



Planning &
Environment

***STATE SIGNIFICANT DEVELOPMENT
ASSESSMENT REPORT:***

***University of Wollongong
Molecular and Life Sciences Building***

(SSD 8096)



Environmental Assessment Report
Section 89H of the *Environmental Planning and
Assessment Act 1979*

December 2017

ABBREVIATIONS

Applicant	University of Wollongong, or anyone else entitled to act on this consent
AS	Australian Standard
CIV	Capital Investment Value
Consent	Development Consent
Council	Wollongong Council
DCP	Development Control Plan
Department	Department of Planning and Environment
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPA	Environment Protection Authority
EPI	Environmental Planning Instrument
ESD	Ecologically Sustainable Development
FSR	Floor space ratio
GFA	Gross floor area
GSC	Greater Sydney Commission
ICNP	Interim Construction Noise Policy
INP	Industrial Noise Policy
LEP	Local Environmental Plan
LGA	Local Government Area
Minister	Minister for Planning
NCC	National Construction Code
OEH	Office of Environment and Heritage
Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
RMS	Roads and Maritime Services
RtS	Response to Submissions
SEARs	Secretary's Environmental Assessment Requirements
Secretary	Secretary of the Department of Planning and Environment
SEPP	State Environmental Planning Policy
SRD SEPP	<i>State Environmental Planning Policy (State and Regional Development) 2011</i>
SSD	State Significant Development
TfNSW	Transport for New South Wales

Cover Photograph: Artist Impression of the MLS Building (Source: Applicant)

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Published December 2017
NSW Department of Planning & Environment
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EXECUTIVE SUMMARY

This report provides an assessment of a State significant development (SSD) application for the construction of the Molecular and Life Sciences Building (MLS Building), located within the grounds of the University of Wollongong (UOW), Wollongong Campus. The Applicant is the UOW and the proposal is located within the Wollongong local government area (LGA).

The proposal seeks approval for the construction of a new educational establishment accommodating up to 150 researchers in an area currently occupied by an at-grade carpark. The MLS Building is proposed to be five storeys in height and includes office and administration space, research and chemistry laboratories, animal house, informal learning spaces, astronomy and chemistry roof platform, conference facilities and meeting rooms. Associated landscape and public domain works are also proposed.

The proposal has a Capital Investment Value (CIV) of \$47 million and would generate 81 new operational jobs and 77 construction jobs. The proposal is SSD under clause 15 of the *State Environmental Planning Policy (State and Regional Development) 2011*, as in force at the time of lodgement, as it is development for the purpose of an educational establishment with a CIV of more than \$30 million. Therefore, the Minister for Planning is the consent authority.

The application was publicly exhibited between 15 June and 31 July 2017. The Department of Planning and Environment (the Department) received a total of eight submissions, comprising six submissions from public authorities, one from a neighbourhood group and one public submission. An additional five submissions from public authorities were received in response to the Applicant's Response to Submissions (RtS).

The Department has considered the merits of the proposal in accordance with relevant matters under section 79C, the objects of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*, the principles of ecologically sustainable development, issues raised in all submissions and the Applicant's response to these issues.

The key issues raised in the submissions include traffic, car parking and noise and vibration. Particular concerns were raised in regard to the displacement of car parking and the impact of the proposed new Mount Ousley Interchange on the ability to provide car parking within the Campus. The Department has assessed the merits of the proposal and is satisfied that the impacts have been addressed in the Environmental Impact Statement and RtS.

The Department considers the proposal is consistent with the objects of the EP&A Act (including ecologically sustainable development), State priorities, *Illawarra Shoalhaven Regional Plan* and UOW Master Plan. The Department is satisfied the subject site is suitable for the proposed MLS Building and will provide significant improvements to the accessibility and quality of public educational resources in the region.

The Department concludes the proposal is in the public interest and recommends that the application be approved subject to conditions.

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1. BACKGROUND

1.1 Introduction

This report provides an assessment of a State significant development (SSD) application for a new Molecular and Life Sciences Building (MLS Building) and associated ancillary works on land occupied by an existing at-grade carpark within the UOW Wollongong Campus Eastern Precinct, Northfields Avenue, Wollongong (SSD 8096), pursuant to Part 4, section 4.1 of the *Environmental Planning and Assessment Act 1979* (the EP&A Act).

The proposal seeks approval for:

- construction of a new five storey building to accommodate up to 150 researchers, comprising of office and administration space, research and chemistry laboratories, animal house, informal learning spaces, astronomy and chemistry roof platform, conference facilities, meeting rooms
- ancillary works including landscaping, public domain improvements and signage.

The application has been lodged by Jacobs on behalf of University of Wollongong (the Applicant). The site is located within the Wollongong local government area (LGA).

1.2 University of Wollongong Campus Master Plan 2016-2036

The UOW Wollongong Campus Master Plan 2016-2036 (the Master Plan) creates a vision and framework to guide the physical development of the Wollongong Campus over the next 20 years (see **Figures 1 and 2**).

The vision for the Campus is to evolve into a dynamic knowledge and innovation hub, becoming a leader in research and student-centred education, enriching the campus experience for staff and students. The Master Plan proposes to achieve the vision through excellence in urban design, high-quality built form, public realm and landscaping.

Wollongong Campus vision:

"The Wollongong campus will evolve as a dynamic and memorable 24-hour knowledge and innovation focus of the region. It will be a leader in research and student-centred education and will be renowned for its distinctive native landscape setting at the gateway to the Illawarra, sitting between the foothills of Mount Keira and the Illawarra escarpment, and the Pacific Ocean.

The success of the campus will be distinguished by excellence in learning and teaching places, and campus infrastructure that supports a high-quality knowledge neighbourhood experience. These facilities and spaces will be underpinned by a commitment to urban design excellence and sustainable development principles and will be supported by outstanding landscaped public streets, spaces and venues, and noted for their welcoming configuration.

The campus will become the hub of student life. It will form part of an important network of well-connected economies and partnerships across the city, together with the Education Precinct, Wollongong City Centre, Health Precinct and connecting neighbourhoods.

The campus will play an important role in the economic, social, cultural and creative success of the city and provide a major hub for employment in the region."

The Master Plan recognises the proposed MLS Building as being the core of the eastern precinct of the Campus. In line with the Master Plan, the Applicant is seeking approval to build a world-class research facility, which will be underpinned by a quality landscape plan that will enhance the public realm and streetscape, through incorporating outdoor gathering and learning spaces, gardens and accessible pathways.

