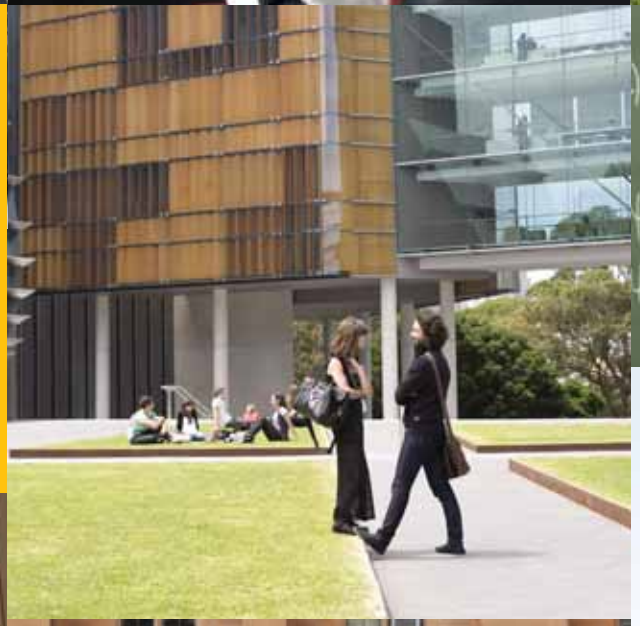
CAMPUS IMPROVEMENT PROGRAM

STATE SIGNIFICANT DEVELOPMENT (SSD 13_6123) ENVIRONMENTAL IMPACT STATEMENT

JANUARY 2014

THE UNIVERSITY OF SYDNEY



URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Peter Strudwick
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Job Code	SA5176
Report Number	Final Report_20/01/2014

TABLE OF CONTENTS

Figures:

Pictures:

Tables:

Statement of Validity

Environmental Impact Statement

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Declaration

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

- In accordance with the requirements of the Environmental Planning and Assessment Act 1979 and Environmental Planning and Assessment Regulations 2000; and
- The information contained in this report is true in all material particulars and is not misleading.

Peter Strudwick (20 January 2014)

Audrey Chee (20 January 2014)

Applicant Details: Greg Robinson, Director Campus Infrastructure & Services
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Project Summary: Environmental Impact Statement (EIS) accompanying the *University of Sydney Campus Improvement Program Staged State Significant Development*, application number SSD13_6123

Land Details: The University of Sydney's Camperdown-Darlington Campus

Lot & DP: Camperdown Campus

Crown Grant 18.01.1855 Inc. 11925 – 3000, Pt 5912 – 3000, Pt Lot 1/DP 179963 and Lot 1001 DP 1159799

St John's College Land Acquisition Lot 1 DP 1124852

The above lands will be consolidated into future Lot 1, DP1171804 which has not yet been gazetted at the time of writing.

Lot 1 DP 89825

Lot 11 DP 1171806

Darlington Campus:

Lot 1 DP 790620

Darlington Terraces:

Individual titles provided in ***Appendix A***.

The Director General's Environmental Assessment Requirements

The table below provides a summary of the Director General's Environmental Assessment Requirements (DGEARS) reissued on 23 October 2013. The table identifies the location of each item listed in the DGEARS within this Environmental Impact Statement (EIS). A full copy of the DGEARS is provided in ***Appendix B***.

TABLE 1 – SUMMARY OF DIRECTOR GENERAL'S REQUIREMENTS

DIRECTOR GENERAL'S REQUIREMENTS	PROVISION IN EIS	RELEVANT SECTION IN EIS
General Requirements		
Form and Content requirements under Schedule 2 of the EP& A Regulation 2000:		
▪ Details of author and Statement of Validity.	✓	Page v
▪ Details of the site and description of the development.	✓	Section 2
▪ Executive summary.	✓	Page viii
▪ Objectives of the development.	✓	Section 3
▪ Analysis of any feasible alternatives to the carrying out of the development, having regards to its objectives, including consequences of not carrying out the development.	✓	Section 4
▪ Analysis of the development including full description; description of the environment likely to be affected and those aspects of the environment likely to be significantly affected.	✓	Section 3, 5, 6, 7.4, 7.8
▪ Impacts on the environment.	✓	Section 7.5, 7.8, 11.1
▪ Measures proposed to mitigate any adverse effects of the development (Statement of Commitments).	✓	Section 12
▪ List of any other approvals that are required to be obtained under any other Act or law.	✓	Section 7.3
▪ Justification for the development, having regard to biophysical, economic and social considerations including principles of ecologically sustainable development.	✓	Section 4, 11
▪ Environmental risk assessment including potential cumulative impacts due to other development in the vicinity and measures to manage any significant risks to the environment.	✓	Section 7.8, 12
▪ Quantity Surveyor report detailing Capital Investment Value and estimated job creation.	✓ QS report provides CIV Economic Report provides estimated job creation.	Appendix P Appendix O
Key Issues		
Statutory and Strategic Context	✓	Section 7.1
Policies	✓	Section 7.2
Concept Proposal Built Form and Urban Design	✓	Section 7.4
Environmental Amenity	✓	Section 7.5
Ecologically Sustainable Development	✓	Section 7.6
Transport and Accessibility	✓	Section 7.7
Heritage	✓	Section 7.9
Aboriginal Heritage	✓	Section 7.10
Flora and Fauna	✓	Section 7.11
Utilities	✓	Section 7.12
Staging	✓	Section 8
Contributions	✓	Section 9
Flooding	✓	Section 7.13
Consultation	✓	Section 10
Plans and Documents	✓	Appendices C, D and E

EXECUTIVE SUMMARY

This Environmental Impact Statement (EIS) accompanies the *University of Sydney Campus Improvement Program Staged State Significant Development,* application number SSD13_6123. The EIS has been prepared on behalf of a Crown applicant, The University of Sydney (the University) and is in accordance with the Director General's Environmental Assessment Requirements (DGEARS) that were reissued on 23 October 2013.

The University of Sydney's Campus Improvement Program (CIP) sets out a seven year program for the delivery of new development, access, public domain and infrastructure works to support the strategic direction of the University and delivery of its programs. The proposal applies to the Camperdown and Darlington Campuses and is referred to as the Stage 1 CIP SSDA in this EIS.

The proposal seeks consent for precinct-based building envelopes and built form design controls, open space and transport linkages. Indicative land uses are provided and will be confirmed at a detailed development application stage. Further specific and detailed buildings will be subject to subsequent detailed Development Applications or other approval pathways and will be generally consistent with the Stage 1 CIP SSD consent. A comprehensive suite of urban design/architectural plans are submitted in support of this SSDA. The plans provide site analysis investigations; proposed building envelopes which include indicative built forms; and 3D images of photomontages and associated indicative built forms.

The University's role as a major contributor to the future growth and delivery of NSW strategic plans is well recognised. The NSW Government has recently released the draft Metropolitan Strategy for Sydney to 2031, as a strategic plan for the future of Global Sydney. The draft Strategy encourages growth in the education and research sector which will be delivered by the implementation of the CIP.

The University is recognised as the nation's principal University specialising in tertiary educational and research pedagogy. It is imperative that the University continue to position itself as the leading teaching, learning and research institution in Australia. The implementation of the CIP is instrumental to achieving this objective.

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

The CIP Access Strategy is a key driver for achieving sustainable outcomes for transport and movement to and through the campus. This Strategy will implement a range of initiatives to enhance and encourage the use of public transport or other sustainable forms of transport such as cycling and walking by improving connectivity to existing routes. Car parking will be rationalised to peripheral areas to provide opportunities for landscape or pedestrian priority areas. Traffic impact assessment identifies that a reassignment of traffic will result in a general decrease across the majority of entries.

The significant size of the future University campuses, and the extent of essential and support services and infrastructure, bring a range of social and public benefits to the local community and broader region. The CIP will provide enhanced facilities such as open space, sport and recreational facilities and libraries accessible and available for use by the general public. In addition, transport improvements such as well-connected cycleways and walkways will enhance the University's connection with surrounding land uses and services.

The CIP will entail an estimated capital investment of $1,396,400,000 (excluding GST) and will provide significant economic benefits such as sustaining around 14,700 direct and indirect jobs during the construction period and around 400 additional jobs at the Camperdown-Darlington Campus. Other economic benefits include flow-on economic generation in the order of $610m linked to construction and $95m linked to additional staff on campus; around $3bn of additional output (production and consumption induced effects) resulting from CIP construction activity. The CIP will also facilitate increased spending in the order of $374m over the 2014- 2020 period linked to the ability to grow the international student market at Camperdown Darlington.

The CIP allows the University to properly plan and budget for future growth. It also provides the appropriate mechanism for communicating this strategic growth with relevant Government and community stakeholders. Approval of the CIP Stage 1 SSDA provides Government endorsement and hence a significant level of certainty for the University in the implementation of detailed development. The Stage 1 SSDA is fully supported from a technical viewpoint and satisfies relevant Government policies. It provides significant benefits for a wide range of stakeholders and is in the general public interest. It is worthy of receiving development consent, allowing the implementation phase to commence, thereby realising these public benefits.

1 INTRODUCTION

This Environmental Impact Statement (EIS) accompanies the *University of Sydney Campus Improvement Program Staged State Significant Development,* application number SSD13_6123.

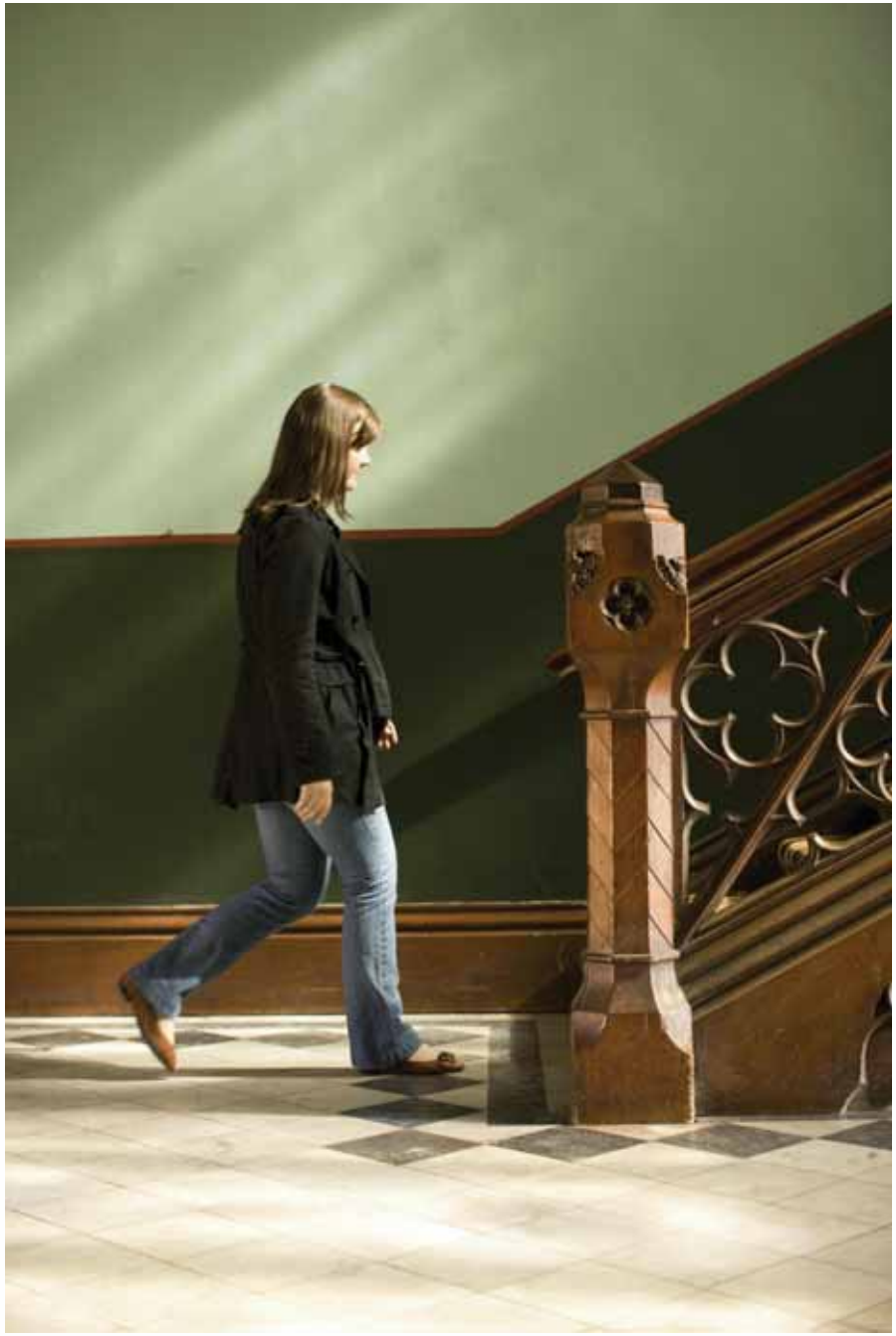
The University of Sydney's Campus Improvement Program (CIP) sets out a seven year program for the delivery of new development, access, public domain and infrastructure works to support the strategic direction of the University and delivery of its programs. The proposal applies to the Camperdown and Darlington Campuses and is referred to as the Stage 1 CIP SSD in this EIS.

The proposal seeks consent for precinct-based building envelopes and built form design controls, open space and transport linkages. Indicative land uses are provided and will be confirmed at a detailed development application stage. Further specific and detailed buildings will be subject to subsequent detailed Development Applications or other approval pathways and will be generally consistent with the Stage 1 CIP SSD consent.

The EIS has been prepared on behalf of a Crown applicant, The University of Sydney (the University) and is in accordance with the Director General's Environmental Assessment Requirements (DGEARS) that were reissued on 23 October 2013 (Refer to ***Appendix B***).

The preparation of the EIS has entailed a comprehensive project team and the respective fields of expertise of each project team member, including:

- Applicant and Project Management - The University of Sydney
- Statutory Planning - Urbis
- Urban Design, Built Form and Landscape – The University of Sydney
- Ecologically Sustainable Development – The University of Sydney
- Transport and Accessibility – ARUP
- Heritage – The University of Sydney, in conjunction with Clive Lucas Stapleton and Partners Pty Ltd; Graham Brooks & Associates Pty Ltd; and Tanner Kibble Denton Architects
- Aboriginal Heritage – Godden Mackay Logan
- Flora and Fauna – Australian Museum Consulting
- Utility Infrastructure – The University of Sydney
- Stormwater and Flooding – Warren Smith & Partners
- Contamination – Douglas Partners Pty Ltd.
- Retail Strategy – Urbis and Brain + Poulter
- Student Accommodation Survey - LocationIQ



2 THE UNIVERSITY OF SYDNEY SITE AND SURROUNDS

2.1 REGIONAL CONTEXT

The University's Camperdown Darlington Campus is an inner-Sydney campus surrounded by arterial roads, rail infrastructure, and growing residential and business communities. Founded in 1850, the University is recognised as Australia's oldest and one of the leading Group of Eight (Go8) Universities as well as the nation's principal University specialising in tertiary educational and research pedagogy.

The University of Sydney is identified within NSW planning strategies as one of the key "*Knowledge Assets*" of NSW and is a major activity precinct for education, research and technology based jobs. Further, the University of Sydney forms part of the "*Sydney Education and Health Precinct*", identified in the draft Sydney Subregional Strategy, located to the south and west of the Sydney CBD and is highly warranted as a major component of the "*Broadway and Camperdown Education and Health precinct*" of the more recent draft Metropolitan Strategy for Sydney. These precincts are recognised as significant areas for world-class education, research medical, and technology-based jobs and include 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.

The University of Sydney and the neighbouring Royal Prince Alfred Hospital (RPA) collectively provides a significant inner city precinct that specialises in vital medical health, education and research. The precinct services not only Sydney but also the broader NSW and Australian community. Reflective of NSW planning principles for the integration of land use and infrastructure, there is a long standing research and teaching collaboration between the University and RPA, which is clearly demonstrated by the soon to be completed Charles Perkins Centre.

Further, the University is a significant contributor to Sydney's cultural experiences and includes various cultural attractions such as the Seymour Centre theatre, various campus museums and art galleries and heritage educational offerings.

The campus is well placed in close proximity to regional transport networks that support the role of the University as a leading educational, employment and cultural precinct. Redfern, Central and Macdonaldtown railway stations enables frequent and walking access to the campus. Various bus services along Parramatta Road and City Road offer alternative regional access routes to the site.

2.2 LOCAL CONTEXT

The Camperdown-Darlington Campus shown in Figure 1 is situated on the western edge of the Sydney CBD, and comprises two distinct 'sub-campuses' of very different origins: Camperdown and Darlington, each divided by City Road.

The Camperdown Campus sits within an area bounded by Parramatta Road to the north, Victoria Park to the east, City Road to the south and the University Colleges and RPA to the west. Its major topographical feature is a ridge which drains to the Blackwattle Creek in the east and to Orphan School Creek in the west.

The University grounds are on part of a broad ridge system which forms the watershed between Port Jackson and Botany Bay.

The Darlington Campus is bound by City Road and Cleveland Street to the north, by Shepherd Street to the east, by Abercrombie Street and the Redfern railway cutting to the south, and by Golden Grove & King Streets and Newtown to the west.

The land uses surrounding the CIP boundaries comprise:

- A range of residential and commercial / retail premises north of Parramatta Road;
- Victoria Park immediately to the east of the Camperdown Campus;
- Residential properties, primarily of terrace style housing to the east of the Darlington Campus across from Shepherd Street;
- RPA and associated facilities with some commercial properties to the west; and
- South of the CIP precinct is the site of the University's Abercrombie Business School, which is currently under construction. Further south of this are residential terraces and the Central to Eveleigh Renewal Corridor controlled by Urban Growth.

FIGURE 1 – CAMPERDOWN AND DARLINGTON CAMPUS MAP

2.3 CAMPERDOWN - DARLINGTON CAMPUS

The CIP lands that are subject to the CIP SSD are legally described as:

Camperdown Campus:

- Crown Grant 18.01.1855 Inc 11925 – 3000, Pt 5912 – 3000, Pt Lot 1/DP 179963 and Lot 1001 DP 1159799
- St John's College Land Acquisition Lot 1 DP 1124852

The above lands will be consolidated into future Lot 1, DP1171804 which has not yet been gazetted at the time of writing.

- Lot 1 DP 89825
- Lot 11 DP 1171806

Darlington Campus:

- Lot 1 DP 790620

Darlington Terraces:

- Individual titles provided in ***Appendix A*** (it being noted that all but seven terraces along Darlington Road are owned by the University)
- Drawing A-DIA-38 in ***Appendix C*** provides a graphic illustration of the subject lands.

Set within an area of approximately 50 hectares, the campus contains over 230 buildings. Buildings range in architectural styles from 19th Century heritage listed items to recent contemporary design; with heights of up to 8 – 9 storeys for the taller buildings on campus. A number of older buildings, constructed since 1945, are reaching the end of their useful life cycle and require major refurbishment, demolition or rebuilding. A sample of the range of existing University buildings, and current transformational projects under construction, are provided in the photographs overleaf.

FIGURE 2 – PHOTOGRAPHS OF UNIVERSITY BUILDINGS

PICTURE 1 – CITY ROAD PRECINCT VIEWED FROM CITY ROAD AND AT INTERSECTION WITH CLEVELAND STREET

PICTURE 2 – DARLINGTON ROAD TERRACES VIEWED FROM DARLINGTON ROAD

PICTURE 3 – THE INSTITUTE BUILDING BEYOND ESTABLISHED VEGETATION VIEWED FROM CITY ROAD

PICTURE 4 – ILLUSTRATION OF THE CHARLES PERKINS CENTRE CURRENTLY UNDER CONSTRUCTION

PICTURE 5 – THE BLACKBURN BUILDING AND BOSCH GLASSHOUSES (AND RPA BEHIND) VIEWED FROM THE WESTERN AVENUE AND THE HEALTH PRECINCT

PICTURE 7 – THE REAR OF THE WENTWORTH BUILDING AND ADJOINING JANE FOSS RUSSELL BUILDING VIEWED FROM BUTLIN AVENUE/MAZE CRESCENT

PICTURE 6 – THE REAR OF THE MACLEAY BUILDING VIEWED ALONG PARRAMATTA ROAD

PICTURE 8 – ILLUSTRATION OF THE ABERCROMBIE BUSINESS SCHOOL CURRENTLY (UNDER CONSTRUCTION) VIEWED FROM THE JUNCTION OF ABERCROMBIE AND CODRINGTON STREETS

PICTURE 9 – ILLUSTRATION OF THE AUSTRALIAN INSTITUTE OF NANOSCIENCE CURRENTLY UNDER CONSTRUCTION

There are also a number of satellite campuses that will be affected by the CIP but do not form part of the CIP site. Some of these include:

- Mallet Street Campus, Camperdown – home to the Faculty of Nursing & Midwifery.
- Cumberland Campus, Lidcombe – home to the Faculty of Health Sciences.
- Rozelle Campus, Callan Park Rozelle – home to the Sydney College of the Arts.
- Australian Technology Park, Eveleigh – home to parts of the Agriculture & Environment Faculty.

2.4 UNIVERSITY FACULTIES

The University comprises 16 faculties detailed in ***Table 2***.

TABLE 2 – UNIVERSITY FACULTIES

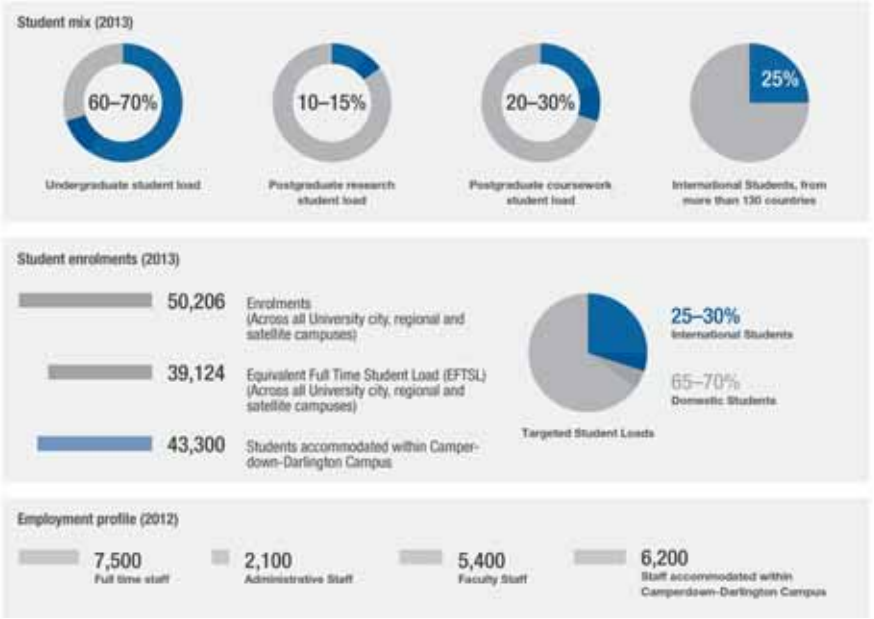
Agriculture and Environment	Architecture, Design and Planning	Arts and Social Sciences	Business
Dentistry	Education and Social Work	Engineering and Information Technologies	Health Sciences
Law	Sydney Medical School	Nursing and Midwifery (Sydney Nursing School)	Pharmacy
Science	Sydney College of the Arts	Sydney Conservatorium of Music	Veterinary Science

World-Class Research:

- The University consistently ranks among the top 100 universities in the world.
- The Federal Government's *2012 Excellence in Research Australia* initiative rated 100 per cent of the University's fields of research at world standard or above in all 22 broad discipline areas in which it was rated.

2.5 UNIVERSITY PROFILE

The University of Sydney is unique among Australia's leading universities in the breadth of its student and employment profile.



The above figure relating to employment profile indicates that the 7,500 full time staff is comprised of 2,100 administrative staff and 5,400 faculty staff; and of which 6,200 is included within the Camperdown – Darlington Campus.

2.6 CAMPUS OPPORTUNITIES AND CONSTRAINTS

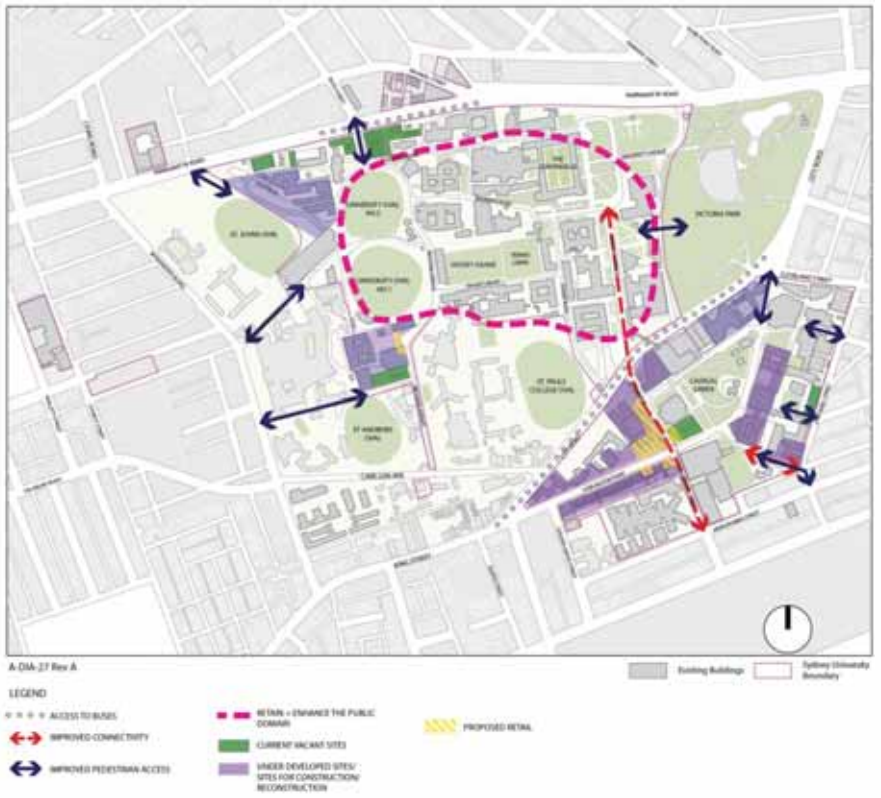
In identifying and developing the next generation of future growth precincts and infrastructure, the CIP identifies a number of key campus constraints and opportunities. These are significant in shaping and influencing the manner in which the University manages the way in which the campus will evolve until 2020.

OPPORTUNITIES

The key opportunities include:

- The University's desire to consolidate teaching, learning and research facilities onto the Camperdown-Darlington Campus and the philosophy to co-locate faculties within that campus. This objective will lead to reducing inefficiencies in land use and administration as well as promoting a sustainable and vibrant campus environment;
- The influence of surrounding Government infrastructure programs including the opportunity to complement the expansion of the Central to Eveleigh precinct and the WestConnex projects, and upgrades planned to the adjoining Royal Prince Alfred (RPA) Hospital;
- The University's desire to provide additional affordable student accommodation on or near campus;
- The opportunity to redevelop substantial precincts within the Darlington Campus which are not significantly affected by heritage constraints;
- The campus' proximity to high frequency public transport links to the CBD and the wider metropolitan area;
- A desire to enhance and promote the University as a visitor destination; and
- Better management of utilities and energy supply.

FIGURE 3 – OPPORTUNITIES PLAN

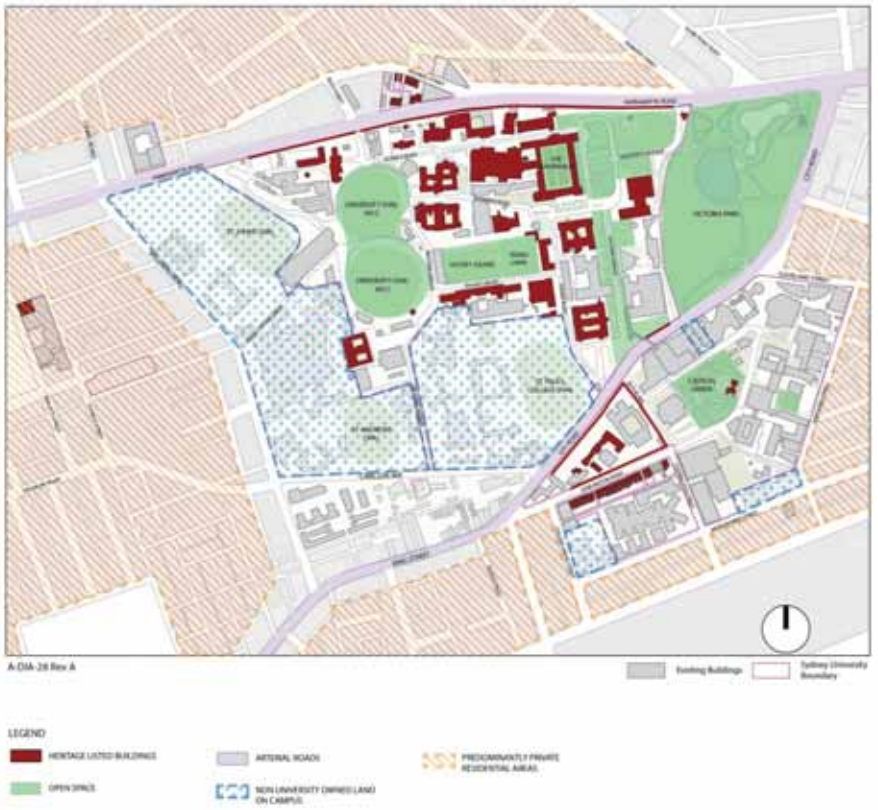


CONSTRAINTS

The key constraints include:

- Urban context i.e. the limited opportunities for expansion due to the campuses location within the inner Sydney CBD fringe;
- A number of significant heritage buildings and items located on campus that affect the manner in which built form modification or redevelopment opportunities are addressed;
- Existing and ongoing management and maintenance of the University's physical facilities and administrative resources;
- Recognising the juxtaposition with adjoining Colleges (which are not owned or managed by the University) and the campus interface and connection with their respective longer term opportunities; and
- The University relationship and interface with surrounding (non-University) land uses in terms of built form and environmental impacts.

FIGURE 4 – CONSTRAINTS PLAN



2.7 CURRENT TRANSFORMATIONAL PROJECTS

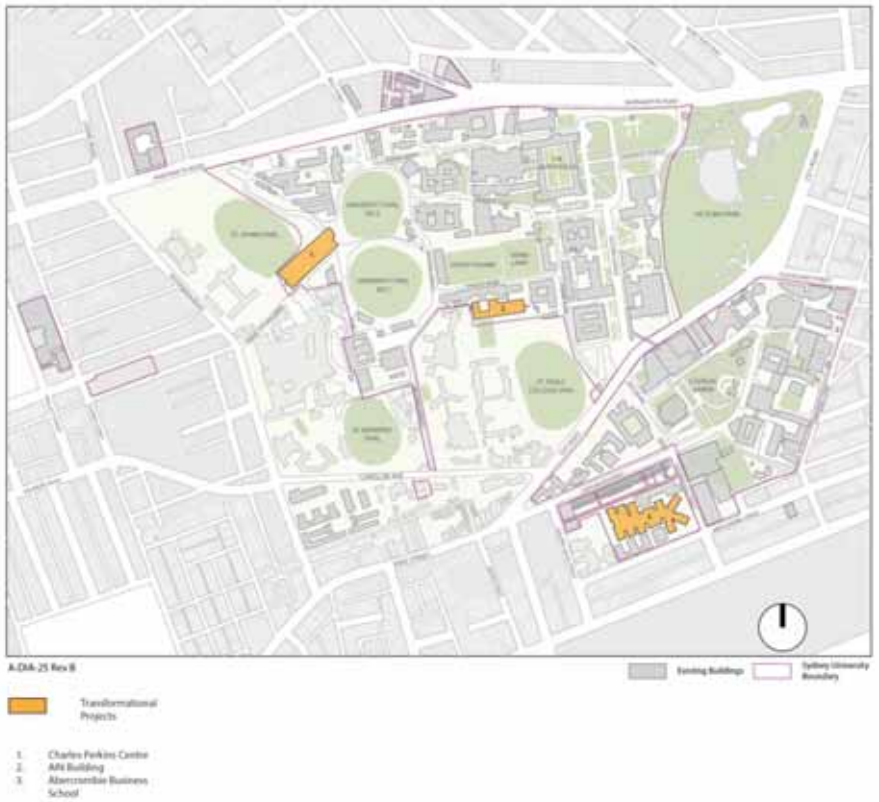
As part of its current capital works program, the University has commenced construction on three significant transformational projects at Camperdown-Darlington Campus, being:

- Charles Perkins Centre for Obesity, Diabetes and Cardiovascular Disease, Camperdown;
- Abercrombie Precinct Redevelopment Project: Sydney Business School, Darlington; and
- Australian Institute for Nanoscience, Camperdown.

