

Planning and Design Guide

Objectives and principles for the future development
of the Kensington Campus

Never Stand Still

Facilities Management

Kensington Campus Planning and Design Guide
Objectives and principles for the future development of the Kensington campus
Edition 1, May 2011

Prepared by:
The University of New South Wales
Facilities Management - Planning and Development

Acknowledgements

UNSW acknowledges the significant contributions made by previous studies for the Kensington campus in the preparation of this Guide.

Particular mention is made of the Campus Development Strategy in 1990 and its review in 1998 by Jackson Teece Chesterman Willis Consultants, led by David Chesterman, and the Campus 2020 Master Plan in 2005 by DEGW and other consultants, led by Sue Holliday.

In addition, UNSW acknowledges the contribution made by its Campus Design Advisory Panel chaired by Professor Ken Maher. The Panel has been established to provide UNSW with high level independent, expert planning and design advice.

UNSW Aspiration

UNSW's aspiration is to be a leading research intensive university in the Asia-Pacific region, focusing on contemporary and social issues through defined strengths in professional and scientific fields – a peer in good standing with the best globally.



Foreword



UNSW has been described as one of the heavyweights of Australian higher education, offering an intense and rich tertiary experience. We are a leading research intensive university in the Asia-Pacific region, and a peer of the best globally. We focus on contemporary and social issues through defined strengths in professional, scientific and technological fields.

Our main campus is situated at Kensington, 6km from the Sydney CBD and within an area designated by the NSW Government as the Randwick Education and Health Specialised Centre.

Since our establishment in 1949, the campus has grown from a collection of “huts” surrounded by sand and scrub to a dynamic urban environment of more than 45,000 enrolled students, 6,000 staff and 140 buildings stretching over 38 hectares.

Along the way there have been many changes in how the campus looks and functions. From a ‘tar and car’ site in the 1980s it has been transformed to a place with a highly regarded landscape and architectural aesthetic. In the last five years, capital works in excess of \$500m have further enhanced major areas of the campus, and we have committed over \$700m to UNSW’s ongoing building and refurbishment program.

Our challenge is to create and maintain a high quality physical environment that facilitates the achievement of the UNSW aspiration and at the same time achieves a positive experience for all those who study, work and visit the campus.

The campus experience – how students, staff and visitors relate to and feel about the campus, is a crucial ingredient to the future success of UNSW. When choosing a university, students and staff are looking for more than a degree or a job; they are looking for a learning and teaching experience that is contemporary and engaging. This Guide will help designers and professionals engaged on future projects create that experience.

A handwritten signature in black ink, appearing to read 'F.G. Hilmer'. The signature is fluid and cursive.

FREDERICK G HILMER

Vice-Chancellor

Table of Contents

Introduction	11
Purpose	12
Campus Vision	13
Campus Context	14
UNSW Campus Sites	14
UNSW Other Properties	15
Randwick Education and Health Specialised Centre	17
Planning and Design	18
Background	18
Objectives and Principles	21
Sustainability	21
Identity and Character	22
Built Form	23
Landscaping and Open Space	24
Access, Circulation and Legibility	25
Landuse and Location of Support Activities	26
Services Infrastructure	28
Space Allocation	29

Introduction

This Guide draws on previous studies undertaken for the Kensington Campus. The Guide also links to the overarching strategic direction for UNSW as set out in “B2B Blueprint to Beyond – UNSW Strategic Intent”.



The Guide is a high-level document. More detailed planning standards and design guidelines will be developed in other documents such as urban design frameworks, design studies, landscape guidelines and the like providing more detailed design advice.

The Guide will be reviewed regularly and updated as required.



Fig 1. Aerial view, UNSW Kensington Campus and surrounding context

Purpose

The purpose of the Guide is to:

- Inform planners, architects, other consultants and government authorities when preparing project and planning documents for the campus;
- Provide a reference document for the University to aid decision-making and to ensure that new development is consistent with the objectives and principles outlined in this Guide;
- Acknowledge the role of Kensington as the primary campus of UNSW and an important element of the Randwick Education and Health Specialised Centre;
- Assist in reviews of the Kensington Campus Development Control Plan (DCP) and the Randwick Education and Health Precinct Plan; and
- Facilitate achievement of the Campus Vision.



Fig 2. Indicative vision for future development
Source: MUDD Student Project 2010, Nale Bellini, Kuhu Gupta, Li Jou Ooi, Erica Tinio

Campus Vision

Through its built form and landscape the Kensington Campus will be a welcoming, collaborative and vibrant place that provides a memorable and positive experience for students, staff and the wider community.