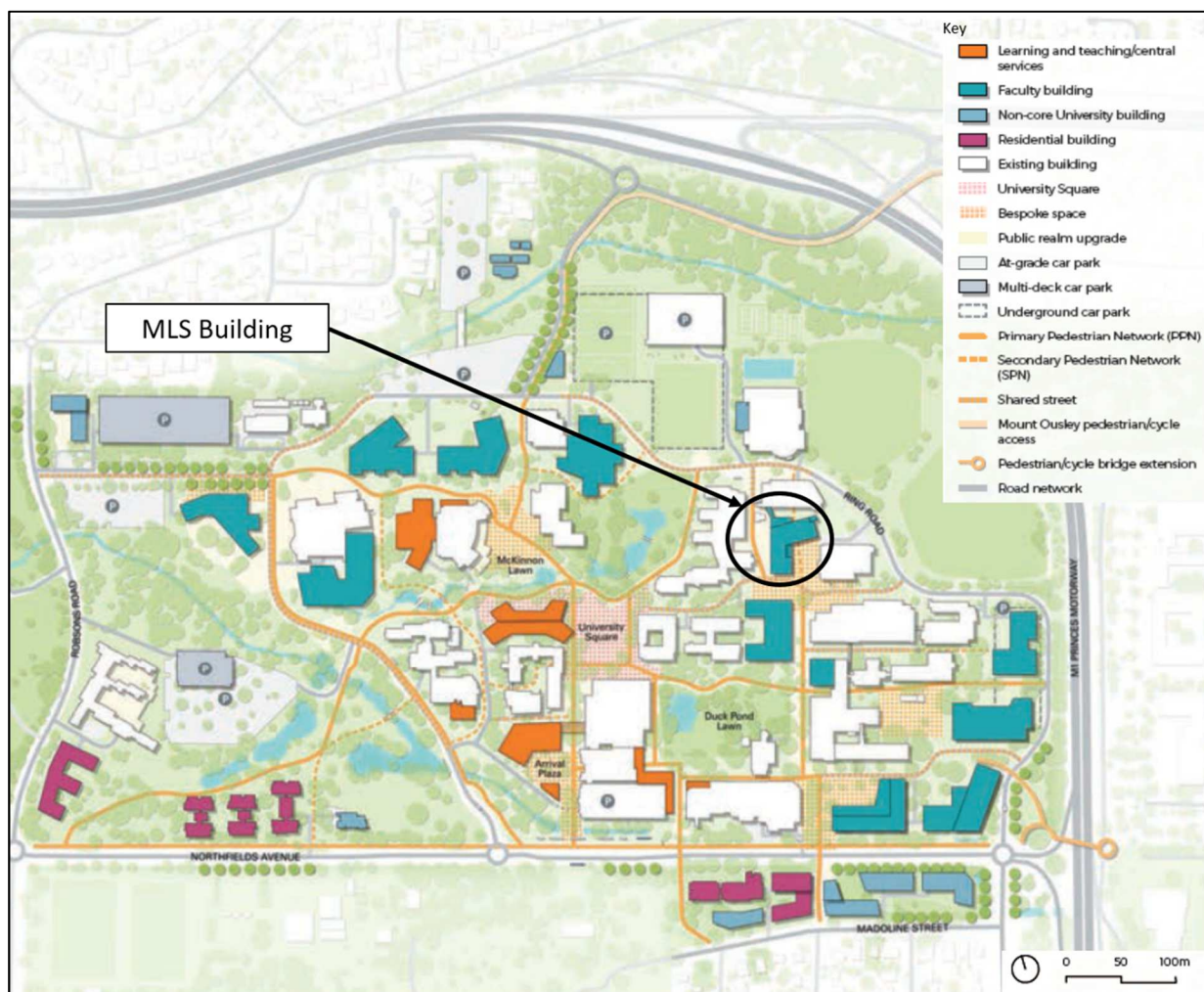


Figure 1: UOW Wollongong Campus Master Plan (Base source: UOW Master Plan)

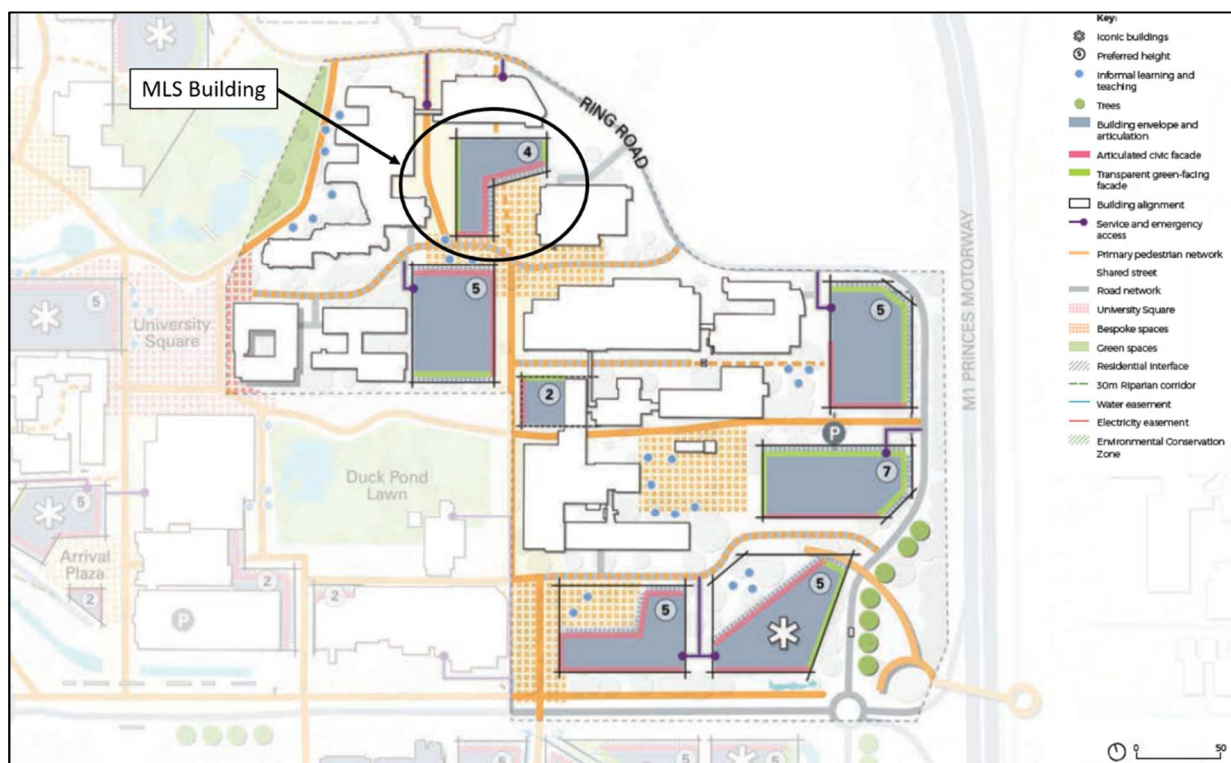


Figure 2: UOW East Precinct (Base source: UOW Master Plan)

1.3 The site and surroundings

The subject site is located within the grounds of the UOW Wollongong Campus, which is located in the north portion of the Illawarra Region, south of Sydney and approximately two kilometers from the Wollongong CBD.