The three transformational projects are the flagships for the University's world class faculty buildings which achieve design flexibility to accommodate a variety of teaching, learning and research facilities. The University's investment in these projects attracts research grants, results in specialised jobs, and encourages collaboration both within the University and with relevant industry sectors. These buildings will significantly shift the research paradigm of the University. Refer to ***Figure 5*** overleaf for the location of these buildings.

Realisation of these three projects will collectively increase the University's usable floor space area by 20%. This will result in a number of existing buildings being vacated to varying degrees. These sites, commonly known as 'decanting sites', offer the campus its next generation opportunities to transform the precincts of the campus.

FIGURE 5 – LOCATION OF TRANSFORMATIONAL PROJECTS



3 THE PROPOSAL – THE UNIVERSITY OF SYDNEY CAMPUS IMPROVEMENT PROGRAM

3.1 PURPOSE AND OBJECTIVES OF THE CIP

The University's Camperdown-Darlington Campus is challenged by a number of constraints as identified in report section 2.6. In particular its land-locked position with limited opportunities for additional land acquisition, the University's heritage significance, and the evolving pedagogical requirements of providing world class teaching, learning, research, student accommodation and campus facilities. The CIP therefore builds on the opportunities of pursuing necessary and sustainable growth through:

- Collaborative arrangements between faculties and administrative services;
- Development of multi-purpose and adaptively flexible buildings;
- Rationalising access arrangements through the campus; and
- Providing energy efficient infrastructure.

The CIP is driven by achieving the following objectives:

- Support world research excellence and promote collaborative research facilities;
- Create shared learning and teaching pedagogy between faculties;
- Recognise and celebrate Aboriginal and Torres Strait Islander significance;
- Upgrade the quality of campus facilities;
- Generate a vibrant & affordable campus student life;
- Develop a healthy and sustainable campus environment;
- Ensure safe, navigable and equitable access to and through campus;
- Respect the heritage "Sandstone University" significance; and
- Establish the campus as a visitor destination.

A key purpose of the CIP is to establish an infrastructure and development program for the University's Camperdown-Darlington Campus, outlining the indicative uses and activities for precincts within the campus. This timeframe has been notionally set at seven years and is dependent upon the University's requirements, future market conditions and attaining relevant approvals.

3.2 ELEMENTS FOR WHICH CONSENT IS SOUGHT

The CIP SSD seeks development consent for the following key elements:

- Definition of the established and permissible range of University land uses provided on campus in support of its role as an 'educational establishment'. This SSDA does not seek approval for future land use activities in specific locations; rather it seeks consent for all proposed land uses across the Camperdown-Darlington Campus more generally;
- Building envelopes and design guidelines/parameters to guide future development and redevelopment of new and existing key teaching and learning facilities within specific CIP precincts of the broader master planned campus;
- Conceptual identification and location of:
  - Principal campus gateways/arrival points and access arrangements for pedestrians and vehicles
  - Parking and servicing arrangements through rationalisation of existing parking and service dock stations
  - Better integration of basement parking into multi-purpose buildings on the periphery of the campus
  - Vehicle/pedestrian/cycle prioritisation plans to enable better connectivity through the campus and into the surrounding locality
  - Open space, landscape and public art
  - Future infrastructure provision; and
- A total future campus parking provision of 2,800 spaces from the existing 2,357 car parking spaces and which includes the approved additional 30 car parking spaces associated with the Transformational Projects.

To assist DP&I officers in the assessment of the SSDA and to meet the DGEAR documentation requirements, the University submits a comprehensive suite of site analysis and urban design/architectural plans. The plans provide site analysis investigations; proposed building envelopes which include indicative built forms; and 3D envelope images and associated indicative built forms. The precinct and built form plans will be subject to separate and specific future Stage 2 Development Applications, and which will detail how future buildings will contextually fit within CIP approved building envelopes. In particular, this documentation comprises:

Camperdown – Darlington Campus package (under ***Appendix C***)

- Site Plan and Lot Plan
- Transformational Projects Plan
- Heritage – Significance Ranking of Buildings Plan and Archaeological Sites (Grounds Conservation Plan)
- Open Space and Tree Canopy Cover
- Sporting facilities Plan, Outdoor Space Use Plan and Public Art Plan
- Campus Flood Study Plan
- Campus Arrival Plan
- Accessibility Plan
- Opportunities Plan and Constraints Plan
- Current Utilities Network
- Proposed Future CIP Precincts Plan
- Proposed Development and Refurbishment Sites Plan
- Proposed Building Forms Plan
- Pedestrian Strategy Plan
- Cycle Strategy Plan
- Parking Strategy Plan
- Vehicle Servicing Strategy Plan
- Buildings for Demolition Plan

CIP Precinct Site Analysis Drawings (contained within Section 7.4)

Detailed site analysis for each precinct which illustrates how development and built form will integrate into surrounding context.

CIP Precinct plan package (under ***Appendix D***)

- Site Survey
- Existing Elevation
- Proposed Envelope Plan – shown in plan, elevation and section
- Shadow Impact on Public Streets Diagram and Sections
- Diagram and solar angle section showing shadow impact on external public streets
- Shadow diagrams from 9am to 3pm mid-winter based on indicative built forms

This plan package identifies a proposed building envelope (red line), within which are shown indicative built forms (blue shading). These built forms, although well considered, are indicative only and have been prepared to illustrate the sort of forms that may ultimately be proposed. Certainty is sought as part of this Stage 1 SSDA in relation to building envelopes, whereas the specific design and detailing of buildings (within these envelopes) will be sought in subsequent Stage 2 DAs.

CIP Precinct 3D Envelopes (under ***Appendix E***)

These images also include indicative built forms that are based on the City of Sydney 3D City Model for illustrative purposes only.

To ensure there is no ambiguity in the determination of the Stage 1SSDA, it is sought to obtain development consent/stamped plans for:

- The broader Camperdown Darlington Campus strategy proposals contained in ***Appendix C*** (but noting that these may change with further precinct planning); and
- The CIP Precinct plan package relating to proposed precinct envelope plan and associated elevations and sections contained in ***Appendix D***.

4 STRATEGIC JUSTIFICATION FOR THE PROJECT

The University's role as a major contributor to the future growth and delivery of NSW strategic plans is well recognised. The NSW Government has recently released the draft Metropolitan Strategy for Sydney to 2031, as a strategic plan for the future of Global Sydney. The draft Strategy encourages growth in the education and research sector which will be furthered by the implementation of the CIP. The CIP will play a key role in supporting the delivery of the State Government's strategic objectives, particularly through:

- Facilitating Sydney's centre of excellence in education and research (identified for the Broadway-Darlington sub-precinct);
- Responding directly to the draft Strategy's principal outcomes of 'Balanced growth', 'A liveable city', 'Productivity and Prosperity', 'Healthy and Resilient Environment', 'and 'Accessibility and Connectivity';
- Providing significant employment contribution to the NSW economy through an estimated 18,000 graduates each year. A great proportion of the University's graduates will directly contribute to the Sydney and NSW economies. The University provides an employment destination with a significant number of jobs in education/research, administration, and numerous construction facilities and maintenance programs;
- Investing close to $1.4 billion into the local economy. This capital expenditure has the potential to generate around $3 billion of total output (production and consumption inducted effects), throughout the period of construction. Economic benefits beyond the period of construction will also continue to be incurred beyond this time period as the University remains operational. Further discussion on the economic benefits is provided in Section 11;
- Pursuing urban consolidation through the provision of affordable student accommodation on campus, providing higher residential densities close to transport and services, and freeing up private rental stock to the wider housing market;
- Leveraging off key 'magnet infrastructure' such as the Central to Eveleigh Corridor, and WestConnex; and
- Promoting greater use of access modes through bus, train, cycle services and pedestrian routes.

The University has adopted a number of strategies (strategic drivers) and policies that have influenced the development of the CIP. These strategies inform decisions to improve facilities for researchers, teachers and students and have directed the development and delivery of buildings and facilities at the University to date. These key strategic drivers have been officially endorsed by the University and also form the strategic justification for the project. These include:

- The strategies for the future direction and focus of the University outlined in the *University of Sydney 2011- 2015 White Paper*;
- Optimising the University's comprehensive resources in health and medical research over the next 10 years derived from the recent findings and recommendations of Peter Wills AC's *Health and Medical Research Strategic Review* (2013);
  - In particular to ensure the University provides world class research facilities across the disciplines of medicine, nursing, health sciences, allied health, public health, health services and health policy;
- Learning and Teaching Space Strategy
  - The University is committed to providing a world-class student experience of learning. The changing nature of the student learning experience, the changing roles of students and lecturers and the rapid developments in technology accompanying these changes impact on the future design of learning spaces. The CIP provides a holistic approach to accommodating the evolving nature of University learning spaces to achieve the most sustainable development and efficiency in use of future University learning spaces;
- University of Sydney Disability Action Plan
  - The University's Disability Action Plan (DAP) 2013-18, provides guidance and implementation strategies to help the University improve access and participation for students, staff and visitors, and to ensure that the University provides a learning and working environment which is inclusive and accessible to everyone;
  - The DAP seeks to enable students and staff with disabilities to lead full and enriched lives at the University and fully participate in all aspects of the University life, education, research and administration;
  - The CIP recognises and supports achievement of the objectives of the DAP and will specifically assist with implementation of the University *Strategic Plan 2011-2015* to '*Provide accessible paths of travel, parking, and teaching and support areas'* (strategy 5.2), in the development of future campus precinct and access opportunities;
- Aboriginal and Torres Strait Islander Integrated Strategy
  - The traditional owners of the land on which the University's Darlington and Camperdown Campus is located are the Cadigal people of the Eora nation. The *Wingara-Mura – Bunga Barrabugu Aboriginal and Torres Strait Islander Strategy* is an important element of the University's *Strategic Plan 2011-2015* in promoting Aboriginal and Torres Strait Islander participation, engagement, education and research as one of its core objectives;
  - The rights, interests, needs and aspirations of Aboriginal and Torres Strait Islander people are reflected in the development and implementation of the CIP;
- Sustainability Strategy
  - The University has developed a number of sustainability strategies to improve the built environment and campus liveability. The University recognises that leading teaching, learning and intensive research facilities all impact on the environment whilst contributing to knowledge and solutions that will benefit future generations. In managing this challenge, the CIP pursues high quality, durable and resource-efficient multifunctional buildings that are fit-for-purpose and will have lower whole-of-life environmental impacts;
- Campus Population Strategy
  - The Campus Population Strategy seeks to realise significant sustainable benefits including land use and financial efficiencies through the relocation of satellite campuses. This will be facilitated by the CIP which will create greater synergies and collaboration between Faculties, by sharing new teaching, learning and research facilities;
  - The CIP anticipates and projects the University's current annual population rate of growth at 1.9%. This combined with residual relocation of a number of University satellite faculties (Mallett Street, the Australian Technology Park; Callan Park; and Lidcombe) to Camperdown-Darlington, provides an estimated CIP campus population of 60,050 (staff and students) by 2020, being an overall increase of around 10,500 staff and students;
  - It is noted that a proportion of students from all of these satellite locations already visit the Camperdown Darlington Campuses for courses, lectures and access to University facilities (libraries, sports, administration, and events). Consequently, the relocation of these satellite campuses allows the CIP to realise significant sustainable benefits including integrated land use and financial efficiencies, and removal of unnecessary duplication of services and facilities; and

- Student Accommodation Review
  - The University commissioned a report entitled '*Student Accommodation Study, University of Sydney*', by Location IQ (July 2013). The Location IQ report provides the University with a strong business case for the CIP to target the supply of up to 4,000 affordable student accommodation beds on or near the Camperdown-Darlington Campus.

4.1 ALTERNATIVES CONSIDERED AND CONSEQUENCES OF NOT CARRYING OUT THE DEVELOPMENT OF THE PROJECT

In March 2008, the University published the draft University of Sydney Campus 2020 Masterplan which provided an urban design analysis of the Camperdown-Darlington Campus including initial opportunities for the restructure and redevelopment of the campus through various land use options, vehicle and pedestrian connections and open spaces.

However, the draft Masterplan did not identify development priorities, staging or budgetary considerations for the delivery of the Plan over time. Since the draft Masterplan, the University has independently attained development approval, and has commenced construction, for three significant transformational projects including the Charles Perkins Centre for Obesity, Diabetes and Cardiovascular Disease (CPC), the Australian Institute of Nanoscience (AIN), and the Abercrombie Business School (ABS) and adjoining Student Accommodation building.

The draft 2020 Masterplan was not formally adopted by the University. However it has served as a valuable and instrumental tool in providing a holistic and contextual description of the campus, and in identifying next generation development options.

Implementation of the draft Masterplan and the 'do-nothing' approach is not an option for the University. The University must continue to position itself as the leading teaching, learning and research institution in Australia. This can only be achieved through the development and implementation of the CIP which will:

- Support the University's adopted approaches on teaching philosophy and overall strategic direction by delivering integrated learning and teaching, research, and student accommodation spaces on the Camperdown-Darlington Campus;
- Allow the University to move to a more integrated, streamlined and efficient way of managing development, services and facilities;
- Support the delivery of world class teaching and research;
- Provide a significant increase in affordable student accommodation on campus to enrich student experience and campus life;
- Lead to a closer alignment of the University's academic, environmental and capital plans, and therefore a more efficient pattern of capital spending and planning to ensure that the University is better equipped for the challenges of an increasingly competitive global higher education sector; and
- Provide an enabling strategy for staff and students, ensuring that the quality of the University's research and education facilities, as well as its reputation and performance, continues to adapt to pedagogical, technological and cultural change, therefore positioning The University of Sydney on the world stage of higher education.

In identifying and developing the next generation of future growth precincts and infrastructure, the CIP acknowledges the key campus constraints and opportunities (refer to report section 2.6). These are significant in shaping and influencing the manner in which the University manages the way in which the campus will evolve until 2020.

The proposed location of CIP precincts and building envelopes represents the most appropriate and sustainable resolution that satisfies the University's objectives whilst working with identified constraints.

Without the Stage 1 SSDA to guide and structure the future development of the University's Camperdown-Darlington Campus, the following impacts and shortcomings would occur:

- Development will be implemented on an ad hoc basis, rather than the holistic site planning that has evolved;
- A consequential lengthy and costly development assessment timeframe;
- There would be no upfront strategy to plan and budget with certainty; and
- Poor communication on the future direction and planning of the University to relevant Government and community stakeholders would occur.

5 CAMPUS LAND USE AND MANAGEMENT

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

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

Proposed building envelope and floorspace are addressed in Section 6.

5.1 LAND USE

The CIP accommodates a broad range of 'educational establishment' uses on campus, which are promoted through the CIP precincts and associated infrastructure and facilities. The CIP also addresses ancillary land uses such as student accommodation; retail; commercial and recreational land uses that will be ancillary to the University. These land uses are generic to all universities across Australia. These land uses are permissible under the SP2 Educational Establishment zone of Sydney Local Environmental Plan 2012 and are listed in ***Table 3***.

TABLE 3 – RANGE OF EDUCATIONAL ESTABLISHMENT USES PROVIDED AND PERMISSIBLE ON CAMPUS

Academic	Student Accommodation	Retail and Related Services
▪ Teaching and learning facilities ▪ Research facilities and laboratories (wet and dry) ▪ Libraries and computer/IT centres ▪ Lecture theatres and conference centres/rooms	▪ Residential ▪ Student wellbeing support services ▪ Colleges ▪ Serviced apartments ▪ University Hotel	▪ Food and beverage outlets, other shops and services, licensed premises and vending machines ▪ Primarily supporting the campus student/staff population, and meeting the occasional needs of neighbouring communities
Professional Service Units	**Commercial Office Space**	**Student Services**
▪ Office space, meeting rooms, storage	▪ Office space to industry partnerships in research	▪ Meeting rooms, pastoral care/ student wellbeing facilities, childcare
Cultural and Community	**Events**	**Sports**
▪ Indoor and outdoor spaces for meetings/ceremonies ▪ Facilities for religious observance	▪ Indoor performances, outdoor passive and active events - theatre, markets, performances, electoral days	▪ Indoor and outdoor sports facilities, changing rooms, storage
Service Centres	**Parking**	**Utility and Telecommunication Buildings and Services**
▪ Service deliveries, contractor compounds and facilities, waste storage and delivery	▪ Parking stations, street parking	

5.2 LAND USE ACTIVITIES

This SSDA does not seek approval for future land use activities in specific locations; rather it seeks consent for all proposed land uses across the Camperdown-Darlington Campus more generally.

- Learning and teaching facilities
  - Provision for a network of hubs, enhancing formal teaching spaces, and provision of informal learning spaces;
- Libraries
  - Rationalisation of library spaces and the changing use of library spaces;
- Research Facilities and Industry Partnerships
  - The University has a variety of research, education and commercial partnerships with Government agencies, public service providers and private sector partners. All are co-reliant upon research advancements for the progress of respective industries. This research relationship is currently limited and has scope for further expansion in order to facilitate World class research outcomes;
- Student Accommodation
  - The CIP seeks to deliver up to 4,000 affordable student accommodation beds on or near campus. Campus student housing will contribute to the holistic student campus living experience and environment. The extent of accommodation proposed on the Camperdown-Darlington Campus is currently being investigated. It may include the integration of student housing with other facilities within mixed-use buildings. This will provide common spaces to be used out of hours for study and other related student activities;
- Retail and Professional Services
  - Improving retail, including food and beverage and professional services, primarily servicing students and University staff on campus that will also be available to local residents and visitors;
- Sport and Recreation
  - Several opportunities for the improvement of sporting facilities will be facilitated by the CIP. This includes potentially informal Sports facilities within the Merewether Precinct, and a future Grandstand to Oval 2;
- Museum and Exhibition
  - Facilitation of a new cultural and scientific precinct along Science Road through adaptive re-use of buildings in proximity to the University's Great Hall and direct transport access from Parramatta Road and Central and Redfern Stations;
- Meetings, Incentives, Conventions and Exhibition (MICE)
  - Maximising the utilisation of existing and future venues and spaces, during and beyond traditional University semester periods, to further enhance and facilitate the University's evolving event and venue management; and

- Outdoor Events
  - Promoting the use of the campus public domain for outdoor events on campus passive and active outdoor open spaces. Indicative location of future outdoor events is provided in the drawing documentation. Any future outdoor events will be located in central campus areas and separated from peripheral residential communities through buffer zones, in order to ensure quiet residential enjoyment and privacy.

5.3 OPEN SPACE, LANDSCAPE AND PUBLIC ART

5.3.1 LANDSCAPING APPROACH

The landscape and open space use of the Camperdown-Darlington Campus enlivens the campus and contributes to the physical and ecological quality and character of the University's public domain.

Campus buildings are set in landscaped gardens which mostly consist of a configuration of roads, kerbs, garden wall shrubbery and trees. Over the years an amount of quality landscaping has been implemented by the University and subject to regular maintenance. Some campus areas have been consciously designed as garden areas of ornamental plantings and are recognised for their significant historical and aesthetic merit. Supplemented with significant campus views, vistas and axes, these character areas and landscapes form the aesthetic basis and significance of the campus.

The significant character areas and landscapes on the campus are described in the Grounds Conservation Plan, accompanied by a number of policies to ensure the retention of their heritage significance.

The CIP future growth precincts seek to replace existing building footprints with upgraded or new building forms, and will develop formal and informal open spaces within and around future building envelopes. The CIP also seeks to reduce general vehicle access to and through campus, and to convert campus roads and paths to pedestrian priority shared paths with cycle access. The focus on pedestrian prioritisation paves the way for implementing pleasant, safe and sustainable campus landscape solutions.

Landscape works to the existing campus and future CIP precincts will utilise the University's Landscape Design Standards comprising:

- Landscape elements;
- Hardscape elements for pedestrian spaces and vehicle circulation;
- Furniture elements;
- Planting elements; and
- Public Art.

Further detail on the content of these Landscape Design Standards is contained in ***Appendix F***.

5.3.2 TREE MANAGEMENT

The trees at the University campus provide a significant contribution to the local landscape and form an important component of the wider urban forest within the City of Sydney jurisdiction. January 2001 saw the first comprehensive assessment of all trees on the University's Camperdown and Darlington Campus. The Campus Tree Canopy Plan is shown in ***Figure 6***.

FIGURE 6 – OPEN SPACE AND TREE CANOPY COVER

The University maintains a detailed tree inventory database that is continually updated to record all tree maintenance, removals and new plantings. In October 2013, the database had 1813 entries and included information on species, size, health, structural condition, age, class, useful life expectancy, significance and risk.

The CIP will:

- Utilise the University's Tree Management Policy in contributing to the campus inventory system for tree management;
- Maintain and increase campus planting using the University's planting species register. A specific landscape plan will be provided for each future precinct or development site during a future stage development application process; and
- Maintain as a minimum the campus tree canopy cover of:
  - 27% for the Camperdown Campus; and
  - 23% for the Darlington Campus.

5.3.3 PUBLIC ART

The CIP will facilitate the integration of public art into new precincts and across campus to:

- Enhance public experiences of University spaces and precincts;
- Achieve significant aesthetic and design standards in the creation of new University buildings and landscapes;
- Enhance University spaces with increased heritage and cultural significance; and
- Encourage creative collaboration between artists, architects, heritage specialists, landscape designers and other design professionals in the planning and design of University spaces.

5.4 HERITAGE

The Camperdown-Darlington Campus includes a number of heritage buildings of cultural, aesthetic, historical, social and technical significance. These items demonstrate the different phases of the University's development and differing architectural styles.

The CIP aims to protect the University's heritage significance and heritage qualities of the campus by primarily targeting development in areas not affected by established heritage items. However, where the proposed CIP precinct developments will have the potential to affect some heritage items, the design of the future precincts and built form will be reflective of the University's CIP Heritage strategy. A Heritage Impact Statement (HIS) is submitted under ***Appendix K.*** This HIS is accompanied by a series of HIS reports pertaining to each CIP precinct; and which have informed the University's Heritage Strategy.

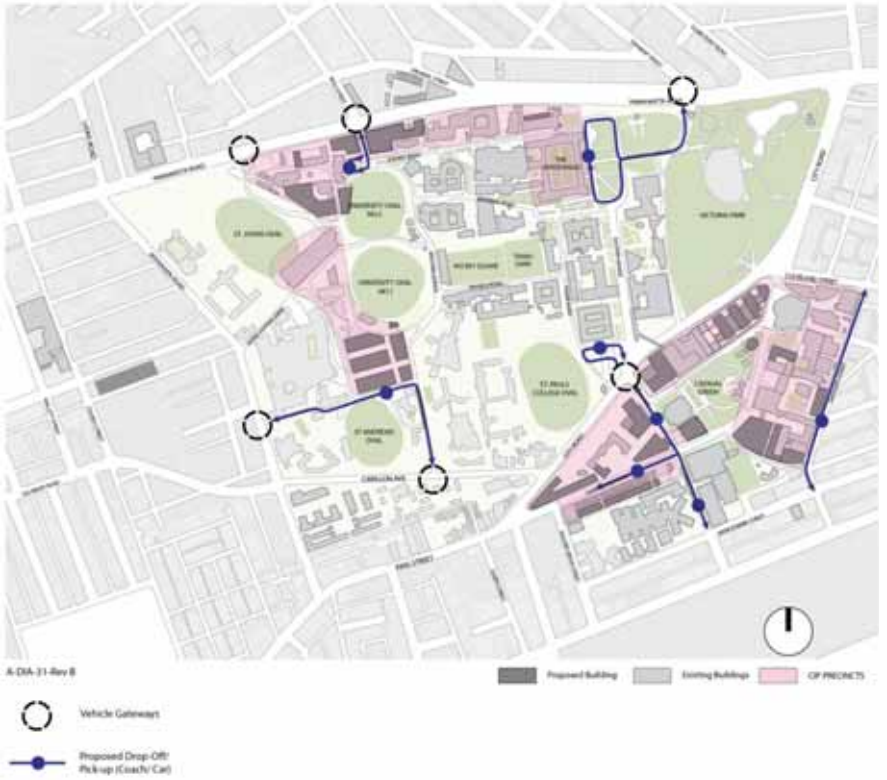
5.5 ACCESS, PARKING & SERVICING

The current access points for people, bicycles and cars to and through the Camperdown-Darlington Campus are not well defined. There are opportunities on all campus edges to improve permeability through improved and new gateways that are aligned with the University precincts. This will assist with campus way-finding and will reduce the need for vehicle movement beyond the periphery parking areas. ARUP has prepared an Access Strategy that details the proposed initiatives and measures to facilitate proposed vehicular, bicycle and pedestrian access to the site (refer to ***Appendix G***).

The existing major access points will provide gateways to each of the precincts on the campus. The CIP proposes the upgrade of a number of existing campus gateways to provide drop-off and pick-up points, and to facilitate access to each of the precincts for taxis, buses, private vehicles and service vehicles. These locations are illustrated in the ***Figure 7*** below and include:

- Parramatta Road / Ross Street;
- Western Avenue and Cadigal Lane;
- Parramatta Road / University Avenue;
- Butlin Avenue;
- Codrington Street; and
- Darlington Road.

FIGURE 7 – CAMPUS GATEWAYS



5.5.1 PARKING

The current parking arrangement is unplanned and wide-spread throughout the campus and contributes to unnecessary vehicle circulation on internal roads in a highly pedestrian environment. The internal road network also provides an environment that allows through traffic from the surrounding congested external road network to traverse the campus. The CIP plans to:

- Rationalise and consolidate parking into peripheral parking areas, removing the need for widespread parking on campus and hence removing the need for traffic access throughout the internal road network.;
- Parking areas will be relocated to peripheral locations as basements to new CIP buildings, to reduce the many surface car parks that exist across the heart of each campus;
- Improve parking management, with changes to parking policy to encourage mode shift to active and public transport modes; and
- Provide shared zones throughout the University, resulting in prioritised pedestrian and cyclist access.

The University's parking strategy is illustrated in ***Figure 8*** and discussion is provided in Section 7.7.

FIGURE 8 – PARKING STRATEGY

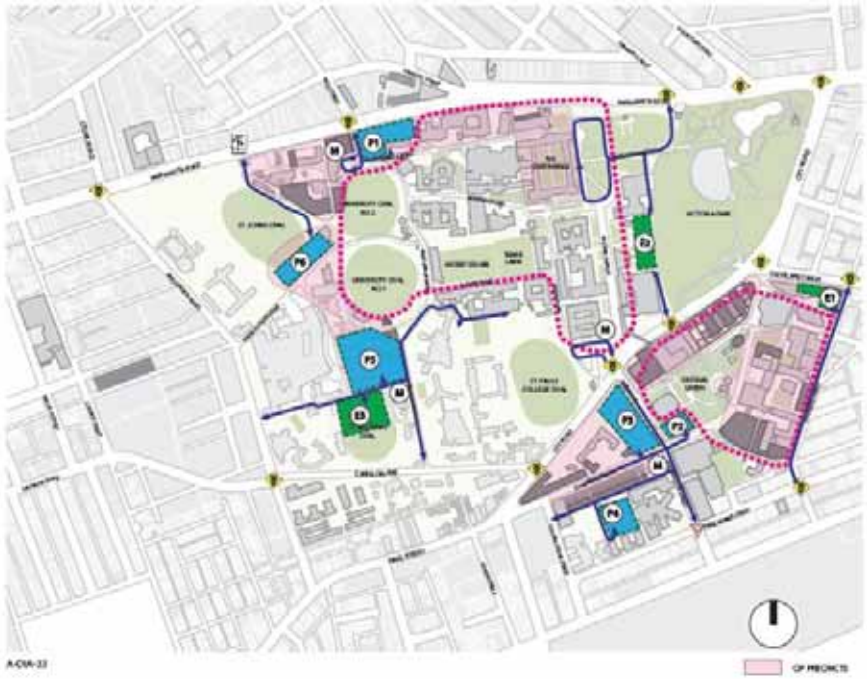


FIGURE 9 – SERVICING STRATEGY

5.5.2 SERVICING

Servicing of University buildings and facilities currently occurs on an individual building or site basis often with multiple delivery points generated across the campus. Waste is also collected across the campus at each building which leads to significant truck activity on all internal roads.

A Servicing Strategy, graphically shown at ***Figure 9***, has been devised to manage access for loading, waste and contractor services throughout the University. Four peripheral Transfer Stations will be constructed to manage all of the loading and unloading, recycling and waste. This centralisation should lead to efficiencies in both ordering and delivery across the wider campus. Transfer Station access will be via peripheral vehicle access routes. The transfer stations will be located at:

- Darlington Road (Merewether Precinct);
- Shepherd Street (Engineering Precinct);
- Orphan School Creek Lane (from Parramatta Road); and
- Cadigal Lane (from Western Avenue).

Further discussion is provided in Section 7.7.

5.5.3 PEDESTRIAN ACCESS

A key characteristic of high quality universities is a comfortable and safe walking environment both within and surrounding the campus. It is not only the staff and students who will make a lively campus but also the interaction with surrounding community and therefore permeability and legibility must be considered.

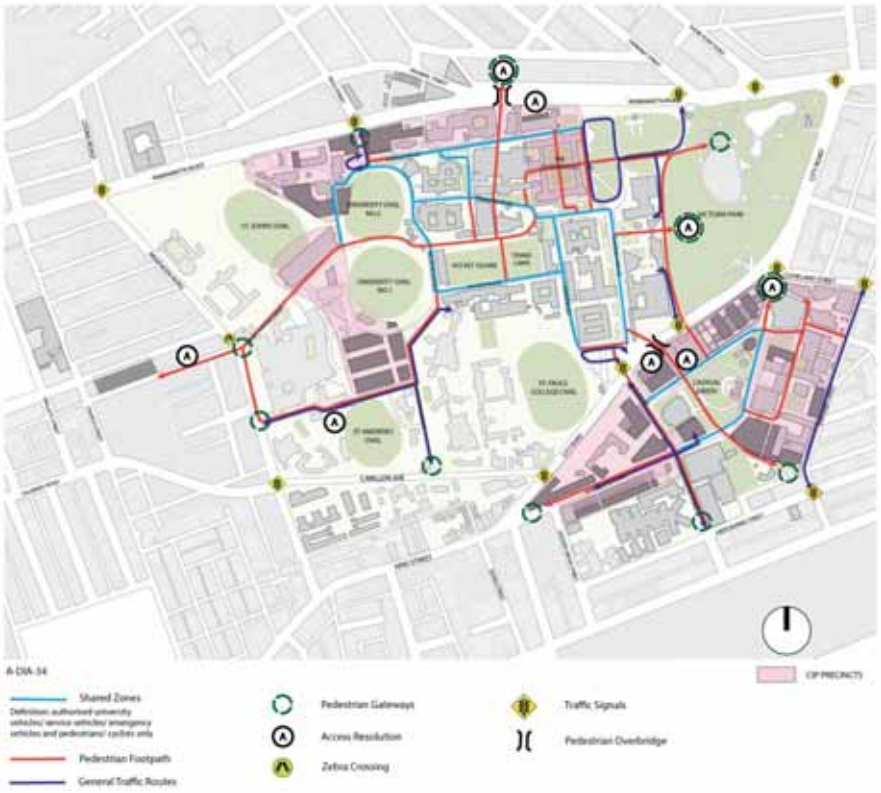
Walking is of high importance to universal access especially as most staff and students already walk to and through the campus. The CIP provides an opportunity to increase pedestrian priority within the University campus. Shared zones are proposed on many of the internal roadways where pedestrians and cyclists will have equal priority with authorised vehicles, excluding general vehicles. In other areas pedestrian footpaths and shared cycling facilities will complete the connected movement network.

Opportunities to improve pedestrian linkages to the surrounding pedestrian network exist around the University and which in some cases require further consultation with relevant Government authorities. These potential improvements provide advantages to both the University population and also residents within adjacent neighbourhoods. Key areas of investigation include:

- Barff Road link to Victoria Park –City of Sydney asset;
- Cleveland Street entrance to Maze Crescent – City of Sydney asset;
- Parramatta Road (bus stops) – with Transport for NSW;
- Arundel Road (overpass) from Science Road – with City of Sydney and RMS;
- City Road Overpass;
- Lawson Street (to Redfern Station) –City of Sydney asset; and
- Grose Street (to Queen Mary Building) –NSW Health asset.

The Pedestrian Strategy is graphically represented at ***Figure 10***.

