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MOLECULAR AND LIFE SCIENCES BUILDING

University of Wollongong

Request for Secretary's Environmental Assessment Requirements

Final | V4

22 November 2016



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1. Introduction

The purpose of this Preliminary Environmental Assessment (PEA) is to request the Secretary's Environmental Assessment Requirements (SEARs) for the preparation of an Environmental Impact Statement (EIS) to accompany a State Significant Development Application (SSDA). The proposed development of a Molecular and Life Sciences (MLS) Building comprises a new five storey building for University of Wollongong (UoW) learning and research purposes, with a cost of \$39 million (not including costs of specialist research equipment).

The proposal is development for the purposes of an 'educational establishment' in accordance with the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). Development for the purpose of an educational establishment with a capital investment value (CIV) over \$30 million is considered State Significant Development (SSD) under the provisions of the SRD SEPP. Accordingly, the SSDA will be made under section 83B of the *Environmental Planning & Assessment Act, 1979* (EP&A Act).

UoW has undertaken a number of studies and strategic plans to inform the future development of the UoW Wollongong Campus. UoW is a recognised centre for learning and teaching excellence with a standing as a nationally significant research intensive university. The UoW has committed in strategic framework to earn a place in the top 1% of world universities for research, academia, and physical development. A commitment of this magnitude requires support in both governance and the provision of world class facilities.

The *UOW 2016 – 2036 Wollongong Campus Master Plan* (July 2016) (Campus Master Plan) establishes a blueprint to guide development of the UoW Wollongong Campus. As part of this plan, over 25 new or refurbished buildings have been identified, as well as with significant alterations to outdoor open space areas, teaching spaces and transport connectivity. The proposed MLS Building is a key component of achieving the long term vision articulated in the UoW Wollongong Campus Master Plan. The proposed MLS Building would be constructed on an existing at grade car park within the Science, Medicine and Health precinct of the Campus.

The proposed MLS Building is intended to provide accommodation for approximately 130 researchers as well as two world leading microscopes which are considered to be among of the most sensitive and accurate microscopes in the world. The world class facility will be the heart of the Science, Medicine and Health precinct of UoW, providing a focus for science teaching and research at UoW and an enduring focus point to highlight the strong research performance in chemistry, biology, and earth and environmental sciences.

2. The Site

2.1 Locality and Surrounding Area

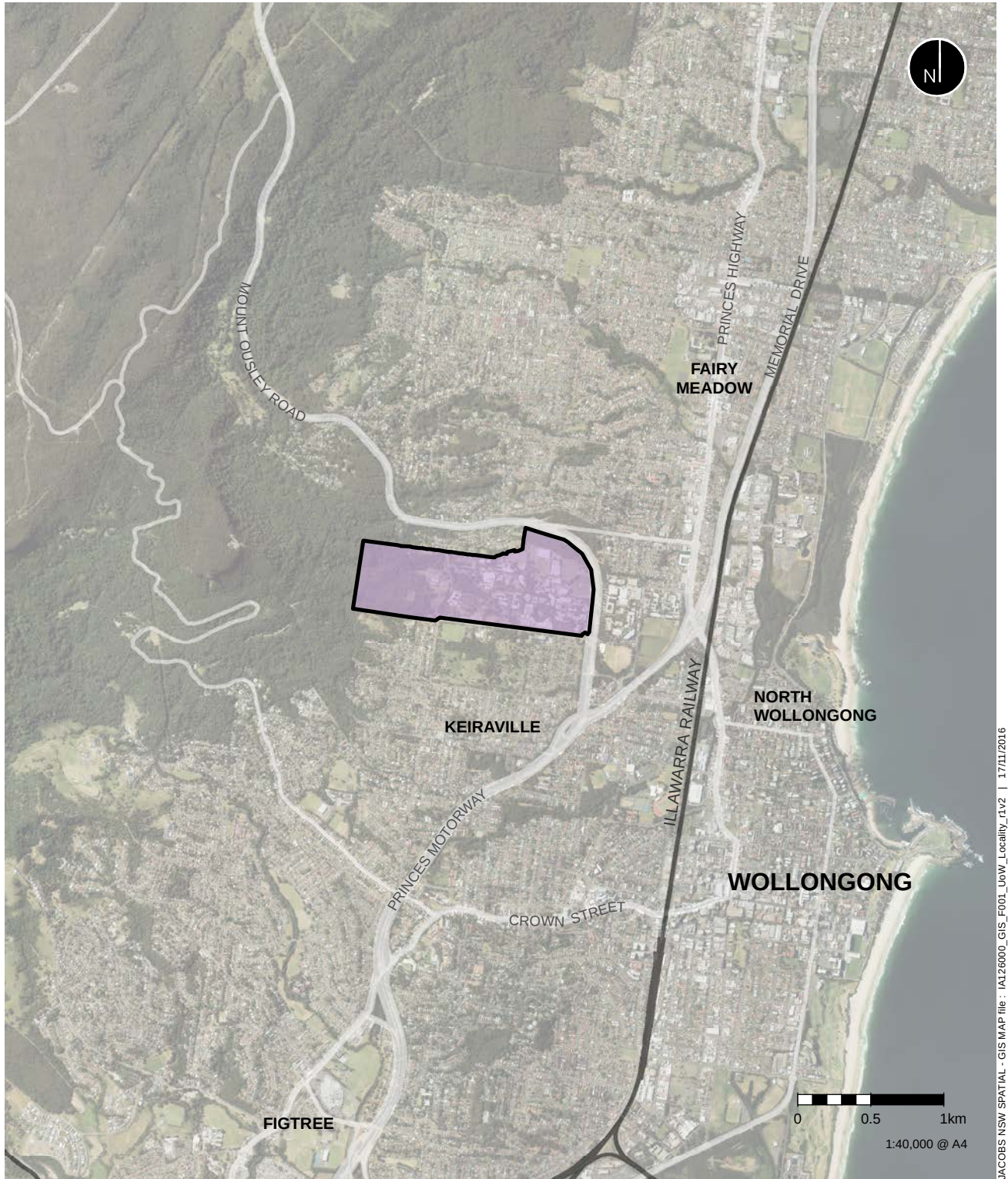
The proposed MLS Building is located on the UoW Wollongong Campus, which lies in the geographic centre of Wollongong urban area, approximately two kilometres to the north of the Wollongong CBD.

Wollongong is located approximately 80 kilometres (one hour and 30 minutes by car) south of Sydney Central Business District (CBD) and is constrained to the east by the Pacific Ocean and by the Illawarra escapement to the west. Wollongong is therefore a linear city that has an approximate width of five kilometres and a length between the suburbs of Port Kembla in the south and Thirroul in the north of 20 kilometres (Figure 2.1).

The M1 Pacific Highway (M1) transects the city in a north south direction and provides highway access to southern NSW as well as Sydney to the north. The northern half of the city is transacted, again in a north south orientation, by a single major thoroughfare that connects back into the M1 at Bulli Pass and connects the city via Lawrence Hargraves Drive through to the Royal National Park and Sydney suburbs of Heathcote, Waterfall, Bundeena and Sutherland.

The UoW Wollongong Campus is located on the western periphery of Wollongong in the suburb of Keiraville. The suburb of Keiraville is characterised primarily by low density residential with detached single and two storey housing forming the bulk of the local housing stock. Keiraville is intermixed with sporadic medium density development typologies and contains the Wollongong Botanic Gardens and the Wollongong Conservatorium of Music immediately adjoining the southern boundaries of the Campus.

The suburb is bounded to the west by the Illawarra escarpment and Mount Keira and to the east by the M1. To the north of the site a small 150 metre wide band of low density residential separates the UoW Wollongong Campus from the M1. To the east of the M1 are TAFE Illawarra Wollongong Campus, Keira High School and North Wollongong Train Station.



JACOBS NSW SPATIAL - GIS MAP file: IA126000_GIS_F001_UoW_Locality_v1v2 | 17/11/2016

 University of Wollongong

Figure 2.1 | UoW Wollongong Campus Locality Map

2.2 Physical Features

The UoW Wollongong Campus is located on the transition between the Illawarra Escarpment and the coastal plain to the Pacific Ocean to the west of the M1 and immediately south of the Mount Ousley interchange.

The site generally slopes west to east and is interspersed with pockets of vegetation. A riparian zone generally runs southeast across the western site with a series of ponds adjacent to the southern boundary of the site between Northfields Avenue and Ring Road. The western portion of the site is of a much higher gradient and forms the base of the Illawarra escarpment (Figure 2.2).

Figure 2.2 : UoW Illustrative Master Plan



Source: Campus Master Plan

2.3 Existing Development

The site is currently a grade car park that is surrounded by predominantly four storey high buildings with rooftop plant infrastructure. The car park currently contains 50 car spaces plus 11 disabled spaces and 22 motorcycle spaces (Figure 2.3). The adjacent buildings are generally described as follows:

- Building 42 – Science Annex – fronts onto Sciences Road south of the existing car park adjacent to Building 41. Building 42 will be demolished under the provisions of *State Environmental Planning Policy (Infrastructure)* (ISEPP) 2007 previously approved under a separate approval path.
- Building 32 – Illawarra Health and Medical Research Institute (IHMRI) – Gerard Sutton Building adjoins the car park to the north
- Building 43 – Science Teaching Facility – to the east of the existing car park
- Building 41 – Sciences Building – large multi-purpose facility to the west of the existing car park
- Building 35 – Biology/Information Sciences – to the south of Sciences Road, opposite Building 42
- Building 66 – A small gas storage facility located north west of the car park, including a flammable store and substation.

Vehicle access to the car park is available from the internal private university road (Sciences Road) to the south of the car park, which is in turn accessed from Sciences Lane and the Campus Ring Road that circumnavigates the UoW Wollongong Campus. University bus access to the site is available from the bus stop to the north of the car park between Buildings 41 and 32 on the Campus Ring Road.



 Building site

Figure 2.3 | UoW MLS Building Site Location

2.4 Current Master Plan for the UoW Wollongong Campus

A UoW Wollongong Campus Master Plan (Campus Master Plan) has been prepared by MGS Architects and presented for endorsement by the UoW Council in July 2016 (Figure 2.4). The Campus Master Plan includes a comprehensive review of the UoW strategic direction and landholdings to facilitate the development of the *Strategic Plan 2016-2036*.

The Master Plan integrates the UoW Wollongong Campus as part of the University City which comprises the Health precinct immediately to the west of the Wollongong CBD and the UoW Innovation Campus at Fairy Meadow. The UoW's ambition to increase student numbers by 1% per annum and reach the top 1% of universities worldwide requires significant facilities and infrastructure to support an ever evolving collaborative educational environment.