The Campus is located in the suburb of Keiraville, between the North Wollongong Station and the Mount Keira foothills and bounded by the M1 (Princes Motorway). It is adjacent to the Illawarra Institute of TAFE and the Wollongong Botanic Garden and within close proximity to the Wollongong High School of the Performing Arts, Keira High School and Para Meadows School, together forming an Education Precinct (allowing for the opportunity for sharing facilities). The Campus and the TAFE are separated by the M1, linked by a pedestrian and cycle bridge and an indirect road connection via University Avenue.

The project location is shown in **Figures 3 and 4**.

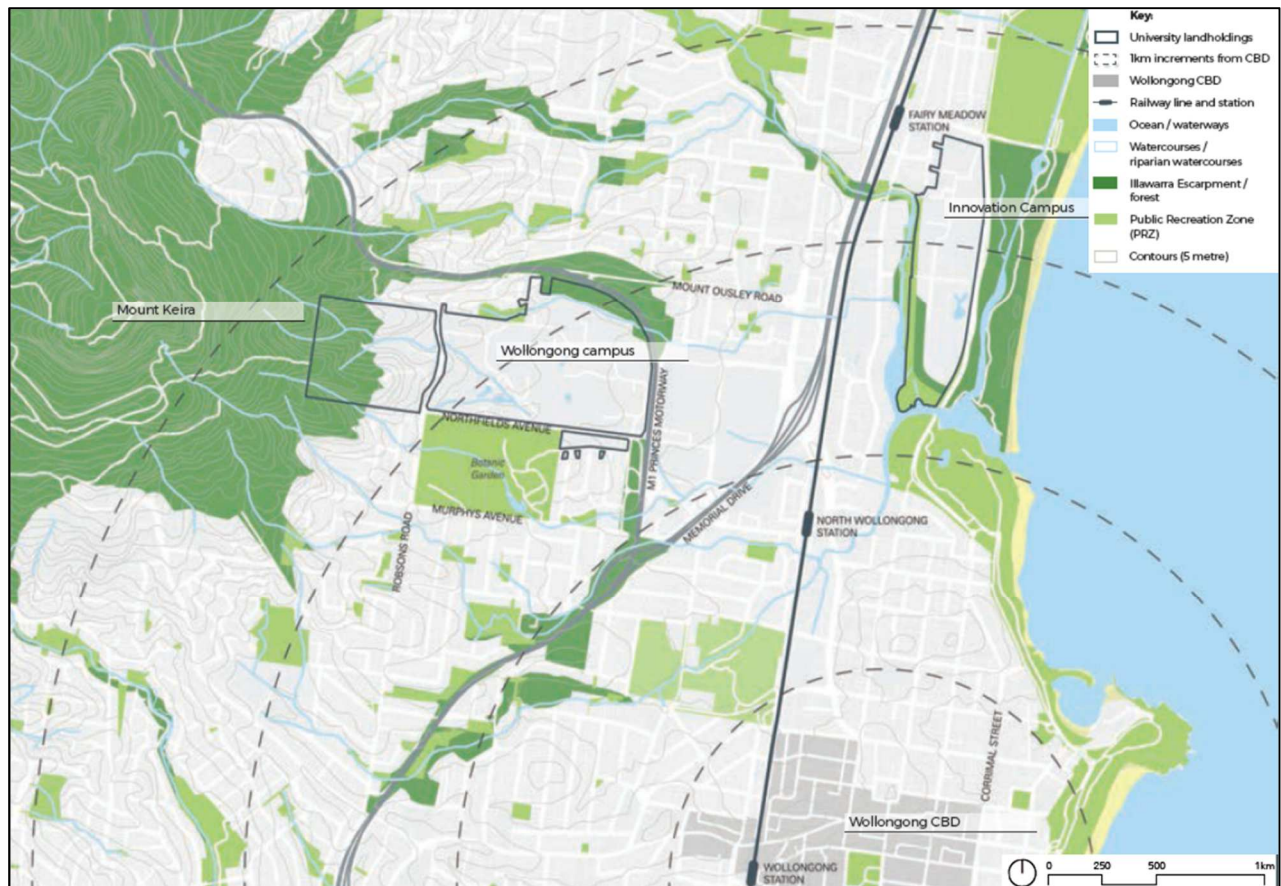


Figure 3: Site location - UOW Wollongong Campus (Base source: UOW Master Plan)