FIGURE 10 – PEDESTRIAN STRATEGY



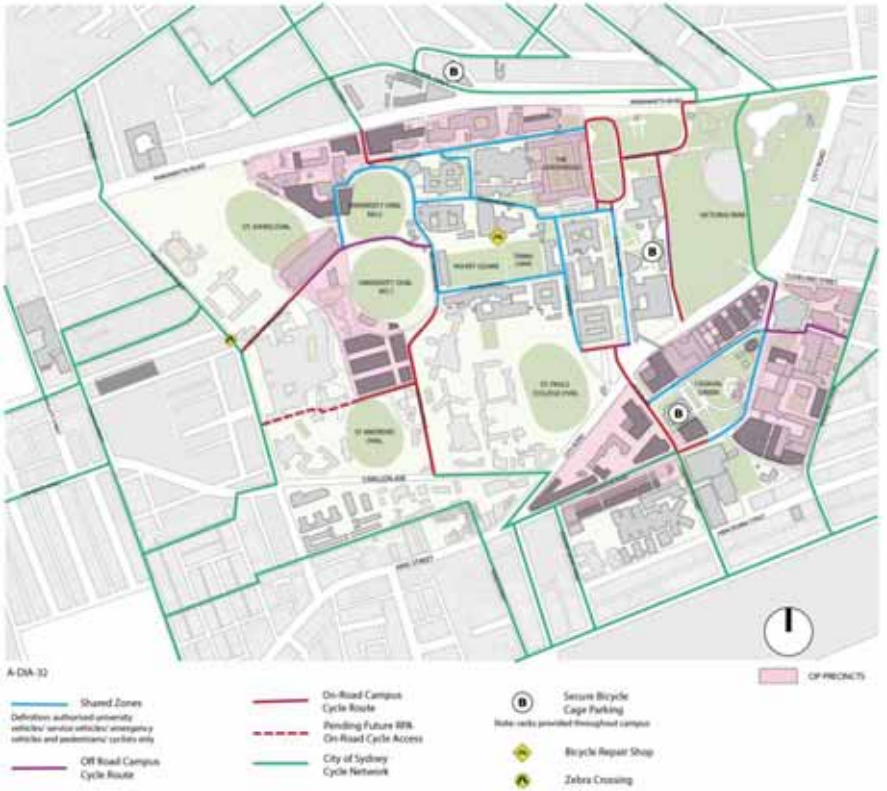
5.5.4 BICYCLE INFRASTRUCTURE

The Cycling Strategy considers improvements that will result in a mode shift to cycling. The University is linked with the City of Sydney's comprehensive bicycle network and access will be greatly improved with the completion of the Broadway Cycle Link, providing further connectivity to surrounding areas.

To continue this high level of connectivity, the CIP proposes shared paths and zones across campus which will provide an environment where all mode access is equally shared, as opposed to faster segregated cycleways. As precincts are developed, additional secure bicycle parking will be provided in key locations and bicycle racks will be installed at-grade adjacent to the shared path and access roadways. Improvements to the on-campus cycle network provide benefits to the University population, residents and businesses located in adjoining neighbourhoods.

The Cycle Strategy is graphically represented at ***Figure 11*** and further discussion is provided in Section 7.7.

FIGURE 11 – CYCLE STRATEGY



5.6 EQUITABLE ACCESS

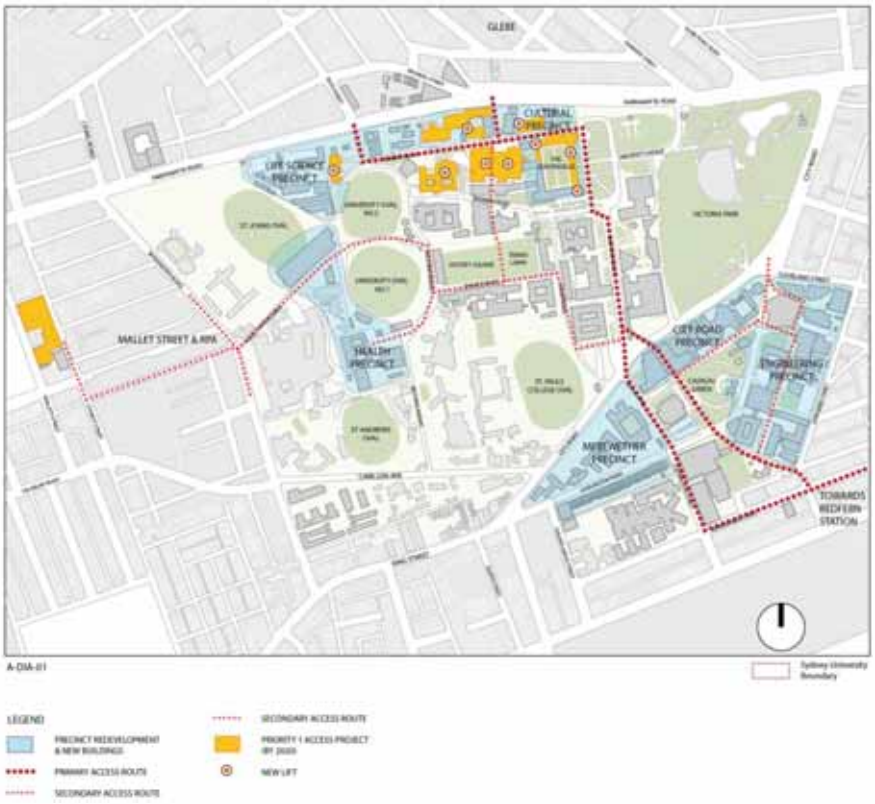
The CIP will deliver a welcoming and accessible built environment for students, staff, visitors and adjoining neighbourhoods as prescribed by the University's Disability Action Plan 2013 (the DAP). This will be achieved by providing facilities which comply with access regulations in the Access to Premises Standard (APS) and Building Code of Australia (BCA). Fit-outs will be adapted or adaptable to meet the current or future needs of a welcoming campus environment. The CIP will implement the requirements of the University Disability Action Plan 2013-2018.

The objective of a welcoming and accessible campus is to provide specific requirements in the detailed design for every project:

- Wayfinding, signage and accessible paths of travel and parking within the campus, and between Camperdown and Darlington including the pedestrian bridge to Glebe over Parramatta Road and to Darlington across City Road;
- New and refurbished buildings designed and built to present day standard; and
- The University adopted DAP Priority 1 and 1A Works providing equitable access to existing buildings and public domain.

The DAP Priority 1 and 1A Projects are also included in the *Accessible Environments Plan*, the masterplan identified and developed in 2011 following a review of all campus areas and buildings in the Sydney region by the access consultants, Access Australia.

FIGURE 12 – PLAN OF CAMPERDOWN AND DARLINGTON SHOWING THE ACCESS STRATEGY



5.7 INFRASTRUCTURE

The CIP precincts will increase energy consumption of electricity and gas at the Camperdown-Darlington Campus. Substation augmentation will be needed to supply electricity for growth planned by the CIP. The University has prepared an Energy Master Plan to address future energy supply security (refer to ***Appendix H***).

Upgrades to water supply mains will be required to provide secure supply for the existing and proposed developments. Parts of the sewerage network throughout the University's Camperdown -Darlington Campus will require localised amplification, redirection and safeguards.

The CIP precincts involve buildings in some areas that are currently prone to flooding in the 100 year ARI flood. Future development provides an opportunity to mitigate existing and known flood threats to the University's assets and infrastructure through better design whilst also ensuring flood impacts on surrounding areas are not exacerbated and/or improved.

Further discussion on infrastructure provision and stormwater and flood management is provided in Sections 7.12 and 7.13, ***Appendix H*** and ***Appendix I***.

5.8 RETAIL FLOOR SPACE

The CIP proposes an appropriate range of campus retail facilities and services to meet the needs of the day to day and future campus population, future student accommodation and the CIP precincts. The Study acknowledges surrounding retail precincts (Broadway, King Street Newtown and the like) and proposes an appropriate range of necessary retail services to support the University population. Approximately 1,200 – 1,700 m^2 of additional retail floorspace on the campus will be provided which will include a mix of additional food and beverage retailing, professional services, and scope for a small supermarket (350 – 650 m^2).

The location of additional retail floorspace is designed around the clustering of retail and services around key nodes within walking distance between main learning and teaching hubs. This is the most efficient way of delivering a critical mass of high quality retail facilities and encouraging retail expenditure.

Detailed review on the location of future retail floorspace will be undertaken during the detailed design stage for each precinct site.

5.9 SUSTAINABILITY

The University has developed a number of sustainability strategies to improve the built environment and campus liveability. These strategies deal with:

- Using natural resources efficiently in buildings, especially energy and water;
- Reducing carbon emissions by using more renewable energy and alternative energy sources with fewer carbon emissions;
- Enhancing more sustainable and healthier modes of transport; and
- Engaging the University's communities to advance and promote sustainability initiatives.

The University recognises that leading teaching, learning and intensive research facilities all impact on the environment whilst contributing to knowledge and solutions that will benefit future generations. In managing this challenge, the CIP pursues high quality, durable and resource-efficient multifunctional buildings that are fit-for-purpose and will have lower whole-of-life environmental impacts. Further discussion on sustainability is provided in Section 7.6.

6 PROPOSED CAMPUS ELEMENTS OF THE CIP

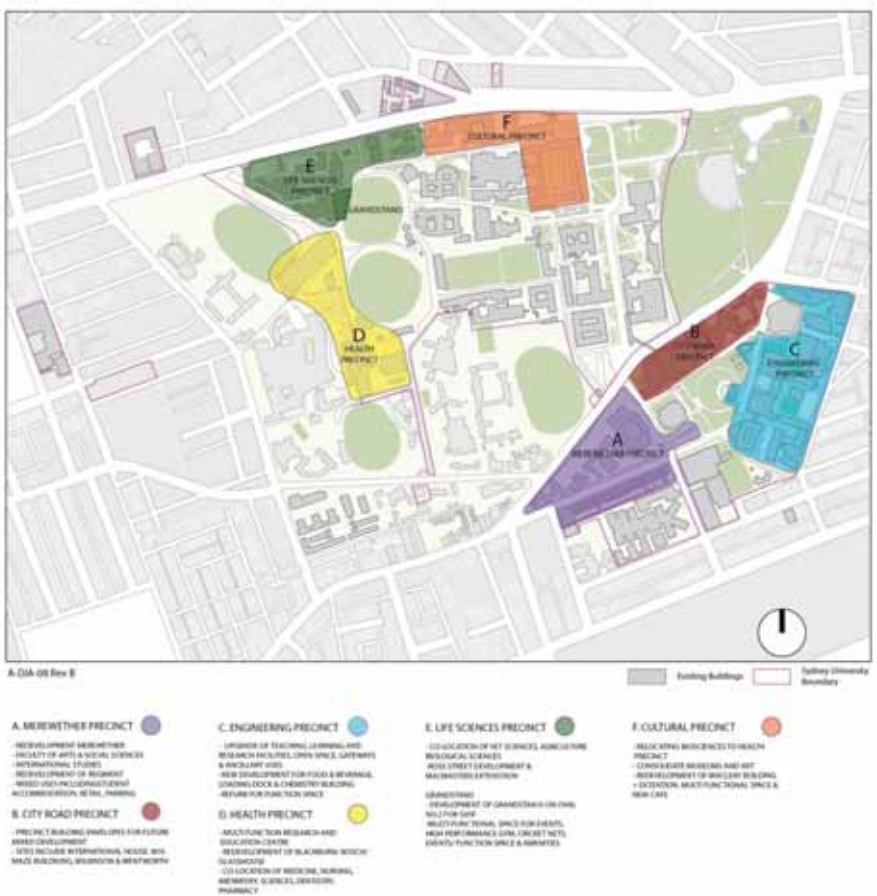
6.1 CIP PRECINCTS

This section provides an overview of the CIP development precincts and strategies to support the next generation transformation of the Camperdown-Darlington Campus.

CIP Precincts

The following six principal growth precincts/development sites that are subject to the CIP SSD are illustrated below.

FIGURE 13 – CIP PRECINCTS



Note: *The generic Figure 13 Precinct plan above includes certain properties not owned by the University including certain Darlington Road terraces (Precinct A) and the St Michael's College site (Precinct B). The plan does not imply any redevelopment or changes to such properties.*

These priority campus precincts will co-locate faculties and schools with related synergies and provide opportunities for shared teaching, learning, research, and student accommodation facilities and other ancillary uses such as retail, administrative office space, and the like. The following table provides a summary of the precinct boundaries and future development areas with nominated indicative land uses which will be subject to further review at detailed DA stage. The proposed range of land uses within each precinct is the same as those identified by ***Table 4.***

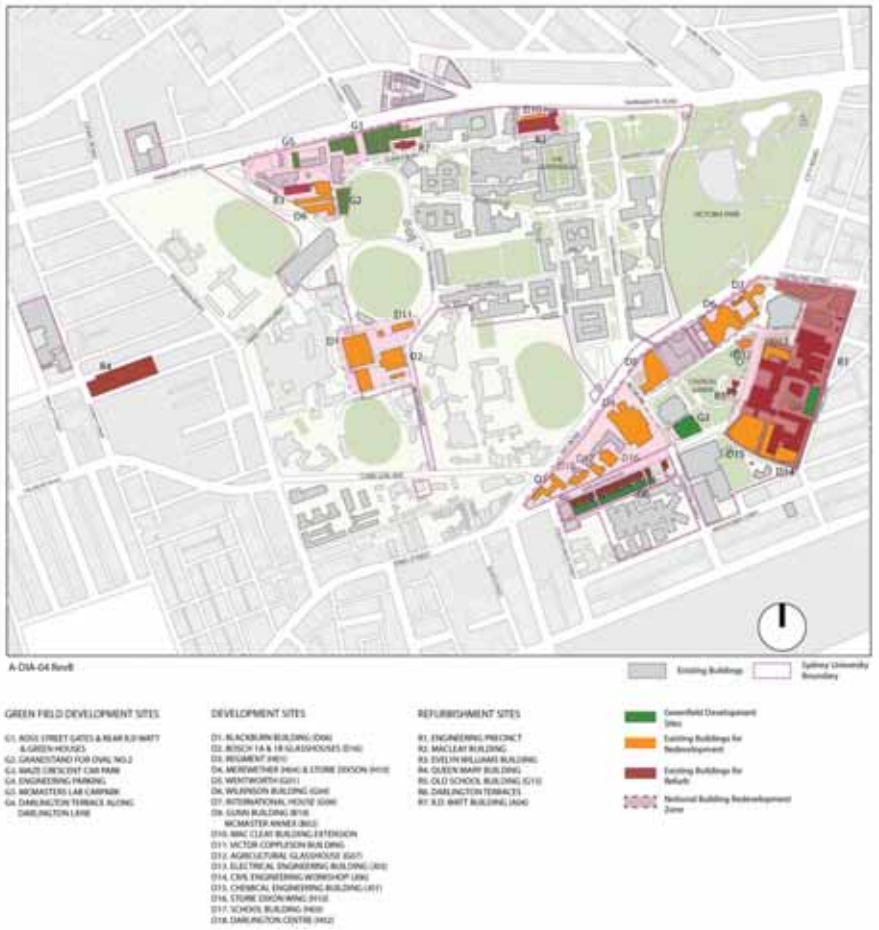
TABLE 4 – PRECINCT DESCRIPTION

PRECINCT	DESCRIPTION
Precinct A – Merewether, Darlington Campus	▪ Bound by City Road to the north, Butlin Avenue to the east, and Darlington Lane to the south. ▪ Currently accommodates the University Regiment (Regiment building) and the components of the Faculty of Arts & Social Sciences and the Faculty of Business (Merewether building) ▪ The precincts propose the redevelopment of the Regiment and the Merewether group of buildings. ▪ To accommodate mixed use precinct which may incorporate, but not limited to, student accommodation, teaching and learning spaces, ancillary facilities and basement parking.
Precinct B – City Road, Darlington Campus	▪ Bound by City Road to the north, Maze Crescent/Cadigal Green to the south, and Butlin Avenue to the West ▪ Currently accommodates existing Faculty of Architecture (Wilkinson), student accommodation (International House) and administrative functions/libraries in the Jane Foss Russell and Wentworth buildings. ▪ To accommodate a variety of future uses incorporating faculty, student accommodation and professional service units.
Precinct C –Engineering, Darlington Campus	▪ Bound by Cleveland Street to the north, Shepherd Street to the east, the Darlington Boardwalk to the south, and Maze Crescent/Cadigal Green to the west. ▪ The precinct currently accommodates the Faculty of Engineering. ▪ The precinct proposes the systematic refurbishment and redevelopment of the existing Engineering Precinct to deliver world class teaching learning and research facilities.
Precinct D – Health, Camperdown Campus	▪ Bounded by Western Avenue to the east, Cadigal Lane to the south, and the Royal Prince Alfred boundary to the east. ▪ The Blackburn and Bosch buildings are currently occupied by the Faculty of Medicine, Laboratory Animal Services, a library and lecture theatres. ▪ A new Health precinct to incorporate redevelopment of the Blackburn-Bosch group of buildings for co-location of the faculties of Nursing and Midwifery, Health Sciences, and components of Medicine, Pharmacy, and Dentistry. ▪ Also accommodate a mixed use development which may include public-facing health clinics, shared learning and teaching spaces, library facilities, some residential accommodation, and basement parking.

PRECINCT	DESCRIPTION
	▪ Provides future connections to the adjoining RPA west of the precinct, and the Charles Perkins Centre (under construction) north of the precinct.
Precinct E – Life Sciences, Camperdown Campus	▪ Bound by Parramatta Road to the north, Science Road and Regimental Drive to the south, and Orphans Creek Drive to the west. ▪ The existing precinct buildings are occupied by the Faculty of Veterinary Sciences. ▪ A new Life Sciences precinct to incorporate redevelopment of Gunn, McMaster and the temporary demountable buildings to facilitate co-location of a number of faculties and schools such as Veterinary Sciences, Agriculture & Environment, and Biological Sciences. ▪ To accommodate learning and teaching, research and ancillary basement parking.
Precinct F – Cultural Precinct, Camperdown Campus	▪ Bounded by Science Road, Parramatta Road and the Quadrangle. ▪ The Macleay building is currently occupied by the School of Biological Sciences and by lecture rooms. ▪ New Cultural Precinct to convert the heritage significant Science Road area as a principal visitor destination precinct accommodating cultural, museum and heritage components. ▪ To be reinforced by the internal refurbishment of the Macleay and Edgeworth-David buildings in developing a museum and cultural exhibition centre, and incorporating minor building additions.

Future development sites envisaged within the CIP incorporate a mix of greenfield sites (unencumbered by permanent building structures), infill and refurbishment sites, and sites proposed for redevelopment, as shown opposite:

FIGURE 14 – DEVELOPMENT AND REFURBISHMENT SITES



6.2 FLOORSPACE

The CIP projects a notional floorspace increase of approximately 263,100m^2 GFA on the Camperdown Darlington Campus based. The projections estimate up to 85% occupancy of the proposed maximum building envelopes and address potential building opportunities within each envelope. Whereas consent under this Stage 1 SSDA is sought for the maximum building envelopes (as shown as the "red line" on the plan set at ***Appendix D***) the notional GFAs are provided as an indication of potential development yield assuming application of the proposed architecture and urban design principles (refer to ***Table 5***).

These notional GFA figures are indicative only, are designed to flexibly fit within the CIP Precinct envelopes, and do not include any calculation of below ground parking and storage facilities. The proposed building envelope will allow for specific building designs to flexibly respond to specific site conditions and context, articulation and access, and realise a high quality building design to accommodate future uses.

The areas described above are summarised in ***Table 5***. This GFA projection is in addition to the existing transformational projects under construction.

TABLE 5 – TOTAL FLOOR SPACE 2020

CAMPUS	GFA
Existing Camperdown-Darlington 2013	555,600m^2
Transformational Projects (CPC, AIN, Abercrombie Business, QMB) Under Construction	119,100m^2
Sub Total	**674,700m^2**
Notional CIP Precincts 2014-2020	263,100m^2
Notional Total Future Campus to 2020	**937,800 m^2**

A breakdown of the notional precinct GFAs is addressed under each precinct section of the CIP, and is summarised in ***Table 6*** below.

TABLE 6 – INDICATIVE ADDITIONAL GFA PER PRECINCT

CIP PRECINCT	ADDITIONAL APPROXIMATE GFA
Precinct A: Merewether Precinct, Darlington Demolished GFA = 13,040m^2 New build GFA = 76,400m^2	**63,400 m^2** (additional GFA - envelope)
Precinct B: City Road Precinct, Darlington Demolished GFA = 30,500m^2 New build GFA = 93,300m^2	**62,800 m^2** (additional GFA - envelope)
Precinct C: Engineering Precinct, Darlington Demolished GFA = 6,550m^2 New build GFA = 49,040m^2	**42,500 m^2** (additional GFA - envelope)
Precinct D: Health Precinct, Camperdown Demolished GFA = 18,780m^2 New build GFA = 75,500m^2	**56,700 m^2** (additional GFA - envelope)
Precinct E: Life Sciences Precinct, Camperdown Demolished GFA = 9,700m^2 New build GFA = 46,955m^2	**37,250 m^2** (additional GFA - envelope)
Precinct F: Cultural Sciences Precinct, Camperdown Macleay-Edgeworth David Exhibition Centre Demolished GFA = 370m^2 Extension GFA = 820m^2	**450 m^2** (additional GFA - envelope)
Total CIP Notional Additional floorspace "Net Additional = GFA over and above existing buildings	**263,100**

6.3 INDICATIVE LAND USES AND PROPOSED BUILDING ENVELOPES

Proposed indicative land uses and building envelopes for each precinct are illustrated in the figures below.

6.3.1 PRECINCT A - MEREWETHER

Key Drivers

- Accommodation of a mix of land uses including learning and teaching spaces and faculty space. Potential student accommodation, administration offices and retail and support services.
- Protection and enhancement of the heritage significance of the Institute Building and Darlington House.
- Create an iconic gateway building from King Street to the University campus (Regiment site).
- Create a gateway at Butlin Avenue/City Road and Eastern Avenue intersection.

Proposed

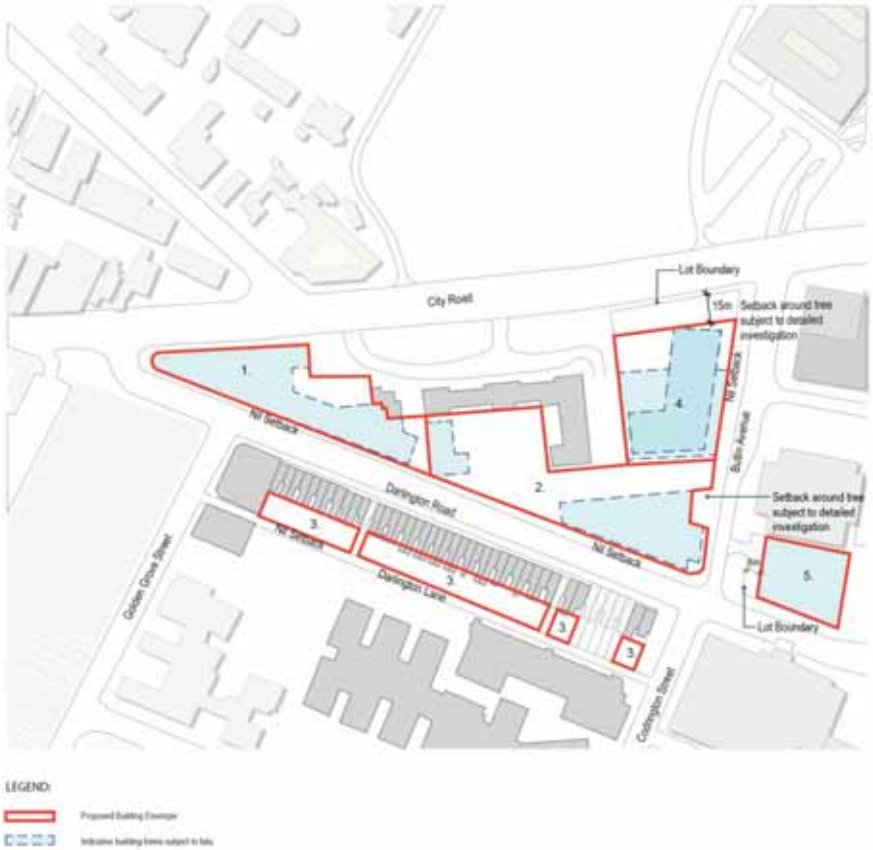
The proposal is for a mixed use precinct which will incorporate, but not be limited to student accommodation, teaching and learning spaces, facilities required to support and enhance the student experience, and basement parking.

Student accommodation is also proposed for the precinct and will be supported by additional facilities such as retail, food and beverage outlets and improved meeting facilities.

The proposal involves the redevelopment of the Regiment and Merewether buildings.

Demolished GFA = 13,040 m^2
New build GFA = 76,400 m^2
Additional GFA = 63,400m^2

FIGURE 15 – MEREWETHER PRECINCT ENVELOPE PLAN



6.3.2 PRECINCT B – CITY ROAD

Key Drivers

- Accommodation of a mix of land uses including learning and teaching spaces and faculty space. Potential student accommodation, and retail and support services.
- Create an active city edge which contributes to the streetscape, urban fabric and wider community
- Improve permeability to and through the site into and through the University.
- Redevelop buildings which currently do not adequately cater to University needs, or have reached their economic and physical life cycle.
- Realise a University gateway building at the corner of City Road and Cleveland Street as a bookend to the Precinct A Regiment site.
- Provide an environment at the corner of Butlin Avenue and City Road that can cater for high volumes of pedestrian movements.
- The future development of this precinct is influenced by the gateway location of International House fronting Cleveland Street, and by the City of Sydney's recent development approval for a student accommodation building at St Michael's College.

Proposed

The future of this precinct is for a mixed use precinct with learning and teaching facilities, student accommodation, retail and amenities to support the University.

The proposal involves the redevelopment of the Wentworth, Wilkinson and International House buildings.

Demolished GFA = 30,500 m^2
New build GFA = 93,300 m^2
Additional GFA = 62,800 m^2

FIGURE 16 – CITY ROAD PRECINCT ENVELOPE PLAN

6.3.3 PRECINCT C - ENGINEERING

Key Drivers

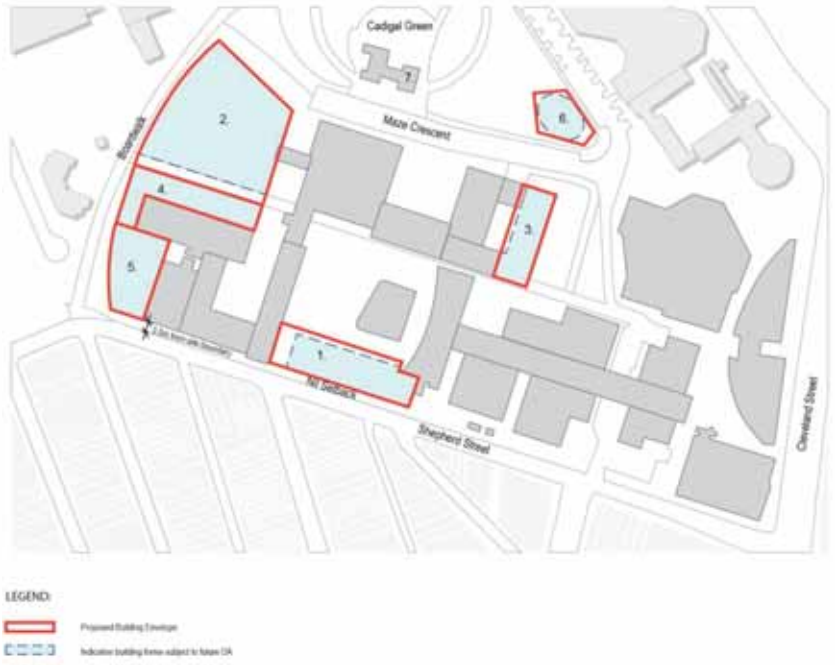
- Retain Engineering Faculty within its current location.
- Retain existing buildings of significance and create opportunities to build amongst existing footprints or above existing buildings where structurally suitable.
- Respect the precinct's interface with Shepherd Street and lower height residential dwellings to the east.

Proposed

The CIP will deliver the systematic refurbishment and redevelopment of the existing Engineering precinct is proposed to deliver world class teaching learning and research facilities over time.

Demolished GFA = 6,550m^2
New build GFA = 49,040m^2
Additional GFA = 42,500m^2

FIGURE 17 – ENGINEERING PRECINCT BUILDING ENVELOPE PLAN



6.3.4 PRECINCT D - HEALTH

Key Drivers

- Create a new multi faculty space for Health disciplines.
- Inefficient spatial provision and function of existing buildings and therefore supporting redevelopment.
- Interface and integrate creatively with the western boundary of RPA.
- Respect and respond to the heritage significance of nearby heritage buildings and spaces, and improve the interface with St Andrews College.
- Improve permeability and pedestrian access from Missenden Road into and through the campus.

Proposed

The Health precinct will be a mixed use development comprising health clinics, shared learning and teaching spaces, laboratories, library facilities, some student accommodation, and basement parking. The precinct will also address future connections to the adjoining Royal Prince Alfred Hospital west of the precinct, and the Charles Perkins Centre north of the precinct.

The new Health precinct incorporates the redevelopment of the Blackburn-Bosch group of buildings for the proposed co-location of the faculties of Nursing and Midwifery, Health Sciences, and components of Medicine, Pharmacy, and Dentistry.

Demolished GFA = 18,780 m^2
New build GFA = 75,500 m^2
Additional GFA = 56,700m^2

FIGURE 18 – HEALTH PRECINCT BUILDING ENVELOPE PLAN

6.3.5 PRECINCT E – LIFE SCIENCES

The existing precinct is predominantly the Faculty of Veterinary Sciences to the west of Ross Street, the RD Watt building and the demountable buildings to the east which are used as temporary decanting sites

Key Drivers

- Create a multi faculty learning and teaching precinct for the Life Sciences (Veterinary Sciences, Agriculture and Biological Sciences)
- Retain and enhance the heritage aspects of the precinct adjoining the significant cultural precinct.
- Improve the address and gateway to Ross Street and Parramatta Road.
- Replace degraded and inefficient building stock.
- Enhance the boundaries to St Johns College and The Charles Perkins Centre.
- Create iconic building addressing the campus Ross Street entrance from Parramatta Road.

Proposed

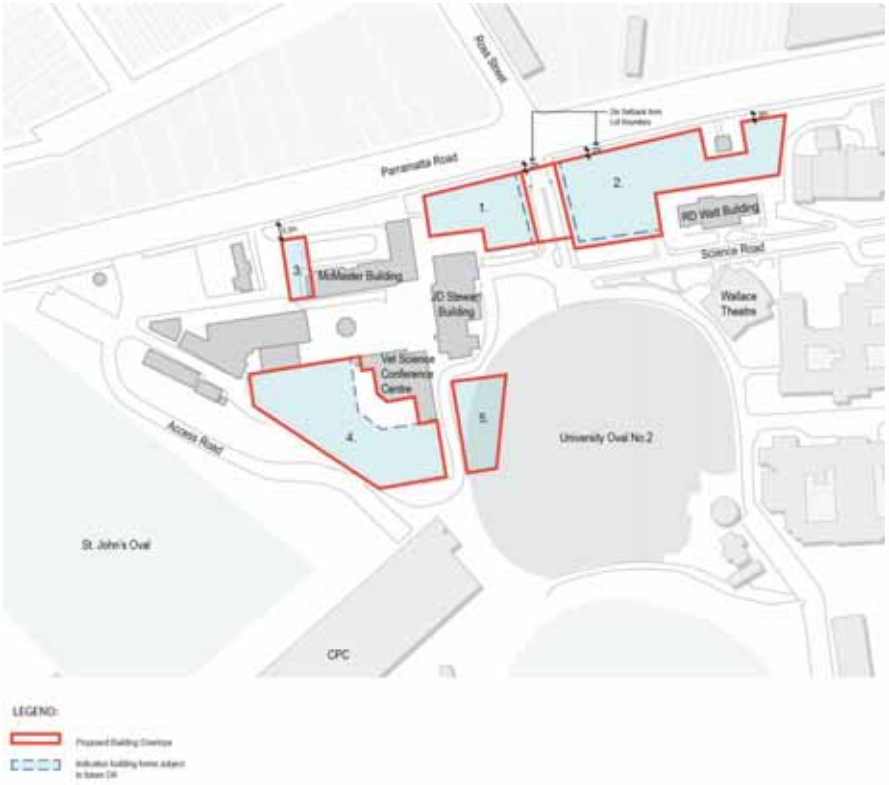
This new precinct will accommodate the co-location a number of faculties and schools including but not limited to, Veterinary Sciences, Agriculture & Environment, and Biological Sciences. Basement parking will be included in the development proposal. It is proposed that the new buildings create an iconic gateway into the University from Parramatta Road.