Key focuses of the Master Plan include facilitating additional space postgraduate students require in comparison to undergraduate students, facilitating the evolving influence of digital learning on the campus, higher than anticipated demand for courses, increased levels of partnership with the community, industry and research partners, and higher than anticipated demand for on-campus accommodation.

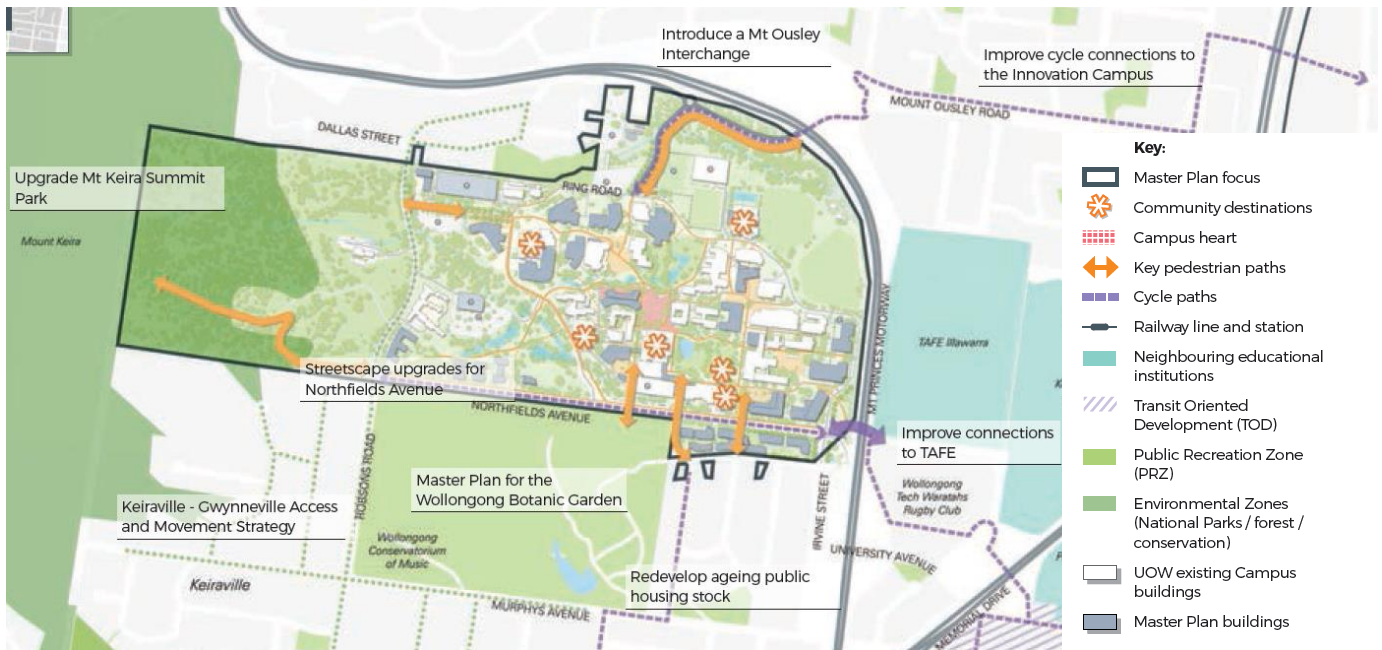
The Campus Master Plan incorporating the entire 80 hectares UoW Wollongong Campus has been split into seven precincts to delineate between separate areas of focus. The seven precincts are reflected in the development controls contained in the Master Plan.

Twenty five upgraded, refurbished and new buildings are proposed across the campus to provide new facilities and growth opportunities for faculties in demand such as medicine, science and engineering related studies. New buildings are proposed to be strategically scattered across the campus to cluster disciplines and like faculties. All new buildings or buildings to be significantly refurbished are shaded grey in Figure 2.2.

Significant upgrades to the site landscaping, public open spaces, parks and road corridors is also identified in the Campus Master Plan to provide high levels of connectivity not only just within the site but also to provide wider connectivity to the Innovation Campus, Health precinct, TAFE Illawarra, major transport links and Wollongong CBD.

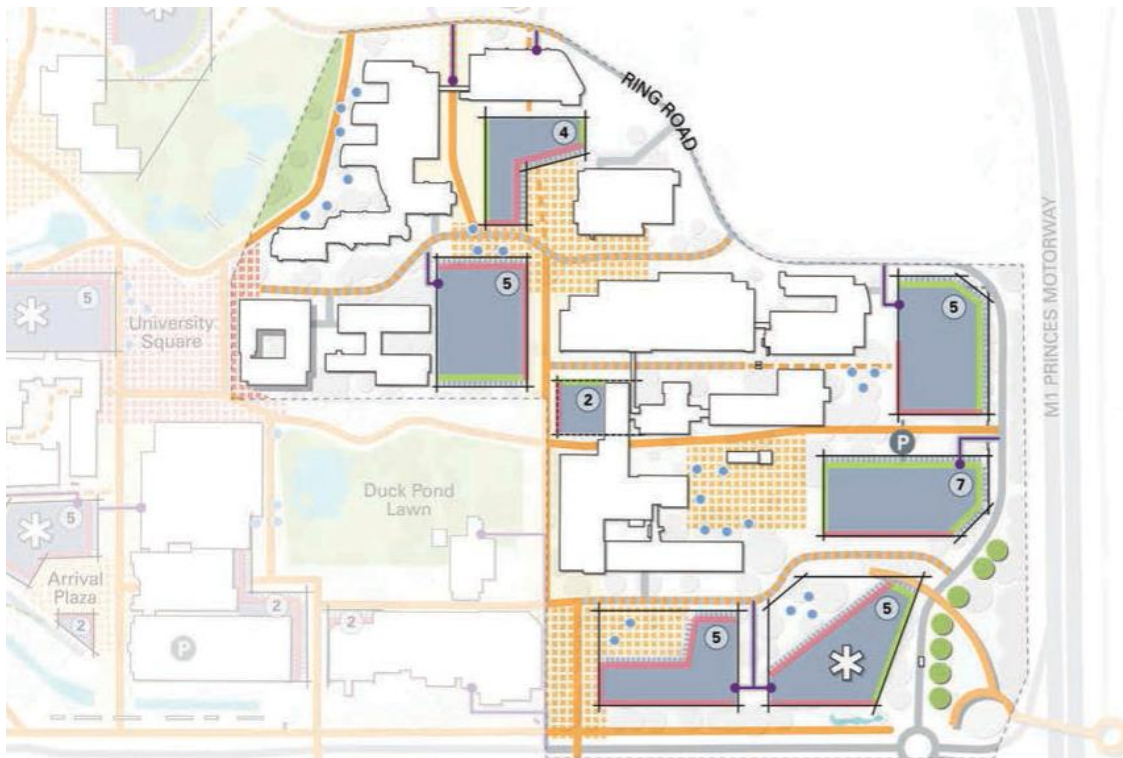
The MLS Building is located within the Campus East precinct as shown in Figure 2.5. Extracts of the Campus Master Plan, including the East Precinct Illustrative Plan, are provided in Appendix C, which describe the key guidelines for future development of the UoW Wollongong Campus.

Figure 2.4 : UoW Master Plan Extract



Source: Campus Master Plan

Figure 2.5 : UoW Campus East Precinct Plan Extract



Source: Campus Master Plan

2.5 Reason for the proposal

2.5.1 Drivers

The MLS Building project drivers comprise:

- Supporting the evolution of UoW from being a global top 2% university to a top 1% university
- Enabling the transformational, multi-disciplinary research capabilities with cutting edge equipment and facilities including a CRYO Transmission Electron Microscopy (CRYO TEM)suite
- Attracting and retaining the best in field researchers
- Provision of a world class animal house
- Accommodate suitable premises for the Atmospheric Chemistry Group.

2.5.2 Project Vision

The project vision is:

'... to create a cutting edge transformational molecular research facility that will attract and retain high performing molecular science (and other) researchers. The facility will support and enhance existing research strengths and promote interdisciplinary research to deliver both original basic scientific discover and translational opportunities.'

2.5.3 Specific Equipment

UoW proposed to install two of the most highly sensitive and accurate microscopes in the world into the MLS Building. These machines will be capable of operating at 0.5 angstrom resolution and will be one of only two located in Australia.

A number of other highly specialised installations will also be designed into the facility to support the range of disciplines that are intended to be accommodated in the facility. Other instruments comprise:

- Microscopy platforms

In addition to the above highly specialised life sciences specific TEM's, there will be many other microscopy platforms/instruments throughout the facility. Other such instruments include:

 - Confocal microscopes
 - Fluorescence microscopes.
- X-Ray

The project includes facilities and research spaces that will require x-ray capability. X-ray equipment that is self-shielding will be installed in controlled environment rooms.
- Atmospheric chemistry equipment

The MLS Building will include a rooftop research platform for the Atmospheric Chemistry Group. This rooftop platform will facilitate the installation of specific tracking and sensing equipment. Specific instruments will include:

 - Solar tracking instrument – requires unobstructed views to the horizon and a particular horizontal unobstructed view.
 - Air Chemistry sensors – a 10 metres tall retractable mast for running sensing tubes from the laboratory to a point above the building that will ensure samples are not contaminated by effluent from the building or other buildings in the locality.

3. The Proposed Development

3.1 Description of Proposed Development

The proposed development comprises a new five storey MLS Building located in the east precinct of the UoW Wollongong Campus (Figure 3.1). The proposed MLS Building is intended to provide accommodation for approximately 130 researchers as well as two world leading microscopes which are considered to among the most sensitive and accurate microscopes in the world. The world class facility will be the heart of the Science, Medicine and Health precinct of UoW.

