RPS

Environmental Assessment

Wallace Wurth Redevelopment

UNSW Kensington Campus

Volume 1

23 June 2010

Prepared by:

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On behalf of:

University of New South Wales

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Environmental Assessment prepared by

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Qualifications	B Arch (Hons) M Urb Plan
Address	RPS Level 12, 92 Pitt Street GPO Box 4401 SYDNEY NSW
In respect of	UNSW Wallace Wurth Redevelopment

Applicant & Land Details

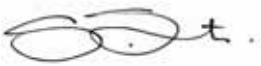
Applicant name Applicant address	The University of New South Wales Anzac Parade Kensington NSW 2052
Land to be developed	Anzac Parade Kensington
lot no, DP/MPS, vol/fol etc	Lot 1 in DP 510271

Environmental Assessment

An environmental assessment is attached.

Declaration

I certify that I have prepared the contents of this Environmental Assessment in accordance with the Director General's Requirements dated 25 February 2010 and the Environmental Planning and Assessment Act 1979 and Regulation, and that to the best of my knowledge, the information contained in this report in neither false nor misleading.

Signature	
Name	Silvija Smits
Date	22 June 2010

Executive Summary

The University of New South Wales (UNSW) is seeking to redevelop the existing Wallace Wurth Building (WWB) at its Kensington Campus as part of a long term $400m+ precinct plan to deliver the vision of a comprehensive Biomedical Precinct on the upper campus. The works will incorporate a refurbishment of the existing WWB and an expansion of the building footprint to the north and south of the existing 'M wing'.

Key objectives for the proposed redevelopment include to:

- create a state-of-the-art building to support growing biomedical research
- create research space and infrastructure that will support advances in knowledge and understanding vital to the practice of modern medicine
- design modular research zones to provide flexibility to manage the growth and changing patterns of research anticipated for the next decades
- design infrastructure zones to accommodate shared equipment and services critical to research and teaching enterprises
- provide student areas that include lecture theatres and seminar rooms with state-of-the-art audiovisual facilities and small group spaces, and
- provide access to researchers from other institutions to maximise the benefits of expensive infrastructure and give better support to visiting academics and students.

Development Proposal

The proposed development consists of a significant refurbishment of the existing Wallace Wurth Building including an additional level above the west wing and an expansion of the building footprint to the north and south of the existing east or 'M wing' to create a single building of approximately 20,800m^2. The existing WWB is about 12,800m^2, resulting in an additional area of some 8,000m^2.

The proposal includes the following medical research and teaching facilities:

- wet and dry research areas – including biological research areas, which will provide laboratory, write-up and equipment spaces
- wet and dry teaching areas – including lecture theatres and seminar rooms with state-of-the-art audiovisual facilities and small group spaces
- special purposes areas – such as infrastructure support, animal facilities and morgue, and
- administration and plant areas.

This application also includes demolition of the existing single storey building on the corner of High and Botany Streets, the dangerous goods store, the boundary fence, hedge, various retaining walls, kerbs and paving, and removal of the existing trade waste pit. A number of trees along the boundary and within the site will also be removed.

The redeveloped building will comprise a lower ground floor, ground floor and 6 additional levels plus roof plant. A central atrium space through the full height and length of the building will connect the floor levels of the western and eastern wings.

The Lowy Building establishes a strong parapet height which it is proposed to continue to the redeveloped WWB by extending the existing five storey 'M wing' in a north and south direction along Botany Street, allowing it to wrap around the corner and create a unified parapet line, eventually aligning with the existing parapet of the Biological Sciences Building.

A native landscape strategy is proposed along both the Botany and High Street frontages. Along Botany Street the bus shelter will be retained and the existing entry relocated slightly to the south, consolidated as a student entry at the southern most end of the building. This will be achieved by the removal of the existing WWB loading dock in favour of using of the existing loading dock facility behind the Biological Sciences Building, accessed through Gate 11. This existing loading dock will consolidate deliveries for the entire Biomedical Precinct including the Lowy, Wallace Wurth and Biological Sciences Buildings.

The proposal does not include the provision of car parking. In accordance with the Kensington Campus DCP, it is proposed to continue with the established UNSW policy of travel demand management.

All required infrastructure and services will be provided as required.

Environmental Assessment

In accordance with Part 3A of the Environmental Planning and Assessment Act, the Director-General issued requirements for the project that must be addressed in the Environmental Assessment (EA). These requirements refer to the following issues:

- key issues which include addressing relevant planning policies and guidelines, built form/urban design, impacts on existing uses, environmental amenity, transport and accessibility impacts (operational and constructional), ESD, landscaping, utilities, staging, laboratory design and procedures, drainage and stormwater, construction impacts, contributions, contamination, environmental risk and consultation
- a description of the proposal
- a draft Statement of Commitments, and
- environmental impacts of the proposal, the suitability of the site, and whether or not the project is in the public interest.

The proposal generally complies with all relevant environmental planning instruments, including the site specific UNSW Kensington Campus Development Control Plan.

The site is considered suitable for the development for the following reasons.

- The site is next to the Lowy Cancer Research Centre which will be able to benefit from the synergies of sharing knowledge and resources with faculty research.
- It is at the north-eastern corner of UNSW Kensington Campus, close to the Randwick Hospitals Complex and Randwick Town Centre.
- The site is identified in the Kensington Campus DCP as a development site.
- Part of the land is currently under-utilised.
- UNSW has excellent public transport services which are to be further enhanced with the implementation of the Kensington Campus DCP Transportation Strategy.
- The site is relatively flat and readily able to accommodate the type of development proposed.
- The development will facilitate construction of the eastern end of University Walk with a covered universally accessible entrance and walkway through the building to adjoin the pathway to the north of the existing Biosciences Building.
- Loading and unloading can connect to existing lower ground levels and existing gates.

In summary the redevelopment will assist in creating a high quality entrance to the campus with a landmark building for the Faculty of Medicine and UNSW generally. The site is readily able to accommodate the type of development proposed.

The proposed WWB redevelopment will significantly enhance existing environmental amenity. The site is currently underutilised and the existing building does not capitalise on its prominent corner location.

The building will assist in upgrading a key corner of the campus by creating a landmark and further activating the street frontages along Botany and High Streets. As such it will generally have a positive effect on adjoining land uses. Although there will be a minor overshadowing impact on residences along Botany Street, acoustic and visual privacy to the residences will be maintained and views will be enhanced.

The proposed redevelopment includes removal of an existing loading dock on Botany Street, which will have a positive impact on the amenity of resident and pedestrian movements in this area. Furthermore the landscaped setback from Botany and High Streets, that accommodates the Sydney Water easement, will ensure sufficient visual separation.

Although the proposal includes an additional built form element on the corner itself, it is anticipated that the nature of the design, which is set back at ground and first floors with higher levels extending into the easement along the eastern side, will shelter the local environment from adverse wind conditions.

Environmental impacts associated with the construction and operation of the proposed development will be minimal.

Although there will be an increase in staff population on the campus as a result of this proposal, as the overall parking supply on the campus is not proposed to increase, it is likely that traffic generation through Gate 11 will not change as UNSW's Transportation Strategy, adopted as part of the DCP, is implemented over time.

There will be some loss of trees along Botany Street, as noted in the arboriculture assessment. However the proposal retains some of the trees along both the Botany and High Street frontages, which are identified as high retention priority in the DCP, and it includes new landscape works. This will assist with ameliorating this loss.

The proposal is designed to accommodate universal access as identified in the Access Report.

Even though the facility will handle dangerous goods, UNSW has mechanisms in place that will be applied to this development to ensure the ongoing safety and security of the campus and the surrounding area is maintained.

The proposal is anticipated to achieve an equivalent 4 star Green Star rating for ecologically sustainable development. This is due to the limitations placed on the works in re-lifing the existing WWB.

Construction impacts will be managed through the development and implementation of a Construction Management Plan to be prepared by the head contractor.

Stormwater will be controlled as part of the UNSW Stormwater Strategy adopted as part of the Kensington DCP and as shown on the Stormwater Concept Plans.

The social impacts of the proposal are only beneficial as the resultant teaching and research work will be related to the biomedical sciences. There will be additional social benefits from the better use of existing infrastructure to create synergies between differing research streams within the one location.

The four common priority goals in the UNSW Strategic Plan 2005 include research, international, learning and teaching, and community. These goals form the guiding principles that underpin the Kensington Campus DCP. In relation to research, the proposed facility will be consistent with this goal in that it will allow flexible research space that has relationships with external bodies and disciplines within the University.

A proposal of this nature requires little justification or qualification that it is in the public interest. The benefits of medical research are all around us. As incremental advances are made, they benefit more and more people. The speed at which they occur does not suit all but the work is necessary and rewarding. Providing this facility almost at the junction of the University and the Randwick Hospitals Campus will enable the easy implementation and expansion of research as required.

The project will also reinforce and promote the Randwick Education and Health Specialised Centre as identified in the Sydney Metropolitan Strategy and the Draft East Subregional Strategy prepared by the NSW Department of Planning.

1 Site Description

1.1 Location

The subject site is located at the north-eastern corner of the Kensington Campus of the University of New South Wales (UNSW). It is bounded by High Street to the north, Botany Street to the east, the Lowy Cancer Research Centre and Michael Birt Gardens to the west and the Biological Sciences Building to the south (see **Figures 1 and 2**).

This area of the campus is some 200 metres east of the Randwick Hospitals Campus that incorporates the Prince of Wales Hospital, Prince of Wales Private Hospital, Sydney Children's Hospital and the Royal Hospital for Women. The hospital campus adjoins Randwick town centre, some 400-600 metres east of the site. Randwick Racecourse lies to the north. Anzac Parade is about 1km to the west.

Figure 1 – Locality Plan (site shown in red)

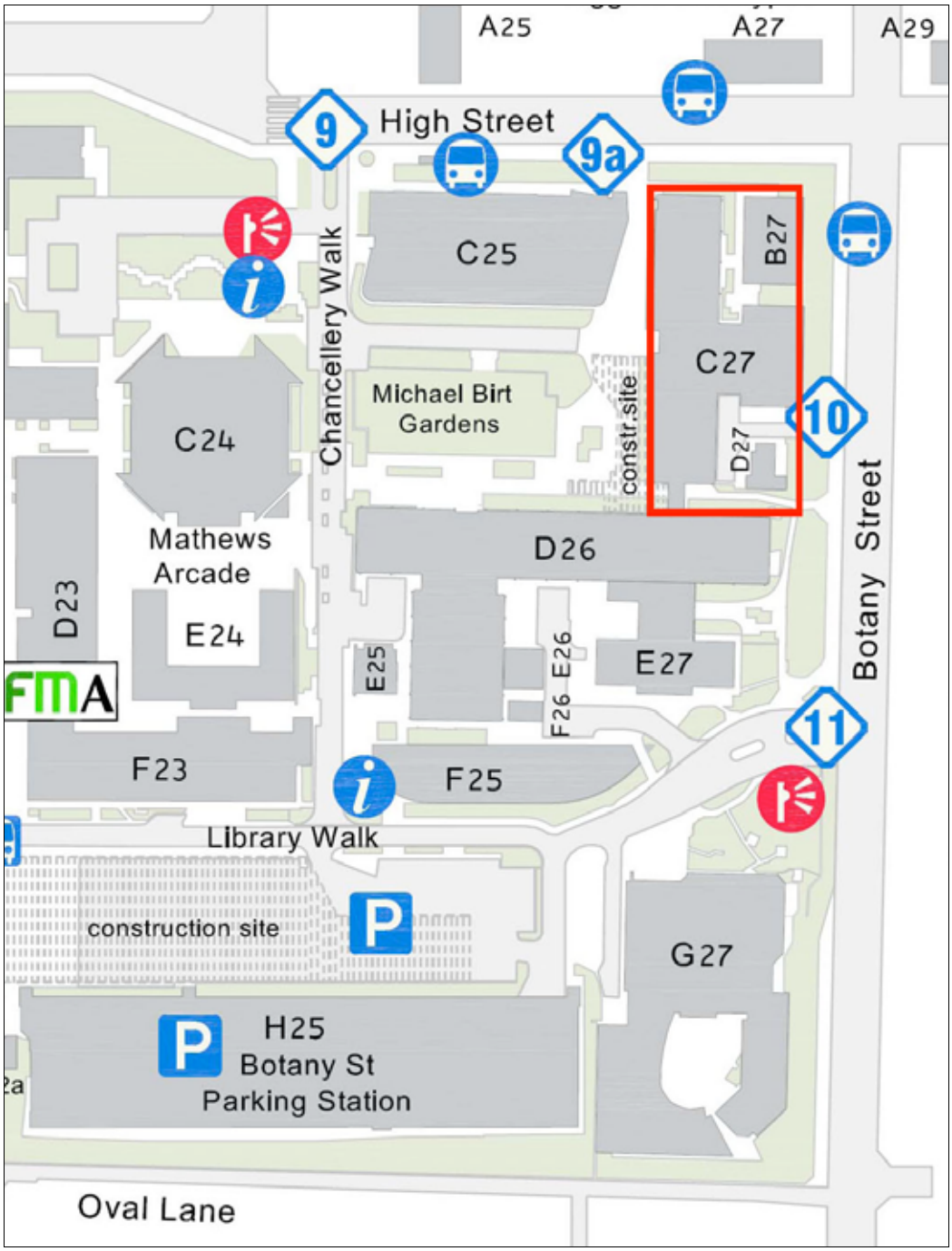


Figure 2 – Part Campus Plan (site outline in red)

Although the campus as a whole has a large change in topography, falling some 34 metres from Botany Street in the east to Anzac Parade in the west, this top corner is basically flat. Chancellery Walk, the pedestrian pathway extending from Gate 9 on High Street west of the Lowy Cancer Research Centre (C25) and Michael Birt Gardens, is located on a ridge. This ridge slopes down towards Botany Street to the east and slightly away from High Street towards the Biological Sciences Building (D26) and Gate 11.