The new Life Sciences precinct involves the redevelopment of the Gunn, McMaster and part Evelyn-Williams buildings.

The University's sports facilities will be further enhanced by the construction of a Grandstand to Oval No.2 incorporating indoor sports and ancillary facilities and a raked outdoor seating facility.

Demolished GFA = 9,700m^2
New build GFA = 46,950m^2
Additional GFA = 37,250m^2

FIGURE 19 – LIFE SCIENCES PRECINCT ENVELOPE PLAN



6.3.6 PRECINCT F - CULTURAL

Key Drivers

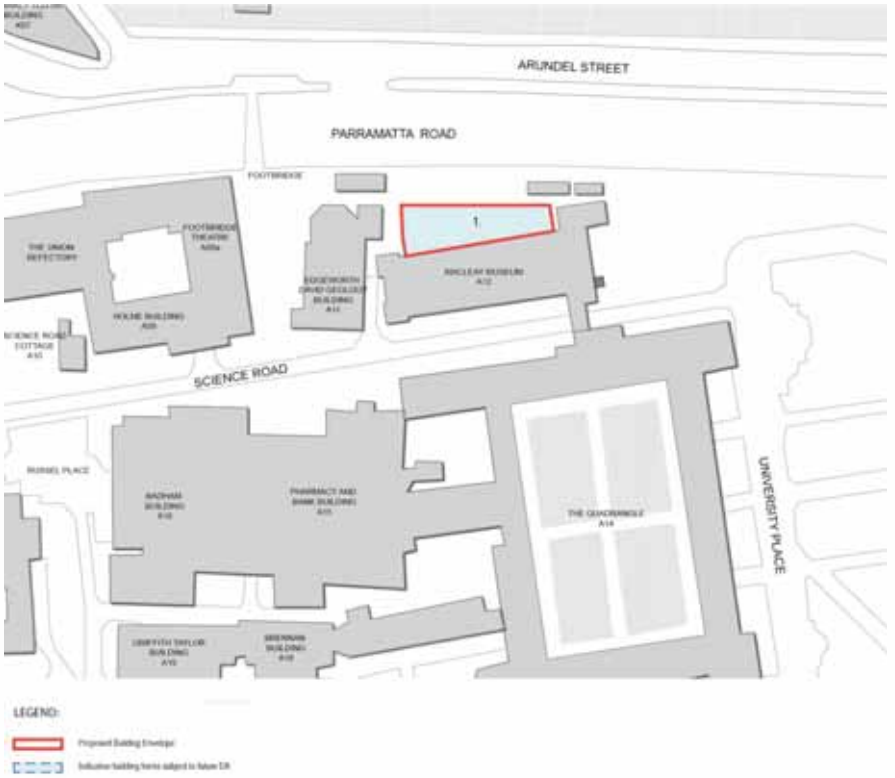
- Refurbish and restore the Macleay building back to its original function and use.
- Relocate poor functioning teaching spaces out of the two buildings and relocate into new purpose built facilities.
- Enhance and reinforce the Cultural precinct, Public interface and accessibility to the University's arts and museum collections.
- Provide international quality research and teaching spaces associated with the collections.
- Respect and acknowledge the significance of heritage buildings along Science Road and The Quadrangle.

Proposed

The Cultural precinct seeks to convert the heritage significant Science Road area as a principal visitor destination precinct accommodating cultural, museum and heritage components. The precinct will be reinforced by the internal refurbishment of the Macleay and Edgeworth-David buildings in developing a museum and cultural exhibition centre, and incorporating minor building additions. Both buildings are currently occupied by the School of Biological Sciences which will be relocated under the CIP.

Existing = 4,000m^2
New Build = 820m^2
Demolished GFA = 370m^2
Additional GFA = 450m^2

FIGURE 20 – CULTURAL PRECINCT ENVELOPE PLAN



6.4 URBAN DESIGN, ARCHITECTURAL, LANDSCAPE & HERITAGE PRINCIPLES

The following Urban Design, Architectural and Landscape Principles inform the layout and design of the CIP precincts and future building design resolution. A summary of the main principles are addressed below, with further details on all principles provided at ***Appendix F***.

Urban Design Principles

The CIP establishes the following urban design principles which have informed precinct building envelopes, their inter-connections with surrounding streets and public domain, and the environmental impacts they generate on surrounding context:

- Connectivity, outdoor space and campus legibility;
- Axes and vistas;
- Built Form;
- Precinct identity;
- External micro climate;
- Natural Daylight; and
- Social Impact.

Architectural Principles

The following Architectural Design principles will inform architects and other consultants in preparing projects and planning documents for projects within the CIP precincts. The University provides Architectural Design Standards that must be considered when designing any built form at the University. This document is updated periodically, and is available on the University website. Architectural Principles are grouped into the following categories.

- Design Principles;
- Building Fabric;
- Heritage Assets;
- Internal space planning;
- Building Services planning; and
- Signage and Wayfinding.

Landscape Principles

CIP precincts and development proposals will provide specific Landscape plans as the development fabric for each precinct evolves in greater detail. Landscaping will be guided by the University's established Landscape Design Elements. These carefully selected design elements are derived from the University's campus palette of materials, finishes and colours.

The overall design principles guiding the selection of University landscape elements are:

- Sustainability;
- Design cohesion, continuity of material and design;
- Campus or precinct identity; and
- Maintenance & cost.

Heritage Principles

The CIP Precinct building envelopes have been informed by the updated Campus Grounds Conservation Plan (GCP) as well as by individual Heritage Impact Assessment (HIA) reports for each CIP precinct. These reports identify heritage items within the respective precinct and inform the appropriate siting and massing of building envelopes which will in turn guide the form and scale of future buildings.

The GCP for the whole campus identifies the heritage significance of buildings, significant landscapes and landscape elements, and key view corridors and planning axes. This GCP review ensures that heritage significance is appropriately managed as an integral part of any future developments on the University campus.

The key heritage principles informing the precinct designs are to:

- Preserve and conserve those buildings and landscapes deemed to have exemplary heritage significance;
- Consider the redevelopment of a site where it will result in the overall significance of the University as an evolving educational establishment;
- Manage a growing campus in a way that respects its heritage of the University as a whole, whilst promoting new generation buildings designed to World class standards; and
- Protect significant open space and key vistas.

7 ENVIRONMENTAL ASSESSMENT – KEY ISSUES

7.1 STATUTORY AND STRATEGIC CONTEXT

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

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

7.1.1 SEPP (STATE AND REGIONAL DEVELOPMENT) 2011

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

The CIP project has been confirmed by the NSW State Government as SSD under the SEPP (State and Regional Development) 2011. The project work is defined as development for the purposes of an "educational establishment" and has a project value of more than $1.2 billion, well in excess of the Capital Investment Value minimum threshold of $30 million under this SEPP.

7.1.2 SEPP NO.55 – REMEDIATION OF LAND

SEPP No.55 relates to future use and development of contaminated land. The policy provides that contaminated land must be remediated prior to the development of land. The SSDA does not seek consent to carry out development, but seeks consent for the approval of maximum building envelopes. Notwithstanding, the SSDA includes a Preliminary Site Investigation report, prepared by Douglas Partners and attached as ***Appendix J.***

Due to the varied uses on the site and the history of the site the Preliminary Site Investigation report concludes that the principal contamination risks are considered to be associated with:

- Historical use of fibre cement products potentially containing asbestos;
- Historical use of lead paint in older buildings; and
- The nature of imported fill in regards to quality and quantity across the site.

The report states that investigation works will be required to determine the actual degree and/or extent of contamination as part of future Stage 2 DA's, and should address the following recommendations:

- *The storage and disposal practices for all dangerous goods within the precinct areas should be reviewed for compliance with current Dangerous Goods codes and standards. If found noncompliant, measures should be implemented to work towards compliance;*
- *All recommendations provided in the hazardous building materials registers should be implemented as current management measures and/or during demolition, as appropriate. The removal of any hazardous building materials from the site must be conducted in accordance with the appropriate WorkCover codes and standards;*
- *A detailed site inspection (DSI) should be carried out prior to any future redevelopment works to investigate the areas of environmental concern identified in this report. It is recommended that the DSI be focussed on each individual Precinct (or areas within each Precinct) as they are planned for redevelopment; and*
- *Any soil to be removed off site must be assessed against the NSW DECCW Waste Classification Guidelines (2008, updated 2009) prior to disposal in order to inform disposal options.*

Subject to implementation of the recommendations that will be required for the future Stage 2 DA detailed planning of sites or precincts, the Preliminary Site Investigation concludes that the identified contamination risks are not considered to pose a restriction on future land uses envisaged by the SSDA.

7.1.3 SEPP NO.33 – HAZARDOUS AND OFFENSIVE DEVELOPMENT

Development proposals for potentially hazardous and offensive industry or storage require assessment under SEPP No.33 – Hazardous and Offensive Development and include the preparation of a preliminary hazard analysis (PHA) for the potentially hazardous development.

This DA does not seek approval for development of this nature as at this stage, the location of specific land uses and activities are not specifically defined. Future DAs for individual buildings or precincts which may include the storage of goods or works of this nature will include assessment under the SEPP where required, following this Stage 1 SSDA.

7.1.4 SEPP (INFRASTRUCTURE) 2007

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

- Consultation requirements with public authorities apply to works to be carried out by or on behalf of a public authority that do not require development consent. At this stage, the SSD seeks development consent for the conceptual development of the site including indicative land uses and building envelopes, which have entailed detail consultation with a range of relevant authorities. Future works following this initial conceptual phase will be reviewed relative to the assessment pathway and consultation requirements under this SEPP;
- Provisions relating to '*educational establishments'* are provided in this SEPP in respect to works that require development consent or are permitted without development consent. Future minor works following this initial conceptual phase will be reviewed relative to the assessment pathway specific to *'educational establishments';*
- Traffic related considerations under the SEPP are more relevantly applicable to the proposed CIP project. As the site fronts onto Parramatta Road, a classified road the following matters are required to be addressed:
  - Provision of vehicular access off a non-classified road if practicable;
  - Impacts upon the safety, efficiency and ongoing operation of Parramatta Road as a result of proposed vehicular access; smoke and dust emissions; and nature, volume and frequency of vehicles; and
  - Types of proposed developments along classified roads or the appropriate design and location of development sensitive to traffic noise or emissions to mitigate impacts from the operations of the road;
- The site also adjoins City Road, which in accordance to the RMS Traffic Volume Data 2002 carries an annual average daily traffic volume of more than 40,000. The impacts from road related noise or vibration requires consideration in respect to future sensitive land uses proposed along these busy roads. The SEPP refers to guidelines issued by the Director General and provision of satisfactory internal noise levels for residential uses;

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

- The SSD will be required to be referred to the RMS for comment under the SEPP. Any future submissions from the RMS will be reviewed and addressed by the proponent. Further traffic impact considerations are provided by ARUP in ***Appendix G*****.**

7.1.5 CITY OF SYDNEY LOCAL ENVIRONMENTAL PLAN 2012

Sydney Local Environmental Plan 2012 (SLEP 2012) provides the local statutory planning provisions and controls to the site. The relevant SLEP 2012 provisions applicable to this Stage 1 SSDA are contained in ***Table 7*** below where it is concluded that the proposal is consistent with the relevant objectives and provisions.

7.1.6 SYDNEY DEVELOPMENT CONTROL PLAN 2012

Sydney Development Control Plan 2012 (DCP 2012) provides the design guidelines for future developments. However, the SEPP (State and Regional Development) 2011 excludes the application of development control plans to SSD projects under Clause 11. Notwithstanding, an overall commentary of the CIP relative to key DCP 2012 guidelines is included in this Section, in ***Table 8***. The assessment concludes that the proposal is consistent with the provisions, or will be able to be satisfied through further design development, during the detailed Stage 2 DA planning and design stages.

TABLE 7 – SYDNEY LOCAL ENVIRONMENTAL PLAN 2012

PROVISION	RESPONSE
Aims of SLEP 2012	▪ The CIP reflects the various aims of the LEP. The project will enhance tertiary educational facilities available in the City of Sydney; provide for additional student accommodation housing that encourages the growth and diversity of the City of Sydney; whilst enabling additional services and infrastructure for not only the University but also for the wider community. The CIP has been prepared with sustainability and transport as other keys considerations in achieving desirable outcomes as well as future building envelopes compatible with site surrounds.
Zoning and Land Use	▪ The land that will be subject to the CIP is zoned SP2 Educational Establishment. ▪ Development that is permissible with development consent are: "Horticulture; Roads; Water storage facilities; Water treatment facilities; The purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose". Any other development not listed above is prohibited. ▪ The proposed CIP land uses are defined as educational establishment or are ordinarily incidental, or ancillary, to the University.
Building Height	▪ No maximum building height applies to the site.
Floor Space Ratio	▪ No maximum floor space ratio (FSR) applies to the site.
Preservation of Trees	▪ The removal of individual trees is not sought as part of this Stage 1 SSDA but will be subject to detailed Stage 2 DAs that will follow. ▪ Notwithstanding, the CIP proposes to enhance green spaces which includes maintaining the existing proportion of tree canopy cover of the Camperdown and Darlington campuses. Further discussion is provided in Section 5.3.
Heritage Conservation *European Heritage*	▪ The Camperdown Campus is identified as a General Conservation Area on the City of Sydney Local Environment Plan (LEP) 2012 Heritage Map (HER_009). Numerous individual heritage items are also listed in the LEP. The Darlington Campus is not listed in whole or part as a conservation area in the City of Sydney LEP 2012, although several buildings are listed as individual heritage items. The site surrounds also include various individually listed heritage items and other Conservation Areas. ▪ A Heritage Impact Statement (HIS) has been prepared for each of the six proposed development precincts, in accordance with the guidelines prepared by the NSW Heritage Office. Section 7.9 and ***Appendix K*** provides further discussion. ▪ The HIA includes several recommendations to mitigate the heritage impacts that may arise from the CIP proposals. In particular, the numerous recommendations of the Heritage Impact Assessment will inform and guide the future Stage 2 DA detailed planning and design of the staged development in each precinct, as well as recommend the interpretation of the history of the University's development.

PROVISION	RESPONSE
'Aboriginal Heritage	▪ There are two recorded Aboriginal sites within the University of Sydney campus; one within the City Road Precinct (#45-6-2822) but this has since been subject to a previous Section 90 consent. The other recorded site is south of the Fisher Library Stack (#45-6-2745) which is located outside the CIP precincts. ▪ The 'Aboriginal Heritage Due Diligence Report' (Godden Mackay Logan, October 2013) concludes that historical land use within the CIP precincts have "*disturbed the A soil horizons to such an extent that any Aboriginal objects are unlikely to be in situ, therefore reducing their archaeological significance to very low*." Accordingly, the Due Diligence Report recommends a 'watching brief' for any redevelopment on campus. Refer to Section 7.10 and ***Appendix K*** for further detail.
Historical Archaeology	▪ There are no statutory heritage listings that identify any archaeological relics or archaeological sites within the campus. However, previous archaeological reports identify there are a number of areas within the University grounds which, because of previous European occupation, have been identified as having potential archaeological deposits of low to medium level research potential. ▪ Only two of these areas are impacted by the proposed CIP Precincts: Merewether Precinct, Site C - Darlington Terraces; and City Road Precinct, Site C – Wilkinson Building. However, specialist input by Clive Lucas, Stapleton & Partners Pty Ltd provides that there are no impediments to the future development of the site. In the event a sub-surface deposit is revealed, an historical archaeologist would need to be consulted. Refer to Section 7.9 and ***Appendix K*** for further discussion.
Infrastructure Development and Use of Existing Buildings of the Crown	▪ SLEP 2012 does not restrict or prohibit the use of existing buildings of the Crown by the Crown.
Design Excellence	▪ This provision is not relevant at this stage as the SSDA is seeking to establish building envelopes.
Provision Of Car Parking	▪ No maximum car parking rates are provided for an "educational establishment" facility. However the University intends to minimise the provision of additional car parking facilities in line with Council's objective by providing parking at a lower rate per GFA than currently existing on site. Refer to Section 7.7 for further discussion. ▪ Strategies to increase the current modal shift towards other forms of sustainable transport are key initiatives of the CIP.
Preparation Of A Development Control Plan	▪ The CIP includes establishing building envelopes and development guidelines to inform the future design of each precinct.

PROVISION	RESPONSE
Acid Sulphate Soils	▪ The Preliminary Site Investigation report by Douglas Partners in ***Appendix J*** notes that there may be potential for Acid Sulphate Soil below the water table, located to the north of Precinct D 'Health'. Detailed investigations relating to acid sulphate soils will apply through the detailed Stage 2 DAs, where development will involve excavation.

TABLE 8 – SYDNEY DEVELOPMENT CONTROL PLAN 2012

PROVISION	RESPONSE
Locality Statement	The site is situated within the identified *University of Sydney/Royal Prince Alfred Hospital* locality. Precinct planning for the University lands demonstrate that the renewal of the campus grounds will be consistent with Council's outcomes expressed in the character statement and supporting principles such as: ▪ Retaining and enhancing the significant role of the University in the city as a specialised centre for education, research and health. ▪ Improving bicycle and pedestrian connections with the site surrounds. ▪ Rationalisation of pedestrian networks for improved legibility and ease of access. ▪ Enhancement of the landscape campus setting by accommodating open spaces within precincts. ▪ Retention and addition of vistas to open spaces or landmark buildings. ▪ Provision of building forms that step down in scale to Darlington terraces and adjacent Shepherd Street residential area.
General Provisions	▪ Future development is to be designed to make a positive contribution to the public domain through detailed planning of the campus interface with the site surroundings. Proposed precinct planning includes rationalising vehicular access points; removal of on-grade parking and enhancing pedestrian linkages and bicycle networks with site surrounds. Emphasised vistas to proposed and existing green spaces; improving streetscapes around heritage curtilages and future activated street edges are principles that are consistent with the urban design guidelines in the DCP 2012 which aim to improve and define the public domain. This is further discussed in Section 7.4. ▪ The enhancement of green spaces and comprehensive landscape planning for the site will contribute towards the biodiversity management of the City of Sydney. This includes maintaining at a minimum campus planting to achieve a tree canopy cover of 23 % (Darlington campus) to 27% (Camperdown campus), which well exceeds the minimum 15% canopy coverage sought in DCP 2012. A specific landscape plan will be provided for each future precinct or development site DA and will include the detailed requirements provided in DCP 2012. ▪ 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. Further discussion on the University's Sustainability Framework is discussed in Section 7.6.
Specific Development Types	▪ Detailed design guidelines apply to student accommodation, such as bedroom size and communal facilities. These provisions will be considered at the detailed design stage for the future Stage 2 DAs. ▪ Guidelines for the design of mixed use developments are also contained in DCP 2012. These provisions include details for waste management, noise and odour. These provisions will be considered at the detailed design stage for the future detailed DAs.

7.2 POLICIES

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

- NSW Plan 2021;
- Draft Metropolitan Strategy for Sydney 2031;
- NSW Long Term Transport Master Plan 2012;
- NSW Bike Plan;
- Creating Places for People: An Urban Design Protocol for Australian Cities 2021, Australian Government;
- Planning Guidelines for Walking and Cycling; and
- Healthy Urban Development Checklist, NSW Health.

7.2.1 NSW 2021

The NSW 2021 Plan represents the State Government's 10 year strategic plan to "*rebuild the economy, return quality services, renovate infrastructure, restore accountability to government, and strengthen our local environment and communities*."

Long-term goals, targets and immediate actions of the NSW 2021 Plan aim to deliver the Government's commitment to NSW's economic growth and to improve opportunities and quality of life for the whole of the NSW population.

The key goals and targets relevant to the consideration of this SSD project are discussed below.

Goal 5 ***Place Downward Pressure on the Cost of Living***

One of the targets to achieving Goal 5 is to improve housing affordability and availability. The CIP proposes to accommodate up to an additional 4,000 affordable student accommodation beds on and near campus over a 7 year time frame. This provision will assist with alleviating rental demand for lower cost dwellings for the wider market and will provide students with purpose built accommodation at an affordable rental price and within close proximity to campus facilities.

By providing up to 4,000 affordable beds on campus, the university will consequently facilitate downward pressure on the rental market of surrounding neighbourhoods.

Goal 6 ***Strengthen the NSW Skills Base***

To ensure that NSW continues to produce an educated and skilled workforce, the NSW 2021 Plan aims to enable more people to gain higher level tertiary qualifications.

The University objective of pursuing World class learning, research, accommodation and supporting facilities on campus will contribute significantly to growth in the NSW economy, future workforce through its qualified graduates, and significant contribution to NSW construction and administrative workforce.

An economic analysis has been prepared by Urbis which identifies the key economic benefits of the CIP:

- Sustaining around **14,700 direct and indirect jobs during the construction period.**
- Around **400 additional jobs at the Camperdown-Darlington Campus linked to the CIP improvements,** growth in student numbers and relocation of faculties from other locations.

- Income generation in the order of $610m linked to construction and $95m linked to additional staff on campus.

- Around **$3bn of additional output** (production and consumption induced effects) resulting from CIP construction activity.

- Increased spending in the order of **$374m over the 2014-2020 period** linked to the ability to grow the international student market at Camperdown Darlington.

Importantly, the University has a strong commitment to advancing Indigenous education and research and ensuring that it is well supported. This is consistent with the State Government's identified priority actions in achieving the set targets outlined in the NSW 2021 Plan. As a contemporary Australian institution, it seeks to ensure that Indigenous issues and knowledge are core elements of its decision-making, teaching, research and community engagement activities.

The University's engagement in both local and rural areas further reflects the priority actions of the State Government in improving links between universities and regional NSW. The University fosters regional student placement and professional development and is committed to identifying local and rural communities with which the University can most fruitfully partner across a range of initiatives. The University will identify a number of communities with whom it has existing links, particularly those where there is already a physical presence, and build stronger University-wide cooperation with them across a range of activities.

Goal 20 ***Build Liveable Centres***

The NSW Government's commitment to planning for towns and cities that are accessible, viable and ideal places to live and work is identified under Goal 20.

This commitment is reflected within the CIP, which seeks to provide a world class student campus environment including the provision of affordable student housing on and near campus, set within a safe and pleasant student living environment, and supported by easy access to campus living, educational, sporting and open space facilities. This provision will allow the University's faculties to cater to domestic, regional and international students in providing its students with a holistic campus living experience.

The campus life experience will also encompass those facets that make the University's population and visitors' experience special, including retail offerings, art and cultural displays, improved pedestrian and cycleways, public domain navigation and safety, and links to surrounding communities' retail precincts and the City of Sydney.

7.2.2 DRAFT METROPOLITAN STRATEGY

The NSW Government's *draft Metropolitan Strategy for Sydney to 2031* sets out the State Government's plan for Sydney's future over the next two decades. The University will play a key role in supporting the delivery of the objectives and actions outlined in the Government's Strategy particularly as the CIP will deliver a budgeted development and infrastructure program, student accommodation for 4,000 affordable student beds, and car parking and transport modal-share strategy, over the seven year implementation period.

In particular there are a number of University achievements and specific strategies that support the draft Strategy objectives these include:

- Facilitating Sydney's centre of excellence in education and research (identified under the Broadway-Darlington sub-precinct);

- Responding directly to the draft Strategy's principal outcomes of 'Balanced growth', 'A liveable city', 'Productivity and prosperity', 'Healthy and resilient environment', 'and 'Accessibility and Connectivity';

- The University is a key employment contributor to the NSW economy producing approximately 18,000 graduates each year, a great proportion of which directly contribute to the Sydney and NSW economies; and providing employment destination campuses with significant levels of employment in education/research, administration, and numerous construction facilities and maintenance programs;

- The University's CIP will directly invest $1,396,400,000 into the local economy and which in turn will produce flow-on economic benefits to surrounding communities, Global Sydney, and to the NSW economy as a whole;

- A key Metropolitan Strategy objective of urban consolidation will be achieved through provision of student accommodation housing on campus, which provides higher residential densities close to transport and services, whilst freeing up private rental stock to the wider housing market; and

- The CIP will leverage off key 'magnet infrastructure' such as the Central to Eveleigh Corridor, Westconnex, nearby bus and train routes and will promote the use of active and public transport.

7.2.3 NSW LONG TERM TRANSPORT MASTER PLAN 2012

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

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

- Create streets and movement networks for people and their various forms of transport;

- Embed the provision of convenient public transport within the structure of the campus;

- Ensure the campus includes a clear and interconnected set of movement networks that accentuate gateways and fit with broader transport connections; and

- Accommodate an additional 4000 student accommodation beds on and near campus supported by easy access to campus living, educational, sporting and open space facilities.

7.2.4 NSW BIKE PLAN

The NSW Bike Plan facilitates the delivery of new cycling infrastructure over a 10 year period funded through the Metropolitan Transport Plan commitment of $158 million. The CIP will contribute towards creating connected cycleway networks and planning for cycling friendly networks by:

- Enhancing the campus' cycleway links to the City of Sydney's comprehensive bicycle network which will include the future Broadway Cycle Link that will provide further connectivity to surrounding areas;

- Adopting a Cycling Strategy that entails various improvements to the existing network to encourage a mode shift to cycling, such as shared paths and zones within campus;

- Provision of additional secure bicycle parking facilities as campus precincts are developed. These facilities will be provided in key locations and installed at-grade adjacent to the shared path and access roadways;

- End of trip facilities in the form of showers and lockers will also be incorporated into new precinct developments; and

- Incorporating, and linking to, the recently DP&I approved University Bicycle and Pedestrian Access Strategy for the Abercrombie Redevelopment Precinct.

7.2.5 CREATING PLACES FOR PEOPLE: AN URBAN DESIGN PROTOCOL FOR AUSTRALIAN CITIES 2012, AUSTRALIAN GOVERNMENT

The *Urban Design Protocol for Australian Cities* relates to urban design from a national to site level. It discusses best practice urban design from various points of view including productivity, sustainability, liveability and governance. Key points from the protocol relevant to this Stage 1 SSDA include:

- Productivity and sustainability – the University must look at being well connected with a range of public transport options, well connected to the surrounding area and connected to jobs, facilities and services;
- Liveable Communities - the University must be comfortable, vibrant, safe and walkable by increasing lighting, prioritising walking and cycling, places to meet people and accessible to all people; and
- Governance: These aspects can only occur if key stakeholders are included to plan, design and maintain these facilities.

The University's strategies for the broader Camperdown – Darlington Campus reflect best practice urban design and is consistent with the Government's urban design protocol.

7.2.6 PLANNING GUIDELINES FOR WALKING AND CYCLING

NSW Government document *Planning Guidelines for Walking and Cycling* (PGWC) was prepared to provide guidelines for the consideration of walking and cycling in strategic planning and development assessment. Preparation of the CIP has been undertaken with a Cycling and Pedestrian Strategy that reflects the guidelines and desired outcomes of the PGWC as follows:

- The Pedestrian Strategy considers further enhancement of pedestrian facilities including internal connectivity, access to public transport nodes and access to surrounding areas;
- The CIP will provide an opportunity to increase pedestrian priority within the University campuses. Shared zones are proposed on many of the internal roadways where pedestrians and cyclists will have equal priority with authorised vehicles, excluding general vehicles. In other areas pedestrian footpaths and shared cycling facilities will complete the connected movement network; and
- The CIP will also contribute towards creating connected cycleway networks and planning for cycling friendly networks as discussed under Section 8.1.4. Such measures involve enhancing campus' cycleway links to the City of Sydney's bicycle network; and providing various improvements to the existing network to encourage a mode shift to cycling.

7.2.7 HEALTHY URBAN DEVELOPMENT CHECKLIST, NSW HEALTH

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

The CIP will deliver a series of benefits to both the University and the broader community. More relevantly to the HUDC, the following benefits:

- Provision of new and affordable student accommodation that will be designed with appropriate dwelling layouts and amenities;
- Well-connected leisure, sporting and recreational pursuits on campus or with the wider network to benefit students, staff and the wider community;
- Attractive external spaces for people to meet, gather and socialise;
- Mixed use developments that will increase diversity of land uses available to service the campus population;
- Improved permeability to and through the campus will support and promote the use of active and healthy transport options by students, linking into the surrounding City of Sydney bicycle and pedestrian networks and reduce reliance on private vehicle use. In addition, improved access will be provided to University facilities for the local community; and
- Retention of students on campus on a more permanent basis will increase vibrancy around the campus 24 hours a day, improving overall safety and surveillance within the local community.

7.3 OTHER STATUTORY APPROVALS

The University's Camperdown and Darlington Campuses are currently neither listed in whole, or in part, on the State Heritage Register, nor are any individual items listed on the State Heritage Register. In this regard, no separate NSW Government approval is required.

The Aboriginal Heritage due diligence report submitted with the EIS identifies that the extent of historic development on the Camperdown and Darlington Campuses is likely to have removed any in situ subsurface archaeological deposits. However, if any Aboriginal objects are located during the course of archaeological monitoring and/or test excavations these objects should be documented and recorded by an archaeologist and report to the OEH under Section 90 of the NPW Act will be furnished.

7.4 BUILT FORM AND URBAN DESIGN

Site analysis and urban design of the Camperdown- Darlington Campus has been undertaken by the Urban Design Team within the University's Campus Infrastructure Service's Unit, consisting of experienced urban designers, planners and architects. Detailed site analysis for each development precinct has provided the basis for proposed site layout; location of axis, and vistas and connectivity; open space; location of parking; and gateway opportunities that have informed the proposed building envelope that is sought for approval.

The following illustrates how development will integrate into surrounding context and detail how built form will be designed to create a series of interconnected open spaces and identify public interface zones.

An assessment of the proposed building envelopes relative to the site context and its surrounds for each precinct is further provided below; whilst illustrative 3D images of the proposed building envelope with indicative built forms are contained in ***Appendix E*** to assist in visualising these matters.

7.4.1 PRECINCT A – MEREWETHER

SITE ANALYSIS EXISTING AND PROPOSED

This island precinct has three street frontage, each with significantly different contexts.

Internally within the precinct the current uses render the site as segmented with a lack of interconnectivity been functions from one end of the precinct to the other.

The intention is for the precinct to be redeveloped with mixed uses including housing student accommodation, teaching and learning spaces, and facilities required to support and enhance the student experience.

1. Regiment
2. Darlington Road North
3. Darlington Road South
4. Merewether
5. Maze Carpark

Proposed Building Envelope

Site 1: Regiment Site

The Regiment site is a triangular shaped site and provides a landmark location. The opportunity for an active ground plane will elevate the presence of this gateway location to the University.

Site 2: Darlington Road North

The site provides a strong link between the Regiment site to the west, and the existing and proposed mixed uses for the Merewether site.

The back drop of the Institute building and the interface with the heritage wall to Darlington Road are of importance to the proposed use and development of this part of the Precinct.

The anticipated usage for the site is for flat floor teaching and conferencing spaces, affordable student accommodation and supporting functions such as gallery spaces which will complement uses in Darlington Road South, and will activate the streetscape and street frontages.

Site 3: Darlington Road South (Darlington Terraces)

The Darlington Terraces are of heritage significance and therefore their retention and adaptive reuse is of primary importance.

While not all of the terraces are owned by the University it recognised that the ongoing use of the terraces must support the predominantly residential nature of the street. The intended uses for the terraces is predominantly affordable student accommodation.

To add day time activity to the streetscape, and richness in the grain of the precinct, connecting to the activity of King Street Newtown, it is envisaged that a number of the terraces may be used as a cafe and / or art galleries / artists workshops.

Site 4: Merewether Site

The Merewether building was constructed in 1966.

There are a number of schools housed within the building but the majority of teaching spaces are for the Faculty of Arts and Social Sciences, and the Business Faculty.

With the completion of the new Abercrombie Business school in 2015, the building will become partially vacated. It is anticipated that the whole building be vacated and demolished in 2015, with the redevelopment of the site for the following mixed use purposes.

- Faculty of Arts and Social Sciences
- Sydney College of the Arts
- General teaching space
- Retail
- Student administration
- The Chancellery
- Professional service units
- Teaching and learning spaces
- Student accommodation
- Car parking

Site 5: Maze car park

The vacant site is currently used as surface car park , accessible from Butlin Avenue. This important part of the precinct will be developed as a mixed use building. With the neighbouring Noel Martin Aquatic Centre and future affordable student accommodation, it is envisaged that the lower levels of this site would be passive sporting and social activity space.

The upper levels will be a mixture of teaching and learning spaces together with the possibility of student accommodation.

VEHICULAR ACCESS & PEDESTRIAN LINKAGES EXISTING

- It is difficult to get from City road through to Darlington Street as the route is unclear, there is a substantial change in level and it is through on grade carpark
- There is significant on street carparking
- There are multiple entries and loading locations.