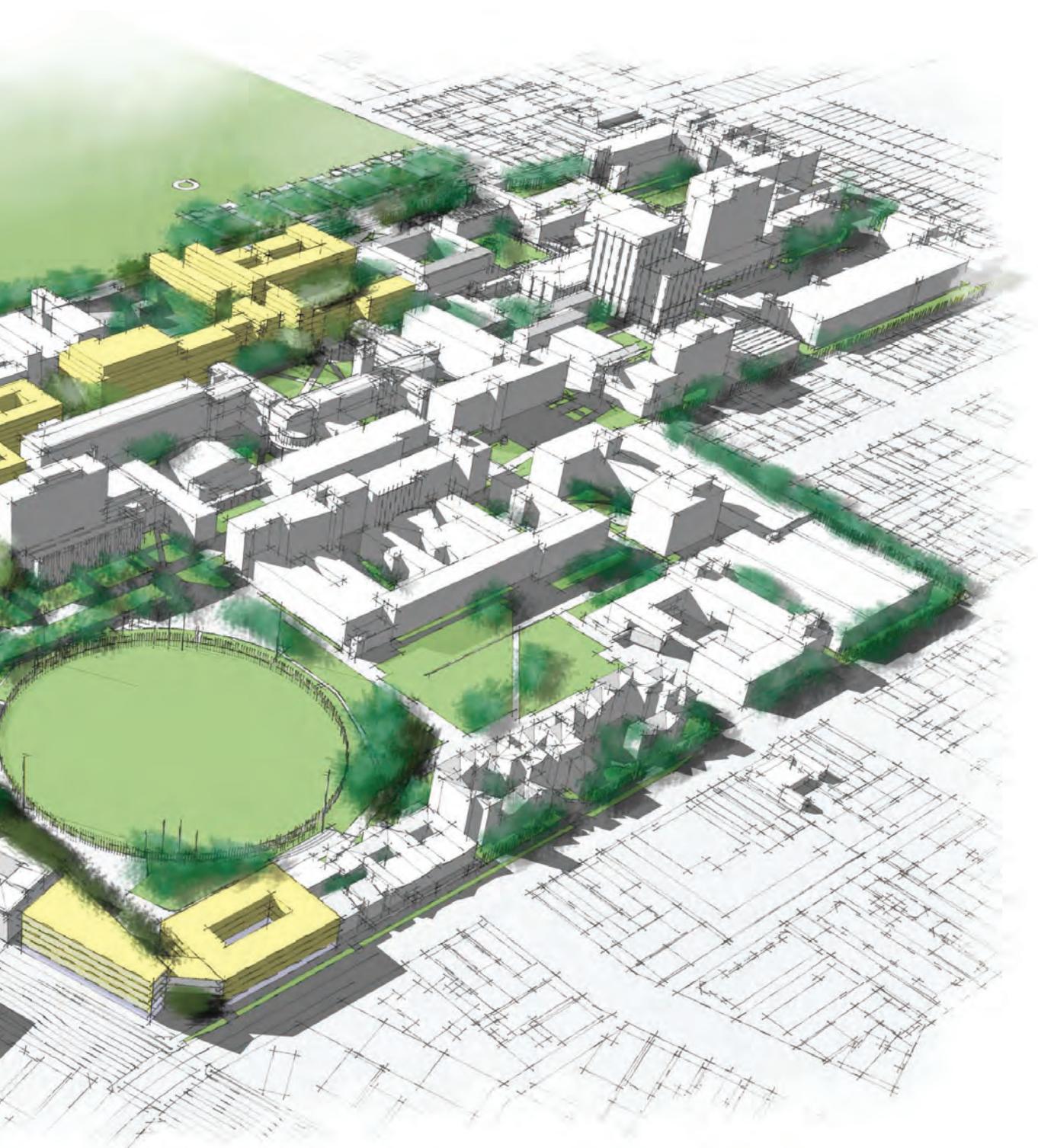
It will be an inspiring place to which international visitors will want to come.

The campus will integrate and engage with its surrounding area to enhance its role as a major land use, employer and service provider within the Randwick Education and Health Specialised Centre.

It will be a campus where sustainability underpins all activities – in teaching and research as well as the design, construction and management of buildings and infrastructure.

Through orderly planning and design the campus will maximise its development potential without compromising its urban amenity.

It will also be a place where the cultural, historic and social values of the campus are celebrated as its built form and outdoor spaces change over time.



Campus Context

The University has a property portfolio valued at close to \$2 billion across NSW consisting primarily of properties owned freehold by UNSW, but also with some leasehold.

UNSW has five campuses in the Sydney metropolitan area plus a presence at the Australian Defence Force Academy (ADFA) in Canberra.

UNSW Campus Sites

Kensington

The Kensington campus is located in Sydney's inner south-eastern suburb of Kensington. It is the main campus and administration centre of UNSW and home to the Faculties of Arts and Social Sciences, Australian School of Business, Built Environment, Engineering, Law, Medicine and Science. Also located on the campus is the National Institute of Dramatic Art (NIDA) and a number of Research Centres and organisations associated with UNSW.

The campus also has support facilities such as a library, parking stations, retail outlets, medical suite, gymnasium and swimming pool, and student accommodation in the form of seven residential colleges and two apartment complexes.

Established in 1949, the campus has grown to a freehold site of 38.9ha with more than 140 buildings of various ages and conditions and a gross floor area (GFA) of 600,000m². Currently on the campus are around 6,000 permanent staff and 45,000 enrolled students (though not all at the same time).

Kensington will continue to function as the main campus of UNSW.



Fig 3. UNSW campus sites

Paddington (COFA)

The College of Fine Arts (COFA) campus is located at Paddington and offers programs in the visual arts, design, digital media, art education, art history and theory.