The new building (as illustrated in Figure 3.2) will replace the existing car park and comprise of the following facilities:

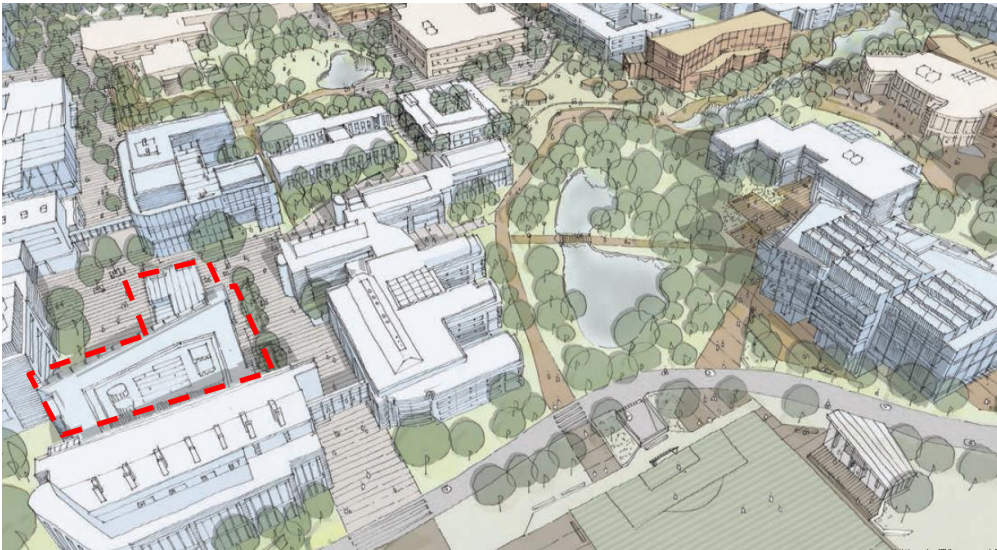
- CRYO TEM controlled atmosphere facilities
- Offices and labs
- Animal House
- Meeting rooms
- Conference facilities
- Training rooms
- Astronomy and chemistry roof platform and instruments (extending up to 10 metres above the building)
- Common areas including kitchen and break out spaces
- Plant/services infrastructure.

The key features of the proposed Building include:

- L-shaped building footprint, with main foyer access at ground level and access to the main research and learning building via a multi-storey walkway structure.
- Overall building height of five storeys (29.4 metres).
- Gross floor area (GFA) of approximately 6500 square metres.

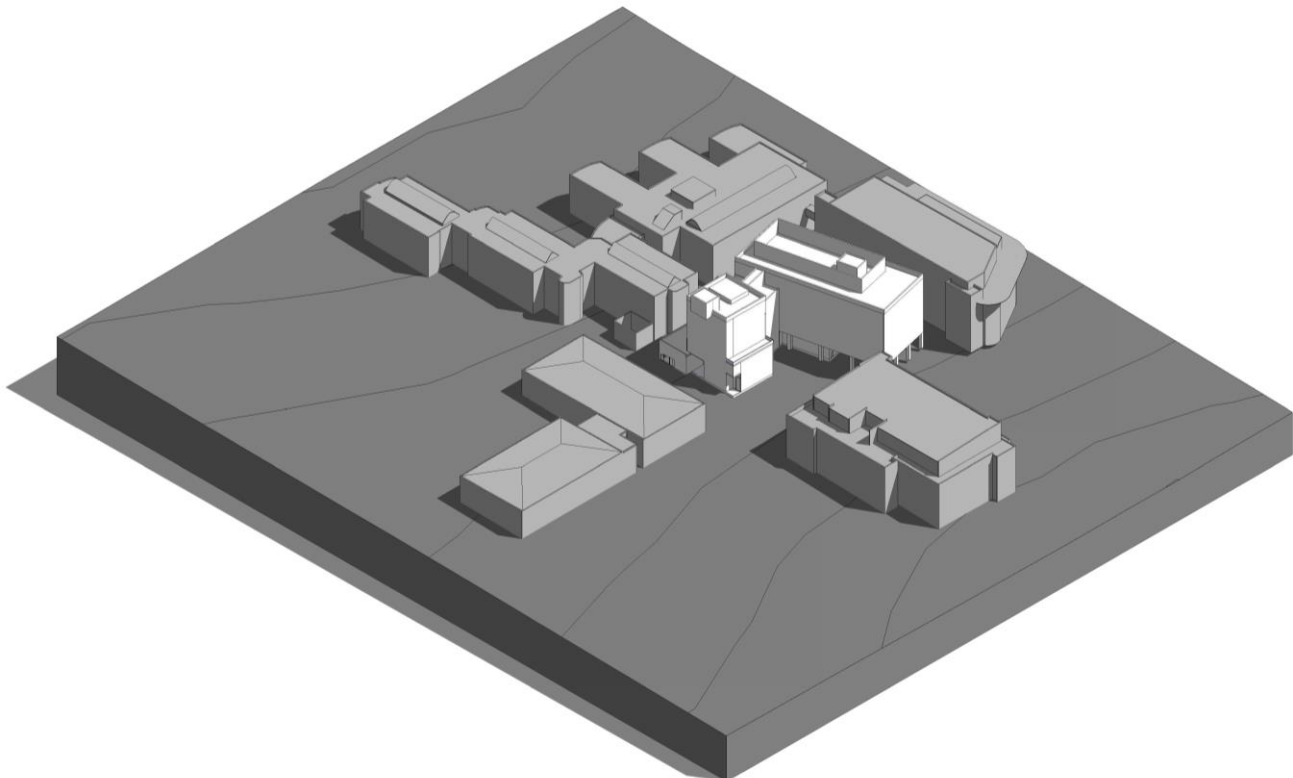
Concept drawings of the proposed MLS building are attached in Appendix A.

Figure 3.1 : UoW Illustrative Master Plan MLS Building Location



Source: Campus Master Plan

Figure 3.2 : Perspective of Proposed MLS Building



7517	SK520	REV F1 08.11.2016	DENTON CORKER MARSHALL	MOLECULAR + LIFE SCIENCES BUILDING UNIVERSITY OF WOLLONGONG	PRELIMINARY 3D VIEW AXO SOUTH EAST
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3.2 Capital Investment Value

The CIV has been prepared by Wilde and Woollard (Appendix B). The CIV of the project would be split up as follows:

- construction of **\$34,608,894**
- professional fees of **\$4,499,000**

Accordingly, the CIV for the project including consultant's fees is **\$39,107,894** (Excl. GST)

The design is still developing and an updated CIV for SSDA will be prepared in the future.

3.3 Other site works

Building 42 was approved for demolition under the provisions of ISEPP 2007. A Review of Environmental factors was prepared for a previous Campus Infrastructure Improvement Project.

4. Strategic Context

4.1 Statutory Framework

The EP&A Act establishes the assessment framework for SSD. Section 89D of the EP&A Act appoints the Minister as the Consent Authority for SSD. An EIS is required under the provisions of Section 78A (A).

The key relevant legislation and environmental planning instruments that will apply to the proposed development comprise:

- *State Environmental Planning Policy (Infrastructure) 2007*
- *State Environmental Planning Policy No 55—Remediation of Land*
- *State Environmental Planning Policy (State and Regional Development) 2011*
- *Wollongong Local Environmental Plan 2009.*

4.1.1 Wollongong Local Environmental Plan 2009

The *Wollongong Local Environmental Plan (WLEP) 2009* provides the legislative planning framework that facilitates the future vision for the Wollongong Local Government Area (LGA). The relevant LEP controls are described in the following sections.

Zoning

The site is Zoned SP2 Infrastructure (Educational Establishment) and E2 Environmental Protection (Figure 4.1).

Development permissible with consent within the SP2 zone is: *The purpose shown on the Land Zoning Map, including any development that is ordinarily incidental or ancillary to development for that purpose.*

The site off the MLS Building is located in the eastern third of the UoW Campus within the SP2 zoned land. Educational Establishments are permissible with consent. Works within the E2 zone are not proposed.

Biodiversity

The western portion of the site contains is mapped as containing:

- Illawarra escarpment
- Natural resource sensitivity – biodiversity
- Riparian land.

The location of the MLS Building is not affected by mapped biodiversity constraints.

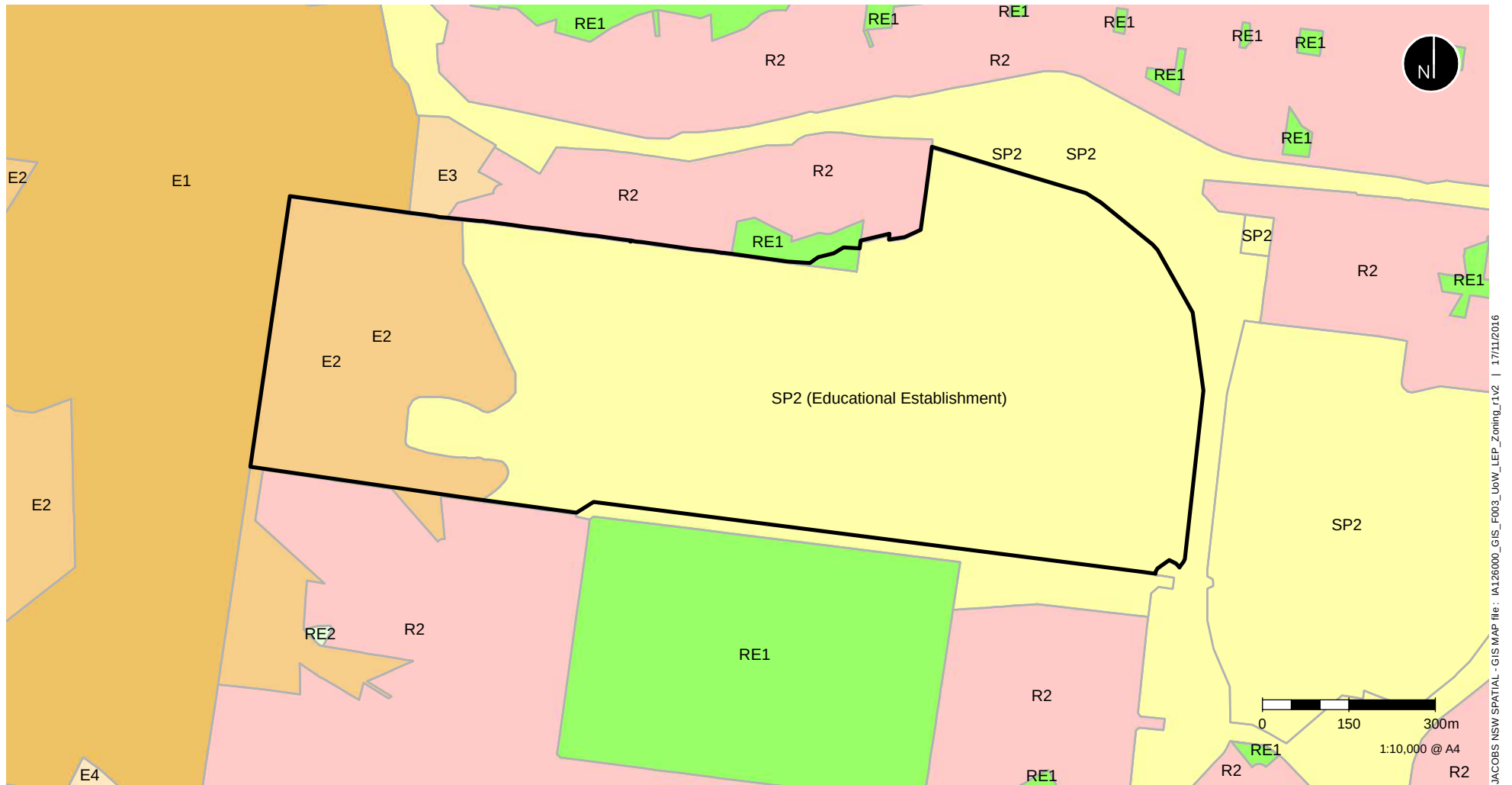
Heritage

The western portion of the site is mapped as a heritage conservation area (Landscape) (WLEP Ref 6480). The location of the MLS Building is not affected by the mapped heritage conservation area.

