of Sydney's *"Policy for Waste Minimisation in New Developments, 2005"* and University's requirements, which are detailed in the *"Resource Recovery & Waste Management Standard"*.

All internal areas will be provided with bins to maximise the separation of materials so as to ensure that the minimum amount of material is disposed of to landfill. The report also outlines:

- Waste & Recycling Volume Calculations.
- Waste Management & Recycling Systems.
- Storage Area Requirements, and
- Waste Management Systems.

# 9. MITIGATION MEASURES AND ENVIRONMENTAL RISK ASSESSMENT

Following the implementation of appropriate mitigation measures as recommended, it is determined that the proposal will not result in any significant adverse impacts on the surrounding environment. The following table illustrates how the matters raised within the SEARs and CIP Conditions will be addressed.

This analysis comprises a qualitative assessment consistent with AS/NZS ISO 31000:2009 *Risk Management—Principles and Guidelines* (Standards Australia 2009). The level of risk was assessed by considering the potential impacts of the proposed development prior to application of any mitigation or management measures. In accordance with the SEARs, the ERA addresses the following significant risk issues:

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

Risk comprises the likelihood of an event occurring and the consequences of that event. For the proposal, the following descriptors were adopted for ‘likelihood’ and ‘consequence’.

Table 10 – Risk Descriptors

LIKELIHOOD		CONSEQUENCE	
A	Almost certain	1	Widespread and/or irreversible impact
B	Likely	2	Extensive but reversible (within 2 years) impact or irreversible local impact
C	Possible	3	Local, acceptable or reversible impact
D	Unlikely	4	Local, reversible, short term (<3 months) impact
E	Rare	5	Local, reversible, short term (<1 month) impact

The risk levels for likely and potential impacts were derived using the following risk matrix.

Table 11 – Risk Matrix

		LIKELIHOOD				
		A	B	C	D	E
CONSEQUENCE	1	High	High	Medium	Low	Very Low
	2	High	High	Medium	Low	Very Low
	3	Medium	Medium	Medium	Low	Very Low
	4	Low	Low	Low	Low	Very Low
	5	Very Low	Very Low	Very Low	Very Low	Very Low

The results of the environmental risk assessment for the proposed development are presented in Table 12 and are based upon the range of technical and specialist consultant reports appended to the EIS. The table has directly related mitigation measures responding to each impact also based upon the range of technical and specialist consultant reports appended to the EIS.

Table 12 – Mitigation Measures and Environmental Risk Assessment Table

N.B. 'O' – Operational; 'C' – Construction

SEAR/ CONDITION	POTENTIAL IMPACT	STAGE OF PROJECT	LIKELIHOOD	CONSEQUENCE	RISK LEVEL	MITIGATION/MANAGEMENT RECOMMENDATION
<b>Environmental Amenity</b>	Potential impacts relating to solar access and overshadowing.	O	E	1	Very Low	The submitted plans at Appendix D identify that there is no adverse impact with solar access or overshadowing.
	Lighting Impacts.	O	D	4	Low	<p><u>Internal:</u> Ensure that the luminaries at upper floors (Level 3 and above) comply with the requirements of:</p> <ul style="list-style-type: none"> <li>AS-1680 – Interior Lighting.</li> </ul> <p><u>External:</u> Ensure that all external lighting meet the requirements of:</p> <ul style="list-style-type: none"> <li>AS-1158.3.1 – Pedestrian Area (Category P) Lighting – Performance and Design Requirements.</li> <li>AS-1158.4 – Lighting of Urban Roads and Other Public Thoroughfares.</li> <li>AS-4252 – Control of the Obtrusive Effects of Outdoor Lighting.</li> </ul>
<b>Transport and Accessibility</b>	Congestion and adverse impact on key intersections because of increased traffic generation on the site and altered traffic arrangements.	O	D	2	Low	The GTA Transport and Accessibility Assessment at Appendix I confirms that the additional traffic generated by the proposal is not be expected to compromise the safety or function of the surrounding road network and is indeed less than the daily fluctuation of traffic across each peak hour.

SEAR/ CONDITION	POTENTIAL IMPACT	STAGE OF PROJECT	LIKELIHOOD	CONSEQUENCE	RISK LEVEL	MITIGATION/MANAGEMENT RECOMMENDATION
<b>Noise and Vibration</b>	Adverse noise and vibration impacts on neighbouring sensitive receivers (during operation).	O	C	3	Medium	<p>Noise emissions from the development will predominantly be a result of rooftop mechanical plant including a rooftop plant room, water-cooled chiller and cooling towers, and emergency generator. Detailed information on the rooftop plant selection is not available at this stage but noise mitigation techniques will be investigated and determined during detailed design, and will include consideration of:</p> <ul style="list-style-type: none"> <li>• Selection of lower noise plant and equipment, particularly the chiller and cooling towers.</li> <li>• Screening of external plant using solid barriers or acoustic louvres.</li> <li>• Appropriate construction of a rooftop plant room to reduce noise emissions to neighbouring land uses.</li> <li>• Installation of the emergency generator in an acoustically-rated enclosure.</li> </ul> <p>The measures will be selected and designed to ensure that compliance is achieved with the INP noise emission criteria.</p>
	Adverse noise intrusion during construction phase.	C	C	4	Low	<p>The construction noise and vibration impacts are considered to be manageable through:</p> <ul style="list-style-type: none"> <li>• The development and implementation of a Construction Noise and Vibration Management Plan</li> <li>• Carrying out works during standard daytime working hours wherever possible</li> <li>• Appropriate stakeholder consultation and complaint handling procedures for noise and vibration</li> </ul>