The campus occupies a freehold site of 8.5ha with eight buildings of various ages and conditions and a GFA of more than 16,500m², including student exhibition spaces. The campus is located within the Paddington Conservation Area and two of its buildings are listed as heritage items.

Randwick

The Randwick campus is located 1km north of Kensington and houses the Institute of Languages, the UNSW IT Data Centre and several Research Centres. The freehold site has an area of 2.3ha with 18 buildings and a GFA of more than 16,000m².

Coogee (Cliffbrook)

The Coogee campus (also known as Cliffbrook) is located 2.5km east of Kensington at Coogee and is home to units of the Faculty of Medicine and UNSW Press. The freehold site has an area of 1.2ha with four buildings and a GFA of more than 2,500m².

Manly Vale

Water Research Laboratories are located on a site of 3.8ha (freehold and leasehold) at Manly Vale in Sydney's northern suburbs. The Laboratories are part of the School of Civil and Environmental Engineering and provide leading international research and consulting in water, ground water, coastal and environmental engineering.

UNSW@ADFA (Canberra)

Within the ADFA campus at Canberra, UNSW has established a college known as UNSW@ADFA under an agreement with the Commonwealth Government. The college is the centre for higher education for the Australian Defence Force and offers undergraduate courses to officer cadets and graduate study and research leading to higher degrees for military and civilian personnel.

The campus has a full range of academic services, sporting and training facilities, housed in modern buildings.

Other UNSW Property

Kensington Environs

UNSW owns more than 40 freehold properties on residential zoned land around the Kensington campus. Although they have functional links with the campus they are not considered part of the actual campus. Those not immediately required for University purposes are leased to the residential market at prevailing rates.

UNSW Global, a wholly owned enterprise of UNSW, has a number of head leases in the local area that provide accommodation for Study Abroad students who study at UNSW for up to one full year at undergraduate or postgraduate level.

Anzac Parade, Kensington

UNSW Global has a 15 year lease with a private company, Unilodge, to occupy a 225 bed facility in Anzac Parade, Kensington, 1 km north of the Kensington campus. Each apartment is fully furnished with shared facilities such as a student lounge room, common study area and laundry.

David Phillips Sports Fields, Daceyville

The UNSW sports fields are located at Daceyville, 1.5km south of the Kensington campus. They are the University's major sports facility and complement the facilities on the Kensington campus at Village Green.

The freehold site has an area of 6.3ha which includes a clubhouse; amenities; a grandstand; lighting; fields for

hockey, soccer, rugby, cricket and baseball; and tennis courts.

Mulwarree Avenue, Randwick

The University's first off-campus housing project, in 1992, was the Mulwarree Apartments, located on a 8,574m² freehold site opposite the Randwick campus. There are 37 self-catered, furnished apartments for 185 students with student and visitor parking also provided.

Bay Street, Botany

The School of Photovoltaics and Renewable Energy Engineering occupies freehold premises in Bay Street Botany. The premises are located 4km south west of the Kensington campus and are used for the design and development of solar energy technology.

Rothschild Avenue, Rosebery

Educational Assessment Australia (EAA) undertakes research in teaching and educational assessment and measurement and is a business unit of UNSW Global. Its offices are located at Rosebery in leasehold premises, 4km west of the Kensington campus.

O'Connell Street, Sydney

The Australian School of Business and the Centre for Social Impact leases office premises at 1 O'Connell Street in the Sydney CBD for some of its teaching programs.

Tarban Creek, Gladesville

Rowing facilities are provided for UNSW and Sydney Girls High School on Crown land at Tarban Creek, Gladesville, on Sydney's lower north shore. UNSW is a trustee of the land and a boat launching ramp. Facilities also include a boat shed, change rooms, toilets, garage, carpark and roadway.

Chowder Bay, Mosman

UNSW has partnered with several Australian universities and government departments to form the Sydney Institute of Marine Science (SIMS). A unique research facility is being established by SIMS at Chowder Bay in buildings which are leased from the Sydney Harbour Federation Trust. It will eventually provide a protected marine aquarium and associated research laboratories, as well as research vessels, radar and communications equipment.

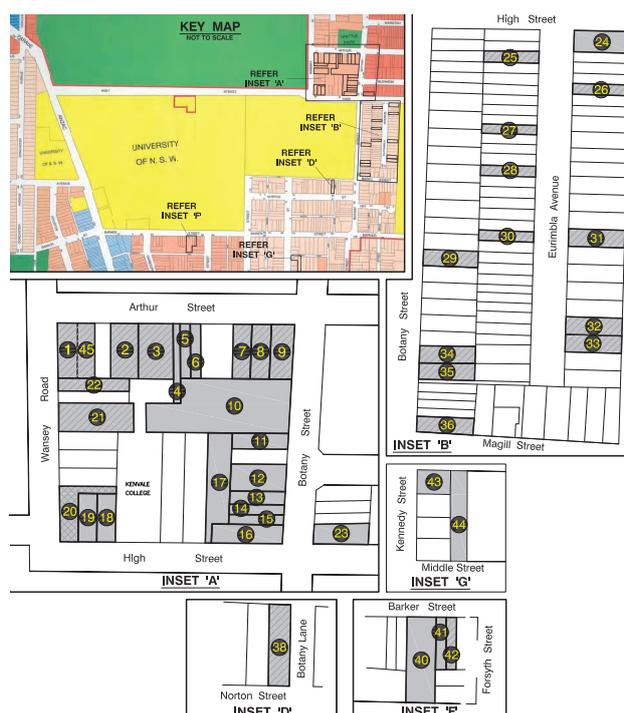


Fig 4. Properties owned by UNSW in the Kensington Environs

Field Stations

The University's field stations are used to support the teaching, research and related activities of Faculties and Schools. The field stations are located at:

- Cowan – on the northern outskirts of Sydney under a licence agreement with the Crown;
- Fowlers Gap – 110km north of Broken Hill on land leased from the Crown;
- Hay – in western NSW on freehold land and land leased from the Crown;
- Smiths Lake – within the Myall Lakes National Park on land leased from the Crown;
- Stuart Town – on the Central Western Slopes of NSW within Wellington Council on land leased from the Crown;
- Wellington – near the town of Wellington (NSW) on land leased from the Crown; and
- Lady Elliot Island – the southernmost island of the Great Barrier Reef Marine Park.

Randwick Education and Health Specialised Centre

The Randwick Education and Health Specialised Centre is one of several centres designated in the NSW government's 2005 City of Cities - Strategy for Sydney. The government's key objective is to consolidate and strengthen the Centre as a place for biomedical and bioengineering research and development, employment and business.

The Kensington campus, together with the Randwick hospitals' campus (Prince of Wales Hospital, Sydney Children's Hospital, Royal Hospital for Women, Prince of Wales Private Hospital) are the major land uses and economic drivers of the Centre.

The hospitals play an important role with UNSW with the sharing of teaching and research staff, facilities and equipment. Similarly to the Kensington campus, they create a high demand for traffic movements and have a major impact on local traffic and parking.

Anzac Parade, Alison Road, Belmore Road, Botany Road and High Street form the main local road network, connecting other important land uses within the Centre including the three town centres close to the campus (Randwick, Kensington and Kingsford).

A Precinct Plan for the centre is being prepared by Randwick City Council to develop the long-term integration and coordination of activities.



Fig 5. Location of UNSW within the Randwick Education and Health Specialised Centre
Source: City of Cities - Introduction - Strategy for Sydney, Edited by UNSW

Planning and Design

Background

Campus Development Strategy - 1990

The Campus Development Strategy was prepared by the architectural firm Jackson Teece Chesterman Willis Consultants. The Strategy provided, for the first time, a development framework for the Kensington campus. It defined objectives and principles for:

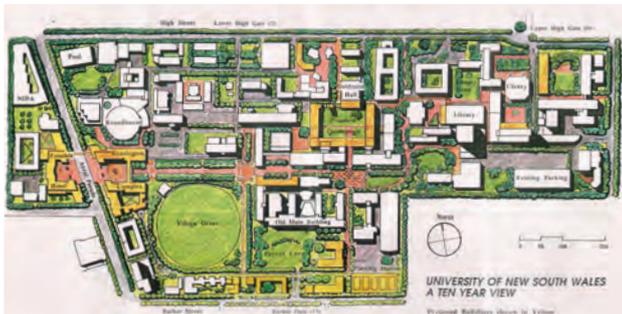


Fig 6. Campus Development Strategy - 1990

- The location of activities;
- Land use, siting and design;
- The circulation of people and vehicles; and
- Landscaping and site works.

The Strategy was accompanied by:

- Nine Precinct Plans providing detailed information on existing conditions and proposed development guidelines;
- A Landscape and Site Works Manual providing principles for selection of paving, lighting, street furniture, soft landscape, colours and graphics; and
- A Traffic Plan defining the objectives and principles for vehicular circulation and parking.

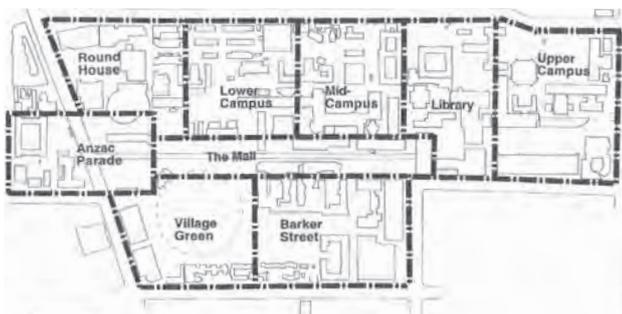


Fig 7. Campus Development Strategy - Precincts

Campus Development Strategy (Phase 2) - 1998

The Strategy was reviewed by the same consultants in 1998 in response to marked changes since 1990 in the physical image of the campus and the University's operating environment. The review set out objectives, principles and strategies for:

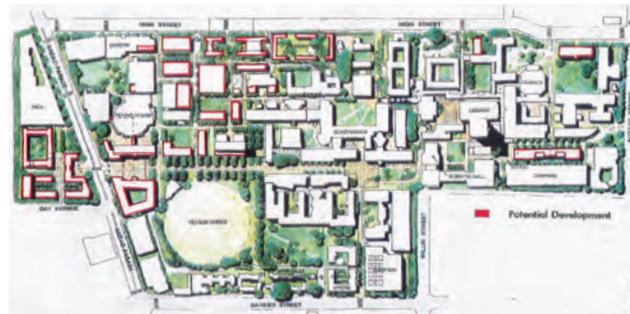


Fig 8. Campus Development Strategy (Phase 2) - 1998

- Future campus layout and image;
- Land use and the location of activities;
- Siting and design;
- Access and circulation;
- Landscaping and site works; and
- Infrastructure.