Vehicle Access
Loading Dock
Above Ground Parking
Below Ground Parking
Pedestrian Linkage
Building Entry
Bus Stop
Gateway
Bicycle Parking

OPEN SPACE & CONTEXTUAL RELATIONSHIPS EXISTING

- Currently the main open space to the north of the Institue Building, the majority of which is roadway and on grade carparking
- The site is bound to the north by heritage fencing
- The retaining wall to the north of Darlington Road creates a profound disjunction between the pedestrians at street level and the university campus.
- The buildings on the corners of the site, currently being Regiment and Merewether have little to no street presence.

x RL R.L
Open Space
Private Open Space
Retained Trees
Removed Trees
Views
Heritage Asset
1. Institute Buildings
2. Darlington House
3. James Springhorse trough and drinkin
Heritage Palisade Fence
Brick Retaining Wall
F/B Food/Beverage

VEHICULAR AND PEDESTRIAN ACCESS PROPOSED

Vehicular

- On-grade carparking removed apart from required accessible spaces
- Underground parking provided below the Merewether and maze car park sites with reduced of entry and exit points.
- Service access provided to the precinct off Darlington Road.

Pedestrian

- Pedestrian routed to be clearly defined
- Existing pathways widened and enhanced with weather protection where possible
- Improved connection to Abercrombie Building from Darlington Rd
- New pedestrian connections from Darlington Rd to City Rd and Darlington Lane to Butlin Ave.

- Vehicle Access
- Truck Delivery Access
- Above Ground Parking
- Below Ground Parking
- Shared zone. For Service Vehicles only
- Bicycle Parking
- Transfer Station
- Pedestrian Linkage
- Bus Stop
- Gateway
- Potential Mini Supermarket (options)
- Proposed Building Footprint

OPEN SPACE AND CONTEXTUAL RELATIONSHIPS PROPOSED

Open Space

- Improved streetscaping around the heritage curtilages of the Institute Building and Darlington Centre.
- Landscape and visual connections from Regiment to the Wentworth Building with the removal of on-grade car parking
- Rear of Institute Building to be returned to open space after the demolition of the Storey Dixon Building.

Contextual Relationships

- Activated Street edge along Darlington Road and Butlin Ave
- Improved gateway buildings giving a sense of arrival to the corner of City Rd and Darlington Rd and either side of Butlin Ave
- Improved streetscaping around the heritage items of Institute Building and Darlington Centre.

x RL R.L

Open Space

Retained Trees

Views

Heritage Assets

1 Institute Buildings

2 Darlington House

3 James Springhorse trough and drinking fountain

Heritage Palisade Fence

Partial retention of Brick Retaining Wall

Colonnade - Remove palisade fence and retaining wall

Active Edges

Widen Footpath

F/B Food/Beverage

Proposed Building Footprint

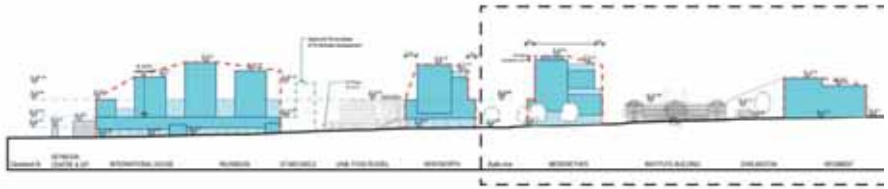
3D envelope drawings showing indicative built forms for this precinct assisting in the assessment of this matter are included within ***Appendix E.***

BUILT FORM ASSESSMENT

The precinct's City Road frontage provides an opportunity to enhance the presence of the University by higher built forms to the Merewether and Regiment sites:

- The Merewether site proposes a maximum building envelope of RL 89.50 which will accommodate plant articulation zones and some podium elements of RL 55.85 to Butlin Street. The maximum RL equates to approximately 55m maximum height and stepping towards the west to 46.8m; and
- The Regiment site proposes a maximum building envelope of RL 73.3 to RL 67.3 towards the corner of Darlington Road of a building height of approximately 30m and reducing to 24m.

FIGURE 21 – MEREWETHER (AND CITY ROAD) PRECINCT – CITY ROAD ELEVATION WITH INDICATIVE BUILT FORMS

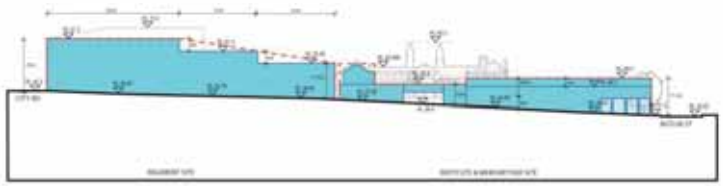


Refer to full size drawing in ***Appendix D****.*

The Darlington Road frontage is viewed in context with the lower rise, two storey terraces owned by the University of Sydney but with consideration to the 5 storey Darlington House building to the west on the corner of Golden Grove and Darlington Road. In consideration of the low rise context of this frontage, the proposed building envelopes are designed to accommodate building forms with the following heights:

- A predominant building form of between RL 45.5m to RL 48.2 along the Institute and Merewether sites, with a small additional height RL 55.45 at the western end. This building envelope will provide for building heights of some 9m to 17.2m at the corner of Butlin and Darlington Road; with a higher building of 18m at the western end of the Institute site; and
- The building envelope of Regiment site will accommodate a higher gateway building form to the west, towards Orange Grove Road and City Road. The eastern end of the Regiment site is proposed at RL 55.45 and extends to City Road to a height of up to RL 67.3m. This will provide for a building height of approximately 17.3m to 25m at City Road.

FIGURE 22 – MEREWETHER PRECINCT – DARLINGTON ROAD ELEVATION WITH INDICATIVE BUILT FORM



The Butlin Street elevation will comprise the eastern façade of the Merewether site which will facilitate a stepped building envelope from City Road towards the south to Darlington Road and the new student accommodation proposed to the rear of the Darlington Road terraces that will front Darlington Lane. The car park site west of Butlin Avenue will also accommodate a building form that will emphasise the site's corner position of Butlin and Darlington Road. These building envelopes will achieve:

- RL 89.50 from City Road to RL 48.2 and 44.2m to Darlington Road or a height of 55.28m to 17.2m and a Darlington Street frontage height of approximately 13m. This building envelope is also based upon a 30^0 solar access plane from the base of the Darlington Terraces;

- Car park site west of Butlin Avenue is proposed to accommodate a maximum RL 74.7 or approximately 48.7m, depending on the varying ground level; and
- A 10.5m height along Darlington Lane to enable a three storey addition behind the Darlington Terraces.

FIGURE 23 – MEREWETHER PRECINCT – BUTLIN STREET EASTERN ELEVATION WITH INDICATIVE BUILT FORM

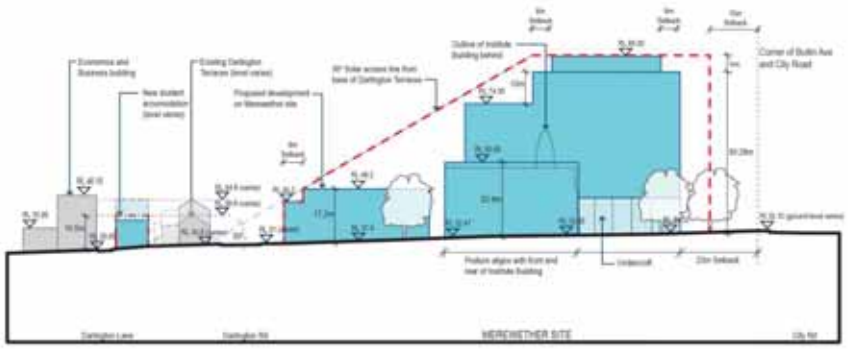
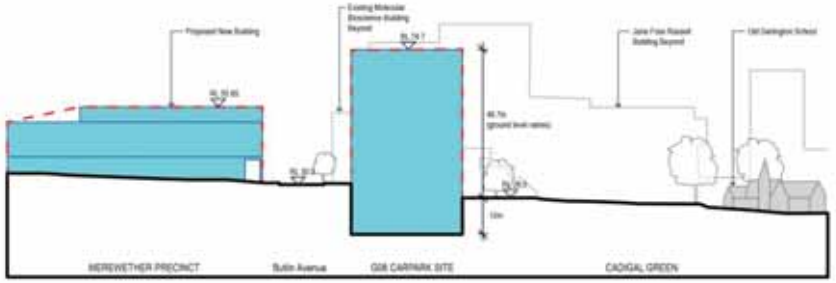


FIGURE 24 – MEREWETHER PRECINCT – BUTLIN STREET WESTERN ELEVATION WITH INDICATIVE BUILT FORM



The Merewether precinct, in conjunction with the City Road precinct provides an opportunity to establish greater building heights and envelopes that will facilitate innovative and iconic landmark buildings along City Road; whilst respecting the heritage significance of older buildings such as the Institute building on City Road and the Darlington Road Terraces.

The existing Regiment building occupies a triangular corner site on the University campus. The site is important in the context of the Newtown King Street retail area and City Road as it terminates a vista from King Street when looking towards the north-east, and introduces the different context of City Road. In this sense, the site is unique as a pivotal and transitional point for three different urban conditions: the campus and Darlington Street; Newtown; and, the City.

The resultant building envelope and massing proposed will achieve:

- A landmark building on the Merewether site to celebrate and identify the campus gateway into the University from Butlin Street, which will be required to demonstrate design excellence. This building and the future adjoining building to its south will transition to a scale that complements the Darlington Street Terraces and maintain appropriate levels of solar access to these terraces;
- A higher building form to the west, on the Regiment site will provide a key entry point to the campus when viewed from King Street. This is an opportunity to design a significant building on a pivotal site that includes continued ground level activation that is experienced along the King Street retail strip;
- Curtilage to the Institute building will be achieved by adopting a stepped building envelope from the Merewether site to the Institute building; whilst an appropriate separation between the Institute building to the Regiment Site is provided. The Institute building is also significantly set back from City Road and is prominently screened from the public domain by established landscaping;
- The 3 storey addition to the rear of the Darlington Terraces along Darlington Road will extend up to a height consistent with the Economics and Business building to the south and no higher than the roof pitch level of the Darlington Terraces. This will ensure that the new addition will not be readily perceived from Darlington Street to maintain the visual presentation of two storey terraces along Darlington Road; and
- A suitable transition in height along the northern side of Darlington Street with future buildings to the rear and south-east of the Institute building to be restricted in height to predominantly below the roof ridge of the heritage item. Westward of the Institute building, the building envelope is afforded a stepped rise in height to transition to a 25m height to reflect the height of Darlington House on the corner Golden Grove Street and Darlington Road.

7.4.2 PRECINCT B – CITY ROAD

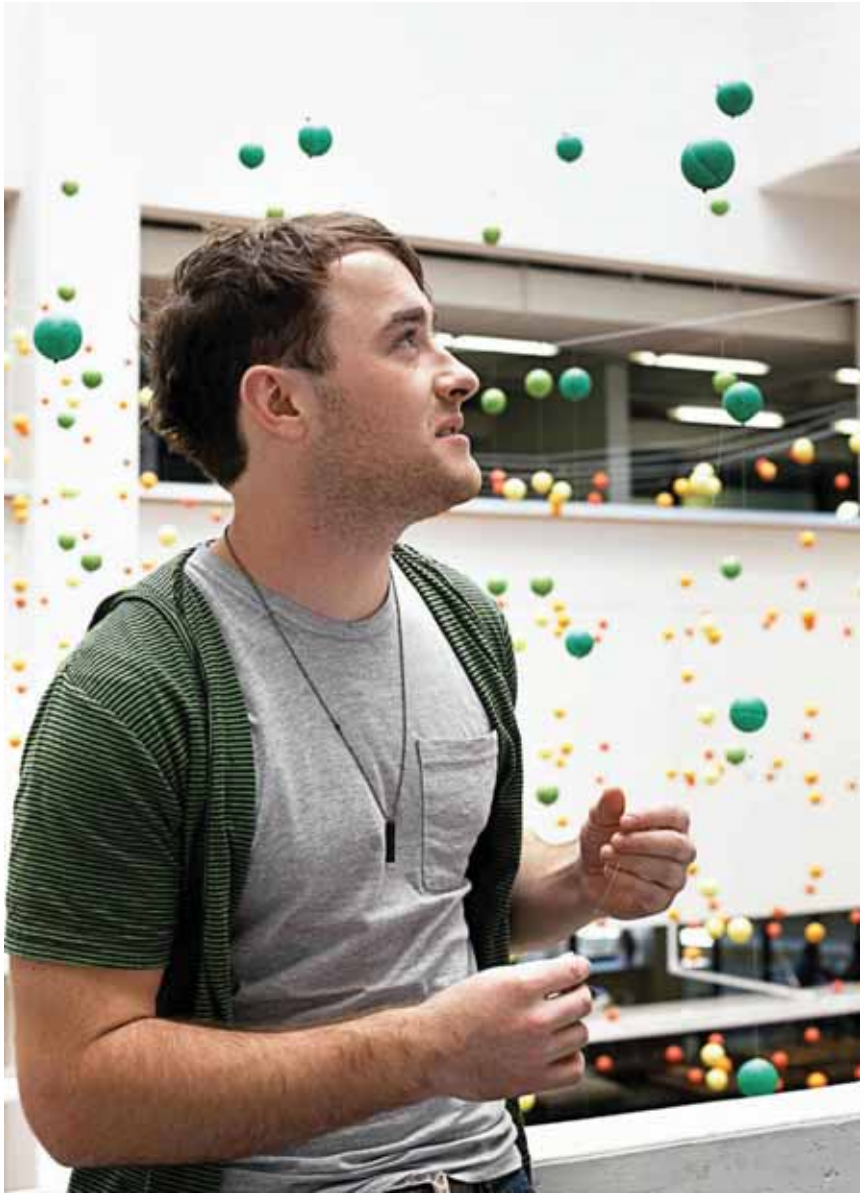
SITE ANALYSIS EXISTING AND PROPOSED

The City Road precinct is a linear strip of buildings facing City Road and Victoria Park. Whilst the location and aspect of the buildings is good in terms of street presence, the buildings turn their back on the streetscape and have little if no street activation to City Road, or connectivity to Cadigal Green.

The intention is to redevelop this precinct over the next eight years to improve the streetscape address and activation, increase general amenity to City Road, create a gateway to the University, and to replace existing buildings which are nearing the end of their life cycle with efficient and functional buildings.

1. Wentworth Building
2. JFR retain as existing
3. Non University owned land St. Michaels Under Construction, Completion 2014
4. Wilkinson Building
5. International House

Proposed Building Envelope



The individual sites are as follows:

Site 1: Wentworth Building

This building was completed in 1972 and was extended to the west in 1990. The building is currently leased to the University Student Union and contains the following facilities:

- Retail and banking
- Food and beverage outlets
- Medical clinics
- Student informal spaces
- Student administration

The proposed usage of the site is for faculty teaching and learning spaces, with ground floor student spaces and retail.

The specific faculty and function is currently under review.

Site 2: Jane Foss Russell Building

This building was completed in 2008.

There is no proposal for the redevelopment of this site, apart from improving connectivity to the neighbouring buildings when they become development sites.

Site 3: Wilkinson Building

This building was constructed between 1960 and 1976.

The building is generally five stories in height. The floor plans are irregular and inefficient, and the site is under developed.

The current usage of the building is the School of Architecture, Design and Planning.

The proposal is for full demolition of the building, to house more efficient and functional teaching and learning spaces.

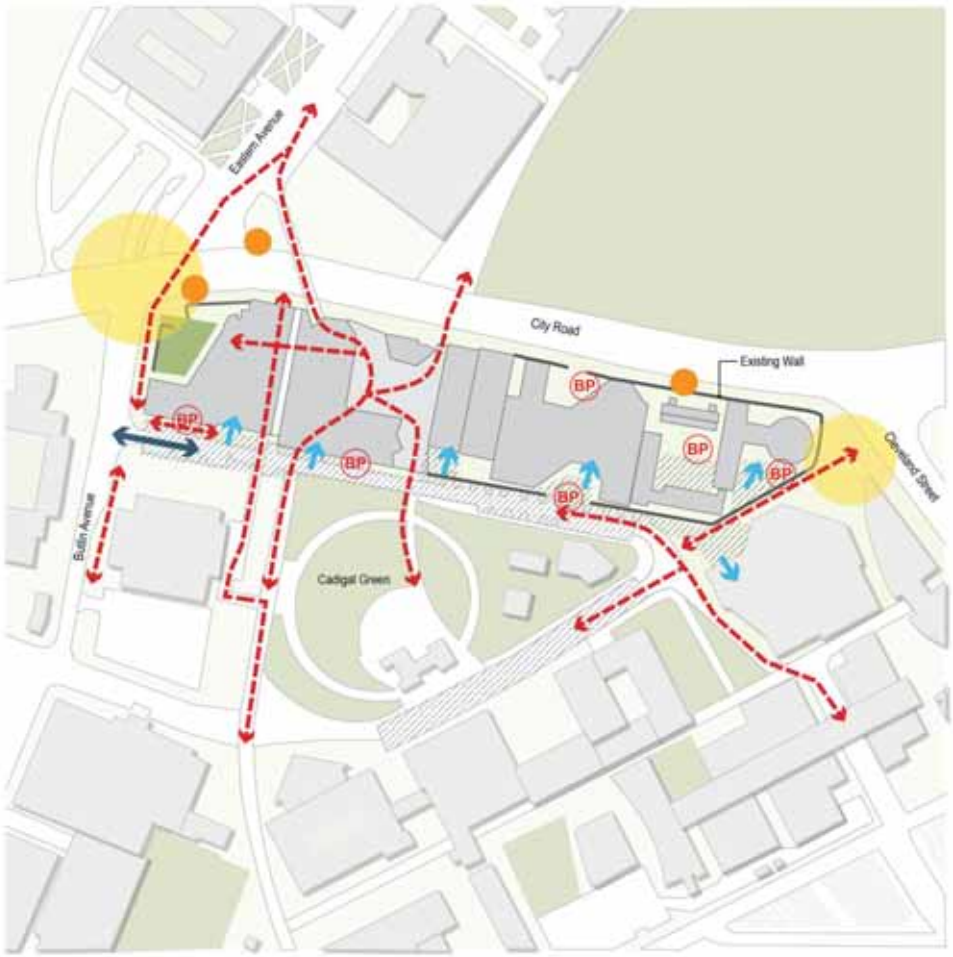
Site 4: International House

The International House was constructed in 1967 and is currently used for Student Accommodation.

The current building is not flexible enough to facilitate current needs in terms of affordable student accommodation, and the required support facilities.

The proposal is to demolish the existing building and reconstruct on the site.

It is proposed that International House and the Wilkinson Building be master planned as one development.



VEHICULAR & PEDESTRIAN ACCESS EXISTING

- Currently there is a lack of visual and pedestrian permeability across this precinct.
- Vehicular entries are via Butlin Avenue and Maze Crescent to the rear of the precinct creating a ground floor wall of service wall of loading docks and BOH.
- Pedestrians are forced around the precinct or up and over the JFR building which has accessibility and legibility challenges.
- There is a lack of interconnection between buildings.

Vehicle Access

Loading Dock

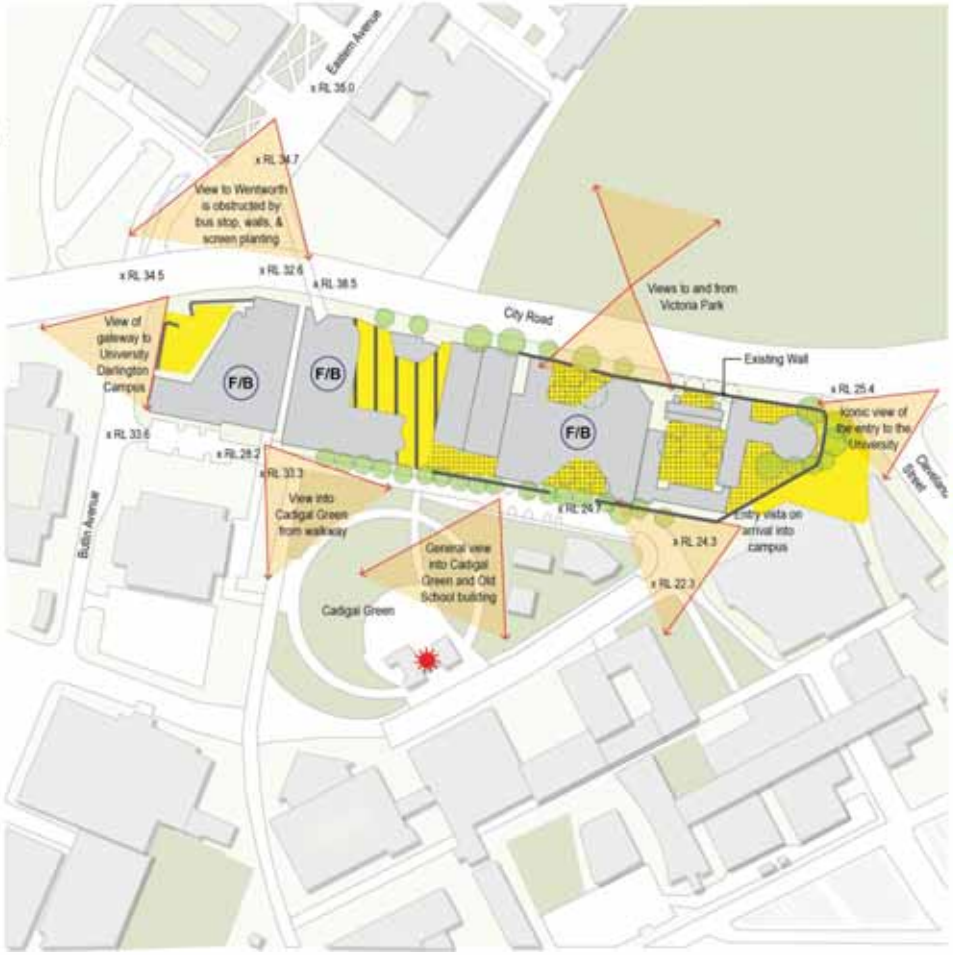
Above Ground on-grade Parking

Pedestrian Linkage

Bus Stop

Gateway

BP Bicycle Parking



OPEN SPACE & CONTEXTUAL RELATIONSHIPS EXISTING

- Currently there is a lack of visual and pedestrian permeability across this precinct
- Each site and open space is gated or walled. Level changes also pose further design challenges
- The views towards the Darlington Campus from City Road are of a wall of buildings, there is little human scale or street level activation
- The open space is within the buildings are mostly private (International House) or semi-private (Wilkinson Building)
- The 'gateways' at International House and Merewether are weak and lack a street presence which do not manifest the profile of USYD as a top-ranking University Campus.

x RL R.L

Open Space

Private Open Space

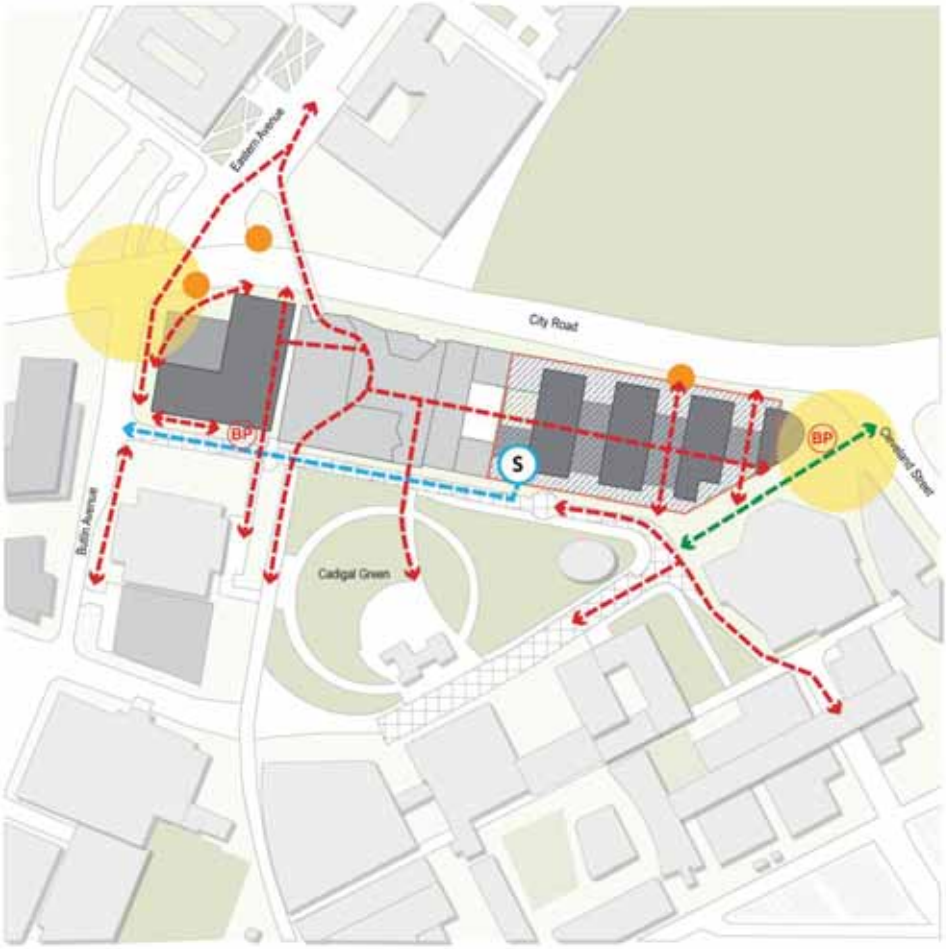
Podium Open Space

Retained Trees

Views

Heritage Asset - Old Darlington School

F/B Food/Beverage



VEHICULAR & PEDESTRIAN ACCESS PROPOSED

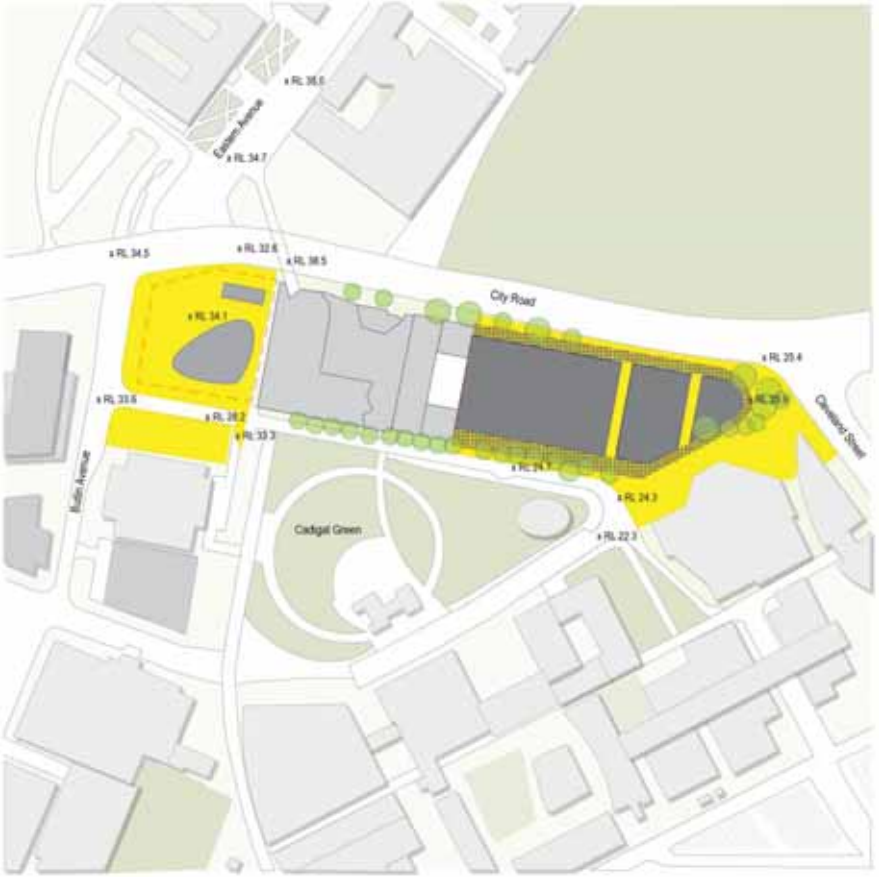
Vehicular Access

- On-street parking will be removed to the south of the precinct and Maze Crescent it will become a shared service and pedestrian Zone.
- Loading Docks will be consolidated.

Pedestrian Access

- There will be improved pedestrian accessibility through and around the sites.
- It is intended that internal connectivity between buildings become an important design intent for the precinct – it is a family of buildings
- With the removal of on-street parking and reduction of traffic movements along Maze Crescent it is envisioned that the southern face of the precinct will provide significantly improved pedestrian amenity.

- Vehicle Access
- Truck Delivery Access
- Above Ground Parking
- Below Ground Parking
- Shared zone
- Bicycle Parking
- Transfer Station
- Pedestrian Linkage
- Widened Vista and Connectivity from Cleveland Street to Cadigal Green
- Bus Stop
- Gateway
- Proposed Building Footprint



OPEN SPACE GROUND LEVEL PROPOSED

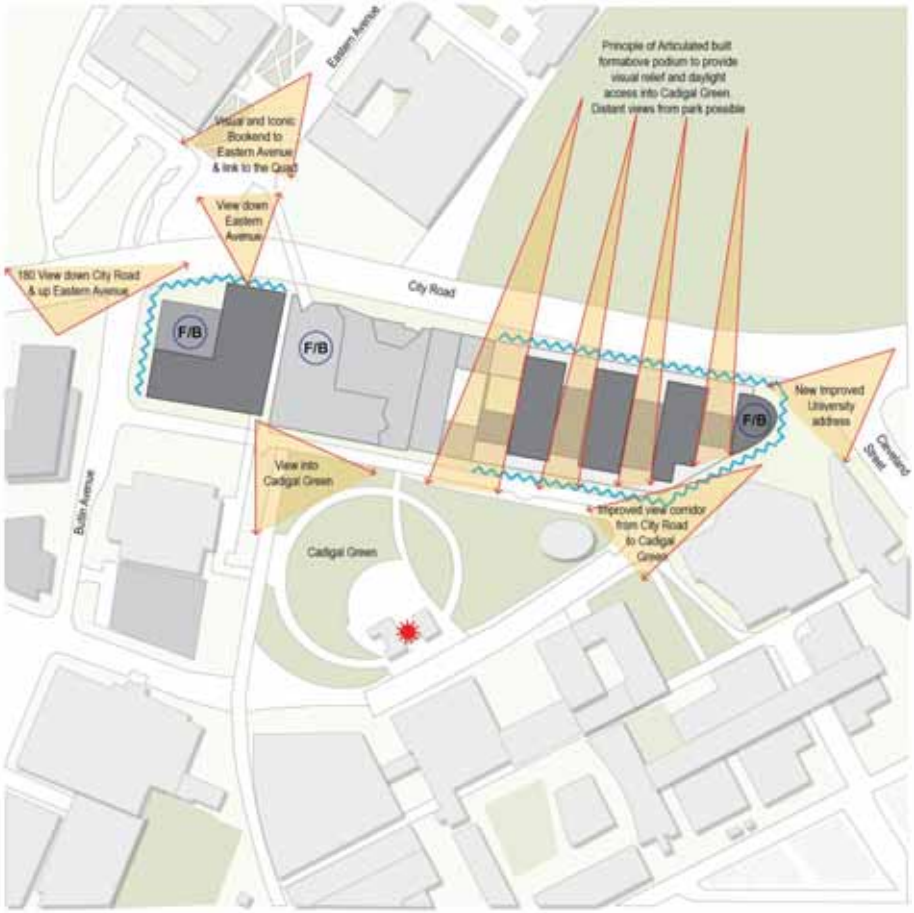
- Ground floor allows for increased permeability in and through the Wentworth site
- City Road footpaths to be widened as far as practicable providing weather protection and some through site links
- The forecourt to the Seymour Centre and gateway to Cadigal Green has been enlarged referencing the alignment of the original Darlington Road.

x RL R.L
Open Space
Retained Trees
Widen Footpath
Proposed Building Footprint

OPEN SPACE PODIUM LEVEL PROPOSED

At a unified Podium level activated open space will be provided for spatial relief for the buildings. This space will have views to and from Wentworth Park.

x RL R.L
Open Space
Retained Trees
Proposed Building Footprint



CONTEXTUAL RELATIONSHIPS PROPOSED

- Visual permeability through buildings above podium level, rather than a 'wall' of buildings.
- Street Activation along city road where possible and widening of the gateway entry from City Coad and Cleveland street into Cadigal Green
- Importance of the Merewether and Wentworth 'gateway' into the Darlington Precinct and connectivity from Eastern Avenue.