The development site encompasses a rectangular area of approximately 50 metres east-west by 95 metres north-south, some 4,750m^2. The redeveloped building will have a footprint of some 40 x 85 metres or 3,400m^2.

1.2 Ownership and Title Information

The whole of the Kensington Campus, including the development site, is owned by UNSW. The real property description of this part of the campus is Lot 1 in DP 510271. There is a 7.62m wide Sydney Water easement along the northern and eastern boundaries of the subject site (refer plans in **Volume 2**). As the part of the redevelopment will overhang this easement by some 3.0m along the Botany Street building alignment, the written consent of Sydney Water is being sought as part of this proposal.

1.3 Existing Improvements

The development site is currently improved by the Wallace Wurth Building (WWB) identified by its UNSW grid coordinates as C27, a single storey brick building (B27) on the corner of High and Botany Streets and a dangerous goods store (D27) in the south-east of the site (refer **Figure 2**).

The current WWB was completed in 1963 and substantially refurbished in 1974 and 1992/3. It comprises an original five and a half (5.5) storey west wing and a subsequent similar height east wing, also known as 'M wing'. The original west wing is an elongated structure set back from Botany Street, with its long axis north/south parallel to the street. 'M wing' is a smaller block adjoining the middle of the eastern façade of the original building or west wing, extending to the easement that adjoins the Botany Street boundary.

The Wallace Wurth Faculty of Medicine Building houses the Schools of Anatomy, Physiology and Pathology. Together with the Biological Science Building to the south which houses the Schools of Biochemistry, Microbiology, Biological Science and Applied Science, and the Lowy Cancer Research Centre to the west, they form the Biomedical Precinct.

A hedged fenced extends almost the entire frontage of the development site from Gate 10 on Botany Street around to Gate 9A on High Street, where is has been removed beyond the entrance to the new Lowy Cancer Research Centre. Along the Botany Street frontage, the fence line is interrupted near B27 by a bus shelter that straddles the boundary.

The development site also includes a number of existing trees both within the site and within the Sydney Water easement along the High and Botany Street boundaries. An analysis of the existing trees is at **Appendix C**. Almost all of the existing trees within the site and the Botany Street frontage will be removed and replaced as part of this redevelopment proposal. There are four existing street trees along the Botany Street frontage that are unaffected by this proposal.

1.4 Existing Access

Pedestrian access to the development site is available from both Botany and High Streets, a short distance from the intersection of the two streets. Gate 9A is a pedestrian only entry located at the north-west corner of the WWB. This entry was built as part of the new Lowy Cancer Research Centre and provides the most direct access to the existing building from High Street.

There is an existing pedestrian path between Gates 10 and 11 on Botany Street that connects to a walkway between the WWB and the Biological Sciences Building forming part of University Walk.

Gate 10, which is located to the immediate south of 'M wing', provides access to the WWB loading dock. Adjacent to the loading dock is the existing dangerous goods store.

There is no car parking on site. The nearest car parking area is the UNSW Botany Street car park (H25) accessed from Gate 11.

Gate 11, which is the main vehicular access from Botany Street, provides access for vehicles and pedestrians. This gate has links to the loading dock at the base of the Biological Sciences Building and the Botany Street car park. There is an intermittent vehicular connection between Gates 9 and 11 along the pedestrianised Chancellery Walk, but this is mainly for service vehicles.

1.5 Existing Services

The subject site, consistent with the whole of the UNSW campus, is serviced by all necessary utilities including power, gas, water, sewer, stormwater drainage and telecommunications.

1.6 Existing Ground Conditions

Douglas Partners have undertaken both a geotechnical investigation and a Stage 1 contamination assessment for the development site (refer **Appendices G and K**). They previously undertook geotechnical and contamination assessments for the Lowy Cancer Research Centre development adjacent to the site, which is referred to by its UNSW grid coordinates of C25.

The geotechnical report states the following.

> *Reference to the Sydney 1:100 000 Series Geological Sheet indicates that the site is underlain by Quaternary aged sediments comprising medium to fine grained Aeolian sand (deposited by transgressive dunes) overlying Hawkesbury Sandstone which typically comprises medium to coarse grained quartz sandstone with some shale bands or lenses.*

The report notes that *the geotechnical mapping was generally confirmed by the fieldwork which identified filling and sand overlying sandstone*, and that *weathered igneous rock associated with a dyke was intercepted on the site*, one of which *was previously identified on the C25 site*.

The Stage 1 contamination report confirms that, subject to verification at the construction stage, the site is not contaminated. The report concludes as follows.

> *Contrary to the evidence observed in the 1930 historical aerial photo, suggesting that the site may have been part of the former quarry, current site observation and bore data indicate that filling is relatively shallow (ranging from 0.35 m to 3.3 m) in contrast with the uncontrolled filling materials encountered at the C25 site (ranging from 4.5 to 9.0 m). It was noted during the previous C25 investigations that the depth of the quarry excavation appeared to reduce significantly towards the Wallace Wurth Building and this was generally confirmed by the current fieldwork.*
>
> *Based on our observations during excavation and remedial works on the C25 site, most of the filling along the western side of the Wallace Wurth building was removed during excavation of the C25 basement and services tunnel along the length of the Wallace Wurth building.*
>
> *Available information also indicates that the existing Wallace Wurth Building has a basement, resulting in the bulk excavation of material in this area, and it is probably underlain by rock or shallow natural soils over rock.*
>
> *Apart from a trace or limited presence of anthropogenic materials including building rubble, slag and scrap metal in the filling, no indicators of potentially significant contamination were noted in any of the bores. Similar anthropogenic inclusions were noted in the C25 site. It appears that only a limited amount of the uncontrolled filling used to backfill the quarry may have also been used to level the subject site. It may also have been used to create the existing landscaping mounds observed along the south-eastern corner of the site. It is, however, noted that hydrocarbon odours were detected in the soil on the C25 site and no such odours were detected on the subject site.*
>
> *The laboratory results indicated that all contaminant concentrations in the soil samples analysed*

were within the adopted criteria. Whilst no asbestos containing materials have been identified at the site, based on the uncontrolled nature of the filling and the presence of building rubble, it is considered that there is a significant probability of asbestos being present in the filling. It is therefore recommended that unexpected finds asbestos protocols be put in place prior to commencement of excavation.

1.7 Local Context

UNSW Keningston Campus is surrounded by a variety of land uses ranging from recreational, institutional (hospital), local town centre and residential.

Adjoining the campus to the north is the Royal Randwick Racecourse. To the north-east is part of the Randwick residential area, with the Randwick town centre further north-east. The Randwick Hospitals Campus incorporating Prince of Wales Hospital, Prince of Wales Private Hospital, Sydney Children's Hospital and the Royal Hospital for Women, lies to the east, separated from the campus by a strip of Randwick residential development. South and south-west of the campus is the Kingsford residential area and Kingsford town centre. Beyond the western campus to the west lies the Kensington residential area with the Kensington town centre to the north-west.

All of the town centres are within a 500 metre radius of the campus. All are local centres offering services mainly to the surrounding residential areas and UNSW. The nearest major business and/or shopping centres are the Sydney CBD, Bondi Junction and Eastgardens/Maroubra Junction, which are within a 5 to 6 km radius.

The residential areas of Randwick, Kingsford and Kensington in the vicinity of UNSW are characterised by a mixture of low density single/two storey dwellings and low rise residential flat buildings. The exception is the medium rise development along Anzac Parade in Kingsford and the recently completed mixed developments in Kensington town centre, that include a component of student housing.

Anzac Parade, which is the major arterial road in the locality, adjoins the western end of the main campus. Anzac Parade divides the main campus from the western campus. Together with High Street, Botany Street and Barker Street that adjoin main campus, these roads form the local road network. With the exception of Barker Street, they are also the major bus routes that link the campus with the rest of the Sydney metropolitan area.

2 Development Proposal

2.1 Objectives

The University of New South Wales is seeking to redevelop the existing Wallace Wurth Building (WWB) at its Kensington Campus as part of a long term $400m+ precinct plan to deliver the vision of a comprehensive Biomedical Precinct on the upper campus. The works will incorporate a refurbishment of the existing WWB and an expansion of the building footprint to the north and south of the existing 'M wing'.

In the past three years, Biomedical research and teaching at UNSW has enjoyed remarkable success. UNSW has shown the steepest upward trajectory in this field of any research-intensive university in Australia. This success has been underpinned by a specific plan to identify major research strengths in biomedicine, and to support them with strategic appointments and investment in critical research infrastructure. UNSW is now in the enviable position where physical space is constrained due to continued growth in research and teaching. The expanded facilities in this proposal will give UNSW the capacity as well as internationally competitive infrastructure to continue on the trajectory of significant research growth.

Key objectives for the proposed redevelopment include to:

- create a state-of-the-art building to support growing biomedical research
- create research space and infrastructure that will support advances in knowledge and understanding vital to the practice of modern medicine
- design modular research zones to provide flexibility to manage the growth and changing patterns of research anticipated for the next decades
- design infrastructure zones to accommodate shared equipment and services critical to research and teaching enterprises
- provide student areas that include lecture theatres and seminar rooms with state-of-the-art audiovisual facilities and small group spaces, and
- provide access to researchers from other institutions to maximise the benefits of expensive infrastructure and give better support to visiting academics and students.

2.2 Proposed Development

The proposed development consists of a significant refurbishment of the existing Wallace Wurth Building including an additional level above the west wing and an expansion of the building footprint to the north and south of the existing east or 'M wing' to create a single building with a gross floor area (GFA) of approximately 20,800m^2. The existing WWB has a GFA of about 12,800m^2, resulting in an additional area of some 8,000m^2 (see Table 1 below).

The proposal includes the following medical research and teaching facilities:

- wet and dry research areas – including biological research areas, which will provide laboratory, write-up and equipment spaces
- wet and dry teaching areas – including lecture theatres and seminar rooms with state-of-the-art audiovisual facilities and small group spaces
- special purposes areas – such as infrastructure support, animal facilities and morgue, and

- administration and plant areas.

The works are described in detail below and shown on the architectural drawings in **Volume 2**.

This application also includes demolition of the existing single storey building on the corner of High and Botany Streets (B27), the dangerous goods store (D27), the boundary fence, hedge, various retaining walls, kerbs and paving, and removal of the existing trade waste pit. A number of trees will also be removed as set out in the arborist's report at **Appendix C**.

A summary of the existing and proposed gross floor area is set out in Table 1 below.

Table 1 – Gross Floor Area

FLOOR LEVEL	GROSS FLOOR AREA (SQM)	
	EXISTING	PROPOSED
Lower Ground	1,719	2,262
Ground	1,726	2,753
Level 1	1,747	2,458
Level 2	1,747	2,675
Level 3	1,747	2,675
Level 4	1,747	2,675
Level 5	1,747	2,675
Level 6	597	2,528
Level 7 (Plant)	0	38
TOTAL	**12,777**	**20,739**

On completion, WWB will be able to house up to some 1,980 academic staff and students, which is approximately double the current building (Table 2).

Table 2 – Population

FLOOR LEVEL	POPULATION			
	EXISTING		PROPOSED	
	Staff	Students	Staff	Students
Lower Ground	4	222	5	0
Ground	39	165	3	576
Level 1	19	245	0	679
Level 2	55	158	119	50
Level 3	48	0	122	0
Level 4	48	0	130	0
Level 5	81	0	152	0
Level 6	0	0	147	0
Sub Total	**294**	**790**	**678**	**1,305**
TOTAL	**1,084**		**1,983**	

Although the redevelopment will lead to an increase in population, a change in campus student numbers associated with the proposal is not anticipated as the majority of students will be relocated from both within the existing WWB and other locations on the campus.

2.3 Built Form and Configuration

The built form and configuration of the project has been carefully conceived to address the particular attributes and features of the site and its impact on the surrounding development. Refer to Site Analysis and Context Plan in **Volume 2**.

The redeveloped building will comprise a lower ground floor, ground floor and 6 additional levels plus roof plant. A central atrium space through the full height and length of the building will connect the floor levels of the western and eastern wings.

2.3.1 Architectural Design Statement (lahznimmo architects)

The existing Faculty of Medicine Building, the WWB was built in the 1960s and is sited on the corner of the upper campus of UNSW at the intersection of Botany and High Streets. In this context the development site is significant, acting as a prominent marker for the University and a bookend to the campus. In addition, the site and proposed redeveloped building will act as a gateway for those approaching the University from the Randwick Hospitals Campus and retail area to the east.

The proposed refurbishment and expansion of the WWB will realise Stage Two of the Biomedical Precinct. Stage One of this development is the recently completed Lowy Cancer Research Centre. From an urban viewpoint the proposed redevelopment seeks to consolidate the built form and tectonics of the Lowy Cancer Research Centre, as well as strengthen the upper campus pedestrian gateway created by the interface of the Lowy Cancer Research Centre and the existing WWB.

The strategy for the ground plane and public interface is integral to the building's design. It is proposed that the existing hedge and palisade fence be removed along High and Botany Streets and in general replaced with informal native plantings. The intention is to create a more permeable public interface as well as a sustainable landscape. The trees along the High Street boundary are to be retained and the footpath widened to create a more generous pedestrian zone leading to Gate 9A (refer to landscape design statement in Section 2.4 for details).

Along Botany Street the native landscape strategy will be extended and the bus shelter retained. The existing Gate 10 entry will be relocated slightly to the south and consolidated as a student entry at the southern most end of the building, between the WWB and the Biological Sciences Building. This will be achieved by the removal of the existing WWB loading dock in favour of using of the existing loading dock facility behind the Biological Sciences Building, accessed through Gate 11. This existing loading dock will consolidate deliveries for the entire Biomedical Precinct including the Lowy, Wallace Wurth and Biological Sciences Buildings. The ground and first floor teaching areas will be set back from the Biological Sciences Building whilst the upper floors bridge across to the end of the Biological Sciences Building to form a two storey gateway.