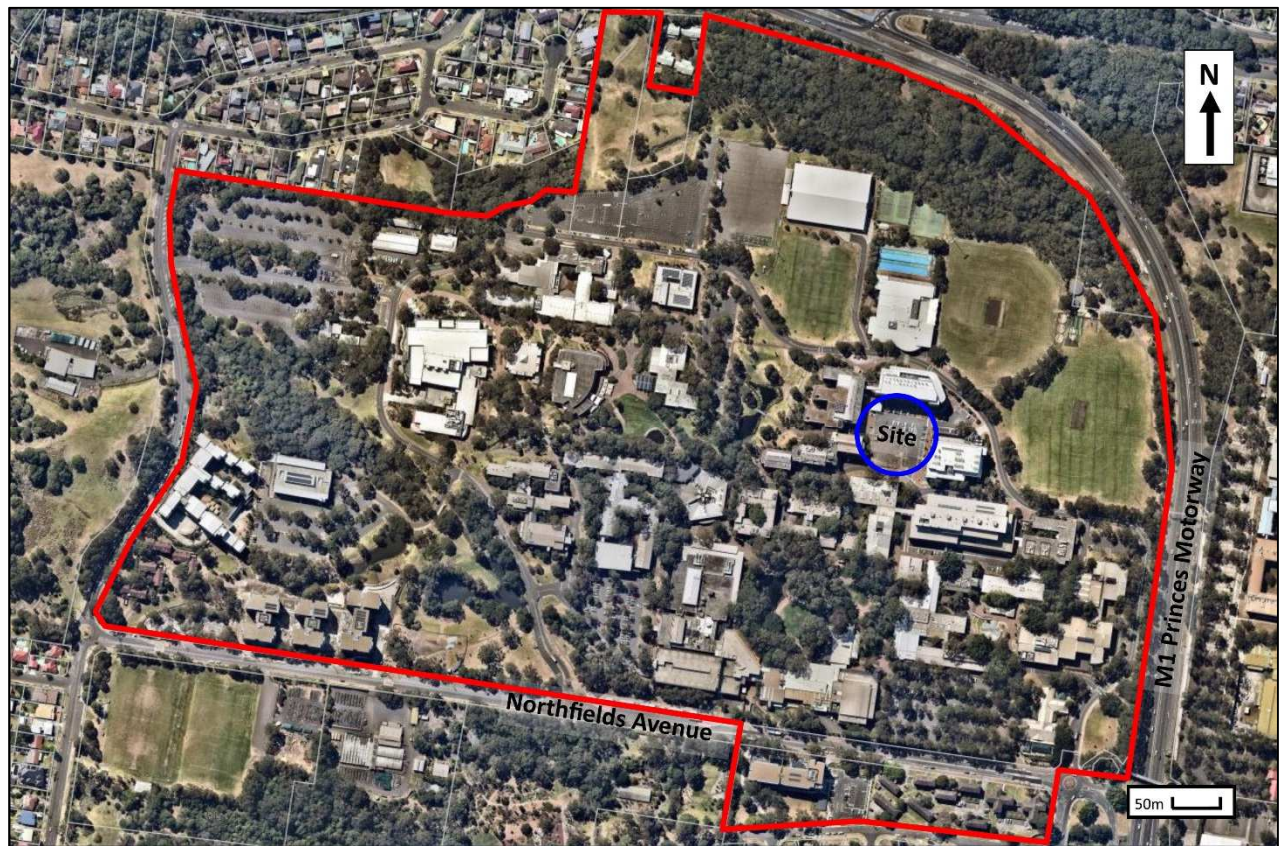


Figure 4: Surrounding development (Base source: Nearmaps)

The 60 hectare Campus generally slopes west to east and is interspersed with pockets of vegetation. A riparian zone generally runs northwest-southeast across the site with a series of ponds adjacent to the southern boundary between Northfields Avenue and the internal Campus Ring Road. The western portion of the site is of a much higher gradient and forms the base of the Illawarra Escarpment.

The Campus is divided into interconnected precincts. Each precinct typically focuses around a particular faculty. The proposed MLS Building is located within the east precinct.

The east precinct comprises the faculties of Engineering and Information Sciences and Science, Medicine and Health. It also hosts other administrative facilities such as Information Management and Technology Services. This precinct comprises of the most recent development on the Campus, including the SMART Infrastructure Facility and the Sciences Teaching Facility.

The MLS Building will create a key focal point within the precinct, evolving into a research hub. The proposal will also positively contribute to the public domain and natural environment through proposed landscaping, seating and paving.

2. DESCRIPTION OF PROPOSAL

2.1 Description of proposal

The key components and features of the proposal (as refined by the Response to Submissions) are provided in **Table 1** and are shown in **Figures 5 to 7**.

Table 1: Key components of the SSD application

Aspect	Description
Summary	Construction of a new Molecular and Life Sciences Building to accommodate up to 150 researchers, associated educational facilities, landscaping and public domain works.
Demolition	Site preparation works including earthworks to accommodate new building platforms, site access, stormwater drainage, landscaping.
Built form	Construction of a new five storey educational building.
Height	The maximum building height is RL 55.2.
Gross floor area (GFA)	Total GFA of 5,382 sqm.
Uses	The building use is primarily for research purposes and associated administrative offices.
Access	- Access will be maintained for emergency vehicle access - Pedestrian access: - from the north is via the undercroft of Building 32 - from the eastern side of Building 41 - from east and western edge of the site via Sciences Road - link at the first level of the MLS Building to Building 32.
Car parking	- Allocation of car parking spaces for the MLS Building: - P5 car park extension – 129 new spaces - P7 car park realignment – 13 accessible spaces.
Bicycle parking	- Allocation of bicycle parking on Campus, comprising: - increase the existing secure bicycle storage in Building 32 by 16 - provision of a minimum of five spaces with the surrounding public domain - end-of-trip facilities are provided in Building 32 and 42.
Public domain and landscaping	- Provision of public domain and landscaping surrounding the building, comprising: - lawn with edge tree planting - raised planters and garden beds - rooftop planting - outdoor learning and meeting spaces, including outdoor furniture - accessible pedestrian pathways and through site links.
Operational hours	24 hours 7 days a week.
Signage	2 x building identification signage, located on the eastern and western facades.
Construction hours	7 am–6 pm Monday to Friday; 7.30 am–3.30 pm Saturday

The proposal has a Capital Investment Value (CIV) of \$47 million and is expected to generate 77 construction jobs and approximately 81 new operational (staff) jobs once fully developed.