Views

Heritage Asset - Old Darlington School

Active Edges

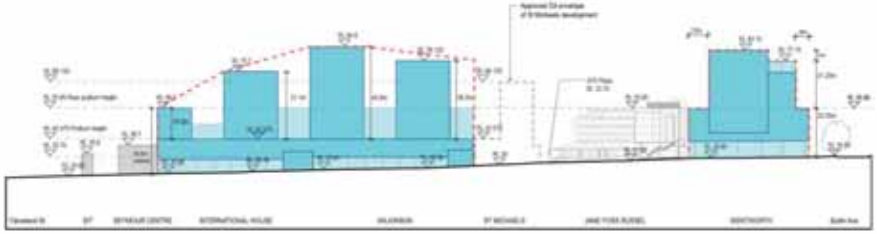
3D envelope drawings showing indicative built forms for this precinct assisting in the assessment of this matter are included within ***Appendix E.***

BUILT FORM ASSESSMENT

The future of this precinct will define building envelopes addressing the length of City Road and Victoria Park elevation to the north:

- The Wentworth site on the corner of Butlin Ave and City Road is proposed to achieve a building envelope RL 83.10 stepping to RL 55.85m to achieve heights of approximately 48.6m to 22.35m; and
- The International House and Wilkinson sites are proposed to accommodate tower forms above podium elements. An envelope to accommodate tower forms of RL 84.6 at the highest point to RL 56.5 at the eastern end and RL 78.125 to the western end; with podium levels at RL 42.075 to align with the adjoining St Michaels development currently under construction is reflected in the image below. This building envelope will facilitate an overall building height of approximately 56.8m to 30m along City Road and podium heights of approximately 12m.

FIGURE 25 – CITY ROAD PRECINCT – CITY ROAD ELEVATION

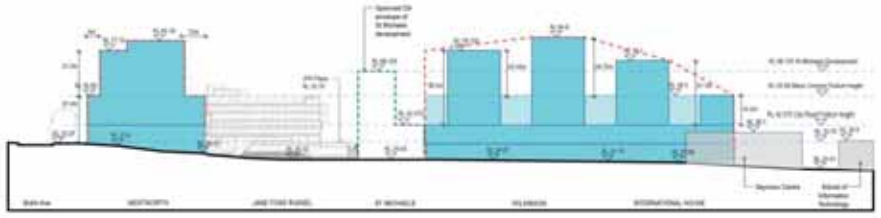


*Refer to full size drawing in **Appendix D**.*

Built form envelopes presenting to Maze Crescent will entail the southern elevation of the tower and building forms proposed to City Road but will include:

- Podium forms to the International House and Wilkinson sites to ensure that future buildings will also provide an appropriate scale at the Maze Crescent alignment and Cadigal Green. This podium will be restricted to RL 42.075 consistent with the podium height to City Road. Due to the lower ground level to the south, the podium a height will vary approximately from approximately 17m to 19m.

FIGURE 26 – CITY ROAD PRECINCT – MAZE CRESCENT ELEVATION



*Refer to full size drawing in **Appendix D**.*

The City Road Precinct is situated towards the Sydney CBD and provides an opportunity to reflect the taller building heights established in the western fringe of the CBD such the University of Technology and the Carlton Breweries site currently under construction. The resultant building envelope and massing proposed will achieve:

- A landmark and master planned tower and podium redevelopment of the International House and Wilkinson sites to achieve an appropriate presentation to City Road and Maze Crescent with podium heights to the street alignment to relate to the pedestrian scale and to capture through-site links to and from City Road and Cleveland Street;
- The Wentworth site, in conjunction with the Merewether site, will enable a significant campus gateway form into the University from City Road/Butlin Avenue. The scale afforded to the Wentworth site will complement the future scale proposed for the car park site in the Merewether precinct and a future redevelopment of the Molecular Sciences building (which is not part of this SSDA); and
- These future buildings command the highest level of architectural design excellence to celebrate the Butlin Avenue gateway.

7.4.3 PRECINCT C – ENGINEERING

SITE ANALYSIS AND PROPOSED

The Engineering precinct is a group of buildings which were constructed in rapid succession in the 1960's. The buildings are connected via a central spine with interconnected spaces

This precinct is significant in that it is currently the only complete faculty precinct in its own right.

The precinct holds the majority of the Faculty of Engineering schools, teaching spaces and research centres.

The long term vision of the precinct is to improve and rationalise internal and external spaces, replace buildings or part of buildings, and to construct new buildings where existing are inefficient, or have reached the end of their life cycle, improving the general amenity in the precinct while providing world class teaching and research facilities.

1. Shepherd Street Site
2. New Multidiscipline Teaching and Research Building
3. Electrical Engineering Building
4. Additional Workshop Space
5. Proposed Services Building
6. Proposed Innovation & Display Building
7. Repurpose Old Darlington School

Proposed Building Envelope

VEHICULAR & PEDESTRIAN ACCESS EXISTING

The Engineering Precinct has been originally designed around a central spine that runs in a north south direction. This strong Design element allows all buildings to be accessed from it. Currently it terminates at the southern end, near the Civil Engineering building as the space dissolves when it blends with a car parking pocket.

The central spine is somewhat disconnected from the Board walk due to a level change and the shared path.

There is a lack of through site link opportunities as they are visually not connected.

Currently vehicular access is permitted for deliveries, as well as access to a number of carparking pockets, mixing with pedestrian and bicycle movement.

Currently Maze Crescent is used as a shared zone that could be transformed to a pedestrian and bicycle dominated path.

On grade parking areas should be relocated and replaced with communal open spaces. These spaces will promote gathering and interaction between students and academics from different schools within the precinct.

- Vehicle Access
- Shared/Service Zone
- Loading Dock
- Above Ground Parking
- Below Ground Parking
- Bicycle Parking
- Pedestrian Linkage - Existing
- Gateway

OPEN SPACE & CONTEXTUAL RELATIONSHIPS EXISTING

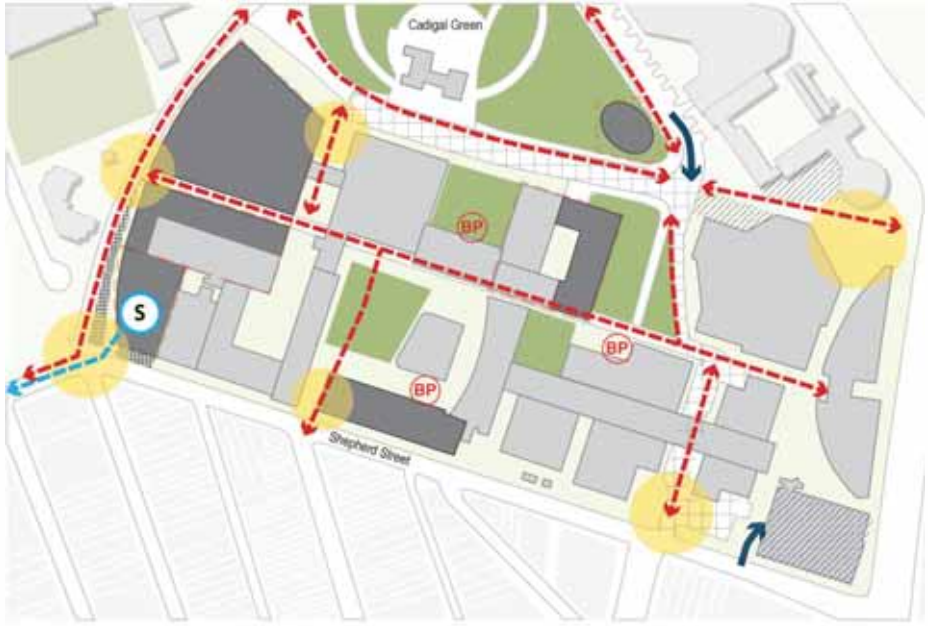
Currently open spaces are perceived as being related to the old style individual silos culture.

The natural land fall runs from South to North and from West to East. We will consider all opportunities to improve universal access to areas which are not fully accessible at present.

We have also identified a number of relevant Contextual Relationships that need to be strengthened:

- Connection between the Engineering Precinct and the Darlington Campus
- Connection between the Engineering Precinct and the Boardwalk
- Connection between the Old School Building and the Precinct
- Improve food and beverage offer and its connection with communal open spaces.

- x RL R.L
- Open Space
- Retained Trees
- Removed Trees
- Views
- Heritage Asset - Old Darlington School
- Food/Beverage



VEHICULAR & PEDESTRIAN ACCESS PROPOSED

Identified as a strong design and organising element, we propose to extend the Central Spine to the South, so it connects with the Board walk.

1. A large majority of students arrive at the precinct from Redfern Station, connecting with Cadigal Green via the Boardwalk.
2. A through site link is proposed from Shepherd Street towards Cadigal Green allowing for a stronger connection through a number of interconnecting open spaces.
3. Darlington Campus can also be accessed from the North-West corner via an opening between International House and the School of Information Technology. From this point pedestrians can connect with the Central Spine or continue to circulate along Maze Crescent, bypassing the Engineering Precinct.

Vehicular access to the precinct is proposed to be reduced to a single access from Shepherd Street into a General Loading Facility. This will be the delivery point for larger items needed in the workshops.

From here, smaller items can be distributed via electric carts throughout the precinct.

- Vehicle Access
- Truck Delivery Access
- Above Ground Parking
- Shared zone. For Service Vehicles only
- Bicycle Parking
- Distribution Docks
- Pedestrian Linkage
- Gateway
- Widen Pedestrian Entry
- Proposed Building Footprint

OPEN SPACE & CONTEXTUAL RELATIONSHIPS PROPOSED

We propose to link some of these spaces to create a unified feel, one of integration, not separation.

We propose to create a strong link from Shepherd Street to Cadigal Green, connecting a series of soft and hard landscaped spaces. Proposed buildings will have transparent volumes at Ground Level, making a stronger connection with the Old School Building, Cadigal Green and the rest of Darlington Campus.

We propose to improve a number of Contextual Relationships by:

- Visually and physically connecting the Central Spine with the Boardwalk
- Open up and strengthen the vistas to Cadigal Green from Shepherd Street through to the Engineering Green
- We propose the demolition of Chemical Engineering buildings, to be replaced with new teaching and learning spaces. These buildings should be of iconic nature, as they will become the new Engineering face to the Darlington Campus.

- x RL R.L
- Open Space
- Retained Trees
- Views
- Heritage Asset - Old Darlington School
- Active Edges
- Widen Pedestrian Entry
- Food/Beverage
- Proposed Building Footprint

3D envelope drawings showing indicative built forms for this precinct assisting in the assessment of this matter are included within ***Appendix E.***

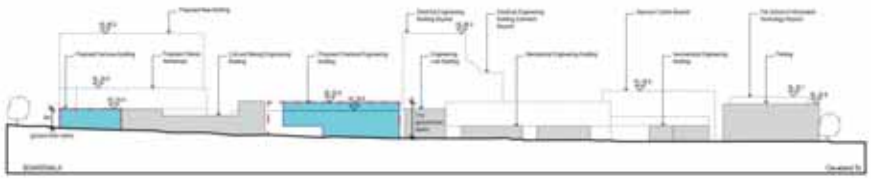
BUILT FORM ASSESSMENT

Future development to the Engineering precinct is limited to two new built forms: a future Services Building on the corner of Shepherd Street and the Boardwalk; and a new building on the car park that is currently accessed from Shepherd Street, known as the Shepherd Street site. The remaining sites within the precinct have an interface with the public and are situated to the west and off Maze Crescent.

Future building envelopes proposed to Shepherd Street involve:

- A maximum RL 30.4 for the future Building Services building on the corner of Shepherd Street and the Boardwalk, providing a height of some 9m (dependent on ground levels for the purposes of height measurement); and
- A maximum RL 33.6 with a street frontage RL 29.6 on the Shepherd Street site, affording a building height of 17m (dependent on ground levels for the purposes of height measurement).

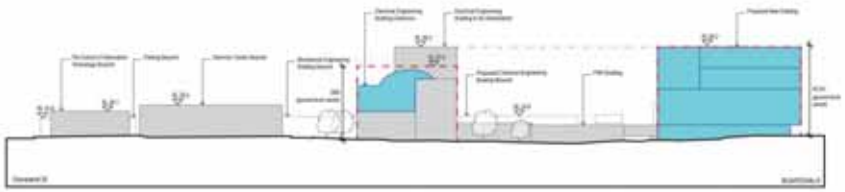
FIGURE 27 – PRECINCT ENGINEERING – SHEPHERD STREET ELEVATION AND INDICATIVE BUILT FORM



Refer to full size drawing in ***Appendix D****.*

The Maze Crescent elevation provides for a building extension to the Electrical Engineering building to an RL 57.0, which will result in a total 35m height; and the new building on the corner of the Maze Crescent and The Boardwalk at RL 66.2 or some 42.5m to 46.5m (dependent on ground levels for the purposes of height measurement).

FIGURE 28 – ENGINEERING PRECINCT – MAZE CRESCENT ELEVATION AND INDICATIVE BUILT FORM

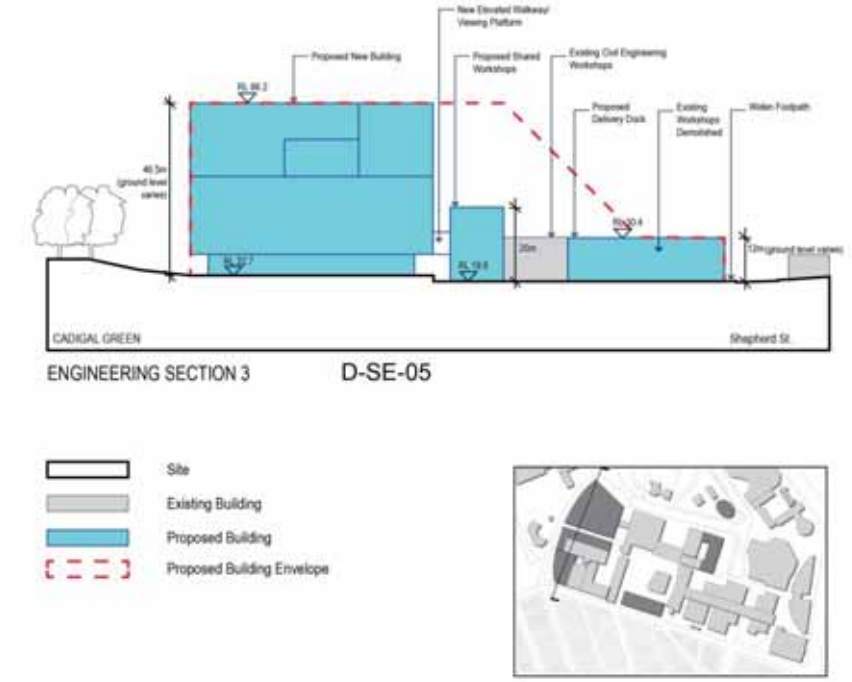


Refer to full size drawing in ***Appendix D****.*

Future development along the site's interface with Shepherd Street has been restricted to reflect the existing heights of the Engineering buildings. The future Building Services building on the corner of Shepherd Street and the Boardwalk will be consistent with the height of the Civil and Mining Engineering building to the west; whilst the building envelope to the Shepherd Street site will align with the height of the eastern end of the Civil and Mining Engineering.

The highest building proposed in the Engineering precinct is the new Multidiscipline Teaching and Research Building on the corner of Maze Crescent and The Boardwalk. This building will be sited away from the Shepherd Street residential precinct with no perceived amenity or visual impact, as illustrated below in Figure 29.

FIGURE 29 – ENGINEERING PRECINCT – SECTION AND INDICATIVE BUILT FORM



Other proposed building envelopes in the Engineering precinct will facilitate smaller scale building heights such as the proposed chemical engineering building; the new Innovation Building, and shared workshops that will reflect established building forms in the precinct.

7.4.4 PRECINCT D – HEALTH

SITE ANALYSIS AND PROPOSED

The precinct is located on the western boundary of the Camperdown Campus, with RPA to the west, St Andrews College to the south, Wesley College to the east, and the University Oval to the north.

The site consists of a cluster of buildings including the Blackburn Building, Bosch Lecture theatres, library and teaching spaces, together with the glass house.

The Queen Elizabeth II building sits on the edge of the Oval.

The site is currently within the flood zone of the University.

1. Blackburn Building
2. Bosch and Glasshouse
3. Bosch Lecture Theatres
4. Victor Coppleson/QE II Building

Proposed Building Envelope

VEHICULAR & PEDESTRIAN ACCESS EXISTING

Vehicular access is currently gained off Western Avenue, with a rear access from John Hopkins Parade. There are numerous at-grade parking spaces which have been provided around the existing precinct in an ad hoc way.

Service routes are unconnected as a result of changing uses within the Blackburn and Bosch buildings.

Pedestrian access across the site and between buildings is difficult due to the changes in level and the parking. The site does not meet current accessibility standards.

Bicycle parking has been positioned on an ad-hoc basis where space was available.

- Vehicle Access
- Loading Dock
- Above Ground Parking
- Pedestrian Access (Not well connected)
- Gateway
- Bicycle Parking
- Campus Boundary

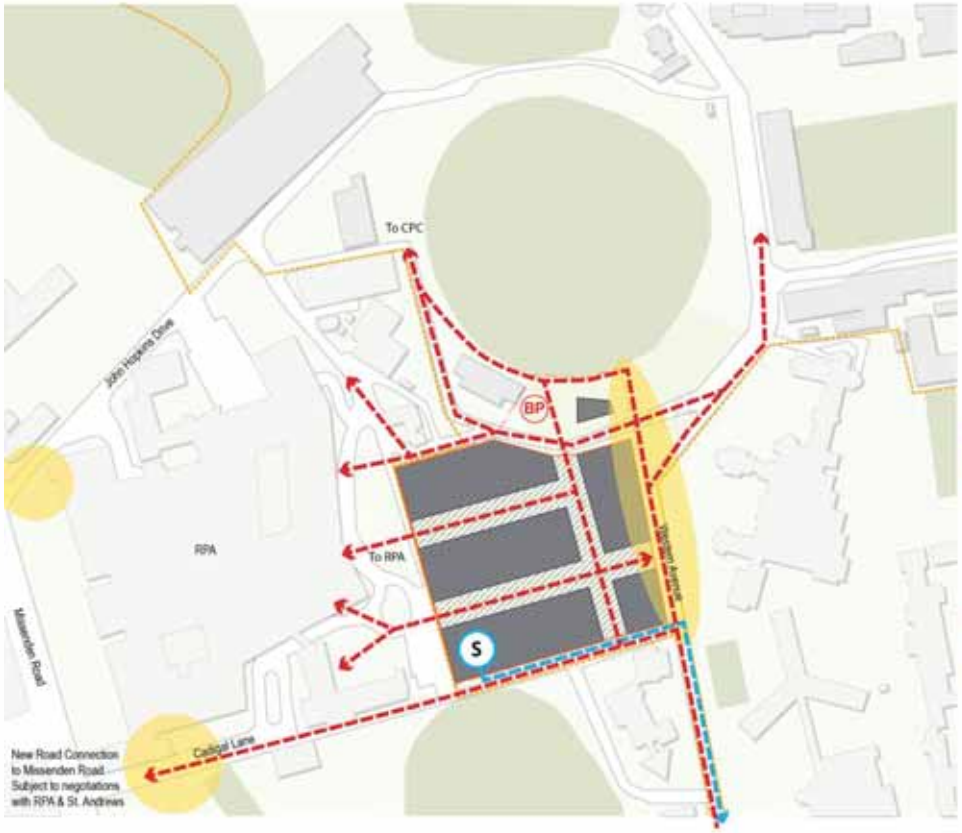
OPEN SPACE & CONTEXTUAL RELATIONSHIPS EXISTING

The existing site has developed organically over time.

The Blackburn Building is situated at a low point on the site and views towards the building have been obscured partially due to the construction of other buildings around it

The existing open space is generally fragmented with different uses, at-grade parking, service access and plant.

Traversing the site is difficult due to the change in level in many directions.



VEHICULAR & PEDESTRIAN ACCESS PROPOSED

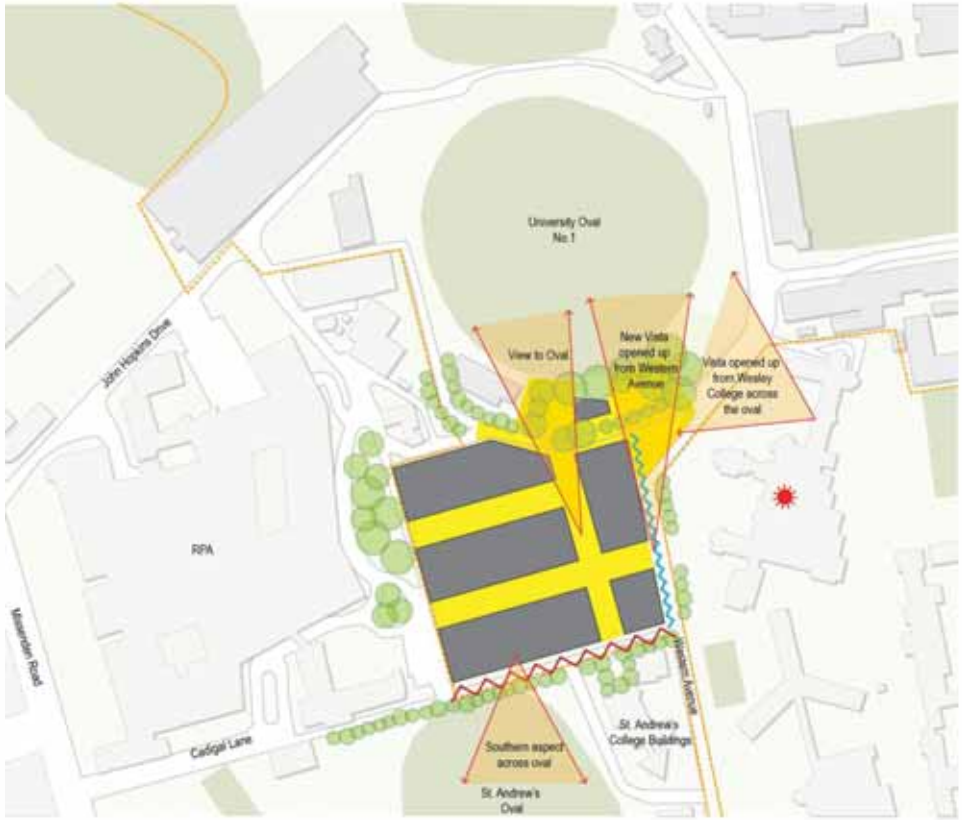
It is proposed that the ground floor level be raised to align with Western Avenue and St Andrews Oval, improving pedestrian permeability and accessibility into and through the precinct and seperate car and pedestrian movement.

The lower level, below the new ground floor level, will accommodate car parking, service vehicles, bicycle parking, storage and services.

Pedestrian links around the oval and to RPA will with be improved and enhanced.

Discussions have been held with St Andrews College and RPA regarding the possibility of creating a shared zone to connect Western Avenue to Missenden Road to improve connectivity between these sites.

- Truck Delivery Access
- Below Ground Parking - Bikes and Cars
- Shared zone. Pedestrian and Service Vehicles only
- Bicycle Parking
- Distribution Docks
- Pedestrian Linkage
- Gateway
- Proposed Building Footprint



OPEN SPACE & CONTEXTUAL RELATIONSHIPS PROPOSED

The site is bound to the north and south by Ovals and to the west and east by the RPA Hospital. It is proposed that open space within the precinct be a series of connected pedestrianised streets which traverse the site, improving permeability through and around the buildings.

The ground plane has been raised one level above the existing ground floor level, to improve building and open space connectivity and to create a uniform level with neighboring sites where possible.

The proposal is to orientate the new building forms to maximize natural daylight, and cross ventilation.

The building will take the opportunity to address and open up the vistas along Western Avenue with an appropriate scale of built form. It will also take advantage of the views across the Ovals and towards Wesley College.

Removal of the Queen Elizabeth II building opens up views from Wesley College across the Oval.

The interface with St Andrews College and the RPA Hospital will be improved and enhanced as part of this development

- x RL R.L
- Open Space
- Retained Trees
- Views
- Heritage Asset - Wesley College
- Active Edges
- Improved Interface and Connectivity with St. Andrews College
- Campus Boundary
- Proposed Building Footprint

3D envelope drawings showing indicative built forms for this precinct assisting in the assessment of this matter are included within ***Appendix E.***

BUILT FORM ASSESSMENT

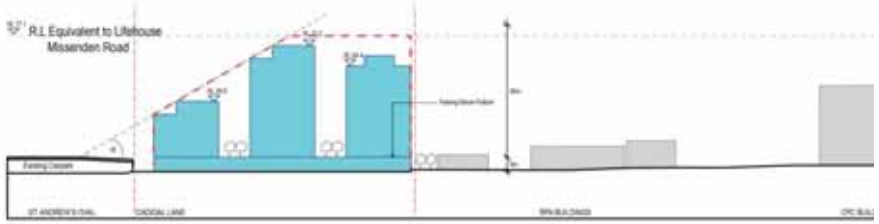
To facilitate the development of the Health precinct, the majority of buildings within this precinct will require demolition. The submitted HIA has provided an assessment of the proposed demolition of the Blackburn building and concludes that the demolition is appropriate having regards to the Ground Conservation Management Plan and to enable the continuation of the historical use of the place as a University.

This precinct does not have an interface with the public domain but provides an opportunity to improve connectivity with the Royal Prince Alfred hospital (RPA) situated immediately west of the precinct.

Future building envelopes include built forms that will transition in height from Western Avenue towards RPA to the west; and from St Andrew's Oval at the south towards the University Oval No.1:

- A building envelope projecting 30^0 from the existing car park of St Andrew's Oval to the north to reach a maximum RL 77.1m, equivalent to the Lifehouse building on Missenden Road. This will facilitate maximum building heights of approximately 62m which will step down to St Andrew's Oval to within the 30^0 height plane.

FIGURE 30 – HEALTH PRECINCT – SECTION WITH INDICATIVE BUILT FORMS

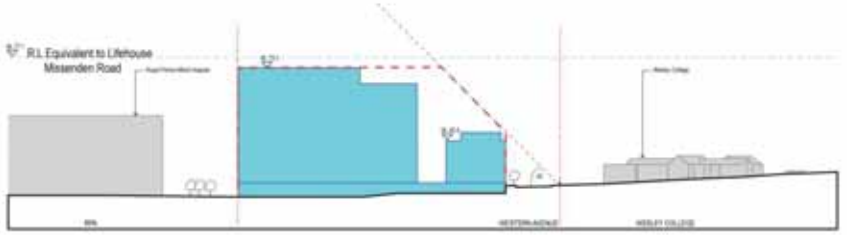


Refer to full size drawing in ***Appendix D****.*

- The Health Precinct is situated south and within proximity to the Charles Perkins Centre currently under construction. This precinct will enhance connectivity in built form and pedestrian access between the health related faculties and the CPC through access and building height, in which the CPC will provide for a height of some 35m.

- A building envelope projecting 45^0 from the eastern side of Western Avenue, adjacent to the Wesley College property boundary to the west to reach a maximum RL 77.1. This will facilitate buildings heights that are lower in scale along Western Avenue and taller buildings towards RPA but lower than the Chris O'Brien Lifehouse building on Missenden Road.

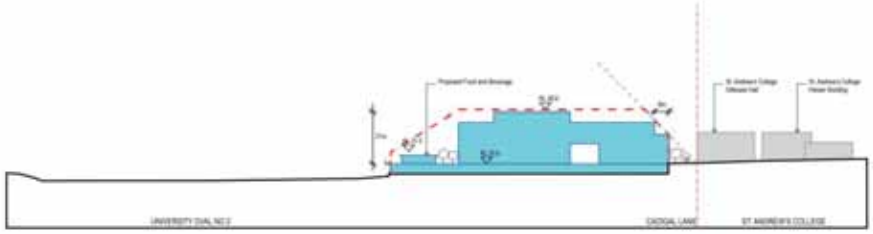
FIGURE 31 – HEALTH PRECINCT – SECTION WITH INDICATIVE BUILT FORMS



Refer to full size drawing in ***Appendix D****.*

- The lower scale height of the proposed buildings along Western Avenue will be further controlled by a building envelope projecting 45^0 from St Andrew's College to a maximum RL 48.8 which reduces in height towards University Oval No.1. This will facilitate approximately building heights that are similar to St Andrew's College Gillespie Hall and rising to approximately 21m from the raised ground level.

FIGURE 32 – HEALTH PRECINCT – SECTION WITH INDICATIVE BUILT FORMS



Refer to full size drawing in ***Appendix D****.*

Future development along the precinct's interface with Western Avenue and St Andrew's Oval will be restricted to lower rise forms which will transition building height from the adjacent colleges towards the taller buildings proposed in the west of the precinct adjacent to RPA. This will also minimise the extent of overshadowing impacts.

7.4.5 PRECINCT E – LIFE SCIENCES

SITE ANALYSIS AND PROPOSED

Within the existing precinct there are a number of undeveloped sites, and a series of buildings which have reached the end of their life cycle.

Ross Street East is a site containing demountable buildings used as decant space. Ross Street West is utilised as bike parking and temporary green houses.

The McMasters extension site is currently a car park The construction of the new wing will reinforce and enhance a landscaped courtyard to the north of the McMasters building.

The Gunn building site is a series of buildings which have grown organically over time. The buildings have deteriorated and are inefficient for their current use. The proposal is to demolish these buildings, and reconstruct a more suitable and flexible new building

- **1.** Ross Street West
- **1b.** Ross Street Bridge
- **2.** Ross Street East
- **3.** McMaster Extension
- **4.** Gunn Building Site
- **5.** New Grandstand
- Proposed Building Envelope

VEHICULAR & PEDESTRIAN ACCESS EXISTING

The existing major vehicular access to this precinct is from Parramatta Road and Ross Street. Internal traffic generally arrives via Western Avenue with minor traffic movements along Science Road.

Bicycle parking has been located in areas of opportunity rather than a planned centralised area.

The secondary entry to the precinct is also from Parramatta Road providing a new entry to Charles Perkins Centre and the perimeter of St Johns College Oval.

Service docks and at grade parking is scattered throughout the precinct.

Currently the only below ground parking is located under CPC.

- Vehicle Access
- Loading Dock
- Above Ground Parking
- Below Ground Parking
- Bicycle Parking
- Pedestrian Linkage
- Bus Stop
- Gateway

OPEN SPACE & CONTEXTUAL RELATIONSHIPS EXISTING

The existing precinct has grown organically over time. Spaces between buildings are poorly formed and linked.

The view down Science Road has been obscured with the temporary construction of the demountable village, to the east of the Ross Street entry.

The gateway entry from Ross Street and Parramatta Road, although marked by gate posts, has no sense of arrival.

There are a number of heritage buildings within the precinct, which are to be retained and the curtilages between enhanced and improved.

- x RL R.L
- Inferred axis connecting Ovals
- Existing Landscaped Edges
- Open Space
- Retained Trees
- Removed Trees
- Food/Beverage
- Views

Heritage Assets

1. Heydon-Laurence Building
2. R.D Watt Building
3. J.D Stewart Building
4. Round House Vet Science Square to be Retained & Enhanced
5. McMaster Building
6. Gatekeeper's Lodge
7. Substation

VEHICULAR & PEDESTRIAN ACCESS PROPOSED

The existing pedestrian connections, open space and permeability through and to the precinct will be improved. The main pedestrian link to CPC will be reinforced, linking to the upgraded pedestrian access along Gross Farm Lane.

On street parking will be removed where possible. New below ground car parking is proposed under two of the proposed new building footprints.

Service / loading dock locations will be rationalised and minimised.