The Lowy Cancer Research Building establishes a strong parapet height with its winged precast concrete wall flanking the pedestrian entry. It is proposed to continue this parapet height to the redeveloped WWB by extending the existing five storey 'M wing' in a north and south direction along Botany Street, allowing it to wrap around the corner and create a unified parapet line, eventually aligning with the existing parapet of the Biological Sciences Building. Matching the Lowy parapet height allows an additional sixth level to be added to the existing WWB. This new level will also screen/conceal the currently ad-hoc and unsightly roof plant and risers. The proposed sixth level will merge into the adjacent Biological Sciences Building six storey parapet to the south with a seventh floor of roof plant.

The building will house three main types of activities: undergraduate teaching, wet research laboratories and dry research office space. These three different types of program inform the buildings form and expression generating a classically based tripartite façade. This comprises a two storey base of teaching spaces, a middle section of wet research laboratories and then capital or cornice section at the top with dry research office space.

The expression of building base, middle and top respond to the program within and generates complementary yet different architectural expressions.

The two teaching levels at the building base will be set back from the building above and articulated as a two storey high glazed skin creating permeability at the public ground plane and providing the students with a near view into the landscape.

The four storeys of wet laboratory research in the building's mid section take their clues from the expression of the adjacent Lowy Cancer Research Centre, using a vertical articulation of precast concrete blades and glazing. The proportion of solid precast to glass changes along the length of the Botany Street façade responding to the activities within. At the southern end the façade will be more solid and protective with limited slots of louvred glazing into the laboratory and laboratory support spaces. Towards the north as the building program shifts to more open office space, the precast façade will slowly dissolve into precast concrete fins with a lightweight façade comprised of glass, colourback glass and aluminium fins.

Importantly the top section of the building, which will be all dry research office space, will be set back two metres from the precast concrete façade with a generous roof overhang to provide shade to the offices within. The result will be a floating roof with the recessed façade in shadow, which will have the effect of reducing the apparent bulk and height of the building.

The expression of the building at both the southern and northern ends seeks to create an urban scaled gesture. The southern end of the building expresses itself as a four storey high urban scaled window providing the public with a view into the research activities within the laboratories.

The north-eastern end on the more prominent High and Botany Street corner utilizes a four storey high precast frame, which will wrap around and define the middle laboratory section of the building as well as allowing the building expression to shift from a vertical to a horizontal expression responding to the building's northern orientation along High Street. This precast blade element will continue up to the sixth level wrapping up and over to form the floating roof element. Similar to the eastern façade, Level 6 will be recessed at the northern end, creating a deck with a floating roof over.

From the corner, the new extension will be seen in the context of the adjacent existing WWB. The new extension and the existing WWB will be divided and at the same time united by an atrium space, which will bring light into the centre of the building. The two articulations of these two building forms will seek to create a unified complex, which responds to the new and old components in addition to the adjacent Lowy Building. The existing northern end of the WWB is a solid masonry wall containing a full height riser. Half of this riser will be retained for existing services and over clad with precast concrete panels similar to the adjacent Lowy Building. The additional sixth level will provide a blade wall of the same proportions and height to the Lowy wall. Together these two precast concrete blade walls will flank and define the existing Lowy entry as well as providing a transition between the two buildings.

The solid precast blade wall will then dissolve into a precast concrete frame, which will define the original wall at the same time as allowing for glazing behind to provide views out for the building occupants. The two halves of the building will be tied together by a horizontal expression of precast concrete fins.

2.3.2 Crime Prevention Through Environmental Design (CPTED)

The proposal complies with the key principles of CPTED as follows:

Natural Surveillance – Good sightlines are to be maintained throughout the campus and between private and public domain. Activation of street at the High Street/Botany Street corner and along Botany Street will increase opportunities for surveillance. Appropriate lighting of pedestrian areas will improve surveillance. The central atrium space will increase surveillance within the building.

Access Control – Proposed fencing and pedestrian access arrangements will assist in restricting and managing the movement of people. An integrated security management system will be installed in the building which will include access control throughout the building, as noted in Section 2.6.

Pedestrian pathways will be clearly defined through paving and landscaping.

Territorial Reinforcement – Orientation of the new building towards the High Street/Botany Street corner will provide clearly defined entrances to site. The consistent building edge will ensure clear boundary definition and distinction between the private and public domain.

Space Management – Proposed landscaping and building design will not result in the creation of spaces that would compromise the safety of users or residents.

2.4 Landscape Design Statement (Spackman+Mossop Michaels)

A landscape concept plan has been prepared as part of the proposal, refer drawings in **Volume 2**.

The intent of the Landscape Design for Wallace Wurth Building redevelopment is threefold:

- to mitigate the visual impact of the development on the Botany and High street frontages
- to provide a contemporary landscape response to the building refurbishment, and
- to provide clear and logical pathways around/ into the building in accordance with BCA/DDA advice.

Botany Street

The design of the building facade along the Botany St frontage will necessitate the removal of several existing mature trees. While this will have an impact on the streetscape, it will open up vistas of the new architecturally designed building facade, so that it may contribute to public awareness of UNSW as a progressive centre for education.

The existing landscape buffer between the WWB and the road will be replaced with copse planting of *Eucalyptus haemastoma* (Scribbly Gum) which is indigenous to the Randwick area. The trees have an open multi-branching habit that will allow filtered shade in summer, visual interaction with the new building facade and views along Botany and High Street. The Eucalypts will be underplanted by mass plantings of *Macrozamia communis* (Burrawang) which will provide a strong visual landscape feature.

The proposed trees have been selected for:

- their characteristics and floral habits throughout the year, including attractiveness to birds
- their indigenous quality to the Randwick area, and
- low maintenance requirements.

Long term, the landscape buffer will provide a similar amount of shade, screening of the building, and a soft landscape edge. An activation of this edge and a more pleasant pedestrian experience is anticipated.

The BCA and access consultants have indicated that disabled access is required to the building entrance at Gate 10, and as such, the design includes ramped access to be detailed in accordance with AS1428. This ramp will be surrounded by planting and trees to provide shade and screening.

High Street

At the intersection of High and Botany Streets, *Eucalyptus botryioides* (Swamp Bangalay) will be used as landmarking devices similar in scale to the existing trees to be removed. Positioned at the end of the building, they will provide scale and height to compliment the new building.

The general approach to the design along High Street is based on the retention of five existing trees, namely, *Agnois flexousa* (Willow Myrtle), *Eucalyptus scoparia* (Wallangarra White Gum), Banksia integrifolia (Coastal Banksia) and Callistemon viminalis (Weeping Bottlebrush). These existing trees will be contained within a widened footpath in mulched beds connected to an irrigation system. Setback from this along the boundary will be a continuation of the Eucalyptus haemastoma/ Macrozamia communis planting to ensure a consistency to the street frontages.

The widened footpath will allow for the congregation of students prior to entry into the campus gateway between the WWB and C25 building, and will allow other pedestrians easier access to the pedestrian crossing.

A raised planter, proposed at podium level to provide a softer separation to footpath level below, will be planted with the native grass species *Dianella caerulea* 'Breeze'.

The proposed plant palette consisting of predominantly local indigenous planting will retain a dialogue with other planting areas around UNSW, yet also begin a new phase of planting design on campus with the removal of the exotic hedges of *Murraya paniculata* and part-removal of the existing boundary fence. Breaking down this approach to the UNSW boundary treatment will generate a more inclusive interaction with the local community.

2.5 Access and Parking

2.5.1 Pedestrian and Disabled Access

The main entrance to the redeveloped WWB will reinforce the new entrance that was created at Gate 9A High Street, where the existing WWB adjoins the new Lowy Cancer Research Centre some 50 metres from the corner of High and Botany Streets. This entrance will direct people to the western side of the WWB opposite Michael Birt Gardens.

Pedestrian access will also be reinforced from Botany Street, by the enhancement and relocation of Gate 10 between the Wallace Wurth and Biological Sciences Buildings. This existing entrance is identified as the eastern end of the pedestrian connection known as University Walk, which provides a continuous path through to Anzac Parade. It will also include universal access.

In this regard, the proposal has been designed in accordance with best practice for people with disabilities, as set out in the Access Review at **Appendix D**. The access report concludes:

> *The development has been reviewed to ensure that ingress and egress, paths of travel; circulation areas and toilets comply with relevant statutory guidelines.*
>
> *In general, the development has accessible paths of travel that are continuous throughout. In line with the report's recommendations, the proposed development has demonstrated a reasonable degree of accessibility. The drawings indicate that compliance with statutory requirements, pertaining to site access, common area access, and accessible sanitary facilities, can be readily achieved.*

2.5.2 Vehicular Access

As noted in Section 1.4, the main vehicular access to parking and loading areas on the upper part of the campus in the vicinity of the development site is from Botany Street, via a driveway at Gate 11. Gate 11 provides vehicular access to the Botany Street multi-level car park (H25) and the

loading dock for the Biological Sciences Building (refer Figure 2). This loading dock also accommodates deliveries to the Lowy Cancer Research building, via a services tunnel. Gate 11 includes two exit lanes for simultaneous left and right turns onto Botany Street.

Servicing of the development is to occur from the existing Biological Sciences loading dock, in a unified loading area for all three buildings forming the Biomedical Precinct. The existing dangerous goods store is to be relocated to within this general area.

2.5.3 Parking

One of the key objectives of the UNSW Kensington Campus Development Control Plan (DCP) is to reduce car dependence through a combination of:

- reduction of parking supply
- public transport upgrades
- location of university accommodation
- parking charges, and
- an interactive information system.

In regard to parking, the transport report prepared by Colston Budd Hunt & Kafes at **Appendix B** concludes as follows.

> *No parking spaces are proposed to be provided on the campus in association with the proposed development. This is consistent with the DCP objectives which provide for a reduction in parking on the campus in association with a shift away from private car travel to and from the campus. The proposed development is therefore consistent with the DCP and its objectives, as well as other recent approvals on the campus such as the SIRF building.*

Consequently, the proposal does not include the provision of car parking. In accordance with the Kensington Campus DCP, it is proposed to continue with the established UNSW policy of travel demand management.

2.6 Description of Operations

2.6.1 Proposed Laboratory Teaching and Research

The Medicine Program at UNSW has recently undergone a far-reaching restructure in response to the changing nature of teaching and learning in tertiary settings, and now reflects leading-edge educational methodologies and philosophy. This new thinking has informed the planning of the learning environment within the WWB, including innovative designs that will provide more space for small group and student directed learning.

New research zones will comprise blocks of about 450m^2 supporting 35 academics, researchers and doctoral and masters research and masters students and include laboratory, write up and equipment spaces. The modular design will provide flexibility to manage the growth and changing patterns of research anticipated for the next decades. Importantly the zones are designed to flexibly accommodate the increasing number of students who will work in a real world research environment as part of their undergraduate or postgraduate education.

2.6.2 Laboratory Design and Procedures

Policies and procedures

The following UNSW policies and procedures, consistent with Commonwealth and State legislation and Australian Standards apply to the operation of all UNSW laboratory facilities as appropriate.

- Biological Spills Management Guidelines
- Biological Safety Procedure
- Guidelines on Working with Carcinogens
- Guidance Notes for Certification of a Containment Facility
- Ionising Radiation Procedure
- Non-ionising Radiation Procedure
- Radiation spill procedures
- Guidelines for the Storage of Dangerous Goods at UNSW
- Hazardous Substances Procedure
- Disposal of Hazardous Waste Procedure
- Laboratory Safety Manual Guideline and Template

The UNSW Environmental Management Plan (EMP) has established a 'Green Lab' program to support faculties in managing their environmental compliance obligations and achieve continual environmental improvement with respect to laboratory operations. In addition to the above policies and procedures, the following documentation has been developed through the Green Lab program to inform and facilitate laboratory operational environmental compliance.

- Laboratory Environmental Legislative Compliance Register
- Laboratory Environmental Audit Protocol
- Environmental Compliance Accountability Framework

Design responses

As documented in the Kensington Campus DCP and the UNSW EMP, new buildings and major refurbishments will target the achievement of equivalent 5 stars under the Green Building Council of Australia (GBCA) Green Star rating system. In this instance the limitations of the existing building indicate that the achievable rating will be an equivalent 4 star rating, as set out in **Appendix G**).

In addition, the following UNSW requirements and Australian Standards will apply.

- UNSW Facilities Management Design and Construction Guidelines
- AS/NZS 2243 Safety in Laboratory Series Part 1 – 10 (where applicable)
- AS/NZS 2982.1 Laboratory Construction And Design

Laboratory spaces will be designed to maximise opportunities for flexibility (multiple use of similar spaces) and adaptability (ease of conversion of layout and services), thus reducing the consumption of resources in accommodating future change.

Bore water from the Botany Sands Aquifer will be provided for non-potable uses to reduce demand on the mains potable water supply.

Separate electricity and water sub-metering will be provided throughout the building, including for each laboratory and associated support space, to enable monitoring to inform improved operational efficiencies. Electrical, mechanical and hydraulic services will be controlled through an electronic Building Management System.

Laboratory mechanical ventilation systems will be designed to meet regulatory requirements and standards for protection of the public and the environment from airborne chemical, radioactive and biological hazards, and will incorporate high efficiency air handling units with economy cycles to reduce energy consumption. Variable air volume (VAV) flow control and make-up air will be provided to laboratory fume cupboards to reduce energy consumption.

Flammable goods storage cabinets will be provided within laboratories as required. Bunding will be provided to regulatory requirements to enable containment of spills and laboratory finishes will be impermeable to facilitate clean-up in the event of spills.

2.6.3 Dangerous Goods Handling and Storage

Policies and procedures

As an advanced research facility, the proposed development involves the use, storage and handling of a range of dangerous goods. Impacts to people and the environment may potentially arise from improper handling and storage practices.