Associated documents contained fuller discussions on various aspects of campus development including:

- The University's Landscape Manual;
- A Services Infrastructure Plan; and
- An Environmental Management Plan.

Kensington Campus Master Plan - 2002

The introduction of new statutory requirements meant that UNSW was required to meet obligations beyond those matters addressed in the Campus Development Strategy. In 2002 UNSW therefore prepared the Kensington Campus Master Plan for submission to Randwick City Council.

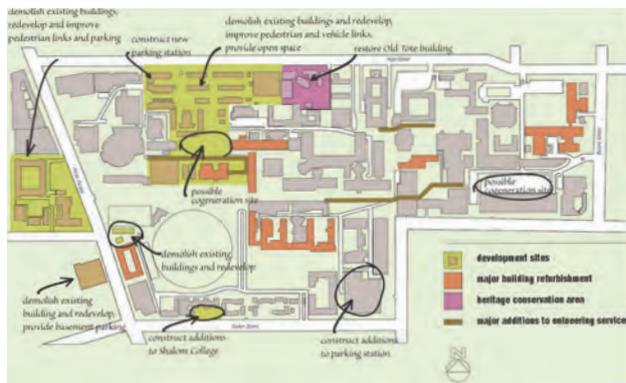


Fig 9. Kensington Campus Master Plan - 2002

The Master Plan dispensed with the area-based precincts of the Campus Development Strategy, but expanded the Strategy's design and development principles.

The Master Plan also gave consideration to constraints, opportunities, outcomes and actions for the following activities:

- Regional and local access;
- Parking;
- Access and circulation;
- Student housing;
- Heritage;
- Open spaces and landscaping;
- Engineering services; and
- The public domain.

An implementation strategy also suggested proposed actions to be taken within five years and proposed actions over 10 years.

UNSW Kensington Campus 2020 Master Plan - 2005

A proposal to redevelop an area of the campus referred to as the North Mall Development Zone and the requirement for an urban design study led to the engagement of DEGW to lead a comprehensive re-think of the campus and its future to 2020.



The process began with a Strategic Master Plan Brief that identified elements contributing to the success of UNSW. These included guiding principles such as education drivers and the concept of the 'Campus Experience' – the elements that combine to create a positive experience of the site.

To achieve the guiding principles and to improve the campus experience the Master Plan set out some key considerations:

- Design features;
- Implementation strategies; and
- Outcomes and opportunities.

Two separate reports were prepared in association with the Master Plan, namely:

- A Transportation Strategy; and
- A Stormwater Strategy.

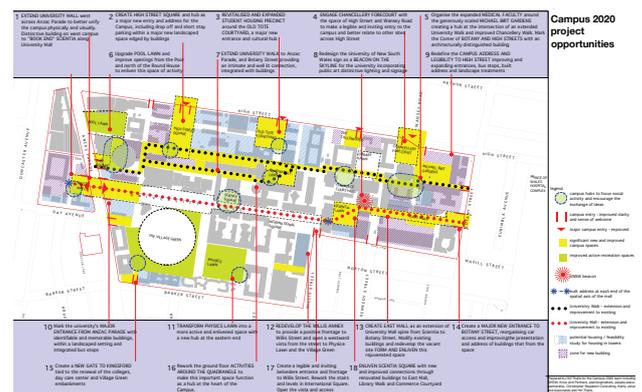


Fig 10. Campus 2020 Master Plan - Project opportunities

UNSW Kensington Campus Development Control Plan - 2007

Due to changes in the NSW planning system, sections of the Campus 2020 Master Plan were incorporated into a Development Control Plan (DCP) and adopted by Randwick City Council in 2007. The Kensington Campus DCP is the current statutory planning instrument that governs planning and development of the campus.



The DCP details 10 design principles (with their objectives and provisions) that shape the concept of 'campus experience'. The principles are:

- Sustainability;
- Sense of place;
- Legibility;
- Knowledge clusters and hubs;
- Landscape;
- Buildings;
- Housing;
- Retail and services;
- Recreation, cultural facilities and events; and
- Transport.

In addition, the DCP identifies key architectural relationships and elements and campus building types to promote high quality architecture which is fit for purpose, responsive to future needs and embodies the principles of sustainability.