Other mapped or written controls

Class 4 and Class 5 acid sulphate soils are present on the site.

The location of the MLS Building is not affected by any mapped biodiversity or heritage constraints.



Legend

	University of Wollongong	Wollongong Local Environmental Plan 2009		E2 Environmental Conservation		R2 Low Density Residential		SP2 Infrastructure
	E1 National Parks and Nature Reserves		RE1 Public Recreation		E3 Environmental Management		RE2 Private Recreation	
	E4 Environmental Living							

Figure 4.1 | WLEP Zoning Map

4.1.2 State Environmental Planning Policy (Infrastructure) 2007

ISEPP 2007 provides the framework for the NSW Government, local councils and infrastructure provides specific planning provisions for infrastructure works such as schools, hospitals, roads, railways, emergency services, water supply and electricity delivery. The policy plays a key role in the simplification of the approval paths for major infrastructure across NSW. Relevant authorities will be consulted as part of the environmental assessment process.

4.1.3 State Environmental Planning Policy (State and Regional Development) 2011

SSD is a development type that is declared to be SSD by the SRD SEPP 2011.

Schedule 1 of SRD SEPP identifies where educational establishments fall into the SSD category as follows:

"15 Educational establishments

Development for the purpose of educational establishments (including associated research facilities) that has a capital investment value of more than \$30 million".

The CIV for the proposed MLS Building is estimated at \$35 million as clarified in Part 3.3 of this PEA and therefore the development is declared SSD. An EIS is therefore requirement to be prepared under the provisions of the *Environmental Planning and Assessment Regulation 2000* (Regulation).

4.2 Strategic merit

Other relevant policies and guidelines of relevance to the proposed MLS Building are described in the following sections.

4.2.1 NSW State Plan

The *NSW State Plan* (NSWSP) identifies a number of key infrastructure projects for metropolitan and regional NSW. Specific to the Illawarra region are number of major road network upgrades including Mount Ousley road, Figtree to Dapto and bypasses from Gerringong to Nowra. Rail infrastructure is also on the funding list with upgrades to many Illawarra region stations already complete and future funding committed for further upgrades.

In addition to major road infrastructure construction projects are currently underway to upgrade the existing health care infrastructure at Wollongong Hospital.

UoW is well connected in terms of transport to both Sydney and the South Coast of NSW by both road and rail infrastructure. The Master Plan has clear objectives to ensure that the UoW Campus is well connected, highly accessible and a key employment provider as well as innovation facilitator for the Illawarra region.

4.2.2 Illawarra Shoalhaven Regional Plan 2015

The *Illawarra Shoalhaven Regional Plan 2015* (ISRP) was informed by strong community and stakeholder input and feedback during consultation on the 'Illawarra Over the next 20 years: A Discussion Paper and the Draft Illawarra Regional Plan'. The plan identifies key drivers and investment goals in the region and recognises UoW as a key knowledge base for both NSW and Australia. The proposed UoW Campus upgrades further expand on the ability of UoW to provide the community with potentially life changing research facilities.

4.2.3 Restart Illawarra Infrastructure

Restart Illawarra Infrastructure (RII) comprises of a fund that has been dedicated to improving infrastructure in the Illawarra using proceeds from the long term lease of Port Kembla. These projects include aged and healthcare facilities, a technology hub, facilities for people with disabilities, pedestrian and cycle links, road links and tourism infrastructure. Many of the projects are jointly funded between State and local Government of private enterprise.

One of the programs that are jointly funded includes the iAccelerate Project by UoW, which includes a raft of programs aimed at developing new technology based capability. This is expected to facilitate an additional 500 jobs in the local community in the first five years.

With significant NSW Government investment into infrastructure in the region the UoW are seeking to facilitate the growth of the education industry in the region and to support the economic growth of the region. The new MLS Building will create both construction jobs and long term employment places. The MLS Building will also play a key role in the education of professionals for the medical and life sciences industry of which many are expected to stay in the local economy as employees or new innovative business owners.

4.2.4 NSW BikePlan 2010

The *NSW BikePlan* aims to make NSW one of the best places in the world to ride a bike. Clear objectives of the BikePlan to increase the use of bike for short trips and double the use of bikes for travel to work by 2016 is supported with a \$158 million commitment.

The BikePlan identifies that cooperation between local and State Governments will be concentrated on increasing accessibility to bike networks both in metropolitan Sydney as well as regional NSW. Key cycling infrastructure has been identified in the Illawarra region primarily around linkages and the continuance of the cycle lanes along the Princes Highway between Wollongong and Kiama.

Local and State Government investment and support for a bicycle friendly city provide additional safe and convenient access opportunities to UoW. Bicycle end of trip facilities are provided in a number of buildings across the UoW Campus showing the UoW's commitment to supporting a healthy lifestyle and sustainable travel opportunities.

4.2.5 Crime Prevention through Environmental Design Principles

Crime Prevention through Environmental Design Principles (CPTED) is a crime prevention criteria developer to guide strategy and focus in planning, design and structures of cities and neighbourhoods.

Facilitating a safe working and learning environment is a key aspect of UoW campus management and master planning. The detailed design of the MLS Building will be designed so as to ensure a safe environment is created both internal and external to the structure. As the site is a key thoroughfare the safety and security of the immediate development is a design consideration.

5. Preliminary Key Matters Identification

The following matters are required to be addressed having potential environmental impacts.

Based on a preliminary analysis of the potential environmental risks associated with the proposal and a resultant prioritisation of issues to be addressed, the assessment provided establishes the basis for the requisite impact assessments and mitigation measures to be submitted as part of the EIS.

5.1 Key matters

5.1.1 Built form

The built form of the development will be in keeping with the general scale and bulk of the adjoining buildings while facilitating the required facilities, offices, labs and teaching spaces. At five stories in height plus plant infrastructure, rooftop research space and rooftop research infrastructure, the MLS building will be slightly taller than the surrounding structures. The proposed building height reflects the supporting uses and building services required to operate research technologies, which necessitates additional floor to ceiling height. Further, the building incorporates space to cater for the growing student and research community at UoW. The MSL Building will be an iconic building within UoW and the centrepiece for the Campus East precinct.

The Campus Master Plan states the “*existing landscape quality of the campus will be maintained as the campus grows by allowing for academic buildings of generally 5 stories in height*”. Although the proposed building is identified as being of four storeys in the Campus Master Plan (refer to extract provided in Appendix C), the proposed height at five stories is consistent with the desired height of academic buildings across the UoW Wollongong Campus.

The following assessment would be prepared and submitted with the EIS:

- Site analysis including locational context and relationship with adjoining buildings
- Assessment of potential impact of the proposed building height and massing in accordance with the principles of the Campus Master Plan.

5.1.2 Design excellence

The building is a purpose built facility that will be a destination base in the UoW Wollongong Campus. UoW is driven to create an iconic building. Design excellence and the design quality of the proposal, including site layout, siting and design, vistas and connectivity, street activation, pedestrian spaces, building massing, articulation, materials and finishes will be addressed in the environmental assessment.

The following assessment would be prepared and submitted with the EIS:

- A design excellence statement will be prepared to accompany the SSDA.

5.1.3 Transport, traffic and parking

Existing public transport to the site is available by both rail and bus links. The development will involve the removal of a car park and relocation of carpark access to the adjoining buildings. Vehicular movement needs to be separated from the MLS Building as much as practically possible to reduce vibration and interference by magnetic fields which impact on the operation of the world leading TEM technology proposed to be installed in the MLS Building. The loss of spaces are catered for within the existing P5 Car park on the northern side of campus.

The following assessment would be prepared and submitted with the EIS:

- A traffic and transport assessment will be prepared accompany the SSDA.

5.1.4 Construction

The EIS will address and consider the construction and operation impacts comprising:

- noise and vibration
- soil, groundwater, and geotechnical attributes of the site and environs
- access, parking and traffic
- stormwater and air-borne pollutant control.

The following plan would be prepared and submitted with the EIS:

- A preliminary construction management plan will be prepared to inform the EIS and preparation of the SSDA.

5.1.5 Accessibility

Accessibility to and around the new building will be integral to the detailed design process. The site provides an important north-south through link for pedestrians in addition to other landscaped pedestrian links through the site connecting the wider campus. Accessibility assessments will be a key consideration for the design of the building and access routes around and through the site. Accessibility advice will be sought throughout the design process.

The following assessment would be prepared and submitted with the EIS:

- An accessibility report will be prepared to accompany the SSDA.

5.2 Other matters

5.2.1 Shadowing

Shadow analysis will form part of the detailed design process to ensure that both open space and the amenity of the adjoining buildings are not unnecessarily adversely impacted as a result of the proposed MLS Building.

The following plans would be prepared and submitted with the EIS:

- Shadow plans will be developed and analysed in the EIS. Shadow plans will be provided at hourly intervals from 8am to 4pm on the winter solstice. An analysis will be undertaken and discussed in detailed in the EIS.

5.2.2 Stormwater

Stormwater design will be integrated into the development design incorporating ESD and water sensitive urban design (WSUD) principles.

- Detail drainage associated with the proposal, including stormwater and drainage infrastructure will be undertaken. Any infrastructure relocation will be identified in the concept servicing and stormwater plans.

5.2.3 Servicing

Existing services to the site for telecommunications, sewer, water and power are assumed available as a result of the immediately adjoining buildings. Capacity assessments will be undertaken in coordination with the relevant utility providers.

The following assessment would be prepared and submitted with the EIS:

- A utilities, electrical and communications statement will be prepared to accompany the SSDA.