UNSW has established University-wide policies and procedures for minimising the risk of environmental impacts arising from the handling and storage of these materials in compliance with the NSW Occupational Health and Safety (Dangerous Goods Amendment) Regulation (2005) [the Regulation], the UNSW Occupational Health and Safety Management System and the UNSW Environment Policy and EMP. The two key University policy and procedure instruments, which will apply to the handling and storage of dangerous goods are outlined below.

- Guidelines for the Storage of Dangerous Goods at UNSW (approved April 2002)

  Describes University requirements for safe handling and storage of dangerous goods from both a legislative and Australian Standards perspective, including reference to Environment Protection Authority regulations on transporting dangerous goods.

- UNSW Hazardous Substances Policy (approved December 2000)

  Establishes a framework to systematically identify and investigate potential chemical hazards to minimise the risk of adverse health and safety effects to personnel, property and the environment arising from exposure to hazardous substances in the workplace. Includes procedures for hazard identification, risk assessment and management, storage and disposal of hazardous substances, and emergency preparedness and response.

The storage and handling of all dangerous goods will comply with the requirements of the Regulation. Refer to **Appendix F** for further details. This will include the preparation of the following documentation required under the notification requirements of the Regulation (square brackets indicate the Clause applicable under the regulation):

- Site Plan – showing the location of all Dangerous Goods storage areas and emergency response equipment (i.e. spill kits, first aid kits, hydrants, fire extinguishers, etc.) [required under Clause 174ZN(1) & Schedule 7 Part 8]
- Notification to WorkCover NSW – prepared and submitted on the appropriate application forms [required under Clause 174ZS]
- Risk Assessment – the storage and handling facilities will be subjected to a risk assessment to ensure risks are appropriately managed [required under Clause 174Q & 174ZX]

- Manifest – a manifest of Dangerous Goods stored and handled will be prepared and held in an emergency "box" located at the entrance to the building [required under Clause 174ZN]
- Dangerous Goods Register – a Dangerous Goods Register will be prepared and held in an emergency "box" located at the entrance to the building [required under Clause 174ZW]
- Emergency Plan – a facility Emergency Response Pan will be prepared and held in an emergency "box" located at the entrance to the building [required under Clause 174ZW], and
- Training – a training programme for staff handling Dangerous Goods will be conducted, including characteristics of Dangerous Goods, spill response and safety requirements [required under Clauses 13 and 174ZV].

All chemicals will be stored securely with associated Material Safety Data Sheets (MSDS) and clearly defined operating procedures for their use, and for the recovery and/or disposal of spilt chemicals and used chemical containers. Copies of MSDS for all chemicals on site will be stored at each specific chemical storage area as required under WorkCover regulations, and will also be kept centrally via the Chem-Alert electronic database.

Design responses

With the relocation of the existing dangerous goods store from the existing loading dock at Gate 10, a centralised storage for dangerous goods will be provided within the centralised loading dock area associated with the Biological Sciences Building for the whole Biomedical Precinct.

Internal circulation spaces (goods lift, corridors) will be designed to minimise the risk of conflicts between the movement of dangerous goods (eg from the receiving and storage area to laboratories) and other activities within the building. The goods lift will be in isolation when transporting dangerous goods. Sensors and adequate ventilation will be provided to minimise the risk of oxygen depletion as required.

2.6.4 Waste Management

Operation of the WWB will generate a variety of solid and liquid waste materials including municipal solid waste, paper and chemical wastes, recyclable containers, electronic waste, used laboratory equipment etc requiring a range of management strategies. An integrated waste management system is currently being implemented across UNSW consistent with the University's Environment Policy and EMP. This system is designed to combine a range of waste and recycling services to focus on highest resource value outcomes.

With respect to hazardous wastes, each UNSW School, Research Centre or Divisional Unit is responsible for establishing a safe and responsible method for the disposal of hazardous substances produced by normal activities, as well as those which may arise from accidental leaks and spillage. This requires adherence to associated UNSW policy and procedures, which in turn ensures compliance with regulatory requirements.

Disposal of hazardous wastes is managed to achieve the above criteria through the University's Disposal of Hazardous Wastes Procedure (approved September 2003).

Construction waste will be managed through Construction Site Environmental Management Plan (see guidelines in **Appendix I**), approved by the University and consistent with NSW regulatory requirements.

Operational waste minimisation programs will be delivered through the University's Environment Unit (refer **Appendix L**).

UNSW employs Plastech Operations Pty Ltd for the removal of hazardous substances, dangerous goods and biological hazardous wastes.

Design responses

A dedicated waste handling area will be provided within the centralised loading dock area associated with the Biological Sciences Building, including provision for segregation of waste streams, bin cleaning facilities with discharge to trade waste pit and adequate space for vehicular access.

As a minimum requirement, trade waste from laboratories will be treated to regulatory standards, including provision of dilution pits, pH dosing and arrestors. During design development consideration will be given to effluent pre-treatment to minimise discharge of total dissolved solids to sewer in line with the Victorian South East Water *Standards for Trade Waste Discharged to the Sewerage System*, which has been identified as Australian best practice by the Green Building Council of Australia.

2.6.5 Security

An integrated security management system will be installed in the building which will include:

- access control
- intruder alarms
- alarms management
- digital intercom
- closed circuit television
- remote digital camera imaging, and
- photo identification badging.

3 Environmental Assessment

3.1 Application of Part 3A

The provisions of Part 3A of the Environmental Planning and Assessment (EP&A) Act apply to this development. Clause 75B of the EP&A Act specifies criteria for projects to which this part applies, and invokes the provisions of the State Environmental Planning Policy (SEPP) (Major Development) 2005.

Under the Major Development SEPP, the Minister formed the opinion that the proposed development is of a kind described in Schedule 1, namely Group 7, Clause 19 "Health and Public Service Facilities" as it is both:

- for teaching and research at a university, and
- has a capital investment value of more than $30 million.

Subsequently the Director General's Requirements (DGRs) were issued on 25 February 2010, listing aspects to be addressed in this environmental assessment (EA), a copy of which are attached at **Appendix A**. The following is an assessment of the project in accordance with those requirements.

The table below provides a summary of the individual matters listed in the EA requirements and cross references them with the relevant sections in this report and the technical reports appended to this report.

Director General's Requirements	Report Reference
Key Issues	
1. Relevant EPI's Policies and Guidelines	Section 3.2
2. Built Form/Urban Design	Section 3.3
3. Impacts on Existing Uses	Section 3.4
4. Environmental Amenity	Section 3.4
5. Transport and Accessibility Impacts (Construction & Operational)	Section 3.5
6. Ecologically Sustainable Development (ESD)	Section 3.6
7. Landscaping	Section 2.4
8. Utilities	Sections 1.5 & 3.9
9. Staging	Section 3.8
10. Laboratory Design & Procedures, Dangerous Goods Handling and Storage	Section 2.6
11. Drainage, Stormwater and Groundwater Management	Section 3.10
12. Construction Impacts	Section 3.11
13. Contributions	Section 3.12
14. Contamination	Section 1.6
15. Environmental Risk Analysis	Section 3.13
16. Statement of Commitments	Section 5
17. Consultation	Section 3.14
General	
1. executive summary	Page vii
2. site analysis including site plans, aerial photographs and a description of existing and surrounding environment	Section 1
3. description of the proposed development including: • project objectives, and • architectural design, configuration and built form, landscaping & public domain works, access & parking, infrastructure & services, materials	Section 2

Director General's Requirements	Report Reference
and finishes, construction, operation, maintenance and staging (as applicable) 4. assessment of key issues specified above and a table outlining how these key issues have been addressed 5. assessment of potential impacts of project and a draft Statement of Commitments, outlining environmental management, mitigation and monitoring measures to be implemented to minimise any potential impacts of project and address possible scope of a voluntary planning agreement 6. plans and documents outlined below 7. signed statement from author of Environmental Assessment certifying that information contained in report is neither false nor misleading 8. Quantity Surveyor's Certificate of Cost to verify capital investment value of project (in accordance with Major Projects SEPP), and 9. conclusion, justifying project taking into consideration environmental, social and economic impacts of proposal, suitability of site and whether or not project is in the public interest.	 Section 3 Sections 3 and 5 Volumes 1 and 2 Page vi Attached to application form Section 4
Plans and Documents	
1. Existing Site Survey Plan 2. Site Analysis Plan 3. Locality/Context Plan 4. Architectural Drawings 5. Other plans/reports • Acoustic Report • Stormwater Concept Plan • Erosion & Sediment Control Plan • Geotechnical Report • View Analysis • Landscape Plan • Shadow diagrams 6. Physical Model	Dwg EA02 Volume 2 Dwg EA35 Volume 2 Dwg EA35 Volume 2 Volume 2 Appendix H Volume 2 Volume 2 Appendix E Dwg EA37 Volume 2 Volume 2 Dwgs EA30-32 Volume 2 Lodged with EA

3.2 Relevant Planning Policies and Guidelines

3.2.1 Objects of the EP&A Act

This section addresses the object of the Environmental Planning and Assessment (EP&A) Act.

Objects of the EP&A Act (section 5)	Response
(a) to encourage: (i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment, (ii) the promotion and co-ordination of the orderly and economic use and development of land, (iii) the protection, provision and co-ordination of communication and utility services, (iv) the provision of land for public purposes, (v) the provision and co-ordination of community services and facilities, and	 Proposal is for a new state-of-the-art Biomedical Building to provide research space for biomedical scientists and research-related medical students and graduates within existing university campus within existing urban area. Proposal promotes orderly and economic use of land as is located within existing university campus within existing urban area. Not applicable. Not applicable. Proposal for community facility, albeit as part of existing university campus.

Objects of the EP&A Act (section 5)	Response
(vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and	Existing urban environment to be protected; no threatened species on site.
(vii) ecologically sustainable development, and	Proposal to achieve 4 star rating (refer Appendix G).
(viii) the provision and maintenance of affordable housing	Not applicable.
(b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and	Noted. As Part 3A project both State and local government involved in process.
(c) to provide increased opportunity for public involvement and participation in environmental planning and assessment.	Public involvement provided through consultation processes, both in preparation of UNSW Kensington Campus DCP and this EA.

3.2.2 State Environmental Planning Policy (Major Development) 2005

As noted in Section 3.1, the Minister formed the opinion that the proposed development is of a kind described in the Schedule 1 of the Major Development SEPP, namely Group 7, Clause 19 "Health and Public Service Facilities" as it is for teaching and research at a university and has a capital investment value of more that $30 million. Subsequently the Director General's Requirements were issued on 25 February 2010.

3.2.3 State Environmental Planning Policy (Infrastructure)

The Infrastructure SEPP deals with infrastructure provision, and provides development controls in relation to airports, correctional facilities, educational establishments, hospitals, electricity, gas, sewerage and water infrastructure, forestry, public housing, ports, rail and road infrastructure, and telecommunications.

It allows for certain development associated with educational establishments, such as UNSW, to be carried out without development consent, or as exempt development. This does not apply to this application.

The policy also provides controls in relation to proposals considered to be traffic generating developments. Under Schedule 3 of the policy, educational establishments involving 50 or more additional students are required to be referred to the RTA. Given that the proposal will not result in an increase of student numbers on the campus, this does not apply to the proposal.

3.2.4 State Environmental Planning Policy No 55–Remediation of Land

This policy introduces state-wide planning controls for the remediation of contaminated land. It states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

As noted in Section 1.6, the contamination assessment carried out by Douglas Partners (refer **Appendix K**) indicates that the subject site does not have a history of potential contaminating activities and therefore no further contamination investigations are warranted.

3.2.5 NSW State Plan

The NSW Government's State Plan sets priorities to guide Government decision making and resource allocation. Its challenge is to balance competing demands in an environment of change, high expectations and limited resources.

The NSW State Plan is the community's vision for the future of NSW in which the:

- transport network is world class—safe, reliable and integrated; cities and towns are great places to live, and experience a high quality of life
- economy grows stronger—supporting jobs and attracting business investment
- children are better educated, people more skilled and known for research and innovation
- health system provides the highest quality care accessible to all
- energy is clean, the natural environment is protected and lead in tackling climate change
- community is strong and the most disadvantaged communities and most vulnerable citizens are supported
- police and justice system keep the community safe.

The State Plan includes priorities, targets and many actions in response to the issues raised by communities. The major areas of change include INNOVATION–new priorities, targets and actions to increase the knowledge and innovation capacity of NSW, including within the public sector.

Under the heading *Clever State* is the commitment *to continue to invest in knowledge and innovation in NSW, working with universities, research, green technologies and cutting edge sectors such as ICT, design and new media*. This includes:

- *Increase access to knowledge and skills in partnership with universities*

  Facilitate an increase in expenditure on research and development in NSW by at least 12% on average per annum until 2016.

The proposed redevelopment of the WWB will support the aims of the State Plan by creating state of the art research facilities for biomedical scientists and research-related medical graduates within the existing university campus.

It will also support the priorities and targets with respect to the Plan's transport initiatives, including increasing the share of commuter trips made by public transport, increasing opportunities to walk and cycle and increasing employment close to public transport.

3.2.6 Sydney Metropolitan Strategy and Draft East Subregional Strategy

The Sydney Metropolitan Strategy is a broad framework to strengthen Sydney's place in the global economy by outlining a vision for growth and development over the next 25 years. The strategy has five key aims:

(1) enhance liveability

(2) strength economic competitiveness

(3) ensure fairness

(4) protect the environment

(5) improve governance

The Metropolitan Strategy identifies the *Randwick Education and Health Specialised Centre*, places *that perform vital economic and employment roles across Sydney*. The proposed WWB

redevelopment supports the strategy's aims and the Randwick Specialised Centre by creating state-of-the-art research facilities for biomedical scientists and research-related medical graduates within the existing university campus.

The more detailed Draft East Subregional Strategy is to guide land use planning until 2031 in the Botany Bay, Randwick, Waverley and Woollahra local government areas. Key directions of the strategy include:

- strengthening the Randwick Education and Health Specialised Centre and Bondi Junction's role as jobs hubs
- protecting other key regional employment lands
- improving public transport access, especially for routes connecting to other Sydney subregions
- increasing housing choice
- protecting and promoting scenic quality and tourism, and
- supporting and strengthening the nation's economic gateways.