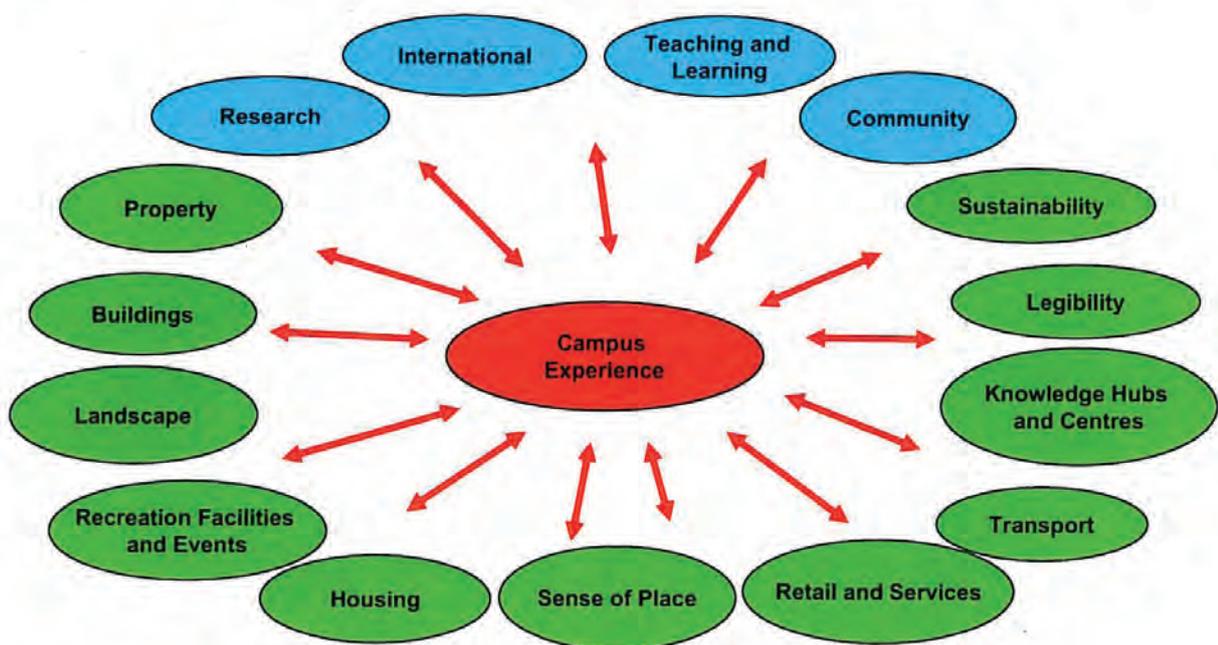


Fig 11. The campus experience

Objectives and Principles

The following objectives and principles originate from previous planning studies for the Kensington campus. They have been reworked for the purposes of this Brief and follow on from a consultation process with the University's Campus Design Advisory Panel and senior management through the Executive Team.

Therefore, these objectives and principles are informed by the particular needs of UNSW as currently understood.

Sustainability

Objective

To demonstrate leadership and responsibility in sustainability by developing a campus that is environmentally sound, socially responsible and economically viable.

Principles

- Sustainability values underpin the life cycle components of a building – from its initial planning to its eventual demolition;
- A campus-wide approach is taken to energy and water issues that promotes sustainability, maximises efficiency and minimises carbon emissions, water pollution and waste materials;
- New buildings and major refurbishment projects utilise advanced building materials and technologies to produce lower carbon outcomes;
- The campus is a showcase for sustainability innovations in buildings, infrastructure and landscape;
- UNSW teaching and research in sustainability is integrated with the design, delivery and management of campus buildings, infrastructure and landscape;
- The biodiversity of the campus and the habitat for native fauna are improved through the planting of indigenous local grasses, shrubs and trees;
- Travel demand management practices reduce the use of cars by students and staff and encourage the use of more sustainable modes of transport such as public transport, cycling and walking;
- Increased housing quality, density and quality of life on campus (and around the campus) reduce the demand for cars by students; and
- Active engagement and participation of staff, students and the local community is encouraged in planning and design initiatives.



Fig 12. UNSW vision for sustainable development

Identity and Character

Objective

To create a distinct identity and character for the campus that provides a memorable and positive experience for staff, students and the wider community.

Principles

- The campus is identified from afar by way of landmark buildings of quality architecture;
- A sense of place is established by welcoming arrival points, memorable buildings, expansive vistas, intimate views, attractive signage and inspiring public art;
- Integration with the surrounding area is achieved by extending views along adjacent streets into and through the campus and by limiting the extent of fences and hedges along the campus edges;
- All campus edges are treated as important public frontages and are designed to be sensitive to adjacent private residential development;
- The predominant grid pattern of buildings, vehicular and pedestrian routes in an east-west/north-south orientation is maintained and enhanced with a variety of courtyard and green spaces created between;
- Buildings and the open spaces are connected by a network of paths, shared ways and campus roads of consistent materials and colour;
- The high urban density of the campus is maintained and enhanced by the provision of attractive and generous landscaping;
- The marked difference in topography between the lower campus and the upper campus is used creatively in the design and location of buildings and spaces to reinforce vistas, termination points and landmarks;
- The ceremonial character of the University Mall is respected and maintained; and
- The aesthetic, historic, scientific or social value of the campus and its infrastructure are valued and evaluated according to the principles of the Australia ICOMOS Burra Charter 1999.



Fig 13. Using topography to strategically locate buildings and spaces to reinforce vistas



Fig 14. Ceremonial character of the University Mall helps establish a sense of place

Built Form

Objective

To provide buildings that are exemplars of sustainable practice and good design that enhance campus identity, character, architectural quality, and create positive teaching and learning environments.