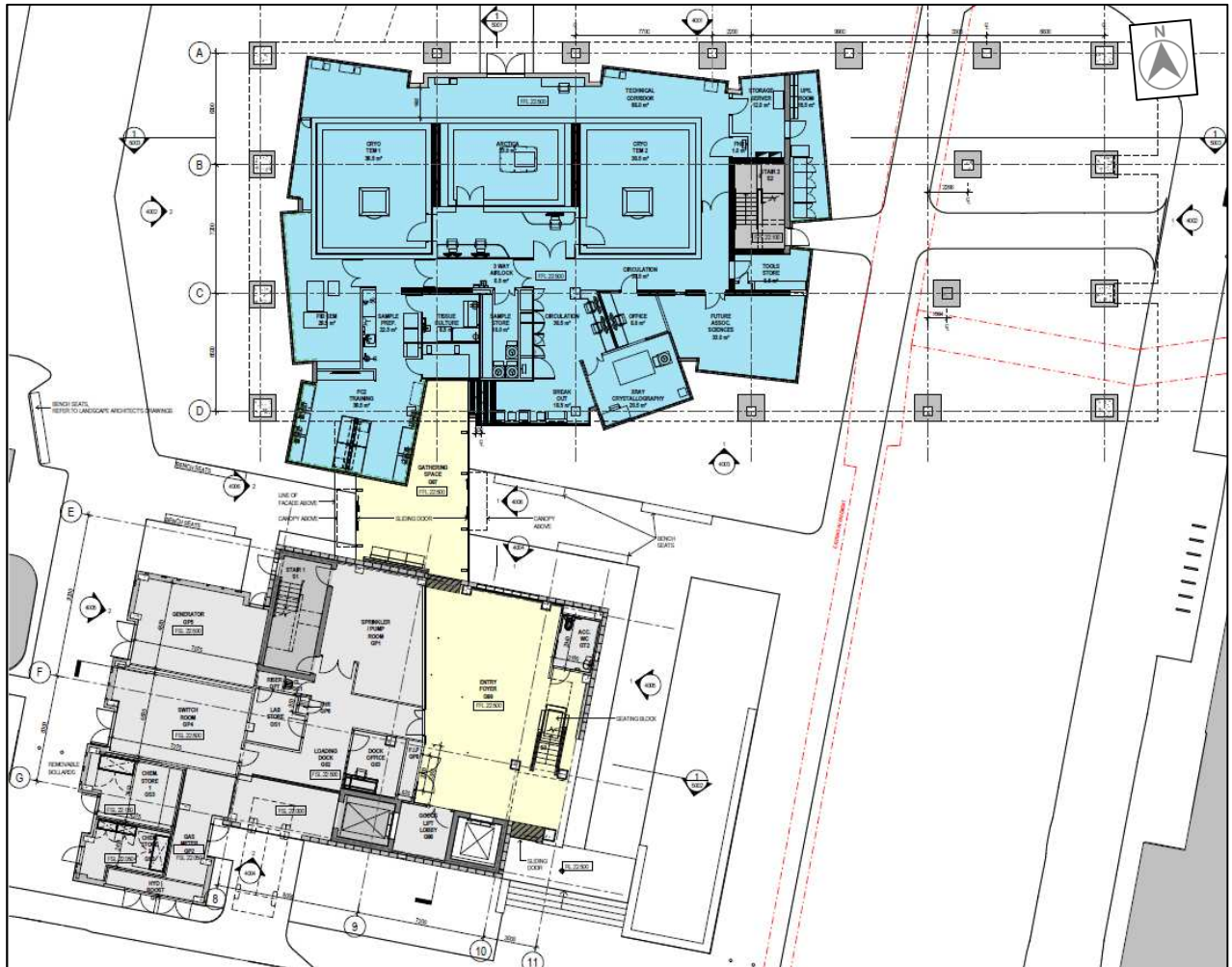


Figure 5: Ground floor plan (Source: Applicant's RtS)



Figure 6: Perspective of the MLS Building viewed from Ring Road (east) (Source: Applicant's EIS)



Figure 7: Perspective of the MLS Building viewed from Sciences Road (south) (Source: Applicant's EIS)

2.2 Project need and justification

The *Illawarra-Shoalhaven Regional Plan 2015* provides the strategic policy, planning and decision-making framework to guide the region to sustainable growth over the next 20 years. The Plan applies to the Local Government Areas of Kiama, Shellharbour, Shoalhaven and Wollongong.

UOW is located within Metropolitan Wollongong and forms part of the 'education precinct'. This precinct includes UOW, the Institute of TAFE Illawarra and two high schools. These establishments offer economic and employment opportunities, particularly around the education and training sectors. The University is also closely linked to health education through the Wollongong and Shoalhaven hospitals.

The Regional Plan recognises UOW, the Innovation Campus and the defence industries at Nowra as 'knowledge based' assets that can be capitalised upon. A key action to support the asset is to prepare and implement a UOW Wollongong Campus Master Plan to guide the development of the main campus for the next 20 years. This Master Plan has recently been completed and builds on the high-quality landscape and public realm of the existing campus while improving its relationship to the surrounding community and connections to Wollongong and the region.

The proposal plays a key role in implementing the redevelopment of the east precinct of the UOW Campus in accordance with the Master Plan and will provide further educational and research opportunities which may result in public health benefits derived from research findings.

Further, the proposal is consistent with:

- NSW State Priorities to improve educational results by delivering a new educational facility
- the *State Infrastructure Strategy Update 2014*, as it proposes new facilities to support the overall strategic objective of the Strategy of delivering new education infrastructure

- key actions in the *NSW Long Term Transport Master Plan*, as it encourages an eventual modal shift from private vehicle use to public transport use in association with further redevelopment across the campus as envisaged in the UOW Master Plan
- it is consistent with the *Healthy Urban Development Checklist - NSW Health*, as the proposal provides for an education facility on a site in proximity to existing and proposed public transport and encourages usage of public transport, bicycle and walking.

3. STATUTORY CONTEXT

3.1. State Significant Development

The proposal is SSD under Section 89C of the *Environmental Planning and Assessment Act 1979* (EP&A Act) as the development has a CIV in excess of \$30 million and is for the purpose of an educational establishment, as defined under clause 15 of Schedule 2 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). The Minister for Planning is therefore the consent authority for the proposed development.

3.2. Consent Authority

In accordance with the Minister's delegation dated 11 October 2017, the Executive Director, Priority Projects Assessments can determine the subject application as:

- Wollongong City Council has not objected to the proposal
- no political disclosure statement has been made
- less than 25 public submissions have been received objecting to the proposal.

3.3. Permissibility

The subject site is zoned SP2 Infrastructure (Educational Establishment) under *Wollongong Local Environmental Plan 2009* (WLEP). An educational establishment is permissible with consent within the SP2 Infrastructure zone.

3.4. Environmental Planning Instruments

Under Section 79C of the EP&A Act, the Secretary's environmental assessment report is required to include a copy of, or reference to, the provisions of any EPIs that substantially govern the project and that have been taken into account in the assessment of the project. The following EPI's apply to the site:

- SRD SEPP
- *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP)
- *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* (Education SEPP)
- *State Environmental Planning Policy No. 55 – Remediation of Land* (SEPP 55)
- *State Environmental Planning Policy No. 64 – Advertising Structures and Signage* (SEPP 64)
- WLEP.

The Department has undertaken a detailed assessment of these EPIs in **Appendix B** and is satisfied the application is consistent with the requirements of the EPIs.

3.5. Objects of the EP&A Act

Decisions made under the EP&A Act must have regard to the objects as set out in section 5 of that Act. A response to the Objects of the EP&A Act is provided at **Table 2**.