The strategy identifies UNSW as one of the nation's leading academic and research institutions and also the largest in terms of student numbers. The strategy does not identify any specific strategic provisions for UNSW but it notes future growth and development of the University is to be managed by the UNSW Campus 2020 Master Plan.

The WWB redevelopment is in accordance with the key directions of the strategy. It will strengthen UNSW's position as a one of Australia's foremost institutions by making a major contribution to medical research.

3.2.7 Randwick Local Environmental Plan 1998 (Consolidation)

Zoning

Under the Randwick Local Environment Plan 1998 (Consolidation) (LEP) the campus is zoned No 5 Special Uses which allows the University to operate and develop the campus as an *educational establishment* together with associated ancillary development, for which Randwick City Council (RCC) is normally the consent authority. As this development falls under the Major Development SEPP, the Minister for Planning is the consent authority. However, assessment of the project has been delegated to RCC by the Minister.

The proposed redevelopment of the WWB is both permissible in and consistent with the zoning of the land. The proposal complies fully with the LEP, consequently alternative locations or alternative proposals are neither required nor considered.

In terms of urban design controls such as height, scale, character and alignment of buildings, the LEP places no restrictions within the Special Uses Zone for the proposed redevelopment. These detailed controls are set out in the UNSW Kensington Campus Development Control Plan (DCP). Chapters 5 and 6 of the DCP, which contain the key controls, are addressed in Section 3.2.8.

Other LEP clauses

Services

Clause 22 requires that Council be satisfied that services such as water, removal of sewage and drainage are available to the land prior to consent being granted. Sections 1.5 and 3.9 note that satisfactory provision of infrastructure will be available to the proposed development.

Tree preservation orders

Clause 28 includes the procedures for making and applying tree preservation orders (TPO) to specific trees within the RCC area. These orders relate to:

- trees that are 6 or more metres tall
- trees with a canopy greater than 4 metres across
- trees with a trunk circumference of 1 metre (measured 1 metre above ground)
- any tree on public land, and
- any palm tree, cycad or tree fern of whatever size.

Consent must be obtained to ringbark, cut down, top, lop, remove, injure or destroy any tree covered by a TPO. A number of trees will require removal along both the eastern boundary and within the site area to accommodate the proposed redevelopment. This is discussed in the arboriculture assessment at **Appendix C**. Consent is sought to remove those trees nominated in that report.

Development in the Special Uses zone

Clause 37A states that Council may grant consent to the development of land within Zone No 5 only if it is satisfied that the proposed development is compatible with the character of the locality and will not adversely affect the amenity of nearby and adjoining development. As detailed in Section 3.2.8, the proposed development includes variations to some of the planning controls for the site in relation to building height, building alignment and existing trees. Notwithstanding these non-compliances, the proposal is considered an appropriate development for this important corner site and its surrounds.

Site Specific Development Control Plans

Clause 40A requires the preparation of site specific development control plans (DCPs) for sites greater than 10,000m^2 and details the requirements to guide development on such sites. The UNSW Kensington DCP, which is addressed below, satisfies this requirement.

Contaminated land

Clause 42B states that Council must be satisfied that the land after remediation be suitable for the proposed development and remediation will occur before the land is developed. As detailed in Section 1.6 and noted in Section 3.2.4, the land is not contaminated.

3.2.8 UNSW Kensington Campus Development Control Plan

The aims of the DCP are to provide planning and design objectives and provisions which will optimise:

a. the physical, social, educational and environmental quality of the UNSW Kensington Campus

b. the role and environmental 'fit' of the campus within its Randwick City context and its compatibility with the evolving character of adjoining lands, and

c. the Campus Experience.

The proposed development is consistent with these aims by achieving the relevant *Campus Design Principles* as outlined in the Table 3 below.

Table 3 – Relevant Provisions of UNSW Kensington DCP Chapter 5

Chapter 5 - Campus Design Principles and Provisions	**Compliance**
5.1 Sustainability	
a. *Existing and new campus buildings, landscapes and infrastructure are to be managed by UNSW to be consistent with the relevant sections of the EMP.*	Design of building includes Environmentally Sustainable Design (ESD) initiatives as noted below and as set out in Section 3.6 and **Appendix G**.
b. *Key energy management requirements are to:* • *aggressively implement energy conservation* • *reduce greenhouse gas emissions through design and management, and* • *consider renewable energy technologies such as photovoltaic cells in the design of new buildings and refurbishment projects, to ensure that the University maintains a reputation as a leader in renewable energy design in the built environment.* *A report on energy efficiency is to accompany all DAs for new buildings or refurbishments.*	Energy initiatives included in design of project, eg plant upgrades, outside air economy cycles, natural daylighting, low energy lighting, automated lighting control systems, services and space management, digital control, mixed mode ventilation, monitoring and reporting and renewable technologies. Refer to Sustainable Design Report at **Appendix G**.
c. *Key water management requirements are to:* • *reduce potable water consumption* • *increase the use of bore water for non-potable water requirements* • *maximise the on-site retention of stormwater via natural infiltration and aquifer recharge, and* • *ensure all water fittings and equipment are 4 star efficiency.* *Stormwater runoff from the UNSW Kensington Campus is to be managed in accordance with the Stormwater Strategy prepared for UNSW by ANA Technical Services Pty Ltd dated 28 November 2005, Drawing CMP 1000 (Rev 1) dated 28 November 2005 and Drawing DSP 1000 (Rev 1) dated 22 November 2005.* *Aquifer recharge and borewater reuse, licensed by the Department of Natural Resources, is to be implemented in all capital works projects where permissible.* *Where relevant, development is to extend UNSW's substitution of town water use by harvested stormwater via the Botany Sands Aquifer (subject to approval from the Department of Natural Resources). This initiative fulfils the objectives of Council's rainwater tank policy, and may be used to demonstrate compliance with the requirements of BASIX for water conservation (subject to approval by the Department of Planning).*	Water conservation initiatives included in design of building and landscape. UNSW local bore water supply will be used for non-potable water requirements. Rainwater to be harvested for site irrigation and potential toilet flushing. Water used for laboratories and cooling towers will come from UNSW local bore water supply. Potable water to supply laboratories, basins in toilet areas, kitchen sinks and some site irrigation. Fixtures will be specified to achieve a minimum 4 WELS rating. Aquifer recharge not permitted from this site. Stormwater drainage to be in accordance with UNSW Stormwater Strategy. Refer to stormwater concept plan in **Volume 2**.
d. *Key materials management requirements are to:* • *reduce solid waste to landfill and thermal treatment, and* • *increase solid waste recycling, especially in construction and demolition and organics.* *Waste management plans are to be prepared for all developments ensuring that suitable waste management processes and waste storage areas that support the principles of waste avoidance, reuse and recycling are incorporated into the design of buildings. Waste management plans are to include projected waste generation rates for the end use of the development and*	Construction and Operation Waste Management Plans will be implemented as noted in Section 2.6.4 and **Appendices I & L**. Refer also to Sustainable Design Report at **Appendix G** for details of materials management. Redevelopment and expansion of existing building will minimize waste generation.

Chapter 5 - Campus Design Principles and Provisions	**Compliance**
the development plans are to include facilities to support this waste generation, eg appropriately sized and accessible waste storage areas, integrated with waste collection systems. *Waste management plans that maximise reuse and recycling of waste generated in the demolition and construction phase are to be prepared for all developments.* *All waste storage areas are to be graded and drained to the sewer to the requirements of Sydney Water.*	
e. Key planning, design and development requirements are to: • *ensure all new buildings and refurbishments target a 5 star rating under Green Star rating scheme* • *increase accessible green open space, and* • *achieve compliance with environmental planning, heritage and construction regulations.* *These issues are addressed further in the objectives and provisions for buildings and landscape in Sections 5.2 – 5.9. Details to be provided in DAs.*	Proposed redevelopment designed to incorporate range of Environmentally Sustainable Design (ESD) principles. Completed project anticipated to achieve an equivalent 4 star rating if implemented in accordance with guidelines at **Appendix G**. This is due to limitations placed on works in re-lifing existing WWB that has equivalent 2 star rating.
f. Key compliance and pollution prevention requirements are to: • *achieve compliance with environmental legislation and regulations, and* • *reduce quantity and toxicity of wastes and products on campus.*	Complies. Refer design details in Section 2.6 and **Appendix F**.
g. Key transport requirements are to: • *pursue a range of travel demand management strategies to reduce the number of vehicle trips to the campus, and* • *increase staff and student numbers travelling by foot, bicycle and/or public transport.* *These issues are addressed further in the objectives and provisions for transport in Section 5.10.*	Complies. Campus-wide transportation strategy to reduce private vehicle trips being implemented. Cyclist facilities, such as bike racks and showers included as part of proposal.
h. Key biodiversity and open space requirements are to: • *improve ecological functionality and habitat potential for native fauna on campus* • *increase use of indigenous local species* • *reduce use of chemicals, and* • *increase awareness and knowledge of the ecology of the campus.* *These issues are addressed further in the objectives and provisions for landscape in Section 5.5.*	Complies. New landscaping will achieve these requirements as far as possible.
5.2 Sense of Place	
a. The key features which define sense of place to be protected and promoted in all future development of the campus are identified on Figure 5.1. These focus on: • *identification of the campus from afar, such as the building silhouettes and icon signage* • *perimeter tree planting* • *the sense of arrival, particularly along Anzac Parade,*	Complies. Design principles include: • create a landmark building and engender a sense of arrival • replace trees to be removed with new landscaping • create a high quality built and

Chapter 5 - Campus Design Principles and Provisions	**Compliance**
High Street and Botany Street • *primary entrances from all streets* • *major existing and new gathering places, and* • *the network of connective spaces.*	landscape interface at the Botany Street/High Street corner, and • reinforce University Walk connection at relocated Gate 10.
b. *The achievement of sense of place is also based on the pursuit of the issues and provisions of other campus design principles, particularly Legibility (Section 5.3), the "public rooms" and specific characters of each Hub (Section 5.4), Landscape (Section 5.5), Buildings (Section 5.6), Retail (Section 5.7) and Recreation and Cultural Facilities (Section 5.9).*	Complies, see relevant sections below.
c. *The interface of the campus with the surrounding community also determines its sense of place. The desired future character of these interfaces are to be as follows. The specific controls to achieve these characters are detailed in Sections 5.3, 5.5 and 5.6 and shown on Figures 5.2, 5.6b, 5.7, 5.8 and 5.9.* ***High Street*** - *Improve frontage with major new buildings that are to define major new gathering spaces.* - *Variety of uses including university, housing and publicly accessible facilities.* - *Numerous new entries to relate to public transport and north-south connections to campus hubs.* - *Buildings to be set back to maintain existing mature trees as noted in Section 5.5.* - *Building heights to optimise capacity, northern aspect and views.* ***Botany Street*** - *Major buildings to define frontage, particularly High/Botany Street corner.* - *Extended East Mall to create new major eastern entry to corner (with possible future extension to hospital complex).*	Generally complies: • high quality architecture and urban form to create an major building that defines High Street/Botany Street corner • publicly oriented uses at lower levels with increased visual permeability • strengthens new entry created for Lowy building and improves access to public transport on High Street • new building extends over Botany Street setback line at upper levels • capacity, northern aspect and views optimised
d. *Other physical elements important to be reinforced for sense of place are topography, significant buildings and spaces including the Old Tote Courtyard Heritage Conservation Area (HCA), views and prospect, and existing trees.*	Complies. Topography and connectivity to campus icons reinforced, some trees retained. No impact on Michael Birt Gardens.
e. *The design of individual capital works projects are to detail how these characteristics and features will contribute to the desired sense of place.*	Complies. See architectural design statement at Section 2.3.1.
5.3 Legibility	
a. *New projects are to maintain and enhance the views into the campus identified in Figure 5.2 to ensure the legibility of the campus in the street layout.*	Proposal will reinforce legibility and improve views of campus; no impact on identified views into campus.
b. *Major and minor entries to the campus, and the varying permeability of campus boundaries, are to be achieved as identified in Figures 5.1 – 5.3.*	Complies. Campus legibility and connections maintained. Building design promotes permeability; desire lines improved between Lowy Building and WWB and connection to University Walk reinforced.

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c. New development and refurbishment projects are to over time achieve the pattern of public domain identified on Figure 5.3 which comprises a network of well defined major gathering spaces and a grid of smaller connective spaces which link the gathering spaces and campus entrances.	Complies. Connectivity to Michael Birt Garden will be promoted through design of new building, which allows connectivity around building and reinforces eastern end of University Walk. Public domain will be enhanced by new and renewed façades creating better definition of street edges and views.
d. The boundaries of most existing spaces are well defined by building alignments or landscape elements, however those of new spaces are to be subject to refinement during further design studies. These aspects are further documented in Figures 5.6b, 5.7 and 5.8.	Proposed works will maintain building alignment of existing WWB at ground level, with some cantilevered space at upper levels on Botany Street. Alignment to Michael Birt Gardens unaffected.
f. Gathering spaces are to be joined by a network of east-west links, the enhanced and extended University Mall and University Walk and north-south connections as shown in Figure 5.3.	Complies. Connecting space at southern end of site, eg University Walk will be enhanced by relocated and reinforced Gate 10.
g. Significant places are to be achieved at the intersections of major pedestrian routes by the creation of: • *a gathering space (see Figure 5.3), and/or* • *a public room (see Figure 5.4) and/or* • *a Hub (see Section 5.4 and Figure 5.5), and/or* • *memorable features such as landscape elements (see Figure 5.6b), building design, uses, and/or public art.*	Complies. Proposal provides for enhancement of University Walk connective space and visually permeable spaces at ground level.
j. Lighting of the public domain is to contribute to legibility and ensure safety, with particular emphasis on open spaces at Hubs, University Walk and its intersections with north-south connections, and all routes to campus entrances with public transport stops.	Complies. All public domain areas will be appropriately lit, including new covered eastern end of University Walk.
k. Paving selections for the connective spaces are to contribute to legibility, with particular emphasis on the routes between Hubs and to campus entrances with public transport stops.	Complies. Refer landscape design statement at Section 2.4 and drawings in Volume 2.
l. All new campus projects are to incorporate consistent high quality signage throughout the public domain in accordance with the adopted UNSW Signage Code. Icon signage is to contribute to identification of the campus from afar but not adversely impact on adjoining properties.	Can comply. Appropriate signage consistent with UNSW Signage Code will be provided.
m. Equal access to the public domain is to be achieved through implementation of the findings of the UNSW Disability Access Audit. This is to include a "shoreline" for the vision impaired through the campus.	Proposal complies, see Access Review at **Appendix D**.
5.5 Landscape	
a. All landscape works and management are to implement the sustainability principles and mechanisms of the EMP.	Complies. See landscape concept design in Volume 2.
b. New buildings are not to impinge on or harm existing significant trees and areas of vegetation identified in Figures 5.6a and 5.6b, except as set out below. In these locations the existing vegetation is to form the basis of landscape designs.	Proposal requires removal of a number of trees identified as high retention along Botany Street. Lost trees to be replaced as shown on landscape concept plans in Volume 2. Refer also arboriculture assessment at **Appendix C**.