- Vehicle Access
- Truck Delivery Access
- Above Ground Parking
- Below Ground Parking
- Bicycle Parking
- Transfer Station
- Pedestrian Linkage
- Bus Stop
- Gateway
- Proposed Building Footprint

OPEN SPACE PROPOSED

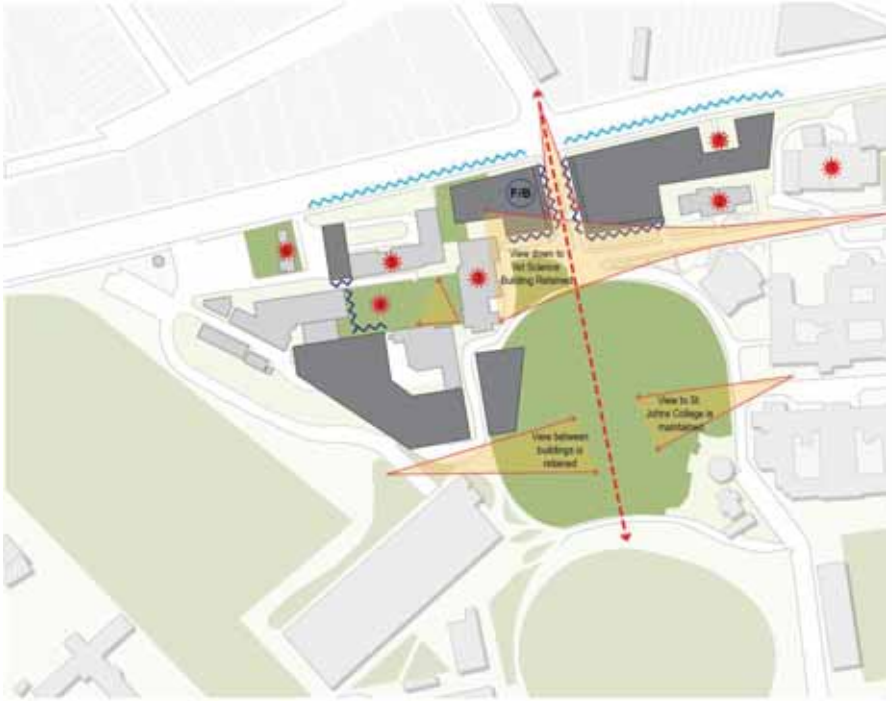
The proposal is to improve the pedestrian connections over time, between the formal spaces and courtyards of the proposed building footprints. The formality of the Vet Science courtyard is to be reinforced.

A new courtyard to the north of McMasters building is proposed.

x RL R.L

Open Space

Retained Trees



CONTEXTUAL RELATIONSHIPS PROPOSED

The proposal is for the transformation of the Vet Science precinct into a collaborative Life Sciences Precinct.

New buildings will form a gateway to the Ross Street entry gates, reinforcing the streetscape to Parramatta Road, and framing the RD Watt and JD Stewart buildings.

The view down Science Road will be retained and reinforced.

The distant vista to and from St Johns College past the CPC and Gunn Buildings will be retained.

New buildings will relate to the heritage precinct in terms of scale and form.

Inferred axis connecting Ovals Maintained

Existing Landscaped Edges Maintained

Active Edges

Views

F/B Food/Beverage

Proposed Building Footprint

Heritage Assets

1 Heydon-Laurence Building
2 R.D Watt Building
3 J.D Stewart Building
4 Round House
Vet Science Square to be Retained & Enhanced
5 McMaster Building
6 Gatekeeper's Lodge
7 Substation

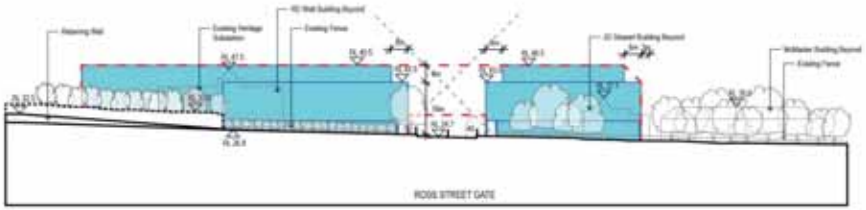
3D envelope drawings showing indicative built forms for this precinct assisting in the assessment of this matter are included within ***Appendix E.***

BUILT FORM ASSESSMENT

The majority of buildings proposed for this precinct will be situated on undeveloped sites, three of which will be sited adjacent to the precinct's Parramatta Road frontage. This provides an opportunity to enhance the presence of the University, particularly adjacent to the Ross Street Gate and create a heightened sense of arrival. Proposed envelopes include:

- A maximum RL 49.5 to Parramatta Road, providing a height of some 24m – 29m adjacent to the Ross Street Gate (dependent on ground levels for the purposes of height measurement).
- The McMaster building extension will have a building envelope of RL35.0 and which aligns with the existing host building (retained).
- A maximum RL 36.6 to accommodate a future grandstand adjacent to the Oval No.2, affording a building height of approximately 11m.
- The redeveloped Gunn building will not have an interface with the public domain and will have a building envelope of RL49.1 which steps down between the height of the Charles Perkins Centre (RL59.1) and the J D Stewart building (RL37.7).

FIGURE 33 – LIFE SCIENCES PRECINCT – PARRAMATTA ROAD ELEVATION WITH INDICATIVE BUILT FORMS



Refer to full size drawing in ***Appendix D****.*

New built forms proposed adjacent to the Ross Street Gates will form a gateway to the precinct and the University, whilst defining the site's frontage to Parramatta Road. The building envelope is restricted to a height that is consistent with the top most point of the RD Watt Building beyond and will be compatible with the medium rise commercial buildings opposite the site on Parramatta Road.

From within the precinct, the new built forms will provide a new frame to enhance the appreciation of these heritage buildings; with retention of existing visual axis to these buildings.

The proposed grandstand and Gunn Building site envelopes will enable medium rise built forms that will provide a transition in building height from the heritage buildings and the taller Charles Perkins building to the south.

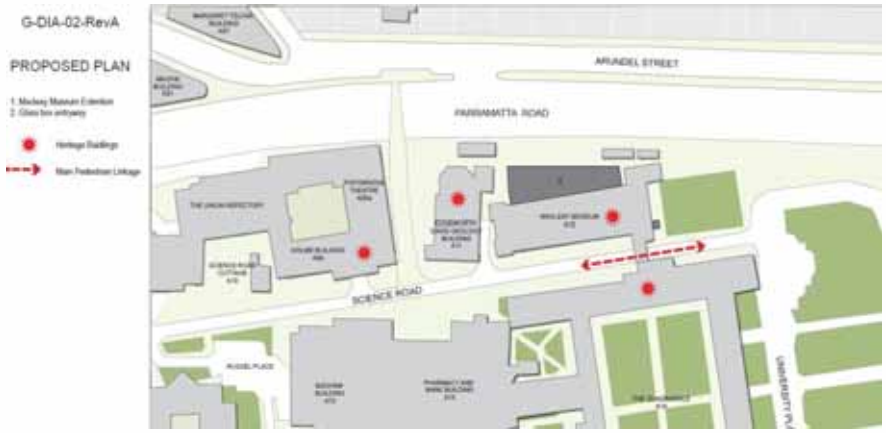
The proposed building envelope extension to accommodate a new wing to the McMaster building will enable building extensions that are compatible with the scale of this building.

7.4.6 PRECINCT F – CULTURAL DESIGN

This precinct is currently a mixed use precinct, housing teaching spaces, laboratories, administration offices, museums and collections, retail and food and beverage.

The Cultural precinct seeks to convert the heritage significant Science Road area as a principal visitor destination precinct accommodating cultural, museum and heritage components. The precinct will be reinforced by the internal refurbishment of the Macleay and Edgeworth-David buildings in developing a museum and cultural exhibition centre, and incorporating minor building additions. Both buildings are currently occupied by the School of Biological Sciences which will be relocated under the CIP.

1. Macleay Museum Extension
2. Glass box entryway



3D envelope drawings showing indicative built forms for this precinct assisting in the assessment of this matter are included within ***Appendix E.***

BUILT FORM ASSESSMENT

Future development works are limited to an extension of the Macleay Museum that is to be sited along Parramatta Road and will predominantly comprise internal refurbishment works to the existing building. Other future works include a minor entrance addition to the Museum's eastern façade and building refurbishment works to the museum and the Edgeworth David Geology building.

The museum extension will be designed within the proposed building envelope of RL 49.2 which will be generally equivalent to the museum's ground floor wall height and below the ground floor eave height. Building additions are limited to the rear of the site to mitigate impact of heritage significance and the extent of these additions will not dominate the existing building and will present as a minor additional element when viewed along Parramatta Road.

These works will restore the building to its original use and are supported by the relevant Conservation Management Plans prepared for this precinct.

FIGURE 34 – CULTURAL PRECINCT – PARRAMATTA ROAD ELEVATION WITH INDICATIVE BUILT FORM

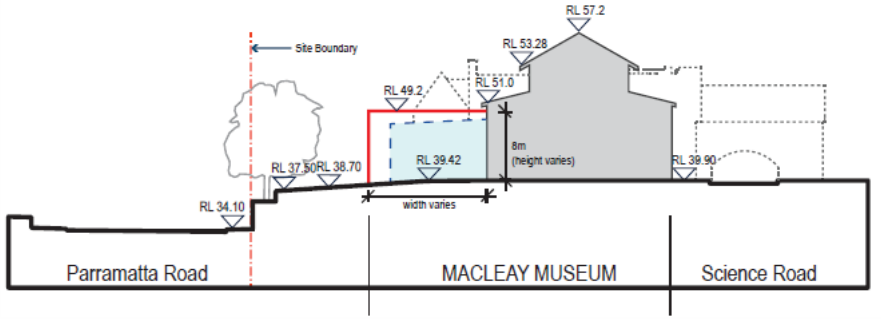
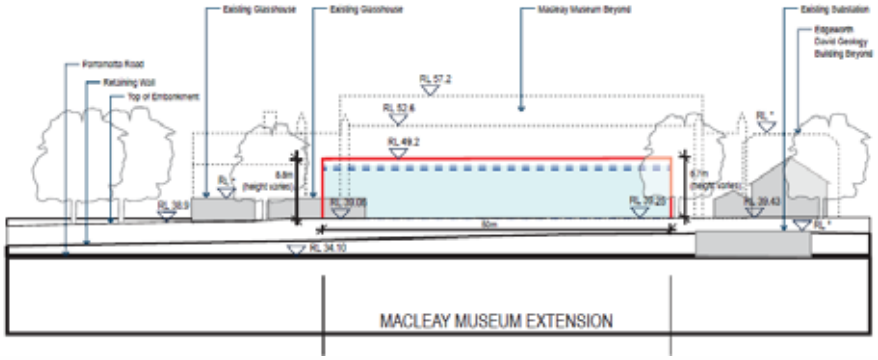


FIGURE 35 – CULTURAL PRECINCT – CROSS SECTION WITH INDICATIVE BUILT FORM



7.5 ENVIRONMENTAL AMENITY

This Stage 1 SSDA does not seek to specifically identify the location of future land uses within building envelopes, as this will be subject to future Stage 2 DA planning. The building envelopes are designed to flexibly adapt to a range of permissible University land uses.

Amenity impacts from traffic along busy roads will be important considerations in the future siting and layout of student accommodation. Site layout, design and building construction methods will be investigated to achieve satisfactory internal noise levels. Similarly, visual privacy and opportunity for views will be considered during the detailed planning and design stage.

Considerations to servicing requirements will include investigating the appropriateness of indicative vehicle access points as illustrated in the submitted drawings and likely to utilise future consolidated loading docks. Further, location of mechanical plant location and wind impacts will be explored at detailed design phase with specialist input and adoption of any recommended measures to mitigate impacts.

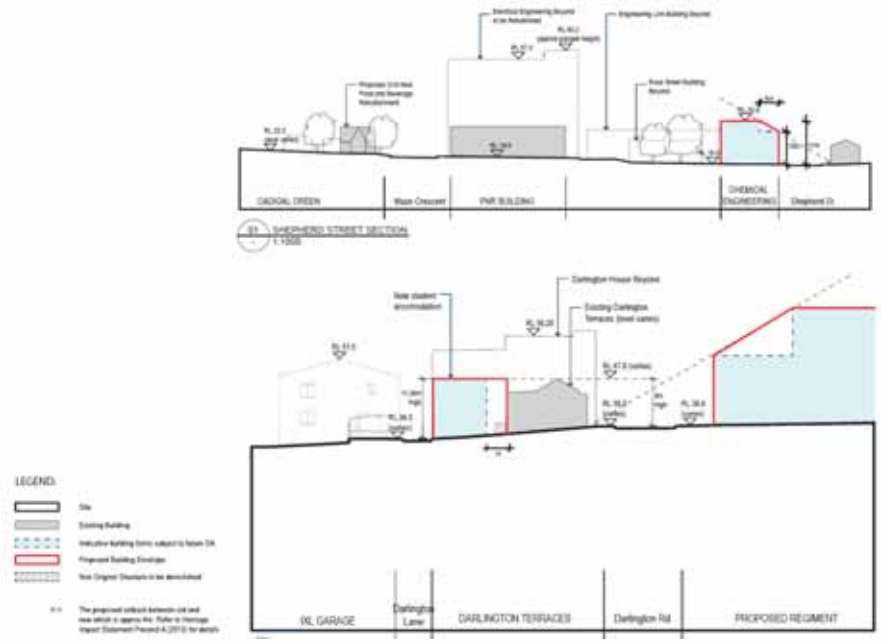
With respect to potential shadow impacts, the drawing package provides overshadowing analysis to key public spaces being the interface with Shepherd Street and the Darlington Road Terraces. These are the only areas, the subject of this Stage 1 SSDA, where the University Campus a has a direct interface with neighbouring residential land uses. The sections include a dashed line to identify the sun access plane, for 12 noon on the Winter solstice, 21st June. It is demonstrated that impacts are likely to occur over:

- A portion of Shepherd Street as a result of the future Chemical Engineering building on Shepherd Street in the Engineering Precinct. Illustrated sun access planes demonstrate that this will extend as far as the Shepherd Street carriageway and footpath at 12 noon mid-winter.
- The building envelopes are designed to flexibly adapt to a range of permissible land uses.
- Darlington Road as result of the future buildings in the Merewether Precinct, north of Darlington Road. Illustrated sun access planes demonstrate that this will extend as far as the Darlington Road Street carriageway and footpath at 12 noon mid-winter.

Shadow diagrams from 9am to 3pm on June 21 at the winter solstice are submitted in ***Appendix D*** for each precinct. These shadow diagrams are based on indicative built forms only and specific shadow diagrams will be provided with ongoing DAs. The submitted shadow diagrams identify that key open space areas within the University campus such as the University Oval No.2 and Cadigal Green will maintain appropriate levels of sunlight in mid-June and minor additional overshadowing to adjacent land uses as follows:

- Cadigal Green will remain largely in sunlight between 9am and 12pm. At 3pm, this open space is currently predominantly in shade as result of existing buildings, with minor additional overshadowing to occur by the indicative built form. However, preservation of sunlight to the south–western corner of Cadigal Green will be maintained for passive use.
- St Andrew's Oval, adjacent to the Health Precinct will experience minimal additional overshadowing to peripheral areas of the oval. This oval is largely affected by the RPA hospital building and will be subject to impacts by the future St Andrews College development.
- The two built forms proposed on Shepherd Street, as part of the Engineering precinct will result in minor additional sunlight loss by 3pm. The scale of these new built forms have been designed to reflect the existing scale of buildings on the western side of Shepherd Street and to provide an appropriate transition in height to the Shepherd Street terraces; whilst preserving appropriate levels of sunlight.

FIGURE 36 – SUN ACCESS PLANE



Refer to full size drawing in ***Appendix D****.*

The proposed Urban Design, Architectural and Landscape Principles will inform the layout and design of the CIP precincts and future building design resolution with respect to potential environmental impacts on surrounding context. These principles also include CPTED planning for the design of future precincts and buildings. These principles include:

- *Buildings and green spaces must be designed to meet the University's security standards and accommodate its security systems. Crime prevention and security should be addressed via appropriate environmental design.*
- *Consideration should be given to crime prevention through design influencing behaviour.*
- *There should be one clear form of entry and exit from each building, to ensure passive surveillance of entry points.*

The University also implements a Security Management Plan in which the Campus Security Unit Service prioritises the security provision at the University's Camperdown-Darlington campus, both current and for the future development associated with the CIP. In conjunction with the future Crime Prevention Through Environmental Design (CPTED) planning for the site, appropriate levels of crime prevention will be implemented.

7.6 ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)

The DGEARS stipulate that the CIP must detail how Ecologically Sustainable Development (ESD) principles defined in Clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000 will be incorporated in the design, future construction and ongoing operation of the University. The CIP is committed to developing an ecologically sustainable campus to provide world class teaching, learning and research facilities and a vibrant liveable environment. It will embrace Ecologically Sustainable Development (ESD) principles by ensuring the built environment is operationally efficient and, conserves and enhances natural resources.

The University's ESD commitments are embodied in its Sustainability Framework and University Design Standards, which include environmental performance requirements that will apply to all CIP developments. Key measures that will demonstrate the CIP's commitment to ESD principles are presented in the Table below.

TABLE 9 – CIP COMMITMENTS TO ESD PRINCIPLES

ESD PRINCIPLE	DESCRIPTION	KEY CIP INITIATIVES COMMITTING TO ESD	
Precautionary principle	Careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment	Sustainability Framework environmental performance rating tool for University Buildings	The University's Sustainability Framework will apply to all buildings. It is a tool to targeting a range of environmental aspects related to building design, procurement, construction and commissioning. The framework defines relevant sustainability performance criteria to be achieved by buildings in the following categories: ▪ Place Making and Landscape ▪ Leadership and Communication ▪ Healthy Environment ▪ Efficient Resource Use ▪ Climate Change and Infrastructure
		University Design Standards	The University has a range of Architectural and Engineering Design Standards integrating environmental performance requirements into technical specifications to ensure buildings: ▪ are energy and resource efficient ▪ include renewable energy supply ▪ minimise carbon emissions ▪ provide a healthy environment for occupants ▪ facilitate adoption of sustainable transport and mobility options.
Inter-generational equity	The present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations	Multifunctional buildings to support diverse learning and research across a range of faculties	The CIP proposes multifunctional buildings designed to foster collaboration amongst allied faculties and associated University operations (retail, student accommodation, professional services, and administrative functions) which will ensure better and efficient utilisation of buildings and a holistic approach to education and research which will benefit current and future generations.
		Safeguarding human health by providing a healthy indoor environment quality	Promotion of healthy indoor building environment by maximising daylight, external views, adequate fresh air rates and use of low toxicity materials and furniture and fit out materials e.g. low volatile organic compound materials and low formaldehyde products. These measures will improve workplace environments and occupant health and productivity.

ESD PRINCIPLE	DESCRIPTION	KEY CIP INITIATIVES COMMITTING TO ESD	
		Measures to conserve non-renewable fossil fuels and reduce climate change impacts on future generations	Energy modelling of new buildings ensure their operation is energy efficient and help conserve non-renewable fossil fuel energy resources. Passive design features will be incorporated in the design of new buildings to take advantage of the natural climate to maintain thermal comfort and reduce reliance on energy-intensive of mechanical cooling and heating, which will reduce dependence on non-renewable fossil fuel energy resources. Reducing carbon emissions by maximising alternative renewable and more efficient energy supply opportunities with lower carbon emissions.
		Conservation and management of water resources for future generations	New buildings will incorporate rainwater collection and beneficial reuse infrastructure which will help reduce potable water demand and conserve water resources. CIP developments will incorporate flood mitigation measures to ensure no increase in downstream flooding impacts or flood damage risk on surrounding land and properties.
		Resource recovery and recycling to minimise waste and conserve virgin natural resources for future generations	New buildings will provide infrastructure to maximise recovery of resources from wastes streams for beneficial reuse. Design of buildings will specify recycled content for construction materials where they are fit-for-purpose. Building contractors will be required to implement environmental management systems to segregate, collect and recycle demolition and construction wastes.
		Sourcing of local, environmentally preferable construction materials to support the local economy and conserve resources for future generations	Preference will be given to building materials and products that are locally sourced and which have a high recycled content and low embodied energy where they are fit-for-purpose and cost effective.
		Active transport and mobility infrastructure to improve healthier lifestyle outcomes	CIP will incorporate planning and infrastructure to encourage more sustainable and healthier modes of transport. The heart of the campus will be freed of parking spaces and incorporate improved pedestrian ways, cycle ways and access to end-of- trip facilities to encourage active travel such as walking and cycling

ESD PRINCIPLE	DESCRIPTION	KEY CIP INITIATIVES COMMITTING TO ESD	
			through the campus.
		Eliminate Ozone Depleting substances to protect human health and reduce global warming	New building projects will use alternative safer non-Ozone depleting refrigerants which will help reduce UV radiation impacts on human health as well as reducing global warming impacts.
		Building Commissioning for energy efficiency to conserve non-renewable fossil fuels and reduce climate change impacts on future generations	All major new building projects will integrate building tuning and commissioning strategies into the design and construction process to ensure buildings are energy efficient and services are operating efficiently.
		Stakeholder engagement to raise awareness about campus sustainability	Building information displays will be used to: ▪ educate staff, students and visitors of the building sustainability features ▪ promote low carbon transport options ▪ communicate innovative design features to demonstrate / contribute to knowledge and solutions that will benefit future generations
Conservation of biological diversity and ecological integrity	Conservation of biological diversity and ecological integrity should be a fundamental consideration	Conservation and enhancement of native habitats on campus to improve biodiversity and provide human health benefits	The CIP aims to maintain and enhance flora and fauna resources. Biodiversity and resilience of campus habitats will be improved by strategically planting species that are drought, disease and fire resistant. Tree and shrub species will be planted to encourage diverse native fauna, especially birds. Shade trees will also be planted strategically to improve outdoors amenity and moderate local climatic conditions to reduce heat stress impacts in extreme hot summers.
Improved valuation, pricing and incentive mechanisms	Environmental factors should be included in the valuation of assets and services	Whole-life-costing of critical building elements to ensure sustainable operations	New building projects will employ whole-of-life cycle cost evaluation to consider alternative HVAC and façade options to determine the true cost implications of different designs and systems on energy use and carbon emissions.
		Materials Life Cycle Assessment of major construction materials	Life Cycle Assessment for major construction materials will be used to compare material choices and limit embodied emissions related to the building construction.

ESD PRINCIPLE	DESCRIPTION	KEY CIP INITIATIVES COMMITTING TO ESD	
		Real time Advanced Utilities Monitoring Systems to support "user pays" consumption systems and incentivise resource conservation	New buildings will be provided with an advanced utilities monitoring system to provide transparent real time monitoring of energy and water use and costs. This will encourage building users to change behaviour, conserve resources and reduce operational costs.

7.7 TRANSPORT AND ACCESSIBILITY

This Stage 1 SSDA is accompanied by an Access Strategy developed by ARUP, which provides a holistic strategy on movements to and through the University's Camperdown-Darlington campus. This Access Strategy addresses the DGRS and includes matters such as vehicle access; parking; servicing; pedestrian; cycling; travel demand and accessibility.

Arup has also provided an assessment of the traffic and transport impacts of the CIP, which are included within the Access Strategy, attached in ***Appendix G***. The following summary provides an overview on the CIP travel demand management; parking provision; vehicular access and traffic impacts;

7.7.1 TRAVEL DEMAND STRATEGY

The University has adopted a strategy to achieve and encourage staff, students and visitors to adopt more sustainable forms of travel.

Current mode share of public transport (53%) and active modes (26%) are higher than private vehicle usage (21%) for the University according to 2012 Travel Surveys. There is potential to further increase mode share towards public transport and active travel, especially for staff who have a higher percentage of private vehicle usage (approx. 35%) compared to students (approx. 15%). Current train usage is approximately 30%, with up to 60% of staff and students living near a train line.

Measures to reduce demand for private vehicle travel are the most difficult to achieve. The most effective way to reduce demand is to target a 10% change (or more) to other modes.

The movement and parking strategies aim to increase the use of active transport modes, by improving general access and discouraging private vehicle trips. Ways in which this is achieved include:

- pricing mechanisms to reduce demand for parking and reducing vehicle trips.
- prioritising pedestrian and cyclist movement by providing shared zones and paths.
- addressing connectivity barriers at gateways and along key pedestrian routes.

The CIP encourages further train usage, for example by pursuing subsidised staff public transport tickets, to be competitive with parking permit benefits. Bicycle usage is encouraged by further provision for bicycle parking and end of trip facilities within the new developments of the CIP.

7.7.2 PARKING

The CIP provides an opportunity to rationalise car parking within the currently planned footprints of the future projects. Achieving the new car and motorcycle parking within CIP developments allows at-grade car parking in the central precincts of each campus to be removed to create 'parking free zones'.

As well as managing parking supply, the University will:

- look to increase the possibility of sharing parking assets.
- improve way-finding to address campus traffic associated with locating a car parking space.
- facilitate mode switch through increased public transport servicing, enhancements of the local walking and cycling environment, and growth of local accommodation choices.
- achieve a strong mix of land uses on campus, including the promotion of weekday, evening and weekend activities, to spread peak demand for parking.

A parking audit in 2010 showed a total of 2,357 car parking spaces and approximately 100 motorcycle parking spaces on campus (prior to Transformational project construction activities). At the completion of the three Transformational developments, there will be an additional 30 car parking spaces and 12 motorcycle parking spaces on campus.

The car parking strategy has sought to minimise additional car parking facilities in line with the objectives of increasing the use of public transport. A total future campus parking provision of 2,800 spaces could be achieved under full realisation of the CIP up to year 2020. This represents a 19% increase above the year 2010 car parking provision. This aligns with the expected 21% increase in campus population, however is considerably lower than the proposed 38% increase in building GFA.. Based on this building GFA increase, the overall rate of parking provision is reduced.

This level of parking growth is appropriate given the prioritisation of active modes and sustainable transport initiatives that will be implemented as part of the CIP to facilitate the growth in non-car mode required to meet student and staff travel demands.

The Access Strategy has also explored travel demand measures including pricing mechanisms to ensure that the use of private vehicles for access to the campus is equitable and targets a more sustainable travel outcome for the CIP.

Further details of the CIP Access Strategy is contained in ***Appendix G.***

7.8 GENERAL VEHICLE STRATEGY AND TRAFFIC IMPACTS

A key element of the CIP is to restrict access for general traffic to peripheral parking stations once this parking becomes available. This will have a minor impact of redirecting traffic around the entries to the University.

An assessment by ARUP identifies that a reassignment of traffic will result in a general decrease across the majority of entries with the exception of Western Avenue, where it is expected that new parking areas at the Health Precinct will increase traffic generation. However, as part of this precinct development, it is envisaged that a new access could be created along the southern side of Royal Prince Alfred Hospital, which will spread the traffic load between Missenden Road and Carillion Avenue/Western Avenue gateway.

The impact of the redistribution of traffic due to the revised internal road system has been assessed and all access intersections will continue to operate at acceptable levels of service. The cumulative impact of the surrounding developments will be minimal due to the nature of the land uses with many of them being complimentary to the University. The majority of trips will be focused onto the arterial routes such as City Road and Parramatta Road. Individual developments will generate vehicle movements at different times of the day with peaks not coinciding, and hence cumulative impacts are reduced.

Refer to ***Appendix G*** for further detail.

7.9 HERITAGE

7.9.1 EUROPEAN HERITAGE

The Camperdown Campus is identified as a General Conservation Area on the City of Sydney Local Environment Plan (LEP) 2012 Heritage Map (HER_009). Numerous individual heritage items are also listed in the LEP. The Darlington Campus is not listed in whole or part as a conservation area in the City of Sydney LEP 2012, although several buildings are listed as individual heritage items. The site surrounds also include various individually listed heritage items and other Conservation Areas.

The future building envelopes and footprints in the six precincts proposed in the CIP have been informed by the University's Heritage Strategy. This Strategy was prepared in the context of previous research and documentation, and in accordance with the Guidelines issued by the NSW Heritage Office, the requirements of the EP&A Act and the NSW Heritage Act.

The University of Sydney Grounds Conservation Plan (2003), originally prepared in 2003 by Dr Michael Pearson, Duncan Marshall, Dr Donald Ellsmore, Dr Val Attenbrow, Sue Rosen, Rosemary Kerr and Chris Betteridge, has been reviewed and revised (2013) by Clive Lucas Stapleton & Partners and will be submitted to the Heritage Council for endorsement.

A Heritage Impact Assessment (HIA) has been prepared by Ian Kelly, The University's heritage adviser. This HIA is accompanied by a suite of HIAs prepared by each CIP Precinct and are submitted in ***Appendix K***. The HIA provides the following key comments:

- *Across the six precincts there are a number of heritage buildings which will be impacted by the CIP concept proposals. They include buildings such as International House (City Road Precinct) and Chemical Engineering Building (Engineering Precinct) which are ranked as being of High Significance, the Blackburn Building (Health Precinct) and R.M.C Gunn Building (Life Sciences Precinct) ranked as having Moderate significance, and the Regiment and Merewether Buildings (Merewether Precinct) which are ranked as having Low significance.*

- *The loss of any building of some heritage significance has an impact, but in the case of the University of Sydney the loss of a building should not be considered in isolation, but rather within the context of the overall campus and, in particular, the overall significance of the University as an evolving educational institution.*

- *While some buildings of heritage significance will be removed to make way for new buildings, in some instances this will enable other heritage buildings of exceptional or high significance, eg. the J.D Stewart and R.D Watt buildings (Life Sciences Precinct) and Macleay Building (Cultural Precinct), to be conserved and restored for uses more compatible with their original functions. In the case of the Engineering Precinct, the loss of a building of High Significance (Chemical Engineering) will enable development of a new, more flexible, teaching facilities and the subsequent the retention, conservation and adaptation of other heritage buildings so that collectively they will continue to function as an Engineering precinct.*

The HIA includes several recommendations to mitigate the heritage impacts that may arise from the CIP proposals. In particular, the numerous recommendations of the Heritage Impact Assessment will inform and guide the future detailed planning and design of the staged development in each precinct, as well as recommend the interpretation of the history of the University's development. Refer to ***Appendix K*** for further details.

7.9.2 EUROPEAN ARCHAEOLOGY

There are no statutory heritage listings that identify any archaeological relics or archaeological sites within the campus. Past archaeological reports have generally agreed with the conclusion in the GCP that "*There has been intensive development of most of the Camperdown Campus over time and there are few areas of land that retain their natural undisturbed ground level. Many of the known sites of earlier buildings and features have generally been built over by the University related development*."

These "undisturbed" areas are primarily ovals and playing fields, which are not impacted by the CIP precincts. The GCP, however, does indicate there are a number of other areas within the University grounds which, because of previous European occupation, have been identified as having potential archaeological deposits of low to medium level research potential, relating to the European occupation over the previous century.

Of the six areas identified as having historical archaeological potential only two are impacted by proposed CIP Precincts: Merewether Precinct, Site C - Darlington Terraces; and City Road Precinct, Site C – Wilkinson Building.

Policy 33 for the conservation of Historical Archaeological areas having Ranking '3' states:

> *"Ground disturbance in this area could proceed without prior consultation with an historical archaeologist. However, if upon further physical disturbance a sub-surface deposit is revealed, an historical archaeologist should be consulted."*

7.10 ABORIGINAL HERITAGE

A Due Diligence Aboriginal Heritage Report by Godden Mackay Logan (GML) Ltd was undertaken to address Aboriginal Heritage and is attached in ***Appendix K***. The due diligence investigations has adopted the "*Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005*" and "*Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*".

The results of the findings conclude that:

- The extent of historic development on the Camperdown and Darlington Campuses is likely to have removed any in situ subsurface archaeological deposits.
- One previously registered PAD #45-6-2822 recorded in the City Road precinct has since been destroyed under a previous Section 90 consent.
- The CIP precincts are described to be Moderate to Heavily disturbed with low to nil potential to preserve intact subsurface Aboriginal archaeological deposits.

GML provides recommendations for each CIP Precinct in regards to the Aboriginal heritage management. This includes proceeding development with caution in all CIP Precincts, except for the Life Sciences Precinct. Should Aboriginal objects be located during the course of future development, work should cease immediately and an archaeologist be consulted.

The Life Sciences Precinct is moderately disturbed with low to moderate potential to preserve intact subsurface Aboriginal archaeological deposits. It is recommended that further archaeological monitoring and testing be undertaken.

The GML recommendations have been included in the Draft Statement of Commitments.

7.11 FLORA AND FAUNA

A preliminary ecological assessment of this Stage 1 SSDA proposal has been undertaken by Australian Museum Consulting (AM Consulting) to identify the potential impacts on flora and fauna and investigate opportunities to enhance and introduce additional flora and fauna (Refer to ***Appendix L***). The results of the investigations identify:

- The Camperdown and Darlington Campuses are highly modified environments and vegetation is limited to lawn, garden beds or tree plantings, which are a mix of native and introduced species.
- No threatened plant species are expected to occur within the Camperdown and Darlington Campuses.
- The large number of mature tree provides a canopy of relative importance.
- Only commonly occurring fauna species were recorded during site visit and no records of were found of threatened species occurring within the site.
- Based on the site habitat, there is a likelihood of occurrence at the site for the Grey-headed Flying Fox, the Eastern Bentwing Bat, the Little Bentwing Bat and the Large–eared Pied Bat. Potential impacts to these species would be as a result of the loss of foraging habitat.