5.2.4 Ecologically Sustainable Development

The UoW has a commitment to sustainability in the planning, design and management of all new buildings on campus. As such the proposal will demonstrate consistency with the five accepted Ecologically Sustainable Development (ESD) principles. The potential for sustainable technologies and renewable energy will be assessed in an ESD strategy. The ESD features considered in the proposal comprise:

- Energy – Conservation and on-site generation
- Materials – Reuse, recycle and possess low embodied energy
- Waste minimisation – during construction and operation, waste management strategies will be implemented to reduce the amount of waste going to landfill

The following assessment would be prepared and submitted with the EIS:

- An ESD design statement will be prepared to accompany the SSDA including a description of the measures that would be implemented to minimise consumption of resources, water (including water sensitive urban design) and energy. The statement will be prepared in accordance with Health Infrastructure Engineering Service Guidelines, Clause 7(4) of Schedule 2 of the EP&A Regulations, Environmental Performance Guide for buildings and Section J of the Building Code of Australia.

5.2.5 Noise and vibration

The new MLS Building will be located amongst a number of other office, teaching and research facilities. Noise and vibration impacts will primarily be on the adjoining faculty building during the construction timeframe. The building operation, due to the nature of the use and technology, cannot create vibration. Rooftop plant infrastructure is noise generating while it is anticipated that the uses within the building are not noise generating.

The following assessment would be prepared and submitted with the EIS:

- The SSDA will address the main noise and vibration generating sources and outline measures to minimise and mitigate potential noise and vibration impacts on surrounding occupiers of land.

5.2.6 Visual Amenity

The proposed MLS Building is five stories in height plus plant infrastructure and science equipment that extends at least 10 metres above the highest point on the building. Visual impact will be assessed as part of the site analysis. A visual analysis will be prepared within the EIS including montages to assess any adverse impacts on visual amenity from the immediate vicinity as well as from the wider locality if required.

The following assessment would be prepared and submitted with the EIS:

- Visual amenity will be addressed within the EIS.

5.2.7 Geology

Geotechnical assessment will be undertaken on the site to check the material make up underneath the car park. It is essential that the building is built so as to minimise any vibration or other interference on the microscopes installed on the site. It is therefore important to understand the sub surface make up and geology of the locality.

The following assessment would be prepared and submitted with the EIS:

- A geotechnical report will be prepared to inform the detailed design and accompany the SSD.

5.2.8 Contamination

An assessment of the sub surface contamination across the car park will be required to determine if the development and footings will disturb contaminants on the site that may be sealed under the car park.

The following assessment would be prepared and submitted with the EIS:

- Preliminary Contamination assessments under the provisions of *State Environmental Planning Policy 55 - Remediation of Land* (SEPP 55) will be undertaken and accompany the SSD. Further assessments will be undertaken if required.

5.2.9 Waste management

Waste management from a medical research facility will include biological waste. Waste disposal procedures and transport will be clearly defined including on site storage and offsite disposal locations and/or treatment. A number of contractors currently operate in the area of removal and disposal of biological or medical waste.

The following assessment would be prepared and submitted with the EIS:

- A waste management report will be included in the SSDA to address both construction and operational waste.

5.2.10 Heritage

The site has been a sealed car park for a number of years. No European Cultural Heritage is identified on or adjacent to the site. A search of the AHIMS database does not identify any items or sites within 200 metres of the UoW Wollongong Campus landholdings.

The following assessment would be prepared and submitted with the EIS:

- No further heritage assessment is deemed necessary.

5.2.11 Biodiversity

The proposal would necessitate the removal of a small number of trees that are within landscaping areas of the existing at-grade car park. It is proposed that these trees be replaced with a substantial landscaped area associated with the MLS Building.

The following assessment would be prepared and submitted with the EIS:

- An arboricultural report and a landscape plan will be prepared to accompany the SSDA.

6. Consultation

It is anticipated that the following agencies and organisations will be consulted in the process of preparing the EIS:

- Department of Planning and Environment
- Roads and Maritime Services
- NSW Office of Water
- Wollongong City Council
- Endeavour Energy.

7. Expected Deliverables

Based on current understanding of the project and the scope of work required to undertake a full assessment in accordance with the EP&A Act, the following deliverables would be provided with the EIS:

- Owner's Consent
- Government Fees
- QS Certificate
- Site Survey Plan
- Architectural Plans
- Shadow Diagrams
- Architectural Design Statement/Report
- Digital 3D Model
- Stormwater and WSUD Report and Plans
- Traffic, Parking and Access Assessment
- Contamination Report
- Geotechnical Report
- Accessibility Report
- Public Domain Plan/Landscape Plan and Design Statement
- ESD Statement/Strategy
- Services and Infrastructure Report
- Stakeholder and Community Engagement
- CPTED Assessment.

8. Conclusion

This submission supports a request for the Department of Planning and Environment for the Secretary's Environmental Assessment Requirements (SEARs) to:

- Accept the proposed teaching and research facility as State Significant Development for educational establishment.
- Provide the UoW with a list of Requirements to be addressed in the SSD application and EIS report.

This submission and request for SEARs are considered justified for the following reasons:

- This proposal will further promote UoW Wollongong Campus as a pre-eminent campus, education, research, and visitor destination
- UoW is a key economic contributor to the region is a major employment centre generating both direct and indirect employment. UoW has over 32,000 students enrolled in 2016 and growing annually
- The application is made by a Crown authority, being the UoW, for a development consistent with the current endorsed Campus Master Plan
- This proposal qualifies as SSD, within the meaning of an 'educational establishment' under SRD SEPP, and comprises a capital investment value in excess of \$30 million
- The proposal would generate construction and administrative employment opportunities through the proposed development and associated infrastructure.