Chapter 5 - Campus Design Principles and Provisions	**Compliance**
c. *Prior to design work for adjoining new developments, the specific root and canopy zone requirements of the vegetation in Figure 5.6a is to be assessed and the needs of the vegetation may be a constraint on development. This vegetation can only be removed based on detailed arborist assessments if there is no other design option, and in conjunction with agreed replacement (including advanced trees) or compensation strategies only if the trees are non-viable (due to age or disease) and thus require replacement.*	Arboriculture assessment at **Appendix C** has assessed existing vegetation on site making a number of recommendations to ensure all trees that are to be retained are kept in good condition for duration of works.
e. *The important landscape tradition areas of University Mall, Village Green, Library Lawn, Old Tote Courtyard and Michael Birt Gardens / Chancellery Forecourt are to be improved within clear guidelines that retain their design significance in the public domain having regard to contextual changes from surrounding development.*	Proposed development will maintain design significance in public domain of adjoining Michael Birt Gardens by improving existing façade of Wallace Wurth, activating ground level and improving connectivity.
g. *Landscape development is to lead toward an optimal distribution of appropriate landscape types. Landscape design is to use successful existing spaces as models for new development.*	Appropriate species selection and landscape design to enhance amenity and soften built form. Refer to landscape concept plan in **Volume 2**.
i. *Landscape design is to be a key aspect of the creation of new entrances (see Figures 5.1 & 5.6b).*	Complies. Refer landscape design statement at Section 2.4.
k. *The campus boundaries are to provide openness and entries, or security and definitional fencing.*	Boundary fence along High and Botany Streets to be removed creating new openness and street activation.
l. *Landscape design and management is to:* • *optimise safety and security by enhancing visibility and sight lines, and eliminating areas of darkness and places for entrapment* • *provide equal access throughout the public domain implementing the findings of the UNSW Disability Access Audit and service and emergency access to buildings* • *optimise plant growth, including large trees, by provision of permeable surfaces, deep soil areas and drainage to planted areas, promoting water infiltration and aeration (provision of hard surfaces and their drainage to relate to the UNSW Stormwater Strategy), and* • *incorporate where appropriate infill planting for increasing habitat diversity, and species and assemblages appropriate for academic research and teaching purposes.*	Landscape to incorporate Crime Prevention Through Environmental Design principles (refer Section 2.3.2). Landscape to meet requirements for access for people with disabilities. Deep soil areas included around perimeter of redevelopment. Complies. Refer to Landscape Design Statement at Section 2.4 and Landscape Concept Plans in **Volume 2**.
m. *Species selection is to:* • *be ecologically appropriate for the specific site conditions* • *reinforce the dominant fig tree character of the campus* • *incorporate other distinctive species, in particular Tallowwoods, Melaleuca quinquenervia and Poplars, and* • *develop areas of pre-1788 vegetation of the site (eg as Eastern Suburbs Banksia Scrub).*	Complies. Species selections detailed in **Volume 2**.
p. *Expansive areas of pavement are to be permeable in nature wherever possible in order to reduce stormwater runoff, recharge groundwater supplies and to maintain*	Paving designed in accordance with stormwater runoff requirements. Refer Stormwater Plans in **Volume 2**.

Chapter 5 - Campus Design Principles and Provisions	**Compliance**
infiltration rates to the root zones of established trees.	
5.6 Buildings	
a. *New buildings are to be located within the building location zones identified in Figure 5.8 subject to the additional provisions set out below.*	Generally complies. Proposal within building location zone, except Levels 2-5 on Botany Street side extend into Sydney Water easement.
b. *New buildings or extensions to existing buildings are to be located behind the key building alignments identified in Figure 5.7 and the existing alignments set for University Mall, Science Square, the Quadrangle, Library Lawn, Commerce Courtyard, Chancellery Forecourt, Union Road, Engineering Road, College Road and Chancellery Walk.*	Generally complies. Existing building alignments maintained on High Street. Levels 2-5 on Botany Street side extend into Sydney Water easement.
c. *The precise position of other building alignments are to be subject to detailed design studies of both the proposed buildings and adjoining public domain including consideration of at least:* • *tree root and canopy requirements* • *appropriate building footprint sizes to meet the requirements of proposed uses and energy performance of buildings* • *appropriate dimensions of new gathering and connective spaces* • *the design of new or upgraded entrances* • *solar access requirements of adjoining open spaces and buildings*	Generally complies. Building retains existing alignment of WWB on western and northern façades. Levels 2-5 on Botany Street side extend into Sydney Water easement. Michael Birt Garden unaffected. Southern extensions to 'M wing' retain connectivity through University Walk. Tree root and canopy requirements assessed. Refer to arboriculture assessment at **Appendix C.** Building footprint sized to meet design and energy performance. Solar access generally maintained, refer shadow diagrams in **Volume 2**.
d. *Campus boundary conditions are to be achieved as indicated in the building alignments in Figure 5.7 and the sections in Figure 5.9.*	Generally complies. Building retains existing building alignment of WWB on western and northern façades. Levels 2-5 on Botany Street side extend into Sydney Water easement.
e. *Maximum building heights are to be as specified in Figure 5.8. Heights are defined as wall heights allowing for appropriately articulated upper levels and roof forms. Areas above the wall height may include useable internal floor space and plant rooms that are not to occupy more that 50% of the building footprint and outdoor recreation spaces.*	Does not comply. Although proposal exceeds 24m maximum wall height, consistent parapet height between Lowy and Biosciences Buildings, considered appropriate built response to important corner location. Refer architectural design statement in Section 2.3.1. Plant room occupies less than 50% of building footprint.
f. *Floor levels of all new habitable and storage areas are to be a minimum of 300 mm above any adjoining 1 in 100 year ARI flow path/ponding depth.*	Complies.
g. *Design of campus buildings is to respond positively to the architectural relationships and elements in Section 6.1.*	Complies, see below.
h. *Campus building types are to conform to the details set out in Section 6.2.*	Complies, see below.
i. *Building design is to contribute to the creation of the special places indicated in Sense of Place (Section 5.1) and the creation of Hubs (Section 5.4).*	Complies. Proposal appropriate as high quality corner design statement.

Chapter 5 - Campus Design Principles and Provisions	**Compliance**
k. Equal access to buildings is to be achieved through implementation of the findings of the UNSW Disability Access Audit, and compliance with the Building Code of Australia and Disability Discrimination Act.	Proposal complies. Refer Access Review at **Appendix D**.
l. Service access to buildings is to be appropriately located in relation to access needs and include required loading docks sited and designed to optimise the aesthetics of ground floor levels and safe and comfortable pedestrian movement.	Existing loading dock at Gate 10 to be removed. Servicing to be provided from existing loading dock in Biological Sciences Building accessed from Gate 11. Relocated Gate 10 to become part of reinforced University Walk.
m. Buildings and structures to house infrastructure, plant and campus services are to be in accordance with any Campus Infrastructure and Services Strategy and located adjacent to but not within gathering and connective spaces, be integrated with other buildings and comply with the design quality provisions of the DCP.	Majority of support infrastructure to be provided within lower levels of building. Plant area on roof set back from prominent corner of building to reduce bulk and scale and impacts to adjoining residences. No impacts on adjoining gathering or connective spaces.
o. DAs for buildings on upper campus greater than 40 metres in height above existing ground level are to be accompanied by an urban design analysis, which includes a view impact analysis demonstrating the proposal's relationship with the public domain from significant vantage points around the campus.	Urban design analysis undertaken to inform design. Refer architectural design statement at Section 2.3.1 and drawings in **Volume 2**.
p. All DAs for buildings greater than 15.24m Above Existing Ground Height (AEGH) are to be referred to Sydney Airports Corporation Ltd for approval, as required by the Civil Aviation (Buildings Control) Regulations.	Noted.
q. Minimum setbacks of 6 metres from the street alignment are to be provided for buildings adjoining a residential precinct, to preserve solar access and privacy to residential properties adjoining the campus.	Generally complies, except upper levels to Botany St setback back 5.415m with shading fins setback 4.575m.
s. Solar access to living areas and principal landscaped spaces of adjoining residential development is not to be reduced to less than 3 hours per day throughout the year. If 3 hours per day is not currently achieved, new development must not reduce this further.	Complies. Refer shadow diagrams in **Volume 2**. Minor additional impact on 3 residences on Botany Street after 2:00 pm.
5.10 Transport and Parking	
a. The reduction in car dependence is to be achieved through a combination of: • *reduction in parking supply* • *public transport upgrades* • *location of university accommodation* • *parking charges, and* • *an interactive information system* *as set out in the Transportation Strategy in Figure 5.12.*	Complies. Car dependence is reduced by: • reduction in parking supply • improved bus services • increased campus parking charges • staff car pooling scheme • new on-campus student housing. Refer transport report at **Appendix B**.
b. The total number of parking spaces on campus is to be maintained until such time as it is demonstrated through the annual parking survey that the total number may be reduced without adversely impacting parking on the surrounding streets.	No additional parking is proposed, consistent with DCP objectives which provide for reduction in parking on campus in association with a shift away from private car travel to and from campus.

Chapter 5 - Campus Design Principles and Provisions	**Compliance**
c. Surface parking within the campus is to continue to be relocated to be under new buildings or within structured car parks (see Figure 5.13). • *New car parking areas are to be constructed under new buildings on western campus and on lower campus (possibly also under new buildings) to replace 300 existing permit and reserved parking as lost due to redevelopment.* • *100 short-term parking spaces are to be located in lower campus with access from High Street over time as new visitor parking for the campus.*	No existing surface parking on development site. None proposed.
d. Maintain the provision of Disabled Parking and Loading Zones throughout the campus.	Gate 10 loading dock to be removed, with all deliveries via existing loading dock in Biological Science accessed from Gate 11. This will create safer pedestrian environment with minimal impact on traffic. No existing disabled parking on development site.
e. All new DAs (excluding university accommodation) are to include an assessment of whether the proposal involves an increase in staff, student or other visitations to the campus or only a relocation or up-grade of existing facilities in the context of the total campus population and parking trends, as set out in the Transportation Strategy in Figure 5.12. Where an increase is proposed, the DA is to be supported by a Traffic and Parking Report which addresses: • *the potential increase in parking demand* • *the potential impacts on campus parking supply and demand and on-street parking demand* • *achievements in reducing parking demand across the campus, and* • *any specific measures proposed to lower parking demand or avoid potential adverse impacts.* *Specific pedestrian, bicycle, public transport or parking initiatives/improvements may be required prior to occupation of specific proposal.*	Transport Report at **Appendix B** has assessed increase in traffic and parking demands from proposal concluding that development is consistent with DCP objectives which provide for a reduction in parking on campus in association with a shift away from private car travel to and from campus.
f. The University is to contribute to the cost of external civil works that relate to specific DAs such as improving/ upgrading bikeways and pedestrian footpaths in the vicinity of UNSW.	No specific works off campus are required or proposed as part of this development.
g. All new/amended car parking areas, access roadways, internal circulation areas and ramps shall comply with the requirements of AS 2890.1 (2004) and AS 2890.2 (2002).	Complies. Refer **Appendix B**.
h. The location of vehicle access / egress points is to be determined subject to an assessment of the impacts on existing traffic flows.	Access from Gate 11 complies. Refer **Appendix B**.

Section 6 of the UNSW Kensington Campus DCP identifies of key architectural design elements and types to promote high quality architecture which is fit for purpose, responsive to future needs and embodies the principles of sustainability. These are addressed in Table 4 below.

Table 4 – Relevant Provisions of UNSW Kensington DCP

Section 6 - Design of Campus Projects	**Compliance**
6.1 Architectural relationships and elements *6.1.1 Supporting sustainability*	Building to employ ESD principles in design and construction (refer **Appendix G**) and encourage natural light penetration where appropriate. Sustainability exemplified by re-use of existing building.
6.1.2 Supporting a sense of place *A. Relationship to the edge streets* *B. Building ensembles* *C. Multi-use* *D. Outward ground floor uses* *E. Engaging address*	Proposed building to activate Botany and High Streets with increased permeability to ground floor. Building will comprise various flexible teaching and research spaces associated with medical sciences. Building will have a visible and permeable façade with teaching spaces at ground floor which will assist in activating street. Building will also provide a high quality landmark statement at corner.
6.1.3 Supporting legibility *A. Relationship to connective campus space* *B. Relationship to vistas* *C. Through building links* *D. Awnings and colonnades* *E. Linking elements*	Building designed to define and reinforce High Street/Botany Street corner and University Walk. Proposed redevelopment will reinforce eastern end of covered University Walk connecting Botany Street to Michael Birt Gardens. Proposal will assist in activation of area and reinforce campus pedestrian links.
6.2 Campus Building Types *6.2.3 Slabs* *6.2.4 Atria*	New portion of building to comprise post tensioned concrete frame. Atrium space promotes internal circulation and provides good access to daylight. New building façade will redefine surrounding campus links and spaces.
6.3 Landscape *6.3.1 Sustainable* *6.3.2 Useful* *6.3.3 Imagable* *6.3.4 Clear*	Design of landscape to ensure sustainability, useful open spaces that will add to legibility of campus while providing comfort, safety and convenience. Refer landscape design statement at Section 2.4 and landscape concept plan in **Volume 2**.