Principles

- A whole-of-life approach is adopted for buildings that optimises sustainability and allows for future adaptation to accommodate new approaches to teaching, learning and research;
- Buildings and refurbishments reflect many styles but at the same time are sensitive to the existing architecture and character of the campus;
- Buildings positively address the public domain and help define pedestrian routes and adjacent spaces with appropriate scale and form at ground level;
- Landmark buildings are sited at key arrival points and at the termination of significant vistas;
- Tower buildings are sited to minimise overshadowing of adjacent buildings and outdoor spaces with upper floors allocated to low activity administrative and support uses, and possibly housing;
- Tower buildings must have appropriate setback to minimize overshadowing of pedestrian routes, open spaces and adjacent buildings.
- Ground floors are prioritised for high activity student and non-Faculty uses, are outwardly focussed and people-friendly;
- Ground floors of non-residential buildings are permeable and provide links through the building to connect with external spaces;
- Generous ground floor ceiling heights are provided to enable flexibility to satisfy the varied demands of current and future users;
- Awnings and colonnades are provided for new buildings wherever possible, to enhance pedestrian amenity through the provision of shade and shelter;
- Buildings are designed to facilitate interaction, collaboration and learning;
- Excellence in architectural design is encouraged by design competitions for new buildings;
- Loading and service areas are designed to minimise noise and visual impact to adjacent buildings and are screened from view from the public domain;
- Rooftop services infrastructure and mechanical equipment is enclosed in structures that are integrated into the building design;
- Rooftop areas are explored for the installation of "green roofs" as learning, recreational and ecological spaces; and
- Equity of access is achieved to all buildings with dignified routes for people with disabilities.



Fig15. Landmark building terminating vista of the University Mall



Fig 16. Excellence in architectural design is encouraged by design competitions for new buildings



Fig 17. Buildings defining the public domain

Landscaping and Open Space

Objective

To create both natural and paved landscaped spaces that enhance campus identity, character, legibility and attractiveness, and which provide a unifying element across the campus.

Principles

- The pattern of green spaces and paved courtyards between buildings is maintained and enhanced;
- Landscaping of campus edges reinforces the streetscape amenity and integrates with the landscape of the surrounding area;
- Local indigenous grasses, shrubs and trees are selected to create a consistent environment and memorable spaces;
- A variety of outdoor spaces (courtyards and grass surfaces, intimate and formal) are provided for gathering, circulation, recreation and reflection;
- Outdoor furniture, lighting, signage and paving are consistent in materials and colour;
- Significant trees and spaces of landscape significance are retained and protected; and
- Inspiring public art and sculpture is provided in outdoor spaces.



Fig 18. Formal lawn, Quadrangle



Fig 19. Paved courtyard, Commerce courtyard



Fig 20. Use of local indigenous plants

Access, Circulation and Legibility

Objective

To ensure that way finding and connections to destination points is a pleasant experience that is also convenient, safe and accessible to all.

Principles

- The campus has well-defined vehicular, cycle and pedestrian connections to surrounding town centres and institutions within the Randwick Education and Health Specialised Centre;
- Entrance points to the campus are welcoming and easily identifiable and are reinforced by bus stops, taxi ranks and pedestrian crossings;
- Service and emergency vehicle movements are kept to a minimum, are clearly defined and whenever possible are separated from pedestrian routes;
- University Mall is the primary pedestrian and ceremonial route and is extended eastwards to connect Anzac Parade with Botany Street;
- University Walk is the secondary pedestrian route and connects the campus via an uninterrupted covered way for shade and shelter;
- A third hierarchy of north/south pedestrian routes link the University Mall and University Walk to the campus edges;
- Pedestrian routes are attractive, have clear lines of sight, and have consistent signage and campus maps to assist in way finding;
- Pedestrian routes and campus spaces are made safe and secure by allowing maximum surveillance, adequate lighting and help points;
- A range of outdoor spaces with varying characteristics (courtyards and grass surfaces, intimate and formal) are provided for gathering, circulation, recreation and reflection;
- Buildings are clearly identified with attractive and consistent signage; and
- Equity of access to key services on the campus is provided to staff and students, with identifiable and dignified access for those with disabilities.



Fig 21. Primary Pedestrian Route - University Mall

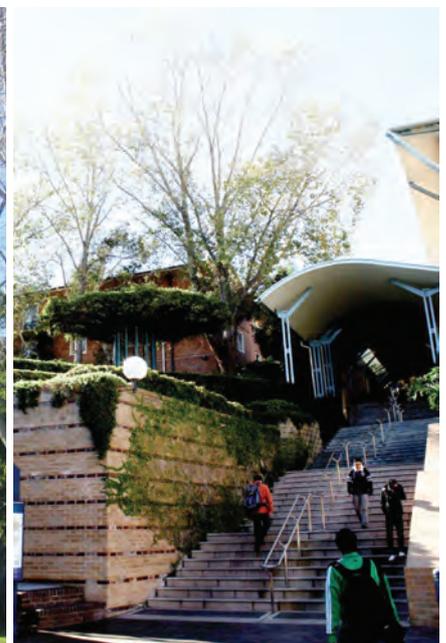


Fig 22. Secondary Pedestrian Route - University Walk

Landuse and Location of Support Activities

Objective

To locate activities that not only support the core teaching and research functions of the university but also enhance identity, character, legibility and vibrancy of the campus.