SEAR/ CONDITION	POTENTIAL IMPACT	STAGE OF PROJECT	LIKELIHOOD	CONSEQUENCE	RISK LEVEL	MITIGATION/MANAGEMENT RECOMMENDATION
						<ul style="list-style-type: none"> <li>The implementation of all feasible and reasonable work practices to minimise noise and vibration from the site in accordance with the ICNG and Vibration Guideline.</li> <li>Out-of-hours work – If high noise works are to occur outside of normal working hours then the CNVMP should define an approval process for undertaking out-of-hours works, notifying sensitive receivers and stakeholders, and identifying reasonable and feasible mitigation measures to be implemented.</li> <li>Truck management and site access – Site access and delivery points shall be located as far away from residences as possible, truck movements shall use arterial roads and be diverted away from residential streets where feasible and, deliveries to/and from site shall not occur during the night time period where possible.</li> <li>Site management – Locate site accommodation facilities away from residents as far as practical, use shielding where appropriate, noise associated with demobilisation of equipment should be kept to a minimum.</li> <li>Equipment management – selection of low-noise plant where possible, maintain equipment and install muffling and silences where relevant, equipment and plant not in use should be shut down.</li> </ul>
<b>Aboriginal Heritage</b>	The potential for in-situ Aboriginal archaeological	C	D	2	Low	Preparation of an 'unexpected finds procedure/protocol' as a Condition of DA Consent, as recommended by Ian Kelly

SEAR/ CONDITION	POTENTIAL IMPACT	STAGE OF PROJECT	LIKELIHOOD	CONSEQUENCE	RISK LEVEL	MITIGATION/MANAGEMENT RECOMMENDATION
	deposits to be found on site.					in the Statement of Heritage Impact which is attached at Appendix K.
<b>Heritage</b>	Moderate adverse impact on the overall significance of the University due to the demolition of Blackburn Building.	C	A	5	Very Low	<p><b>Note:</b> the Blackburn Building was approved for demolition under the CIP Stage 1 Consent (SSD 6123). This was later formalised via a Part 5 approval process.</p> <p>To mitigate the loss of overall heritage significance for the University, the CIP Stage 1 Consent (SSD 6123) consent prescribed two Conditions (B13 and B14) in relation to demolition of items of heritage significance.</p> <p>These conditions prescribed the preparation of Digital Photographic Archival Recording and a Heritage Interpretation Plan.</p> <p>These have been prepared and are included in this EIS at Appendix S and Appendix Z respectively.</p>
<b>Biodiversity / Arboriculture</b>	Loss of biodiversity values as a result of tree / vegetation removal.	O	D	3	Low	An assessment of the ecological impact of removing the vegetation was made and it was concluded that the impact would not be significant. For further information, refer to the Biodiversity Statement which is attached at Appendix M.
	Impact on trees to be retained.	C	C	2	Medium	<p>Implement appropriate Tree Protection Measures during construction as recommended in the Arborist Report at Appendix Y and as follows:</p> <ul style="list-style-type: none"> <li>The tree protection measures (for trees 557, 560 and 693) listed on p. 6 in section 3.2.3 and Appendices 5 and 6 of the Arborist Report at Appendix Y.</li> </ul>

SEAR/ CONDITION	POTENTIAL IMPACT	STAGE OF PROJECT	LIKELIHOOD	CONSEQUENCE	RISK LEVEL	MITIGATION/MANAGEMENT RECOMMENDATION
<b>Contamination</b>	Health and ecological impacts risks from presence of contaminants.	O	D	2	Low	Follow/implement the 'Unexpected Finds Procedure' (UFP) prepared by Coffey during the site redevelopment works. This UFP has been developed based on earlier contamination testing, and is at Appendix N.
<b>Drainage and Flooding</b>	Site inundation during flood events and stormwater system capacity.	O	C	2	Medium	Construct stormwater, drainage and sediment control works in accordance with the Civil Design Report at Appendix Q.
<b>Sediment, Erosion and Dust controls (Construction and Excavation)</b>	Impacts resulting in sedimentation of drainage system, erosion of soils and dust impacts on adjoining buildings/spaces.	C	D	3	Low	Implement the measures set out in the Civil Design Report at Appendix Q.
<b>Waste and Construction Management</b>	Impacts associated with noise, waste management and traffic management on adjoining areas and road networks during site enabling and construction works	C	C	4	Low	Implement the methodology and recommendations of the Waste Management Plan at Appendix W.