Table 2: Response to the objects of section 5 of the EP&A Act

Objects of section 5 of the EP&A Act	Department's Response
(a) <i>to encourage:</i> (i) <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,</i>	The proposal involves the construction of a new educational establishment, the MLS Building, which will cater to the current and future demand for tertiary education placements, provide employment opportunities on campus that are close to home and public transport.
(ii) <i>the promotion and co-ordination of the orderly and economic use and development of land,</i>	The proposal is considered to be an orderly and economic use and development of the land as it is consistent with the UOW Wollongong Master Plan and will upgrade the UOW's building stock, being fit-for-purpose within a broader educational precinct.
(iii) <i>the protection, provision and co-ordination of communication and utility services,</i>	The proposal will connect and augment (as required) to communication and utility services in consultation with service providers.
(iv) <i>the provision of land for public purposes,</i>	Not applicable.
(v) <i>the provision and co-ordination of community services and facilities, and</i>	The proposal is for an educational establishment comprising of research facilities catering to current and future demand for tertiary education.
(vi) <i>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</i>	The proposal does not impact on threatened species, populations and ecological communities. The proposal includes extensive landscaping, which will provide for new habitat opportunities.
(vii) <i>ecologically sustainable development, and</i>	The proposal includes measures to deliver ESD (Section 3.6).
(viii) <i>the provision and maintenance of affordable housing, and</i>	The proposal is for an educational establishment and does not include the provision of affordable housing.
(b) <i>to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and</i>	The Department publicly exhibited the proposed development as outlined in Section 4.1 , which included consultation with Council and other public authorities and consideration of their responses.
(c) <i>to provide increased opportunity for public involvement and participation in environmental planning and assessment.</i>	The Department publicly exhibited the application and made the Applicant's Response to Submissions publicly available as outlined in Section 4.1 , which included notifying adjoining landowners, placing a notice in the press and displaying the application on the Department's website and at Council's office.

3.6. Ecologically Sustainable Development

The EP&A Act adopts the definition of ESD found in the *Protection of the Environment Administration Act 1991*. Section 6(2) of that Act states that ESD requires the effective integration of economic and environmental considerations in decision-making processes and that ESD can be achieved through the implementation of:

- the precautionary principle;
- inter-generational equity;
- conservation of biological diversity and ecological integrity; and
- improved valuation, pricing and incentive mechanisms.

The UOW key design standards include implementation of energy minimisation techniques, indoor environmental quality, reductions in portable water and careful selection of low impact materials including construction materials with recycled content.

The proposal has been designed in accordance with the requirements of section J of the National Construction Code (NCC) for energy efficiency in building fabric, services and systems. The design is also targeting a 5 star Green Star Design and As Built rating.

The Department has considered the project in relation to the ESD principles. The Precautionary and Inter-generational Equity Principles have been applied in the decision making process by a thorough assessment of the environmental impacts of the project. Overall, the proposal is consistent with ESD principles and the Department is satisfied the proposed sustainability initiatives will encourage ESD, in accordance with the objects of the EP&A Act.

3.7. Secretary's Environmental Assessment Requirements

On 12 December 2016, the Department notified the Applicant of the Secretary's Environmental Assessment Requirements (SEARs) for the SSD application. The Department is satisfied the EIS adequately addresses compliance with the SEARs to enable the assessment and determination of the application.

4. CONSULTATION AND SUBMISSIONS

4.1. Exhibition

In accordance with Section 89F of the EP&A Act and Clause 83 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), the Department publicly exhibited the application from 15 June 2017 until 31 July 2017 (45 days). The application was exhibited on the Department's website, at the NSW Service Centre and at the Wollongong City Council office.

The Department placed a public exhibition notice in the Wollongong Advertiser on 14 June 2017, and notified adjoining landholders and relevant State and local government authorities in writing.

The Department received a total of eight submissions, comprising six submissions from public authorities, one from a neighbourhood group and one public submission. A summary of the issues raised in the submissions is provided at **Table 3** below and copies of the submissions may be viewed at **Appendix A**.

The Department has considered the comments raised in the public authority and public submissions during the assessment of the application (**Section 5**) and/or by way of recommended conditions in the instrument of consent at **Appendix C**.

4.1.1. Public Authority submissions

Table 3: Summary of public authority submissions to the EIS exhibition

Wollongong City Council (Council)
Council does not object to the proposal, however, it provided general comments in relation to: traffic and car parking; landscaping and tree management; construction materials; stormwater disposal and drainage design. Council also provided the following recommended conditions, should the application be supported: - the Applicant provide a minimum of 129 car parking spaces, to be constructed and operational prior to the commencement of works associated with the proposed development - the Landscape Plan be consistent with the requirements of Wollongong City Council DCP 2009 Chapter E6 - request that detailed drainage design shall be prepared in accordance with Chapter 81.4 of Wollongong City Council's Development Control Plan 2009 and submitted to Council - request that the Applicant submit a Structural Design Report

- request that the Applicant submit a Survey Report for floor levels
- request that the Applicant provide a Certificate of Hydraulic Compliance to confirm that all stormwater drainage works have been constructed in accordance with the approved plans
- request that the Applicant provide a Structural Soundness Certification to verify that the development can withstand the forces of floodwater, debris and buoyancy up to and including the adjacent 100-year flood level.

Endeavour Energy

Endeavour Energy does not object to the proposal, however it provided the following comments:

- the Applicant will need to submit an application for connection of additional load
- any required pad mount or indoor/chamber substation will need to be located within the property in a suitable and accessible location and be protected by an easement and associated restrictions benefiting and gifted to Endeavour Energy
- the planting of large trees in the vicinity of electricity infrastructure is not supported. Suitable planting needs to be undertaken in proximity of electricity infrastructure
- before commencing any underground activity, the Applicant is required to obtain advice from the *Dial before You Dig* service in accordance with the requirements of the *Electricity Supply Act 1995* (NSW) and associated Regulations
- the demolition work is to be carried out in accordance with Australian Standard AS2601: The demolition of structures (AS 2601).

Roads and Maritime Services (RMS)

RMS recognise the significant progress UOW has made in decreasing the proportion of car users and increasing the overall proportion of active transport, however the following is required:

- further details on the P5 car parking extension as referenced in the Applicants EIS and TIA
- consideration of the construction of the Mount Ousley Interchange if built, which will result in a loss of car parking provision within the P5 car park
- additional information in relation to how the higher demand for car parking as a result of the proposal will be catered for on-site
- additional justification as to how the relocation of staff from Building 18 to the Illawarra Health and Medical Research Institute will not result in the need for additional parking
- additional details on parking arrangements for current staff located at Building 42, during and post construction of the MLS Building
- recommend the Applicant undertake an assessment of car parking requirements and provision across UOW Wollongong Campus.

Transport for NSW (TfNSW)

TfNSW encourages the use of active transport and is supportive of the programs and infrastructure provided by UOW. TfNSW have reviewed the proposal and provided the following comments:

- the Applicant should continue to develop travel access guides to assist with increasing the mode share of walking and cycling for staff, students and visitors
- prior to the commencement of any work on site, the Applicant should provide a Construction Pedestrian and Traffic Management Plan (CPTMP) highlighting any potential impacts to general traffic, cyclists, pedestrians and bus services within the vicinity of the site from construction vehicles during the proposed works.