3.3 Built Form and Urban Design

The built form and urban design of the project has been carefully conceived to address the particular features of the site and its attributes that will all contribute to marking this part of the campus as a prominent high quality corner entry statement for UNSW (refer Sections 2.3 and 2.4). The new elements include:

- completion of High and Botany Street corner with major new building
- reinforcement of the new gateway entry to be shared with the Lowy Cancer Research Centre
- reinforcing of eastern end of University Walk

- façades responsive to aspects
- completion of internal connections to Lowy Cancer Research Centre and Biological Sciences Building at upper levels, and
- improved landscaping to perimeter of site.

3.4 Impacts on Existing Uses & Environmental Amenity

The proposed WWB redevelopment will significantly enhance existing environmental amenity. The site is currently underutilised and the existing building does not capitalise on its prominent corner location.

The building will assist in upgrading a key corner of the campus by creating a landmark and further activating the street frontages along Botany and High Streets. As such it will generally have a positive effect on adjoining land uses. Although there will be a minor overshadowing impact on residences along Botany Street, acoustic and visual privacy to the residences will be maintained and views will be enhanced.

The proposed redevelopment includes removal an existing loading dock on Botany Street, which will have a positive impact on the amenity of resident and pedestrian movements in this area. Furthermore the landscaped setback from Botany and High Streets, that accommodates the Sydney Water easement, will ensure sufficient visual separation.

Although the proposal includes an additional built form element on the corner itself, it is anticipated that the nature of the design, which is set back at ground and first floors with higher levels extending into the easement along the eastern side, will shelter the local environment from adverse wind conditions.

The **shadow diagrams** in **Volume 2** indicate that the nature of the extension will limit the impact on the existing houses in Botany Street. However, there will be a small loss of solar access after about 2:00 pm in mid winter to Nos 57, 59 and 60 and the rear yards of some of the properties in Eurimbla Avenue. Michael Birt Gardens will not be impacted.

The building addresses the key view corridors to the site through varying building elements and styles. Views to the site will be enhanced from Botany and High Streets as shown on the **photomontages** in **Volume 2**, along University Walk and from Michael Birt Gardens.

The design of the building ensures that the acoustic privacy of the adjoining Botany Street residences will be maintained. The acoustic assessment at **Appendix H** by Acoustic Logic Consultancy concludes as follows:

> *Compliance with noise emission goals is achievable through standard building constructions and acoustic attenuation treatments.*
>
> *At construction certificate stage, the following recommendations are made.*
>
> - *Detailed acoustic design of any proposed new plant to ensure that noise emissions will comply with criteria.*
> - *Review of any plant to be retained and/or relocated to ensure that cumulative noise impacts from both existing plant and new plant comply with criteria.*
>
> *Provided that this assessment is undertaken, noise emissions from the operation of the site will comply with DECCW Industrial Noise Policy guidelines. In fact, given that a significant amount of existing outdoor plant will be relocated and/or housed in new plant rooms, operational noise from the site will be reduced compared to current levels, and will therefore present an improvement on the existing level of amenity for nearby residences.*

3.5 Transport and Accessibility Impacts

The Transport Report at **Appendix B** prepared by Colston Budd Hunt & Kafes concludes as follows.

i) the proposed redevelopment will provide similar facilities to the existing building, including teaching areas, dry and wet research laboratories, animal housing areas and administration areas
ii) the proposed development will have good access to public transport services in accordance with government policy to encourage travel by non-car modes
iii) good pedestrian access to and around the building will be provided
iv) parking provision on the campus is consistent with the DCP and its objectives
v) access and servicing arrangements are considered appropriate
vi) it is likely that the overall traffic generation of the campus will not change
vii) the intersection of Botany Street with the Gate 11 access would continue to operate at its existing reasonable level of service or better, with similar average delays per vehicle, and
viii) the Director-General's requirements are discussed in paragraphs 3.32 to 3.44 [of the Transport Report].

3.6 Ecologically Sustainable Development

According to the Sustainable Design Report at **Appendix G** prepared by AECOM:

> *the Wallace Wurth Redevelopment project is an example of re-lifing an existing building through appropriate additions and consideration of sustainability principles. The project will incorporate sustainable design initiatives that will result in improved energy efficiency, materials minimisation, waste management, water efficiency, reduced operational emissions and improved indoor comfort.*

The report outlines a number of initiatives that have been incorporated into the design that include the following.

- The design incorporates an internal atrium along the full length of the building which will promote natural daylighting and reduce artificial lighting during daylight hours.
- All high tech units and common areas are to be fitted with efficient fixtures (minimum T5 fluorescent) to reduce the ongoing energy consumption. Lighting densities are to be targeted for the relevant spaces to improve energy efficiency in operation.
- Lighting controls are to be adopted for the building to switch off when spaces are unoccupied.
- Daylighting sensors to the perimeter zones of the building are to be incorporated to allow lights to switch-off automatically during daytime when daylighting levels are adequate.
- Motion sensors are proposed for back-of-house areas and plants spaces with manual overrides will be provided to all areas to ensure safety.
- Mechanical cooling and heating systems are to be limited to the occupied zones and there will be no space heating or cooling within the atrium and circulation spaces.
- The use of sub-metering to record and measure the electricity consumption of different energy uses.
- Rainwater is to be harvested from the main roof structure of the building and fed into the existing building services for site irrigation and potential toilet flushing. One 12 kL rainwater tank (or similar) is proposed, location to be confirmed.
- Potable water usage for the site will be attributed to laboratories, basins in toilet areas, kitchen sinks and some external works for irrigation. Fixtures are to be specified to achieve a minimum 4 WELS rating where feasible for the proposed use.
- The main structure has been maintained to conserve existing materials and reduce waste. By

maintaining the main structure and parts of existing building fabric along the west and south elevations the development is ensuring that the embodied energy and water is minimised.

- Interior finishes will consider the concentration of Volatile Organic Compounds with products for adhesives, paints, carpets and floor sealants. The design team will work with suppliers and contractors to identify opportunities to reduce the level of VOC's within products and finishes. This initiative is subject to further design development of the project team.

In view of the challenge to re-life an existing building, the report concludes as follows.

The current building has been assessed to have a 2 star Green Star Education equivalent rating. Given the extent of works proposed to the building, a 4 star rating has been set as an ideal benchmark and is considered a significant improvement on the existing building environmental performance.

The project is committed to 4 star Green Star Education v1 rating in (design only) for the initiatives as identified in this report. The project team will provide a submission to the University of New South Wales relating to each of the initiatives on completion of the design stage of the project. Through this commitment the project is considered to meet the objectives of University of New South Wales DCP.

3.7 Landscaping

The proposed landscape works are described in Section 2.4 and illustrated on the landscape concept plans in **Volume 2**. While some of the existing trees nominated as 'high retention priority' in the DCP will be removed as part of the development, the proposed works will compensate for this loss by improving landscaping in the general area. UNSW has demonstrated its credentials with respect to landscaping through a number of successfully completed and applauded projects on campus such as University Mall, new trees in Engineering and Science Roads and the Physics Lawn.

Furthermore this project will seize the opportunity to utilise a higher proportion of plant species that are indigenous to the local area, which is considered a positive outcome.

3.8 Staging

Given that this proposal comprises the refurbishment of an existing building of some 12,800m^2 GFA together with major extenisons to the north and south of 'M wing' of some 8,000m^2, the project will be carried out in stages.

The Construction Staging Plan, Drawing EA 33 in **Volume 2** indicates the proposed stages. In essence the new sections to either side of the east or 'M wing' will be built first, followed by the additional floor on top of the existing west wing. Refurbishment of the remainder of the original WWB will complete the works. It is worth noting that, as indicated on the staging plan, portions of the existing WWB have already been refurbished.

3.9 Utilities

All essential services are either currently available on site or are capable of being provided efficiently to the site, as part of the existing UNSW network. Services will be augmented as required.

In addition to the typical campus base building services such as air conditioning, ventilation, light and power, hydraulic, stormwater and fire systems, a number of specialised services utilities will be provided to operate the redeveloped WWB.

The proposal will also store a range of dangerous goods as noted in Section 2.6. Details and quantities are specified in the Dangerous Goods Report at **Appendix F**. Appendix F also includes confirmation that State Environmental Planning Policy No 33–Hazardous and Offensive Development does not apply to this proposal.

3.10 Drainage, Stormwater and Groundwater Management

As set out in Section 1.6 the anticipated ground conditions were confirmed by the geotechnical assessment (refer **Appendix E**). That assessment also considered the groundwater conditions on the site concluding as follows.

> *Groundwater was measured at RL51.3 to RL51.7 within the groundwater monitoring wells on the site, which is approximately 2 m below the proposed lower ground floor level. In the absence of more detailed monitoring it is suggested that allowance for a potential rise in the groundwater level to RL52.5 m should be included in the design. This suggested groundwater level is 1m below the proposed floor level but may be applicable for localised deeper structures such as lift shafts. Some groundwater seepage should also be expected at a higher level, along the top of the rock surface, with seepage flows expected to increase following periods of extended rainfall.*
>
> *During construction, it is anticipated that groundwater seepage should be readily controlled by subfloor drainage and perimeter drains connected to a "sump-and-pump" dewatering system. The need for ongoing dewatering, after construction, will depend on whether the basement is designed as a drained basement or water tight (tanked) basement. A drained basement will require permanent subfloor drainage below the basement floor slab connected to a sump and pump dewatering system. A tanked basement will avoid the need for dewatering after construction, however the tanked basement may be considerably more expensive than the drained basement and is probably not warranted for this site. A tanked basement would need to be designed to resist uplift forces associated with groundwater pressure, for which preliminary design could be based on a groundwater level at the rock surface.*

Drainage and stormwater management on the site will be managed in accordance with the UNSW Stormwater Strategy prepared for UNSW by ANA Technical Services dated 28 November 2005, and as adopted in the Kensington Campus DCP, as indicated on the Stormwater Concept Plans in **Volume 2**. This detailed strategy was prepared in consultation with Randwick Council engineers to address campus-wide drainage patterns. All new floor areas/openings will be a minimum of 300mm above any adjoining 1 in 100 year overland flow path. The drawings in Volume 2 also illustrate the proposed erosion and sediment controls for the construction stage of the works.

3.11 Construction Impacts

The construction impacts associated with the proposal are addressed in the guidelines at **Appendix I**. This report highlights those matters that will be addressed in the detailed Construction Management Plan (CMP) to be prepared by the head contractor. The key items are as follows.

- statutory compliance
- hazardous substances/dangerous goods management plan
- waste management plan
- stormwater and erosion management plan

- noise and vibration management plan
- air quality management plan
- tree protection plan
- community and stakeholders consultation/ participation management plan
- sustainability, and
- traffic aspects.

3.12 Contributions

In 2009, UNSW formally requested that Randwick City Council amend clause 11.2.1 of its Section 94A Development Contributions Plan to exempt UNSW from payment of a levy. The Plan requires UNSW to pay a fixed levy of 1% of the estimated cost of development each time a Development Application is made.

Council officers have advised that a report was presented to Council at the February Planning Committee meeting that addressed the University's request and recommended that the S94A levy continue to be applied to the University. The recommendation was adopted unanimously by the Council.

It is noted that the Minister for Planning has issued a Direction under Section 94E of the EP&A Act 1979 preventing the imposition of development contributions on development carried out under the Building Education Revolution Program. The basis for this Direction is to *'improve the ability of schools in NSW to efficiently respond to the Commonwealth Government's economic stimulus package'*. It is considered that the same philosophy should apply to the proposed redevelopment of the WWB, which includes Commonwealth funding. As previously discussed with Council, it is considered inappropriate that projects funded, in even part by the Commonwealth Government have a portion of their funding diverted to a series of predominantly minor works listed in the s 94A Plan. These works do not meet the Commonwealth's funding criteria.

It is therefore considered that development contributions should not be imposed on this proposal.

Further justification for the requested exemption have been previously provided to Council, including the following.

> *UNSW is a not-for-profit public institution substantially funded by the Commonwealth Government. Its functions and operations are determined by the University of New South Wales Act and By-law.*
>
> *In contrast to the development industry, any surplus income that UNSW may generate is from educational commercial ventures, not capital works and is returned back to the university for re-investment in teaching, learning, research and other facilities for the public good.*
> *The Kensington campus has been in a constant state of expansion and redevelopment since its inception in 1949. This will continue into the future as the university grows and expands its academic activities in response to newly defined national educational strategies and policies. UNSW is, and will remain a permanent feature of Randwick City and a key stakeholder in its future.*
>
> *A key purpose of Council's S94A Plan is to facilitate the realisation of outcomes identified in the Randwick City Plan. UNSW is of the view that UNSW already contributes significantly to these outcomes in a series of direct contributions, details of which can be supplied if required.*
>
> *UNSW also contributes substantially to the desired outcome in the Randwick City Plan of a strong local economy as highlighted in economic impact studies such as the 2008 'Randwick Economic Activity Study' by SGS Economics and Planning. These economic contributions include UNSW being Randwick City's largest employer by a significant margin with more than*

6,000 staff including those at the Prince of Wales Hospitals, and 42,000 student enrolments including more than 9,000 international students with an annual direct spending injection into Randwick's local economy by UNSW staff, students and visitors in the order of $150m.