SEAR/ CONDITION	POTENTIAL IMPACT	STAGE OF PROJECT	LIKELIHOOD	CONSEQUENCE	RISK LEVEL	MITIGATION/MANAGEMENT RECOMMENDATION
	Impacts associated with construction traffic management	C	C	4	Low	Implement the methodology and recommendations of the Construction Traffic Management Plan at Appendix V.
<b>Waste</b>	Excess building and construction waste are diverted to landfill	C	D	4	Low	Implement waste storage and disposal measures in line with the Waste Management Plan at Appendix W.
	Operational waste is stored or disposed of improperly	C	D	4	Low	Implement waste storage and disposal measures in line with the Waste Management Plan at Appendix W.
<b>BCA / Disability Access</b>	Provision of inequitable access to and through the site and buildings	O	D	2	Low	<p>Implement the recommendations of the Access Report contained at Appendix R and the BCA Report at Appendix BB. This includes the following being designed for disabled access standards:</p> <ul style="list-style-type: none"> <li>• Access and Approach – External Areas.</li> <li>• Internal Areas.</li> <li>• Vertical Circulation.</li> <li>• Sanitary and Other Facilities.</li> <li>• Various Additional Considerations.</li> </ul>

# 10. JUSTIFICATION AND CONCLUSION

The University of Sydney (the University) is committed to establishing a World-class range of educational establishment facilities that are adaptable to new pedagogies and team-based research programs, enabling the University's health disciplines to be at the forefront of innovation, teaching and learning; and to create unique inter-professional learning programs and multi-disciplinary research opportunities.

The University of Sydney undertook a Competitive Design Process which resulted in a vigorous examination of options for the site. The design was then subject to a Design Peer Review, with the final scheme amended to address this feedback, ensuring that the proposal will result in a suitable design outcome.

The proposed redevelopment of the site will facilitate the erection of a new building, providing a significant improvement on the existing infrastructure, facilitating much needed educational floor space in line with forecasted enrolments and the desired future character of the precinct per the CIP (SSD 6132) Consent.

The proposed development will strengthen the University's role in contributing to the growth of the Sydney Education and Health Precinct within the Central Sydney Subregion, the University's Camperdown campus and more broadly the NSW economy.

In light of the above options and competitive design process, the final design for this application is considered to be suitable for the site and its context.

This SSDA fully complies with the Stage 1 Campus Improvement Program (SSD 6123) which was approved by the Minister for Planning on 16 February 2015. The CIP comprises a long-term master plan for the delivery of new development, access, public domain and infrastructure works across the University's Camperdown and Darlington Campuses.

The proposed development is designed to achieve the following objectives:

- Enhance the University's reputation as a research innovator and leading educator in health.
- Create a contemporary, flexible and collaborative facility that aligns with the University's strategic vision.
- Make better and more effective use of an underutilised section of the campus that contains an ageing asset deemed to be beyond economic repair.
- To co-locate the Faculty of Health Sciences (FHS), the Faculty of Nursing and Midwifery (FNM) and the Central Clinical School (CCS) on the Camperdown Campus.
- Meet forecasted accommodation to meet the needs of the cohort.
- Create shared learning and teaching pedagogy between Faculties and the broader University cohort.
- Create a building that addresses the local environment and Faculty functional requirements.
- Design a new building which is compliant with building envelope controls for the site contained within the SSD Stage 1 DA approval (6123).

This EIS has assessed the proposed development under the relevant statutory planning and policy provisions and the issues identified within the SEARs for this SSDA. The key environmental considerations that have been assessed as part of this EIS include:

- Built form and urban design;
- Consistency with the CIP Envelope Approval (SSD 6123);
- Built form amenity impacts;
- Heritage impacts and heritage view impacts;
- Trees and landscaping;
- Accessibility;
- Traffic and transport; and

- Other environmental impacts including construction impacts.

As discussed in Section 3 and Section 8 of the EIS, it is concluded that the proposal demonstrates that all on-site and off-site impacts have been carefully considered and addressed.

The University and its design team have met with and consulted each of the following authorities as part of the preparation of this EIS:

- City of Sydney Council
- Office of Government Architect
- Heritage Council of NSW
- Transport for NSW; and
- Roads and Maritime Services.

This project represents a significant opportunity to promote and enhance the University of Sydney as an important place of education and research. This proposal accords with the State, Regional and Local strategic initiatives to contribute to the growth of the NSW economy via enhanced education offerings in NSW. Based upon the conclusions arising from the assessment of this SSDA, and the implementation of recommended mitigation measures, the project is considered to warrant approval.

Having considered all the relevant matters, it is concluded that that the proposal will facilitate a sound development outcome that upholds the NSW Government's vision for the site, and it is requested that the Minister approve this SSDA under Section 89E of the EP&A Act.

# DISCLAIMER

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