Environment Protection Authority (EPA)

EPA has reviewed the proposal and notes that the project will not require an Environment Protection Licence under the Protection of the Environmental Operations Act 1997. The following comments have been provided for consideration:

- prior to the use of any new radiation apparatus or new room/area where unsealed radioactive substances are kept, the UOW Radiation Management Licence must be updated
- the assessment and management of potential acid sulphate soils on-site should be undertaken in accordance with the "Acid Sulphate Soil Manual" (August 1998)
- the Applicant should ensure that noise monitoring is undertaken at times when the noise is representative of the demolition and construction activities
- further noise monitoring may be required if noise complaints are received to assess the effectiveness of any mitigation and management controls implemented
- the preliminary Construction Management Plan should be updated to correctly reference relevant legislation
- the appropriate regulatory authority for this project is Wollongong Council and not the EPA.

Sydney Water

Sydney Water has reviewed the proposal and provided the following comment:

- due to the proximity of the proposed development to Sydney Water assets, the Applicant should submit approved plans to the Sydney Water Tap online
- a Section 73 Compliance Certificate under the *Sydney Water Act 1994* must be obtained from Sydney Water.

4.1.2. Public submissions

One public submission was received which supported the proposal and raised the following comments:

- consideration should be given to the provision of additional car parking in the north of the Campus grounds to be used by staff, students and daily commuters
- consideration should be given to the payment of appropriate development contributions to pay for required works to ensure that the access to the proposed northern campus entrance is available to staff, students and commuters from the southern parts of Illawarra via a new off-ramp from the M1 to proposed interchange.

One community group ('Neighbourhood Forum 5') submission was received which supported the proposal *"only on the understanding that the special requirements of this proposal do not represent a precedent for further variations from the University Master Plan"*.

4.2. Response to submissions

Following the exhibition of the application, the Department placed copies of all submissions received on its website and requested the Applicant provide a response to the issues raised in the submissions.

On 8 November 2017, the Applicant provided a Response to Submissions (RtS) (**Appendix A**) on the issues raised during the exhibition of the proposal. The RtS contained additional information (including revised technical reports) and responses to the matters raised, including construction management, traffic and parking, noise and vibration and signage. The RtS also proposes minor design changes to reduce the perceived bulk and scale of the building seen from distant viewpoints.

In addition, the Applicants RtS proposes reducing the scope of local infrastructure works originally envisaged for the SSD project and undertaking these identified works as part of the Campus Infrastructure Improvement Program REF works (under Part 5 of the EP&A Act). The Campus Infrastructure Improvement Program consists of a series of infrastructure improvement programs aimed at making University operations more effective and efficient, as well as building future proofing and resilience into the campus infrastructure provisions. The Campus Infrastructure Improvement Program generally includes (but is not limited to) the following types of improvements over time: electrical infrastructure improvements, including renewing and relocating substations, switchboards and cabling infrastructure; facility co-location, sharing and rationalisation arrangements including utility supply facilities and stores; and general spatial rearrangement and clustering of other infrastructure including loading and service vehicle parking. Minor amendments have been made to the architectural and landscape plans as a consequence of separating these REF works.

The preliminary Construction Management Plan and the Waste and Recycling Management Plan have been updated in the RtS to reflect relevant legislation requirements and responsible authorities.

The RtS was made publicly available on the Department's website and was referred to the relevant public authorities. An additional five submissions were received from public authorities, including Council, EPA, TfNSW, RMS and Endeavour Energy. No submissions were received from the public. A summary of the issues raised in the submissions is provided at **Table 5** and copies of the submissions may be viewed at **Appendix A**.

Table 5: Summary of public authority submissions to the RtS

Council
Council has reviewed the Applicant's RtS and reiterated that the standard conditions previously provided be imposed. Council provided the following additional comments: <i>Landscape</i> - the proposed additions and amendments to Council's landscape conditions are considered acceptable - the request to have the balance of compensatory planting (8 trees) located elsewhere on the campus is considered acceptable. <i>Stormwater</i> - it is requested that the conditions relating to flood compatible materials and structural soundness are imposed as originally requested to ensure consistency with Chapter E13 (Flood Management) of the WDCP 2009.
Endeavour Energy
Endeavour Energy is satisfied comments have been thoroughly addressed, including the dispensation for the building footprint over utility easements.
EPA
EPA notes that the majority of issues raised have been satisfactorily addressed, noting that the RtS report does not appear to address the issue of whether a further assessment of noise and vibration impacts will be undertaken (note: the Applicant subsequently clarified that they would).
TfNSW
TfNSW has reviewed the RtS and is satisfied that a Construction Pedestrian and Traffic Management Plan (CPTMP) will be prepared prior to the commencement of construction. TfNSW provided the following additional comments: - TfNSW has no plans to introduce a southern bus shuttle in the future. Route 55 is anticipated to start service in January 2018 and future enhancements to this service will be considered as demand requires and resources are available. There is potential for the diversion of two bus routes (1U and 4U) operating from the north to run through the campus area and Northfields Drive terminus, which would provide a more efficient service for students and staff - ticketing and fares for travel on TfNSW bus services will continue to be processed through the Opal card system - local bus infrastructure is generally provided and managed by councils, encourage discussion with Council - installation of a bus stop at the northern entrance to the campus via the new Mt Ousley interchange would be supported by TfNSW - bike racks are provided at North Wollongong Station and Fairy Meadow Station also has bike racks and lockers - UOW are encouraged to liaise with TfNSW to examine future transport options.

The Department has considered the comments raised in the public authority and public submissions during the assessment of the application (**Section 5**) and/or by way of recommended conditions in the instrument of consent at **Appendix C**.

5. ASSESSMENT

5.1. Section 79C(1) matters for consideration

Table 6 identifies the matters for consideration under section 79C of the EP&A Act that apply to SSD in accordance with section 89H of the EP&A Act. The table represents a summary for which additional information and consideration is provided for in **Section 5** (key and other issues) and relevant appendices or other sections of this report and EIS, referenced in the table. The EIS has been prepared by the Applicant to consider these matters and also those required to be considered in the SEARs, section 78(8A) of the EP&A Act and Schedule 2 of the EP&A Regulation.