Principles

Activity Hubs

- Activity hubs are located on main pedestrian routes and around key outdoor spaces;
- High activity uses such as retail outlets, public venues, student services (enrolments, counselling, travel advice etc), centrally allocated teaching space (CATS) and informal student space are co-located within the hubs;
- Academic activities that have common characteristics and which can share facilities and equipment are also located within the hubs;
- Activities within the hubs occur on the ground or first floor of buildings and are outwardly focussed; and
- A sufficient number and range of activities are established to enable the hubs to become key destinations on the campus with economic, social and academic benefits.

Retail

- Retail outlets are preferably located at ground level within activity hubs and along pedestrian routes;
- A range of retail services reflect the diversity of the campus community, meet the needs of students and staff and encourage after-hours campus life;
- Eating areas are provided with ample and well-designed outdoor seating, tables, shade and shelter, and are oriented to provide favourable campus outlooks; and
- All retail outlets need to remain commercially viable to ensure a high quality of service and presentation.

Parking

- Car parking as required under the University's Transportation Strategy is provided within multi-storey parking stations or building basements located in perimeter areas of the campus;
- Parking structures are designed to have minimal visual and physical impact on the campus and adjacent areas;
- Existing surface car parking is progressively relocated to perimeter areas with the exception of spaces for VIPs, security buses, taxis, disabled persons and deliveries at designated locations; and
- Bicycle racks and shower facilities are provided at convenient locations across the campus.



Fig 23. Activity hub on University Mall



Fig 24. Retail hub on University Walk

Housing

- On-campus housing is provided within perimeter areas and in off-campus locations within easy walking distance;
- The quality and density of on campus housing is increased;
- Housing is affordable, well-designed, attractive, safe and integrated with the campus structure;
- A range of accommodation types such as self-catered, fully catered and private rental is offered that caters for undergraduates, postgraduates, visitors and the special needs of international students;
- Upper levels of tower buildings are explored for a variety of residential accommodation whenever possible; and
- UNSW works closely with the private sector and government authorities to provide off-campus student housing.

Child Care

- Child care centres are provided in off-campus locations within easy walking distance; and
- Safe and convenient drop-off and pick-up points are available for vehicles.



Fig 25. UNSW Village Green

Sport and Recreation Facilities

- The University's main sports facilities are located off-campus at David Phillips Field, Daceyville;
- On-campus facilities are concentrated on the lower campus, centred around the Pool Lawn and Village Green open spaces;
- Indoor and outdoor facilities allow for both spontaneous and organised activities; and
- Facilities reflect the diversity of the campus community and are made available for use by the wider community.

Cultural Facilities & Public Venues

- Cultural facilities such as performance theatres are located in conjunction with campus spaces to heighten their importance and provide adequate gathering space for large numbers of people;
- Public venues such as lecture theatres, conference rooms, auditoriums and exhibition spaces are located within activity centres on main pedestrian routes with easy access for people with disabilities or impaired mobility; and
- Public transport, parking and drop off facilities are located within easy walking distance.



Fig 26. NIDA Theatres, Anzac Parade

Services Infrastructure

Objective

To ensure that services infrastructure is efficient, reliable and adequate to support University activities, and contributes to an environmentally sustainable campus.

Principles

- The existing services tunnel is utilised for the provision of new or augmented services whenever practical and opportunities to extend the tunnel will be taken if feasible;
- Groundwater recharge is managed to maintain the quality of the Botany Sands Aquifer and to balance the amount of bore water drawn from the aquifer for campus uses by using stormwater directed to the Village Green;
- Bore water is used to replace potable water, either directly for toilet flushing and the like, or after treatment in cooling towers, laboratories and the like, whenever practical;
- Water efficient fittings are installed in all buildings and water efficient irrigation and indigenous species are used in landscaping and maintenance of the campus grounds;
- Energy use is controlled and workplace comfort maintained by providing shading to buildings, widening the temperature band for air conditioned spaces, implementing improved ventilation and other passive measures for non-conditioned spaces;
- On-campus power generation is implemented through co-generation, and development of renewable energy sources, (such as, photovoltaic technology) whenever practical; and
- Natural gas is substituted for electricity for heating and motive power applications, and existing gas plant is optimised and maintained efficiently.



Fig 27. On-campus power generation, Roof - Quadrangle building



Fig 28. New developments on campus designed to highly increase energy efficiency of buildings

Space Allocation

Objective

To provide appropriate, relevant and timely space to support teaching, learning and research activities.

Principles

- The University owns all space;
- Space is used to its maximum capability and efficiency;
- The University allocates space for a defined purpose and this is re-allocated if necessary;
- The continued use, re-allocation, renewal, or development of space is informed by the occupants articulating their needs in terms of research, students, staff etc; and
- Facilities Management liaises with Faculties and other units to realise their space needs having regard to the teaching, research and financial priorities of UNSW at the time.



Fig 29. Refurbished Library area to accommodate several types of study conditions