Appendix A. Proposed Development – Drawings



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DENTON
 CORKER
 MARSHALL

MOLECULAR + LIFE SCIENCES
 BUILDING
 UNIVERSITY OF WOLLONGONG

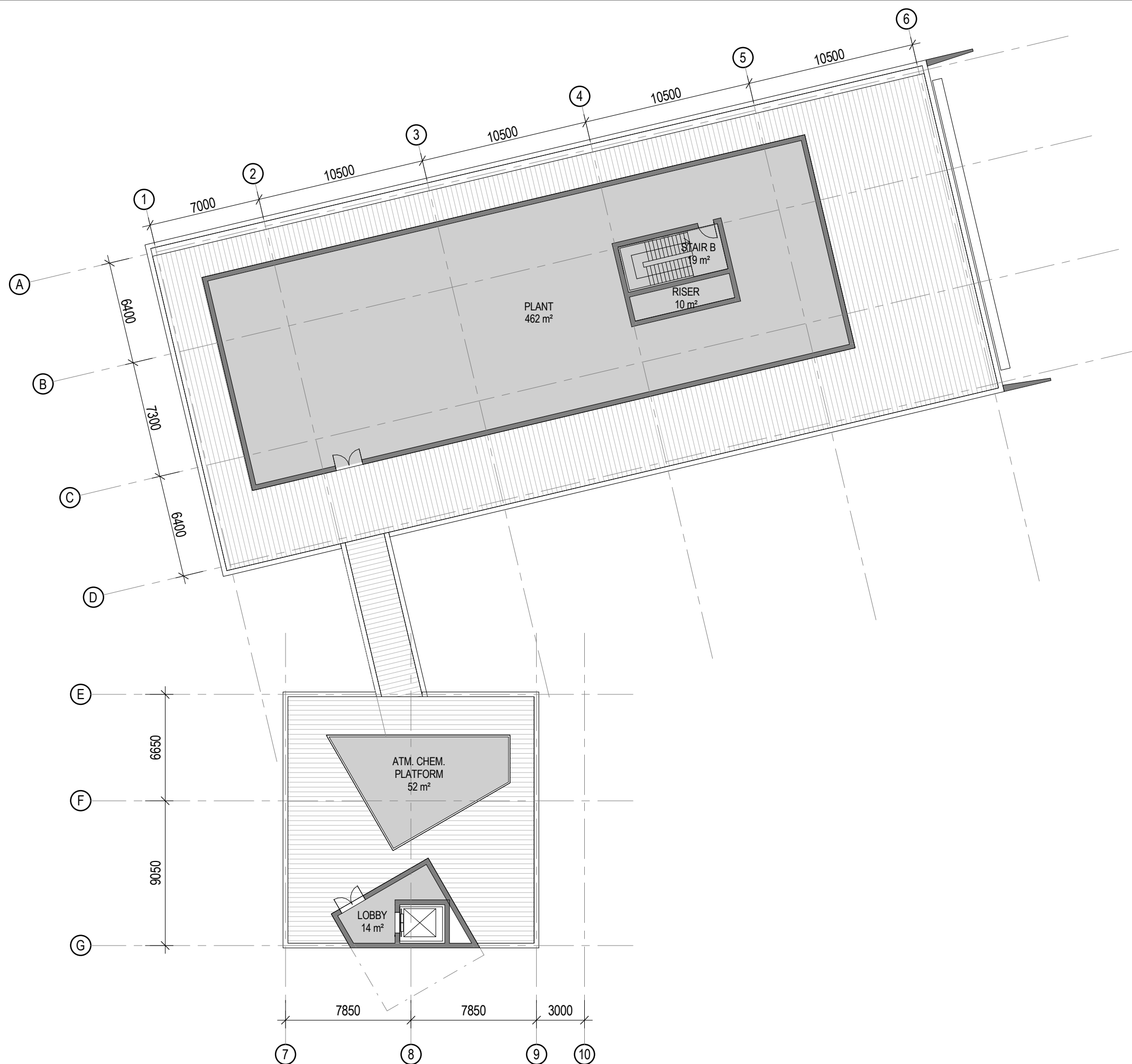
SEARS APPLICATION
 SITE + GROUND FLOOR PLAN
 MICROSCOPY | ENTRY

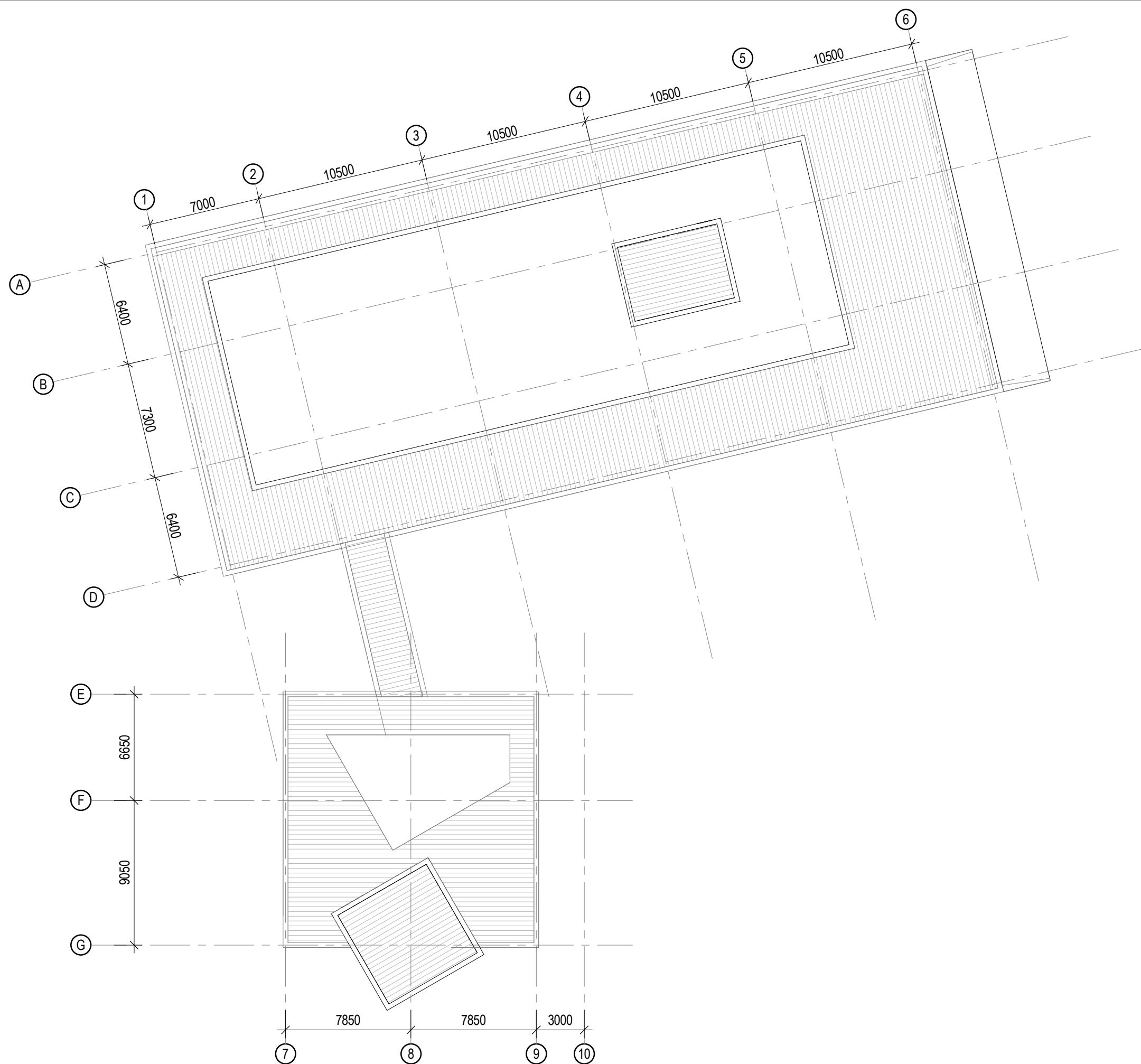


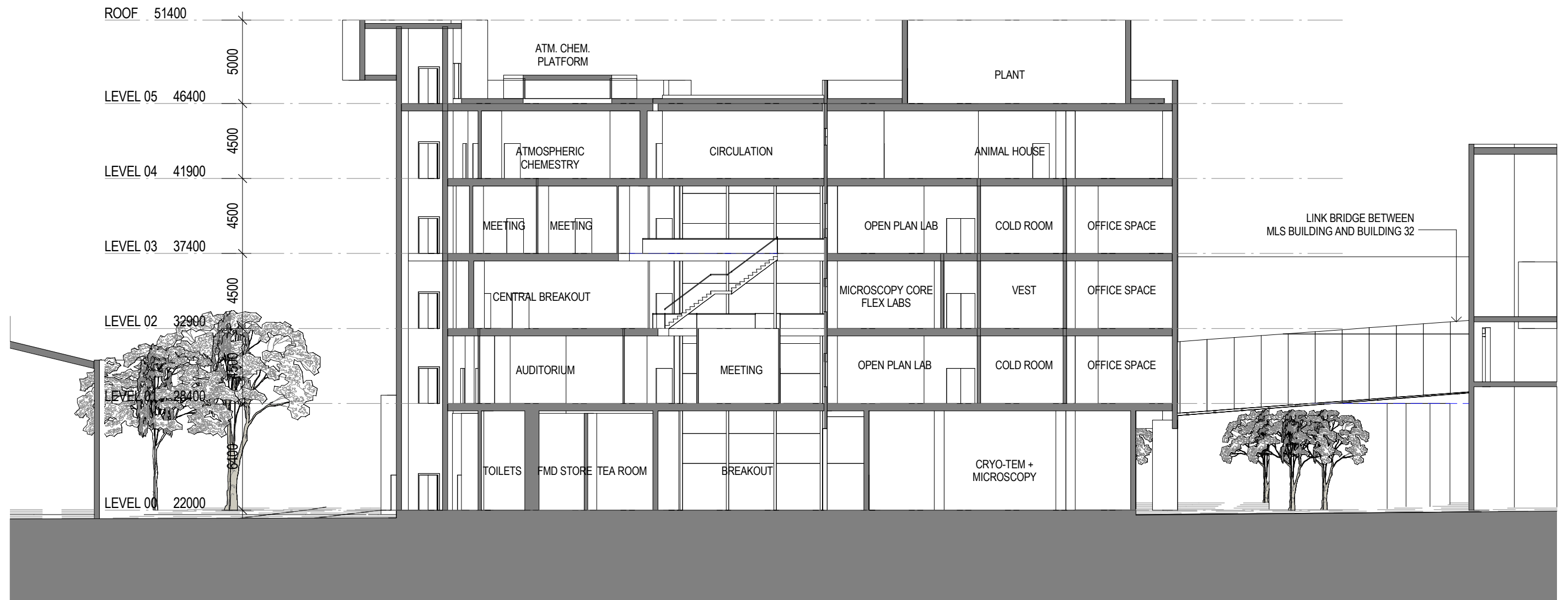


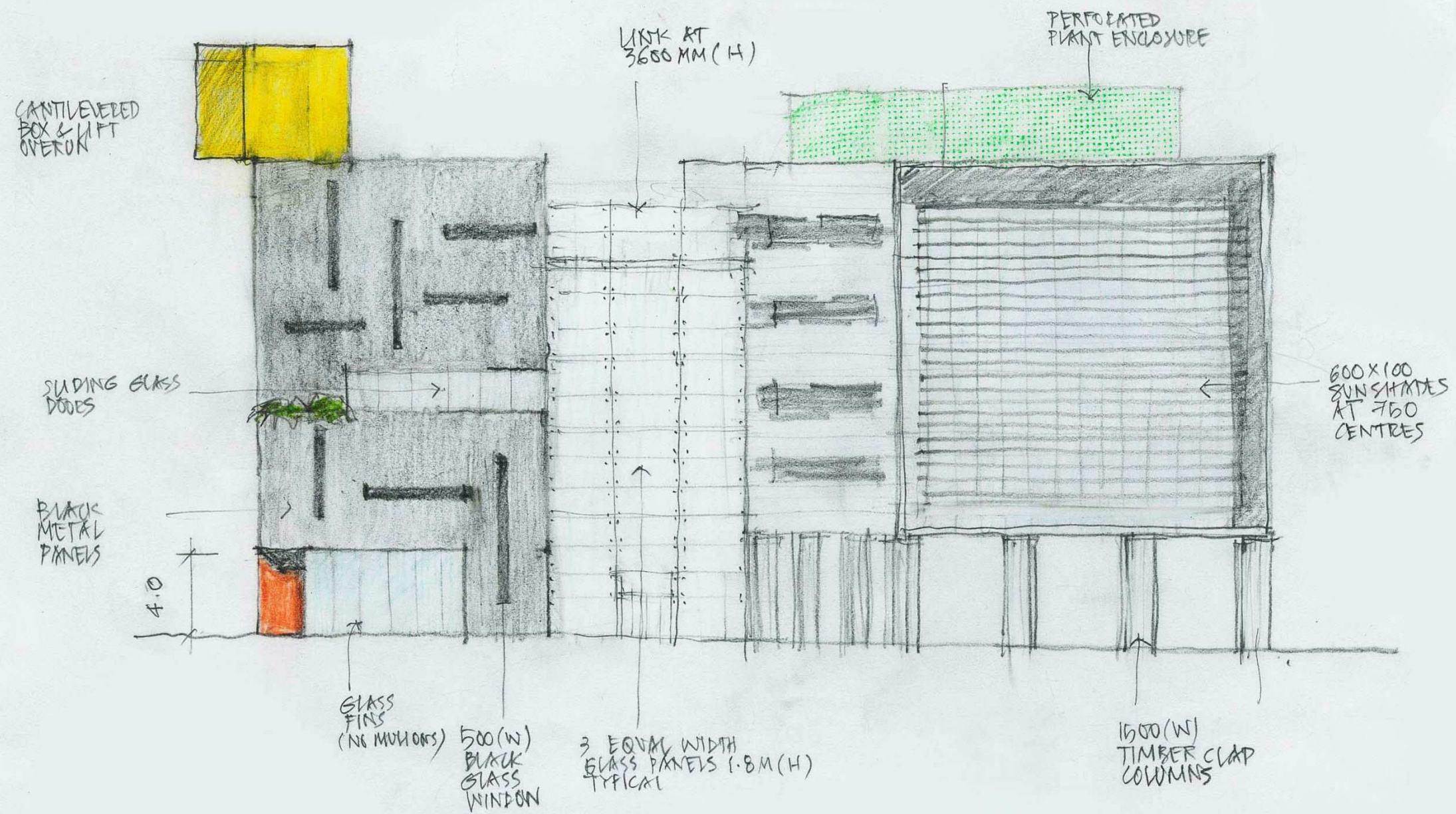


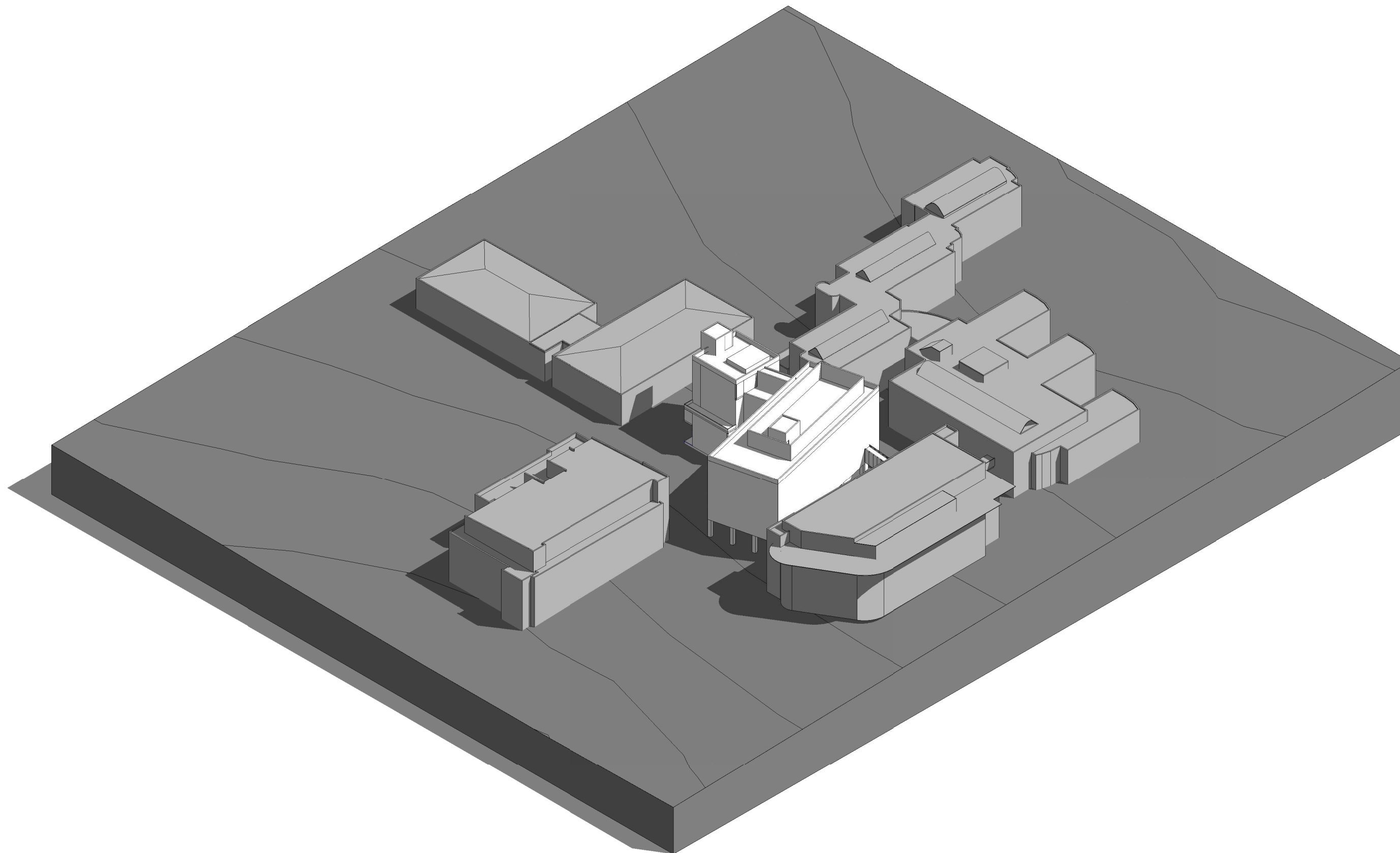










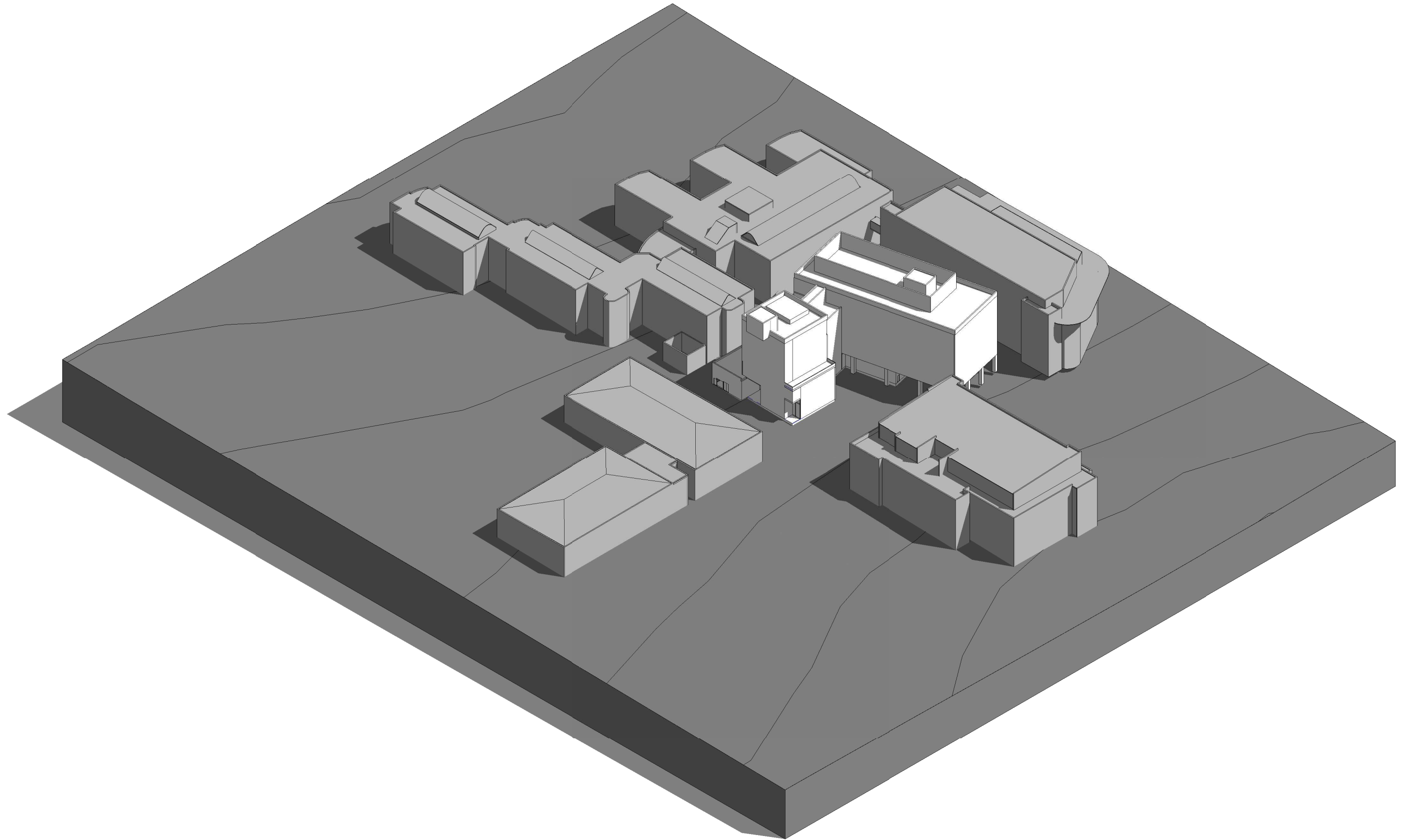


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09.11.2016
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DENTON
CORKER
MARSHALL

MOLECULAR + LIFE SCIENCES
BUILDING
UNIVERSITY OF WOLLONGONG

PRELIMINARY
3D VIEW AXO NORTH EAST



7517 SK620
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0 10 20 30 M

REV F1
09.11.2016

DENTON
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MARSHALL

MOLECULAR + LIFE SCIENCES
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UNIVERSITY OF WOLLONGONG

PRELIMINARY
3D VIEW AXO SOUTH EAST

Appendix B. Cost Statement



W I L D E
A N D
W O O L L A R D

Level 1
815 Pacific Highway
Chatswood NSW 2067

T (02) 9411 2777
F (02) 9411 7645

E mail@wvsydney.com

www.wildeandwoollard.com

ABN 69 081 162 496

21 November 2016

University of Wollongong
c/o Capital Insight
77 Berry Street
North Sydney NSW 2060

For the attention of John Borralho

RE: UNIVERSITY OF WOLLONGONG - MOLECULAR LIFE SCIENCES BUILDING
PLANNING APPLICATION – CAPITAL INVESTMENT VALUE (CIV)
QUANTITY SURVEYORS CERTIFICATE

As instructed we have prepared an estimate on the above project and we confirm the following for you.

The Capital Investment Value (CIV) has been calculated in accordance with the following definition of CIV as provided in State Environmental Planning Policy Amendment (Capital Investment Value) 2010.

*The **capital investment value** of a development includes all cost necessary to establish and operate the project, including the design and construction of buildings, structures, associated infrastructure and fixed or mobile plant and equipment, other than the following costs:*

- a) *amounts payable, or the cost of land dedicated or any other benefit provided, under a condition imposed under Division 6 or 6A of Part 4 of the ACT or a planning agreement under that Division,*
- b) *costs relating to any part of the development or project that is subject of a separate development consent or project approval,*
- c) *land costs (including any costs of marketing and selling land),*
- d) *GST (within the meaning of A New Tax System (Goods & Services Tax) Act 1999 of the commonwealth.*

The Capital Investment Value (CIV) of the above project would be split up as follows:

- construction of **\$34,608,894**
- professional fees of **\$4,499,000**

Accordingly, the Capital Investment Value for the project including consultant's fees is **\$39,107,894** (Excl. GST)

The design is still developing and we will be preparing an updated CIV for State Significant Development Application in the future.

We trust the enclosed is in accordance with your requirements should you have any further queries in relation to same please do not hesitate to contact the undersigned.