It is requested that all these matters are considered when determining the appropriate conditions of consent.

3.13 Environmental Risk Analysis

The key environmental risks associated with the construction and operation of the proposal have been discussed in Sections 2 and 3 of this report, with proposed mitigation measures addressed within the relevant technical studies and the Statement of Commitments in Section 5. In summary, the potential environmental risks are identified in Table 5 below.

Table 5 – Potential Environmental Risks

CONSTRUCTION			
	Potential Impact	**Proposed Controls**	**Risk Assessment**
Ecology	Loss of trees (in addition to those proposed for removal)	Tree protection as set out in Statement of Commitments items 7-11	Minor
Erosion & Sediment Run-off	Sedimentation of local drainage system	Erosion & Sediment Control Plan in Volume 2	Minor
Noise	Degradation of noise amenity	Recommendations of Noise Assessment at Appendix H.	Minor
Visual Amenity	Impact on aesthetic quality of locality	Construction hoarding as shown in plan in Volume 2.	Negligible
Traffic	Increased traffic	Construction traffic management plan as set out in Statement of Commitments item 25.	Moderate
OPERATION			
Water	Increased demand on water	Water use to be minimised as set out in Sustainable Design Report at Appendix G.	Minor
Noise	Degradation of noise amenity	Recommendations of Noise Assessment at Appendix H.	Minor
Visual Amenity	Impact on aesthetic quality of locality	Landscaping and public domain to be maintained.	Negligible
Traffic	Increased service traffic	No specific controls as minimal increase anticipated; refer Transport Report at Appendix B.	Negligible
Waste	Pollution/contamination due to incorrect disposal	UNSW Waste Management measures to be adopted as set out in Appendix L and Statement of Commitment items 19-21.	MInor
Dangerous Goods	Contamination/impact on human health due to incorrect storage and disposal	Procedures set out in Section 2.6.	Minor
Air Quality	Reduction in air quality due to operations	Procedures set out in Section 2.6.	Negligible

3.14 Consultation

The Director General's Requirements state that consultation is required at an appropriate and justified level in accordance with the Department's Major Project Community Consultation Guidelines October 2007.

Consultation was undertaken with the officers of Randwick City Council to discuss the project in its early stages and seek guidance on the issues that need to be addressed in the Part 3A application. This included a pre-submission meeting with Council officers and the project team on 16 February 2010.

The *UNSW Kensington Campus 2020 Master Plan* was exhibited and consulted with the community during 2005. The document was adopted in 2007 as a the UNSW Kensington Campus DCP in a process that involved exhibition and consultation with the community. The Master Plan and the DCP both identify the site for redevelopment. Consequently at this stage, further community consultation has not been undertaken. It is anticipated that this will occur when the project is exhibited following lodgement of this EA.

It is noted that in the preparation of this EA, consultation has been undertaken with both the RTA, who were consulted in the preparation of the DGRs, and the Sydney Airport Corporation, who were consulted regarding the application on 4 June 2010.

4 Conclusion

Taking into consideration the environmental impacts of the proposal, the suitability of the site, and public interest, this report concludes that the project is an appropriate development in its location and in regard to its purpose.

4.1 Suitability of the Site

The current WWB is underutilised, as it no longer meets the needs of the Faculty of Medicine or the University, nor does it capitalise on its prominent street corner location.

The site is suitable for the development for a number of reasons.

- The site is next to the Lowy Cancer Research Centre which will be able to benefit from the synergies of sharing knowledge and resources with faculty research.
- It is at the north-eastern corner of UNSW Kensington Campus, close to the Randwick Hospitals Complex and Randwick Town Centre.
- The site is identified in the Kensington Campus DCP as a development site.
- Part of the land is currently under-utilised.
- UNSW has excellent public transport services which are to be further enhanced with the implementation of the Kensington Campus DCP Transportation Strategy.
- The site is relatively flat and readily able to accommodate the type of development proposed.
- The development will facilitate construction of the eastern end of University Walk with a covered universally accessible entrance and walkway through the building to adjoin the pathway to the north of the existing Biosciences Building.
- Loading and unloading can connect to existing lower ground levels and existing gates.

In summary the redevelopment will assist in creating a high quality entrance to the campus with a landmark building for the Faculty of Medicine and UNSW generally. The site is readily able to accommodate the type of development proposed.

4.2 Likely Environmental Effects

Environmental impacts associated with the construction and operation of the proposed development will be minimal, as detailed in Section 3.

Although there will be an increase in staff population on the campus as a result of this proposal, as the overall parking supply on the campus is not proposed to increase, it is likely that traffic generation through Gate 11 will not change as UNSW's Transportation Strategy, adopted as part of the DCP, is implemented over time (refer Transport Report at **Appendix B**).

There will be some loss of trees along Botany Street, as noted in the arboriculture assessment at **Appendix C**. However the proposal retains some of the trees along both the Botany and High Street frontages, which are identified as high retention priority in the DCP, and it includes new landscape works. This will assist with ameliorating this loss.

The proposal is designed to accommodate universal access as identified in the Access Report at **Appendix D**.

Even though the facility will handle dangerous goods, UNSW has mechanisms in place that will be applied to this development to ensure the ongoing safety and security of the campus and the surrounding area is maintained (refer Section 2.6 and **Appendix F**).

The proposal is anticipated to achieve an equivalent 4 star Green Star rating for ecologically sustainable development, if implemented in accordance with ESD guidelines at **Appendix G**. This is due to the limitations placed on the works in re-lifing the existing WWB.

There will be no adverse noise impacts as detailed in Section 3.4 and **Appendix H**.

Construction impacts will be managed through the development and implementation of a Construction Management Plan to be prepared by the head contractor addressing the matters raised in the summary at **Appendix I** and in accordance with items 22-26 in the Statement of Commitments.

Stormwater will be controlled as part of the UNSW Stormwater Strategy adopted as part of the Kensington DCP and as shown on the Stormwater Concept Plans in **Volume 2**.

4.3 Likely Social Effects

The social impacts of the proposal are only beneficial as the resultant teaching and research work will be related to the biomedical sciences.

There will be additional social benefits from the better use of existing infrastructure to create synergies between differing research streams within the one location.

4.4 Likely Economic Effects

The four common priority goals in the UNSW Strategic Plan 2005 include research, international, learning and teaching, and community. These goals form the guiding principles that underpin the Kensington Campus DCP. In relation to research, the proposed facility will be consistent with this goal in that it will allow flexible research space that has relationships with external bodies and disciplines within the University.

4.5 Justification of Project and Public Interest

A proposal of this nature requires little justification or qualification that it is in the public interest. The benefits of medical research are all around us. As incremental advances are made, they benefit more and more people. The speed at which they occur does not suit all but the work is necessary and rewarding. Providing this facility almost at the junction of the University and the Randwick Hospitals Campus will enable the easy implementation and expansion of research as required.

The project will also reinforce and promote the Randwick Education and Health Specialised Centre as identified in the Sydney Metropolitan Strategy and the Draft East Subregional Strategy prepared by the NSW Department of Planning.

5 Statement of Commitments

The following is the Statement of Commitments by UNSW on how the project will be managed to minimise its impacts both during construction and once the redeveloped Wallace Wurth Building is operational.

General

1. The development will be undertaken in accordance with this Environmental Assessment dated 22 June 2010 prepared by RPS (including accompanying appendices) and the drawings including the architectural drawings prepared by lahznimmo architects in association with Wilson Architects, in Volume 2 to the EA.
2. The applicant will obtain all necessary approvals required by State and Commonwealth legislation and relevant Randwick City Council policies.

Transport and Parking

3. Car parking will be limited in accordance with the Traffic Report by Colston Budd Hunt and Kafes (June 2010).
4. All deliveries and service vehicles to the site will enter via Gate 11.
5. Access, servicing and layout arrangements will be provided in accordance with AS 2890.1:2004 and AS 2890.2:2002.

ESD

6. The construction and operation of the Wallace Wurth Redevelopment will be undertaken in accordance with the Sustainable Design Report prepared by Aurecon dated 15 June 2010 to achieve identified ESD initiatives. The design of the project will be subject to continuing refinement during the detailed design phase in consultation with UNSW.

Tree Management

7. Prior to commencing any work on the site, the trees that are to be retained will be protected as set out in the Arboriculture Assessment prepared by The ENTS Tree Consultancy dated 15 June 2010 at Appendix C, by defining a Tree Protection Zone. Should the need arise to prune any branches to allow for installation of hoardings this will be done by a qualified arborist and in accordance with the Australian Standard AS 4373-1996 “Pruning of Amenity Trees”.
8. The Tree Protection Zone will remain until construction is completed. Should the need arise to access or reduce the Tree Protection Zone, the Site Arborist will prepare an amended Tree Protection Plan and specific Tree Protection Guidelines for approval prior to its implementation.
9. Natural ground level will be maintained under the canopy of trees to be retained. Trenching for services, stockpiling of materials, wash out of equipment and parking of vehicles will not take place under the canopy of the trees.
10. Tree protection will form a part of the site induction process. All inductees will be made aware of the trees that are to be retained and the prohibited activities.
11. Any removal of trees from within the site will be in accordance with Randwick City Council’s Tree Preservation Order.

Landscape and Public Domain

12. Landscape works will be provided in accordance with the landscape design statement and landscape plan prepared by Spackman + Mossop Michaels as set out in Volume 2.

13. Any public domain infrastructure damaged due to building works will be repaired or replaced to the standard in which that infrastructure was found immediately prior to the commencement of the works. The repair or replacement will be done to the satisfaction of the Randwick City Council prior to issue of the Occupation Certificate.

14. Randwick City Council will be provided with larger examples of the exterior materials within 120 days prior to the commencement of the relevant works.

Infrastructure and Services

15. All services that will be disrupted as a result of construction of the Wallace Wurth Redevelopment will be appropriately relocated. This relocation will be undertaken in consultation and after agreement with the relevant service provider and UNSW. Relocation of all services off-site will be completed prior to commencement of construction works.

16. All existing utility services will be augmented as required.

17. Stormwater runoff from the site will be managed in accordance with the Stormwater Strategy as adopted in the Kensington Campus DCP.

18. Aquifer recharge and bore water reuse, licensed by the Department of Environment, Climate Change and Water, will be implemented where permissible. The project will extend UNSW's substitution of town water use by harvested stormwater via the Botany Sands Aquifer (subject to approval).

Waste Management

19. A detailed waste management plan will be prepared to ensure that suitable waste management processes and waste storage areas that support the principles of waste avoidance, reuse and recycling are incorporated into the design of the building. The waste management plan will include projected waste generation rates for the end use of the project. The development plans will include facilities to support this waste generation, ie appropriately sized and accessible waste storage areas, integrated with waste collection systems.

20. Prior to commencement of work on site a waste management plan that maximises reuse and recycling of waste generated in the demolition and construction phase will be prepared.

21. All waste storage areas will be graded and drained to the sewer to the requirements of Sydney Water.

Construction

22. Site management during construction will be consistent with the outline of Construction Impacts at Appendix I. The plan will include:

    - statutory compliance
    - hazardous substances/dangerous goods management plan
    - waste management plan
    - stormwater and erosion management plan
    - noise and vibration management plan
    - air quality management plan

- tree protection plan
- community and stakeholders consultation/ participation management plan, and
- sustainability measures, and
- traffic aspects.

23. General constructions hours will be as follows:
    - Monday to Friday 7:00 am to 6:00 pm, and
    - Saturday 7:00 am to 3:00 pm.
24. Where construction work is undertaken which generates significant noise or vibration impacts, construction hours will be as follows:
    - Monday to Friday 9:00 am to 12:00 pm and 2:00 pm to 5:00 pm, and
    - Saturday 9:00 am to 12:00 pm.
25. A traffic management plan detailing the temporary barriers, line marking and signage that will be set up to control traffic during the construction stage will be prepared and approved by UNSW prior to commencement of works.
26. All areas used for construction site activities will be reinstated prior to occupation of the premises. Services such as irrigation will be reinstated along with the replacement of any damaged paving.

Building Code of Australia

27. The architectural plans will be subject to review to ensure compliance with the deemed-to-satisfy provisions of the BCA, or compliance with the relevant provision through an alternate solution.
28. All works will comply with the provisions of the BCA, either in terms of the deemed-to-satisfy provisions or by way of an alternate solution.

Noise

29. The recommendations of the Noise Assessment prepared by Acoustic Logic Consultancy dated 11 June 2010 will be implemented.
30. A qualified acoustic consultant will be engaged during the detailed design development to ensure that the acoustic requirements for the project as outlined in the Noise Assessment are achieved.

Access for People with a Disability

31. The development will comply with the requirements of Australian Standard AS 1428.1 General Requirements for Access as well as the Access Review at prepared by Morris-Goding Accessibility Consulting dated 10 June 2010.

Operation

32. The design and management of the building will comply with the laboratory design and procedures, dangerous goods handling and storage outlined in Section 2.6 of the EA.

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Appendix A

Director-General's Requirements

Appendix B

Transport Report

Prepared by

Colston Budd Hunt & Kafes

Appendix C

Aboriculture Assessment

Prepared by

The ENTS Tree Consultancy

Appendix D

Access Review

Prepared by

Morris-Goding Accessibility Consulting

Appendix E

Geotechnical Investigation

Prepared by

Douglas Partners

Appendix F

SEPP 33/Dangerous Goods Design Review

Prepared by

Aecom

Appendix G

Sustainable Design Report

Prepared by

Aurecon

Appendix H

Noise Assessment

Prepared by

Acoustic Logic Consultancy

Appendix I

Construction Impacts Report

Prepared by

Bovis Lend Lease

Appendix J

BCA Assessment Report

Prepared by

Steve Watson & Partners

Appendix K

Contamination Assessment

Prepared by

Douglas Partners

Appendix L

Waste Management Plan

Prepared by

RPS