Recommendations by AM Consulting to mitigate this impact include:

- Avoid removal of mature trees and protection of trees in proximity to building/refurbishment sites.
- Minimise loss of open space.

The University maintains a detailed tree inventory and acknowledges the important contribution of the mature tree canopy to the local landscape. A Tree Management Plan has been developed by the University which aims to maintain and increase the present canopy cover at the Camperdown and Darlington Campuses.

Opportunities to enhance habitat for flora and fauna have been suggested by AM Consulting which include:

- Establishment of planting with good structure to provide for a variety of habitat area;
- Replace exotic plantings with a range of native shrub and ground cover species.
- Provide natural and artificial refuges for fauna in tree and ground layers.

The University has developed a list of planting principles within its Landscape Design Principles for the CIP; which will contribute towards the enhancement of flora and fauna. The recommendations and opportunities for enhancement by AM Consulting have been included in the Draft Statement of Commitments.

7.12 UTILITIES

The Camperdown-Darlington Campus is serviced by a network of external and University-owned utilities networks. External utilities infrastructure is owned and operated by:

- Electricity supply – Ausgrid.
- Gas – Jemena.
- Water supply – Sydney Water Corporation (SWC).
- Sewerage – SWC.
- Stormwater - City of Sydney and SWC.

The required infrastructure augmentation requirements to accommodate development works arising from the CIP have been investigated by Warren Smith & Partners, which has culminated in the development of the University's Infrastructure Strategy / Infrastructure Management Plan attached in ***Appendix H***.

Infrastructure will be staged in accordance with the Stage 2 development and upgrades to each CIP precinct as identified in the submitted CIP Staging Program (refer to report section 8).

7.12.1 WATER SUPPLY

Key works that will be required to accommodate water supply to the proposed development include:

- Upgrades to some water supply mains to existing and proposed developments.
- Augmentation of Sydney Water Corporation's (SWC's) water supply mains to buildings higher than 27m to meet fire safety water supply requirements.

- Water main augmentation for fire safety water supply will required for the City Road, Merewether and Health precincts.

- Back-up water supply from a large capacity water main is required for parts of Camperdown Campus to provide redundancy in case of a failure in the University's water distribution system. Augmentation of the second water supply main from City Road to the Camperdown Campus is needed to ensure adequate back-up supply redundancy.

Areas requiring water supply upgrades are shown in ***Appendix H***.

The University is developing an integrated water management plan (IWMP) to maximise benefits from water resource planning and to ensure water is used optimally. Water supply, sewerage and stormwater will be holistically planned and managed in an integrated manner to ensure maximum value is obtained from the resource and environment benefits are maximised.

The University's IWMP is based on the following principles:

- Consideration of all water sources in water planning

- Sustainable and equitable use of all water sources

- Consideration of all water users

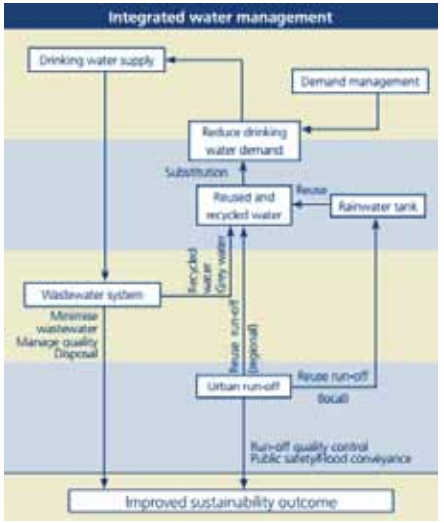
- Integration of water use and natural water processes

- A whole of catchment integration of natural resource use and management

- Balancing of water resource and other competing resource needs to maximize benefits.

General benefits of IWMP include a reduced potable water demand, enhanced drought resilience, improved flood risk management river flows and improved stormwater quality and more water available for environment flows and passive recreation.

FIGURE 37 – INTEGRATED WATER MANAGEMENT PRINCIPLES



Source: State of Victoria, Department of Sustainability and Environment 2006

7.12.2 SEWERAGE

Key sewerage facility upgrades will entail:

- Localised amplification to parts of the sewerage network throughout the University's Camperdown-Darlington Campus.

- Realignment and redirection of smaller SWC sewer pipes as a result of construction works for CIP developments in the Engineering, City Road and Health precincts.

- Sewer diversion in the Health precinct where basements of buildings encroach on large SWC trunk sewers. Footings of buildings in the City Road and Engineering precincts must be designed and engineered to minimise the impact of foundation loads on the major SWC trunk sewer by bridging over it.

Appendix H shows areas where sewers will be impacted.

7.12.3 ELECTRICITY SUPPLY

Developments proposed by the CIP will significantly increase electricity demand and consumption. The University is preparing an Energy Master Plan with the objectives of:

- Securing energy supply to support future growth planned by the CIP.

- Identifying efficient and cost-effective energy supply and distribution infrastructure.

- Reducing the carbon intensity and improving environmental sustainability of energy supply and distribution.

- Identifying capital investment for augmentation of energy supply and distribution infrastructure, including distributed energy centres and centralised mechanical services plant to service precincts or building clusters.

- Limit demand impacts on Ausgrid's and distribution network.

Refer to ***Appendix H*** for further detail.

7.12.4 GAS SUPPLY

Gas consumption is forecast to increase, which will be accommodated by:

- Relatively minor augmentation of the local gas distribution network for the Merewether precinct.
- Diversion of the high pressure main to a safe location outside proposed construction areas as a result of future development in the Life Sciences precinct; and potential augmentation of Jemena's upstream gas supply network infrastructure.

Areas requiring gas main upgrades or redirection are shown in ***Appendix H***.

7.13 FLOODING AND STORMWATER MANAGEMENT (WSUD)

CIP developments involve building in areas that would be currently prone to flooding in the 100 year ARI flood. Proposed developments will implement site-specific development controls on the design of buildings and infrastructure.

CIP development provides an opportunity to mitigate existing and known flood threats to the University's assets and infrastructure through better design whilst also ensuring flood impacts on surrounding areas are not exacerbated.

Stormwater drainage improvements that would be needed for CIP development are shown in ***Appendix H***.

Proposed developments will implement site-specific development controls on the design of buildings and infrastructure. Key controls include:

- Designing the floor levels and above ground car parks are set above the 100 year ARI peak flood levels.
- Critical facilities like electricity substations must be placed above the 100 year ARI flood level + 0.5 metres or the probable maximum flood level, whichever is higher.
- The 100 year ARI flood impacts and development controls for CIP precincts are summarised in ***Appendix I and F.***

8 DEVELOPMENT STAGING

The proposed CIP Staging Strategy provides the University with a notional development and associated budget program over the lifecycle of the CIP, and delivers a program for the certainty required for future development commitments.

Project timing may be subject to variation, dependent upon University requirements, future market conditions and matters including attainment of development approvals. Hence, the seven year timeframe associated with the CIP is an approximate timeframe and subject to these matters, and should not be regulated by the DP&I as part of this Stage 1 SSDA. The CIP staging program has been designed to be flexible to allow refinement of the CIP through time, and which may result in some land uses and elements being relocated on campus whilst protecting the campus development vision.

Staging delivery can be challenged by the need to relocate and decant existing building occupants whilst providing a continuation of University operations for example, the decanting of some Blackburn building operations to temporary locations whilst the site is redeveloped for future use. Consequently the staging program has in-built flexibility to allow the campus to capture its development targets, whilst allowing the University to meet on-going academic and learning operations.

Whereas University development and growth is difficult to predict accurately, notional annual targets for future precinct growth have been developed for Faculty /Administration, Student Accommodation and Infrastructure projects for the period 2014-2020. The plan identifies the year-by-year development and budget allocation for the various components of the CIP program. The year-by-year development staging program is illustrated in ***Appendix M***.

This CIP staging program provides the following benefits:

- Allows the impacts and benefits of construction to be coordinated and realised;
- The decanting program to be developed that will temporarily accommodate faculties and professional services during construction periods;
- The demolition and construction works to specific and staged campus precincts so as to concentrate works in timely periods and to minimise the impact of works upon surrounding University areas and neighbouring communities; and
- Provides a vehicle for regular review to adapt the program to a changing environment.

Refer to ***Appendix M*** for Annual staging program 2014 – 2020.

9 CONTRIBUTIONS

It is important to note from the outset that as the subject Stage 1 SSDA does not seek any approval for constructions works (rather- indicative land use, whole-of-site strategies and specific building envelopes), no contributions are relevant as part of the determination of this application.

The DGEARs requests the EIS addresses the following development contribution plans:

- City of Sydney Development Contributions Plan 2006 (CoS Development Contributions Plan);
- Redfern-Waterloo Authority Contributions Plan 2006 (RWA Contributions Plan); and
- Redfern-Waterloo Authority Affordable Housing Contributions Plan 2006 (RWA Affordable Housing Contributions Plan).

These three Contributions Plans, each requires payment of contributions with the relevant Construction Certificates, and hence do not trigger the consideration of contributions now. Further consideration will be applied to this issue upon the lodgement and assessment of detailed Stage 2 DAs seeking to implement the CIP through physical buildings works.

The DGEARs also seek details be included within the EIS in relation to any proposed Voluntary Planning Agreement (VPA) with the City of Sydney or UrbanGrowth NSW. In this respect, there are no VPAs that have been discussed (nor are intended) to be entered into with either the City of Sydney or UrbanGrowth NSW as part of the current Stage 1 SSDA. Notwithstanding, the CIP identifies a number of detailed works (that will require approval via a Stage 2 DA) and that will involve significant public benefits, for which the University intend entering into VPA arrangements with relevant Government authorities.

All of the above said, the University's position in relation to the payment of contributions has been made clear in previous submissions, being that no contributions should be paid having regard to the following primary reasons:

- The University of Sydney has 'Crown Authority status' pursuant to Clause 226(1) of the Environmental Planning and Assessment Regulation 2000;
- Exemption from contributions is supported by Planning Circular (Circular D6) relating to Crown Development Applications. The Circular (from 1995) is referenced in the Department's draft Development Contributions Guidelines 2009 as providing the 'current limitations on the imposition of development contributions on public sector developments'. The Circular provides a guide to Councils and Crown agencies as to which categories of section 94 contributions are applicable to Crown Developments stating that:

  "Crown activities providing a public service of 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"

- The CIP projects involve the provision of public infrastructure by the Crown. Such development is one of the express exemptions under both the Contributions Plans identified (i.e.*'…other public infrastructure approved by the Minister*');
- The CIP proposes to accommodate up to 4000 additional student accommodation beds on and near campus over a 7-year time frame. This provision will assist with alleviating rental demand for lower cost dwellings for the wider market and will provide students with purpose built accommodation at an affordable rental price and within close proximity to campus facilities. In this context, the University is a significant player in the delivery of more affordable housing (both directly and indirectly) within the inner City area;
- The University has a public character and is open to the public as a non-gated, accessible and permeable precinct which presently provides a number of material public benefits such as sports facilities (e.g. pools), open space, libraries, cultural spaces and venues, and retail outlets;
- The CIP project contributes to the urban revitalisation and renewal of the area, and accordingly, directly achieves some of the core objectives of the establishment of the RWA. The RWA Contributions Plan is a mechanism which is intended to achieve and support this renewal, however the University will achieve this directly without the need to pay contributions under the Contributions Plan;
- The University is not a developer and is a not-for-profit public institution which relies on significant grants, donations, and external funding to provide new facilities for both the University community, and the wider community at large;
- The levying of contributions on projects that are funded by external sources including Commonwealth Government grants is simply diverting a portion of funds for an educational purpose to local services without any direct nexus to the development;
- The University provides a wide range of social, cultural, and recreational public benefits and contributions to LGA and its resident and worker population, in addition to the subject development; and
- The University will continue to rely upon these core matters in the assessment of subsequent detailed applications. Previous submissions have been made by the University to the DPI in relation to some of its transformational projects citing more specific reasons for exemptions. These matters will also be relevant for many of the individual buildings the subject of the CIP. For the DPI's information, two submissions are attached at ***Appendix Q*** in relation to Abercrombie Precinct Redevelopment Project (Darlington) and the Australian Institute for Nanoscience, (Camperdown).

Importantly, the University of Sydney, along with other Universities across NSW, have taken up this matter at a broader and strategic level through the NSW Vice Chancellors' Committee given this issue is common across many University jurisdictions. This has resulted in the drafting of a sector-wide position paper which has recently been issued to the Minister for Planning and DPI's Infrastructure Taskforce. This position paper is also included at ***Appendix Q.***

10 COMMUNITY CONSULTATION

The University acknowledges and supports the NSW State Government's commitment to strategic stakeholder participation.

A key aspect of the preparation of the CIP has been the consultation and engagement process involving the University community and broader stakeholders including State and Local Government and local residents. All feedback received through these processes has been reviewed and incorporated into the CIP to balance the University's operational requirements and relevant stakeholder interests. Details on the Inter-Government Agency consultation and the community engagement process are provided below:

10.1 INTER-GOVERNMENT AGENCY CONSULTATION

Between June and August 2013, CIS undertook a program of consulting the CIP program with the Government agencies listed in ***Table 10*** in order to identify key Government issues and relevant policies:

TABLE 10 – INTER GOVERNMENT AGENCY CONSULTATION ATTENDEES

Department of Planning & Infrastructure (DP&I)	Heritage Office of NSW
City of Sydney Council	UrbanGrowth NSW
Transport for NSW	Housing NSW
Roads and Maritime Services	Ausgrid
Heritage Office of NSW	Housing NSW
UrbanGrowth NSW	Destination NSW

The Government consultation program resulted in the DP&I convening a whole of Government agency workshop with the University to discuss a holistic Government approach and response to CIP. Details of this workshop and outcomes are addressed at ***Appendix N***. This consultation program has provided the University with instrumental guidance and direction from Government agencies on their respective policy priorities, and which has guided the structure and contents of the CIP and in this Stage 1 SSDA.

Between August and October 2013, CIS has met regularly with the City of Sydney Council to discuss emerging precinct building envelopes for key areas, in particular the Merewether, City Road and Engineering precincts.

10.2 COMMUNITY ENGAGEMENT

The University has been engaging with the local community throughout 2013 on the Darlington Campus Abercrombie Redevelopment Project. This has resulted in meetings with key stakeholders and local community with the University providing regular communication regarding the development of the Business School, the Abercrombie Student Accommodation project and the Darlington Pedestrian and Bicycle Access Strategy. Details of these community stakeholders can be found at ***Appendix N.***

Through this engagement the University has been able to identify the major issues of importance to the community in relation to the operations of the University.

These issues have all been considered and provided for in the development of the CIP through the following inclusions detailed in ***Table 11***.

TABLE 11 – COMMUNITY CONSULTATION ISSUES RAISED AND CIP RESPONSE

ISSUE RAISED	CIP RESPONSE
Noise	▪ Adoption of world class design excellence for all new buildings including acoustic containment. ▪ Buffer zones (no social events and provision of acoustic treatments) planned along residential streets that have a public interface with the University campus
Traffic	▪ Rationalisation of vehicle entry and parking ▪ Encouraging greater integration with public transport modes
Pedestrian movements	▪ Development of a safe campus wide shared pedestrian and cycle network that also links to surrounding City of Sydney networks
Gateways/Invitation	▪ Establishing strong and inviting campus gateway entrances and campus identity. ▪ Encourage welcoming and community access to and within the campus including facilities (libraries, sports, open space, retail)
Student Parking	▪ Peripheral car parking locations ▪ Pricing mechanisms not to discourage short stay parking and not to encourage short stay parking diversions to surrounding residential streets.
Open Space/Green Space	▪ Includes a Landscape, Planting and Public Art strategy
Safety and Security	▪ Security Management Strategy in and on periphery of the campus ▪ Adoption of CPTED principles ▪ On-site campus security
Community consultation and engagement	▪ Community Consultation, Engagement and Communications Strategy developed

10.3 PROPOSED CONSULTATION STRATEGY

A Communications and Community Engagement Strategy detailed in ***Table 12*** has been developed that provides a robust framework for action during the lodgement and development assessment stages to the CIP.

In addition to the Stage 1 SSD public exhibition program that will be implemented by the DP&I, the University intends the following activities will be undertaken to ensure that adequate and appropriate consultation has been undertaken by the University and individuals and organisations that may have an interest in the CIP have an opportunity to express their views.

Consultation will continue as required, and the University will keep the community informed of the progress of the CIP through a range of communication tools including the Vice Chancellor's Column in the South Sydney Herald, the University's website, presentations, meetings and other appropriate mediums.

TABLE 12 – COMMUNICATIONS AND ENGAGEMENT STRATEGY

NEWSLETTERS	Community newsletter dropped in Chippendale, Darlington, Glebe, Camperdown and Newtown
LOCAL NEWSPAPER ADVERTISING	City News, South Sydney Herald and The Sydney Morning Herald informing the community of the CIP and providing an officer contact name for enquiries and advising where to review the CIP and make submissions.
STAKEHOLDER DATABASE	A database of interested individuals and organisations will be established to ensure that these stakeholders are given timely information and advice and adequate notice of any consultation/engagement events
KEY STAKEHOLDER BRIEFINGS	One on one briefing for key stakeholders and Government agencies. Key Stakeholders are listed at **Appendix N**.
PERSONALISED CORRESPONDENCE	Letters to Federal and State Local Members and any other key stakeholders identified, advising them of the CIP
COMMUNITY INFORMATION SESSIONS	Drop in sessions to be organised over a variety of days and times including weekends and in the evenings and held at a number of accessible venues to provide the opportunity for interested individuals, groups and organisations to review the CIP materials and be able to have their questions answered directly by appropriate personnel.
WEBSITE	A dedicated CIP web page will be created on The University of Sydney website where the CIP and any other relevant advice and documentation will also be made available. Community organisations such as REDWatch will also be invited to upload the CIP documents on their websites.
CIP VIDEO	The CIP Video will be uploaded on the Website for viewing
3D ANIMATED COMPUTER MODELS	3D Animated computer models of the new builds, where available, will be uploaded on the website.
DEDICATED EMAIL ADDRESS AND TELEPHONE CONTACT	A dedicated email address and telephone number will be created to answer any questions and to receive feedback on the proposal
EMAIL UPDATES	Emails will be sent to the database on a regular basis during the public exhibition period to provide advice and to invite comment
FACT SHEET	Fact Sheet overview clearly stating the aims and objectives of the CIP, how the CIP was developed, the consultation process to date and how to make comment on the CIP. The Fact Sheet will appear on the website, be emailed to the data base and hard copies located at distribution points such as libraries, cafes, community centres etc.
FEEDBACK FORM	Feedback form for the community to provide comments efficiently. Will be available in hard copy and electronically.
DISPLAY MATERIALS	Development of display boards outlining the planning and approvals process to enable the CIP.
UOS STAFF NEWS AND STUDENT NEWS	Story and invitation to comment in University's Staff News

11 ENVIRONMENTAL, SOCIAL AND ECONOMIC IMPACTS

This section provides an overview of the CIP's environmental, social and economic impacts and benefits.

11.1 ENVIRONMENTAL IMPACTS AND BENEFITS

The likely impacts of the proposal have been examined in depth in Section 7 above, which demonstrate that the potential environmental impacts of the CIP can be sustainably managed. Key environmental matters are discussed below:

- Proposed building envelopes have been holistically planned to achieve compatible building envelopes within the University between new and existing buildings, including heritage items. This planning has also enabled detailed consideration to the surrounding context, particularly to the residential development along Shepherd Street as well potential shadow impacts upon surrounding residential interfaces with the campus.
- Detailed design principles will be adhered to, to ensure future design of buildings and precincts will achieve satisfactory environmental outcomes. Similarly, The University embodies a Sustainability framework which includes environmental performance requirements that will be required to be met.
- The Access Strategy is also a key driver for achieving sustainable outcomes. This Strategy will implement a range of initiatives to enhance and encourage the use of public transport or other sustainable forms of transport such as cycling and walking by improving connectivity to existing routes. Car parking will be rationalised to peripheral areas to provide opportunities for landscape or pedestrian priority areas.
- Traffic impact assessment identifies that a reassignment of traffic will result in a general decrease across the majority of entries with the exception of Western Avenue, where it is expected that new parking areas at the Health Precinct will increase traffic generation. However, as part of this precinct development, it is envisaged that a new access could be created along the southern side of Royal Prince Alfred Hospital, which will spread the traffic load between Missenden Road and Carillion Avenue/Western Avenue gateway.
- Location of any future storage of hazardous or offensive material will be identified and assessed in accordance with the requirements of SEPP 33 – Hazardous and Offensive development as part of ongoing detailed development applications, where necessary.
- Preliminary Site Investigation concludes that the identified contamination risks are not considered to pose a restriction on future land uses envisaged by the SSDA.
- Preliminary ecological assessment identifies that there will be no impacts to flora and fauna on site through the implementation of certain recommendations and will provide opportunities to enhance and introduce additional flora and fauna to the site.

11.2 SOCIAL IMPACTS AND BENEFITS

The significant size of university campuses and the extent of essential and support services and infrastructure bring a range of social and public benefits to the local community and broader region. The CIP will provide enhanced facilities such as open space, sport and recreational facilities and libraries available for use by the general public. In addition, transport improvements such as well-connected cycleways and walkways will enhance the University's connection with the surrounds.

The University has a key role in the strategic planning, development and management of land, infrastructure and facilities in order to benefit not only its students and staff but also the wider community.

The University has a significant responsibility in bringing people and organisations together and establishing relationships in order to achieve community outcomes. The University has a public charter and is open to the public as a non-gated, accessible and permeable precinct. This provides a number of material public benefits over and above the University's core focus of education and research. Such benefits include access to public libraries, spaces for cultural events, community facilities such as child care centres, sporting facilities such as the Noel Martin Sports Centre, playing fields and stadiums, entertainment spaces, and large areas of public open space.

The CIP will deliver health, social welfare, child care and student services that are strategically located across campus and available to the wider community.

The University is committed to enriching its community by bringing together people from all social backgrounds from around Australia and the world and has adopted a Social Inclusion strategy to ensure that the student population is diverse and the participation of students from currently under represented groups is increased. The CIP will recognise and encourage connections with cultural, historical and symbolic representations. This will create opportunities and capabilities for Aboriginal and Torres Strait Islanders and other Australians to share. In particular:

The CIP aims to recognise and celebrate Aboriginal and Torres Strait Islander significance through:

- An implementation framework for the University's *Wingara-Mura Aboriginal and Torres Strait Islander Integrated Strategy* by promoting Aboriginal and Torres Strait Islander education, community and stakeholder engagement, research, and the cultural and built environment of the University community.
- Reinforcing the rights, interests, needs and aspirations of Aboriginal and Torres Strait Islander people through the incorporation of Aboriginal values, art, ceremonies, song and dance, ways of meeting and talking within the built environment of the campus.
- Recognition of the Cadigal people as the traditional owners of the land.
- Identification and protection of any Aboriginal significant sites located on the campus.
- Naming of new University facilities.
- Incorporating Aboriginal language on signage.
- Installing Aboriginal art throughout the campus as part of the university public art policy.

The CIP will establish the Campus as a visitor destination:

- The CIP welcomes local community access to the campus and community use of a variety of University facilities such as education, library, sport, retail, event and open space facilities.
- The CIP provides a framework for enhancing and promoting the University's reputation as a visitor destination, attracting domestic and international visitor catchments through a variety of facilities and themes.
- These include the University's heritage buildings and items, cultural and museum facilities, public art displays on the campus public domain, presenting world class conferences and lectures in state of the art venues, the staging of performances and events, campus accommodation and supporting retail offerings, and excellent accessibility from Sydney's principal transport hubs.

The CIP will generate a vibrant & affordable Campus Student life:

- The CIP provides a framework under which affordable student accommodation will be provided on and near campus, set within a safe and pleasant student living environment, and supported by easy access to campus living, educational, sporting and open space facilities.
- The CIP seeks to create a world class student campus living environment through the provision of quality accommodation and support services. This provision will allow the University's faculties to cater to domestic, regional and international students in providing its students with an holistic campus living experience.

- The campus life experience will encompass those facets that make the University's population and visitors' experience special, including retail offerings, art and cultural displays, improved pedestrian and cycle ways, public domain navigation and safety, and links to surrounding communities' retail precincts and the City of Sydney.
- Safe pedestrian and cycling routes to and through campus will be incorporated into the CIP to encourage walking and cycling opportunities that will assist in delivering positive outcomes for the community's health and wellbeing.

11.3 ECONOMIC IMPACTS AND BENEFITS

The University sector plays a significant economic role in NSW. This is reinforced by the following statistics:

- Education services are the second largest export earner in NSW after coal. Income generated in NSW by education services amounted to $5.5 billion in 2011-12.
- Universities make major capital investments in buildings and infrastructure, for example:
  - $2 billion in major university projects approved in the past five years in NSW that will create an estimated 9,000 direct construction jobs and 13,400 indirect jobs throughout other sectors.
  - $6.2 billion of capital works projects in the pipeline until 2020, creating an estimated 27,900 direct construction jobs and 41,655 indirect jobs.

An analysis has been prepared by Urbis which identifies the key economic benefits of the CIP:

- Sustaining around 14,700 direct and indirect jobs during the construction period.
- Around 400 additional jobs at the Camperdown-Darlington Campus linked to the CIP improvements, growth in student numbers and relocation of faculties from other locations.
- Income generation in the order of $610m linked to construction and $95m linked to additional staff on campus.
- Around $3bn of additional output (production and consumption induced effects) resulting from CIP construction activity.
- Increased spending in the order of $374m over the 2014- 2020 period linked to the ability to grow the international student market at Camperdown Darlington.
- The detailed economic assessment report by Urbis is attached under ***Appendix O.***

12 DRAFT STATEMENT OF COMMITMENTS

Aboriginal Heritage

The recommendations by GML Pty Ltd contained within the Aboriginal Due Diligence Report will be implemented for the future development of the CIP Precincts. This includes:

- Should Aboriginal objects be located during the course of future development, work should cease immediately and an archaeologist be contacted to document and assess these finds. The objects must be reported to the OEH under Section 90 of the NPW Act;
- Specifically, with respect to the Life Sciences Precinct:
  - Further archaeological monitoring and testing should be undertaken on the areas under the foundations of any buildings within this precinct that are proposed to be demolished
  - If proposed work in this precinct includes excavation to a depth greater than 3m, it is recommended that program of archaeological text excavation be carried out prior to the commencement of works, followed by archaeological monitoring of the proposed excavation; and
  - If any Aboriginal objects are located during the course of archaeological monitoring and/or test excavations these objects should be documented and recorded by an archaeologist and report to the OEH under Section 90 of the NPW Act.

Archaeology

Of the six areas identified as having historical archaeological potential only two are impacted by proposed CIP Precincts: Merewether Precinct, Site C - Darlington Terraces; and City Road Precinct, Site C – Wilkinson Building.

Policy 33 for the conservation of Historical Archaeological areas having Ranking '3' states:

> *"Ground disturbance in this area could proceed without prior consultation with an historical archaeologist. However, if upon further physical disturbance a sub-surface deposit is revealed, an historical archaeologist should be consulted."*

Acid Sulphate Soils

The Preliminary Site Investigation report by Douglas Partners in ***Appendix J*** notes that there may be potential for Acid Sulphate Soil below the water table, located to the north of Precinct D. Detailed investigations relating to acid sulphate soils will apply at the detailed DA stage, where development will involve excavation.

Utilities

Consultation with all utility and service providers will continue during the design and development phase for each precinct to ensure appropriate provision of infrastructure is provided.

Flora and Fauna

- Future development will be sited to avoid the removal of mature trees where possible and to minimise loss of open space.
- Appropriate measures to protect trees in proximity to building/refurbishment sites during demolition, excavation, construction and refurbishment works will be implemented.
- Implementation of the University's Tree Management Plan for the Camperdown and Darlington Campuses.
- Opportunities to enhance habitat for flora and fauna will be considered during the landscape planning of future CIP Precincts as outlined in the Preliminary Ecological Assessment report by Australian Museum Consulting.

Access

Recommendations provided in the ARUP Access Strategy document will be further investigated upon the detailed design development of future CIP Precincts. This includes:

- Provision of six gateways to provide drop-off and pick-up points to facilitate access to each of the precincts for taxis, buses and private vehicles. Future design development of the Health Precinct will include investigations to a new access that could be created along the southern side of Royal Prince Alfred Hospital to assist in minimising traffic load between Missenden Road and Carillion Avenue/Western Avenue gateway. This is also dependent on agreement with RPA, St Andrews College and The University of Sydney;
- Implementation of shared zones along the remaining internal University roads;
- Implementation of the parking strategy to minimise additional car parking facilities and encouraging use of public transport and other forms of transport. This includes consideration to reviewing standard parking pricing;
- Centralisation of service deliveries, waste collection and construction compounds will be implemented through the staged construction of four peripheral Transfer Stations;
- Additional secure bicycle parking will be provided in key locations as precincts are developed. Bicycle racks to be instated at grade adjacent to shared path and access roadways; whilst end of trip facilities will be incorporated into new precinct developments;
- Provision of shared zones for pedestrians, cyclists and authorised vehicles; and
- Investigations for further initiatives for increased public transport usage by staff.

Precinct and building design

- Future design of precincts and buildings will be required to satisfy the University's Urban Design, Architectural and Landscape Principles.

Heritage

Future Stage 2 detailed planning and design of each precinct/site will have regard to the recommendations contained within the respective Heritage Impact Assessment reports.

13 CONCLUSION AND JUSTIFICATION FOR THE DEVELOPMENT

The University's role as a major contributor to the future growth and delivery of NSW strategic plans is well recognised. The NSW Government has recently released the draft Metropolitan Strategy for Sydney to 2031, as a strategic plan for the future of Global Sydney. The draft Strategy encourages growth in the education and research sector which will be furthered by the implementation of the CIP.

The University is recognised as the nation's principal University specialising in tertiary educational and research pedagogy. It is imperative that The University continue to position itself as the leading teaching, learning and research institution in Australia. This can only be achieved through the development and implementation of the CIP.

Based upon an assessment of the Stage 1 SSDA, it is concluded that:

- The potential environmental impacts of the CIP can be sustainably managed. Proposed building envelopes have been holistically planned to achieve compatible building envelopes within the University between new and existing buildings, including heritage items. This planning has also enabled detailed consideration to the surrounding context, particularly to low rise neighbouring residential areas and heritage items on the site and within proximity;

- The CIP Access Strategy will implement a range of initiatives to enhance and encourage the use of public transport or other sustainable forms of transport such as cycling and walking by improving connectivity to existing routes. Car parking will be rationalised to peripheral areas to provide opportunities for landscape or pedestrian priority areas; whilst traffic impact assessment identifies that a reassignment of traffic will result in a general decrease across the majority of entries. It is expected that an increase in traffic generation will be experienced in respect to the access to Western Avenue from Carillion Avenue. However, a new access is currently being investigated as part of the future RPA master-planning to along the southern side of RPA, which will spread the traffic load between Missenden Road and Carillion Avenue/Western Avenue gateway;

- The significant size of university campuses and the extent of essential and support services and infrastructure bring a range of social and public benefits to the local community and broader region. The CIP will provide enhanced facilities such as open space, sport and recreational facilities and libraries available for use by the general public. In addition, transport improvements such as well-connected cycleways and walkways will enhance The University's connection with the surrounds;

- The CIP will entail an estimated capital investment of $1,396,400,000 (excluding GST) and will provide significant economic benefits such as sustaining around 14,700 direct and indirect jobs during the construction period and around 400 additional jobs at the Camperdown-Darlington Campus. Other economic benefits include an income generation in the order of $610m linked to construction and $95m linked to additional staff on campus; around $3bn of additional output (production and consumption induced effects) resulting from CIP construction activity. The CIP will also facilitate increased spending in the order of $374m over the 2014- 2020 period linked to the ability to grow the international student market at Camperdown Darlington; and

- The implementation of the CIP is in complete alignment with the public interest at local, city, state and national levels.

Approval of this Stage 1 SSDA will provide certainty and commercial confidence in implementing the CIP, including the future staging and budgeting of development opportunities, and in turn realising the many benefits this project will provide for all stakeholders for the existing and future generations associated with the University.

Disclaimer

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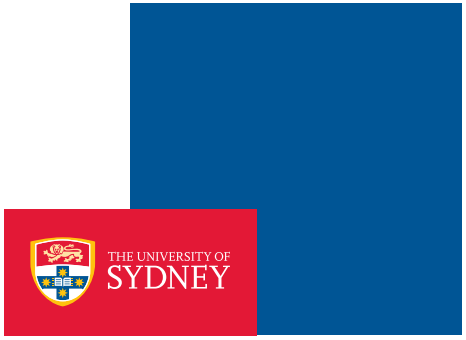

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