Yours faithfully,

Mark Johnson
Managing Director



Recognised by the
Australian Institute of Quantity Surveyors

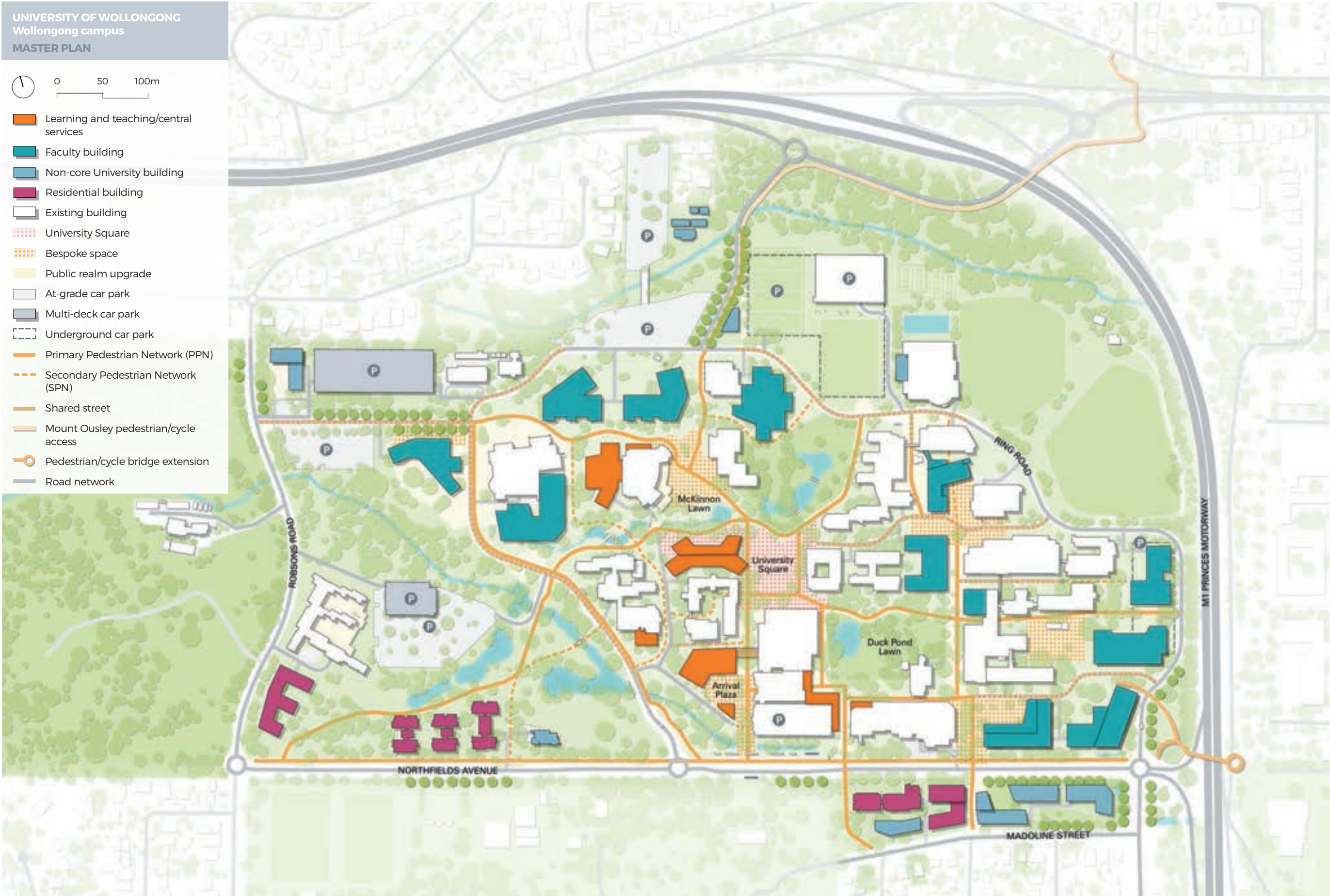
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Appendix C. Extracts of the Campus Master Plan

1.5

Master Plan



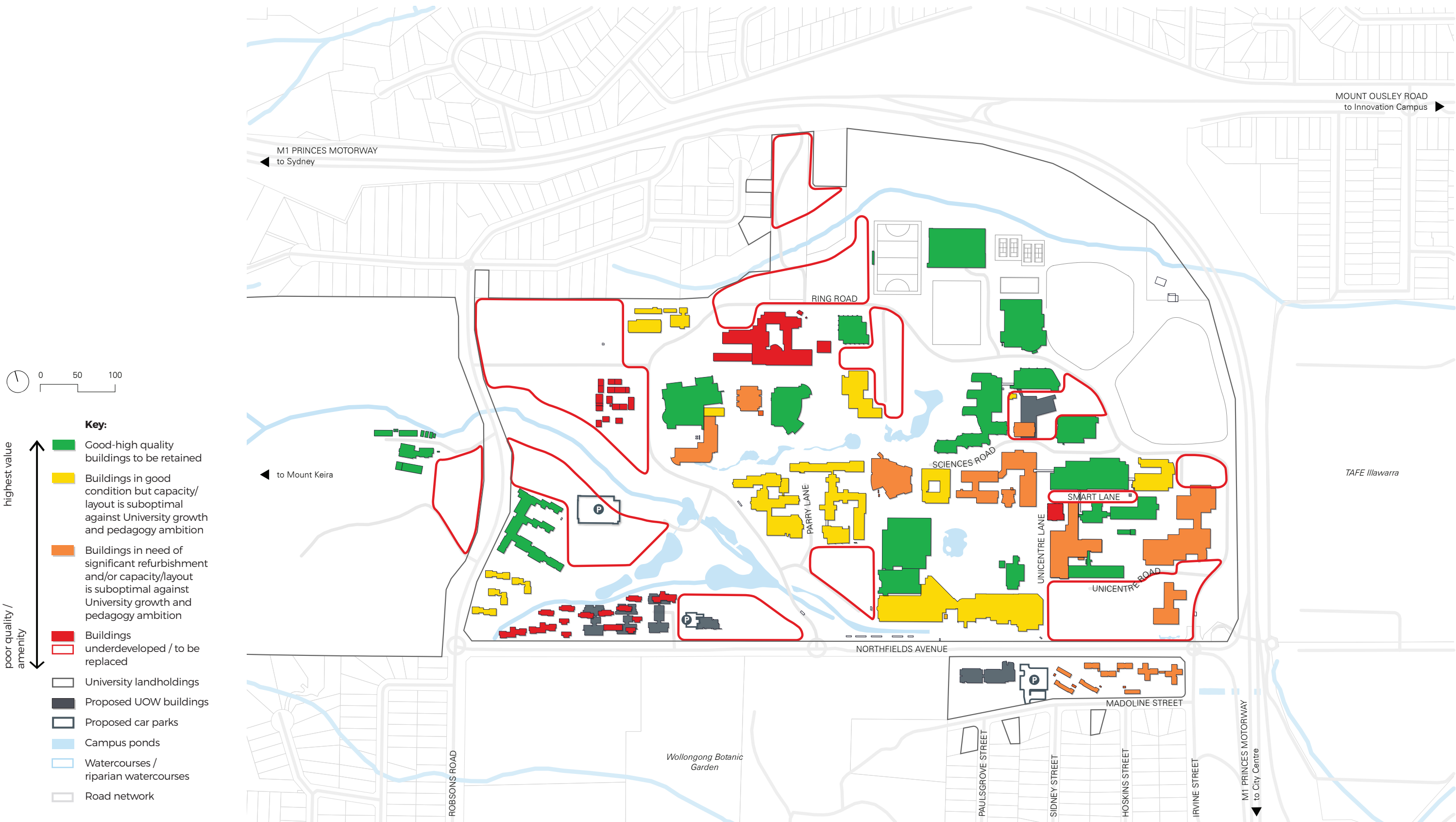
1.6

Landscape Master Plan



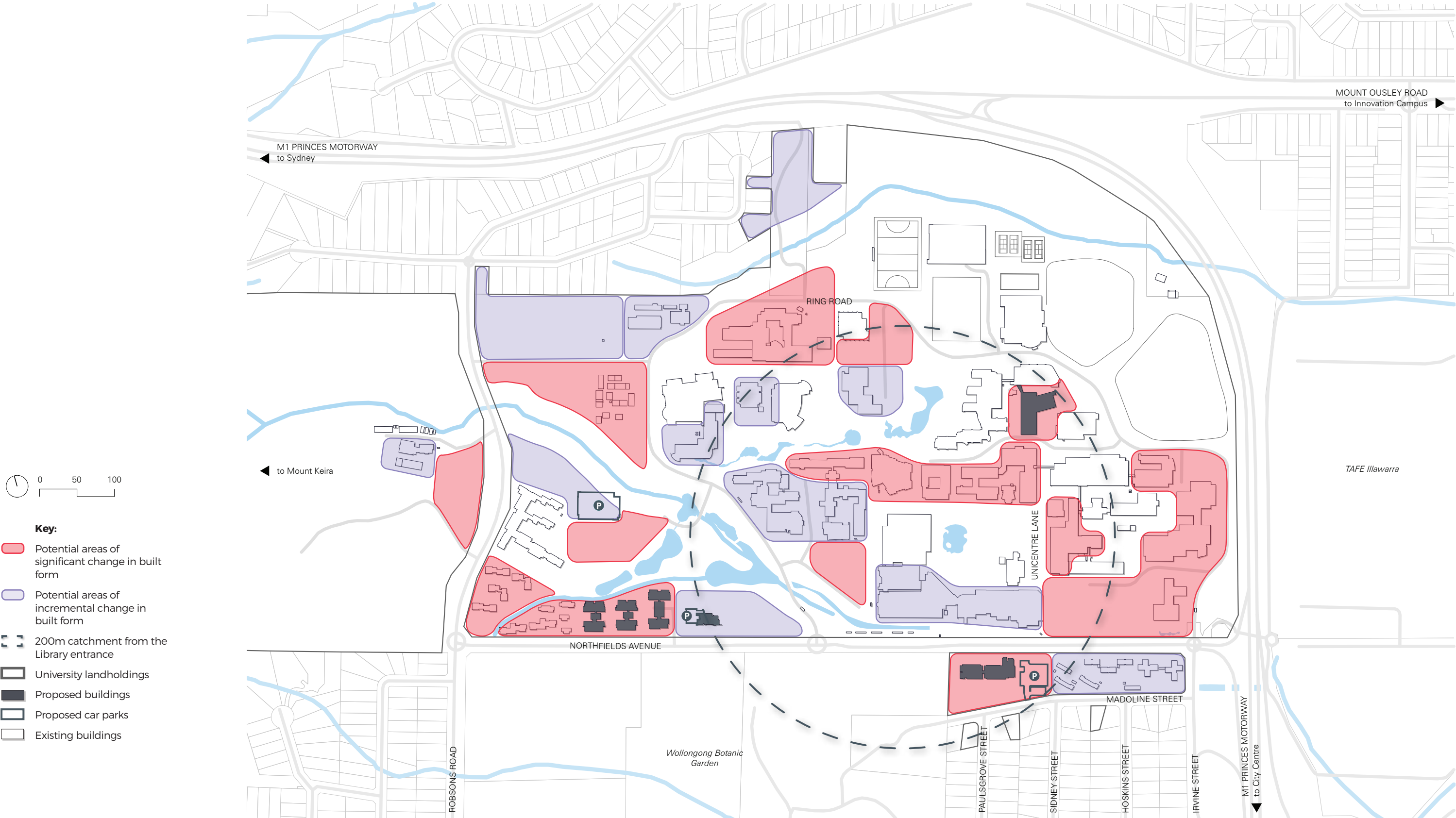
4.6

Existing conditions



Change map

Potential for built form change



4.8

Change map
Potential for public realm and streetscape change