Table 6: Section 79C(1) Matters for Consideration

Section 79C(1) Evaluation	Consideration
(a)(i) any environmental planning instrument	Satisfactorily complies. The Department's consideration of the relevant EPIs is provided in Appendix B of this report.
(a)(ii) any proposed instrument	Not applicable.
(a)(iii) any development control plan	Under clause 11 of the SRD SEPP, development control plans (DCPs) do not apply to SSD.
(a)(iia) any planning agreement	Not applicable.
(a)(iv) the regulations <i>Refer Division 8 of the EP&A Regulation</i>	The application satisfactorily meets the relevant requirements of the EP&A Regulation, including the procedures relating to applications (Part 6 of the EP&A Regulation), public participation procedures for SSD and Schedule 2 of the EP&A Regulation relating to EIS.
(a)(v) any coastal zone management plan	Not applicable.
(b) the likely impacts of that development	Appropriately mitigated or conditioned - refer to Section 5 of this report.
(c) the suitability of the site for the development	The site is suitable for the development as discussed in Sections 3 and 5 of this report.
(d) any submissions	Consideration has been given to the submissions received during the exhibition period. See Sections 4 and 5 of this report.
(e) the public interest	Refer to Section 5 of this report.
Biodiversity values impact assessment not required if: (a) On biodiversity certified land (b) Biobanking Statement exists	Not applicable.

5.2. Key assessment issues

The Department has considered the EIS, the issues raised in submissions and the Applicant's RtS in its assessment of the proposal. The Department considers the key issues associated with the proposal are:

- traffic and car parking
- noise impacts
- built form and urban design
- landscaping and public domain.

Each of these issues are discussed in the following sections of this report. Other issues were taken into consideration during the assessment of the application and are discussed at **Section 5.3**.

5.2.1 Traffic and car parking

The Applicant has prepared a Traffic Impact Assessment (TIA) and a preliminary Construction Management Plan, which considers the impact the proposal may have on traffic and parking. The Applicant has also submitted a Construction Traffic Management Plan Intersection Performance, UOW Transport Survey and Strategy 2015 and a copy of a parking agreement between UOW and TAFE.

The Department considers that the key transport issues relating to the proposal to be car parking, the implication of the proposed Mt Ousley Interchange, sustainable transport and construction traffic.

Car parking

There are currently 3,150 car parking spaces on Campus (see **Figure 8**). The main carparks relevant to the site are P5 and P7, located in the northern portion of the Campus.

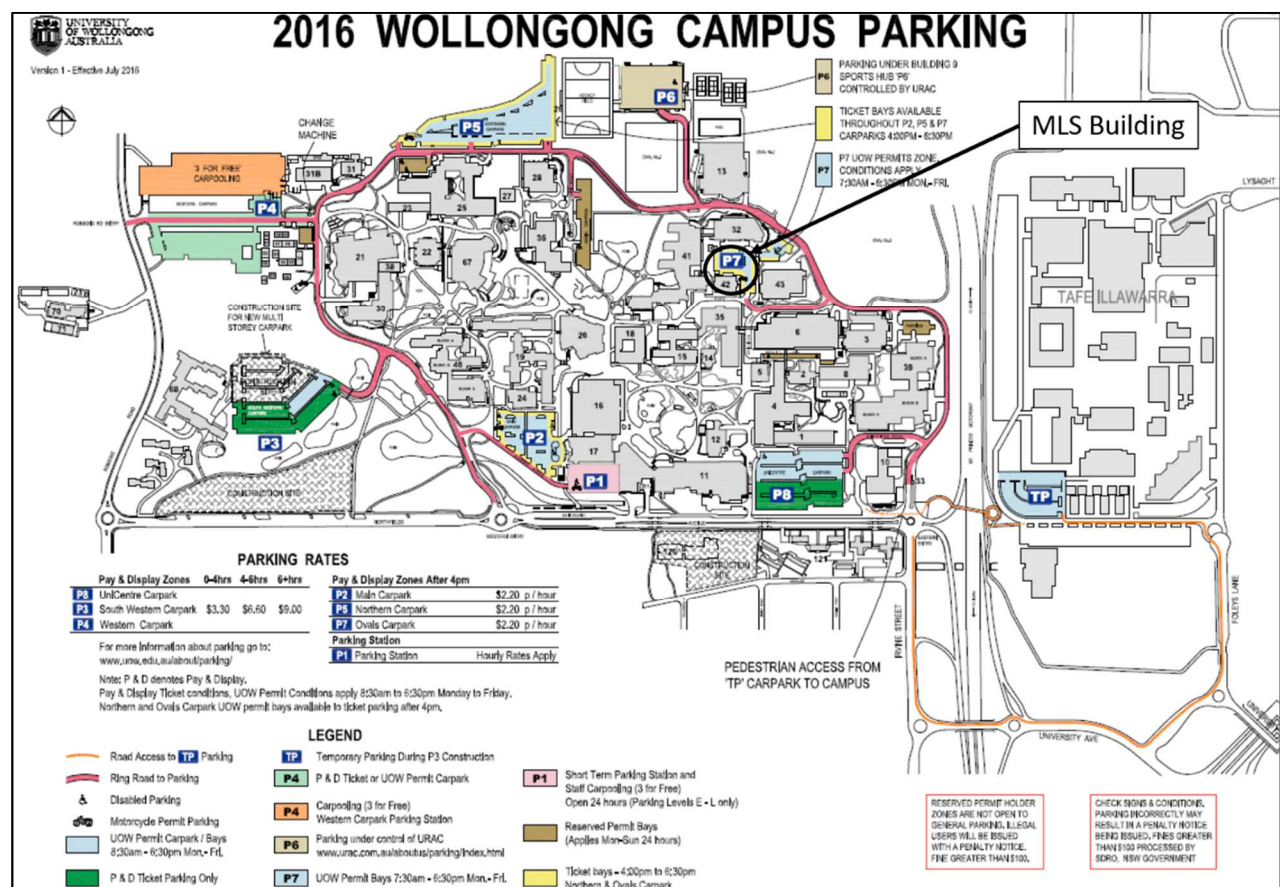


Figure 8: Campus car parking (Source: UOW website)

The development of the MLS Building will result in the loss of part of the existing P7 at grade carpark, comprising 71 car spaces and 22 motorcycle spaces (equivalent to 11 car spaces), amounting to a total loss of 82 parking spaces. A total of 13 accessible spaces will be retained.

Figure 9 illustrates the existing and proposed car parking provision across the Campus (as envisaged in the UOW Master Plan). The TIA notes that there is an additional 170 parking spaces planned to the north of the existing P5 carpark (currently 367 spaces).

In addition, the Master Plan commits to providing an additional 312 car parking spaces by 2036 to support future redevelopment across the campus, with the aim of maintaining the current ratio of 5.4 equivalent full-time student load per space.

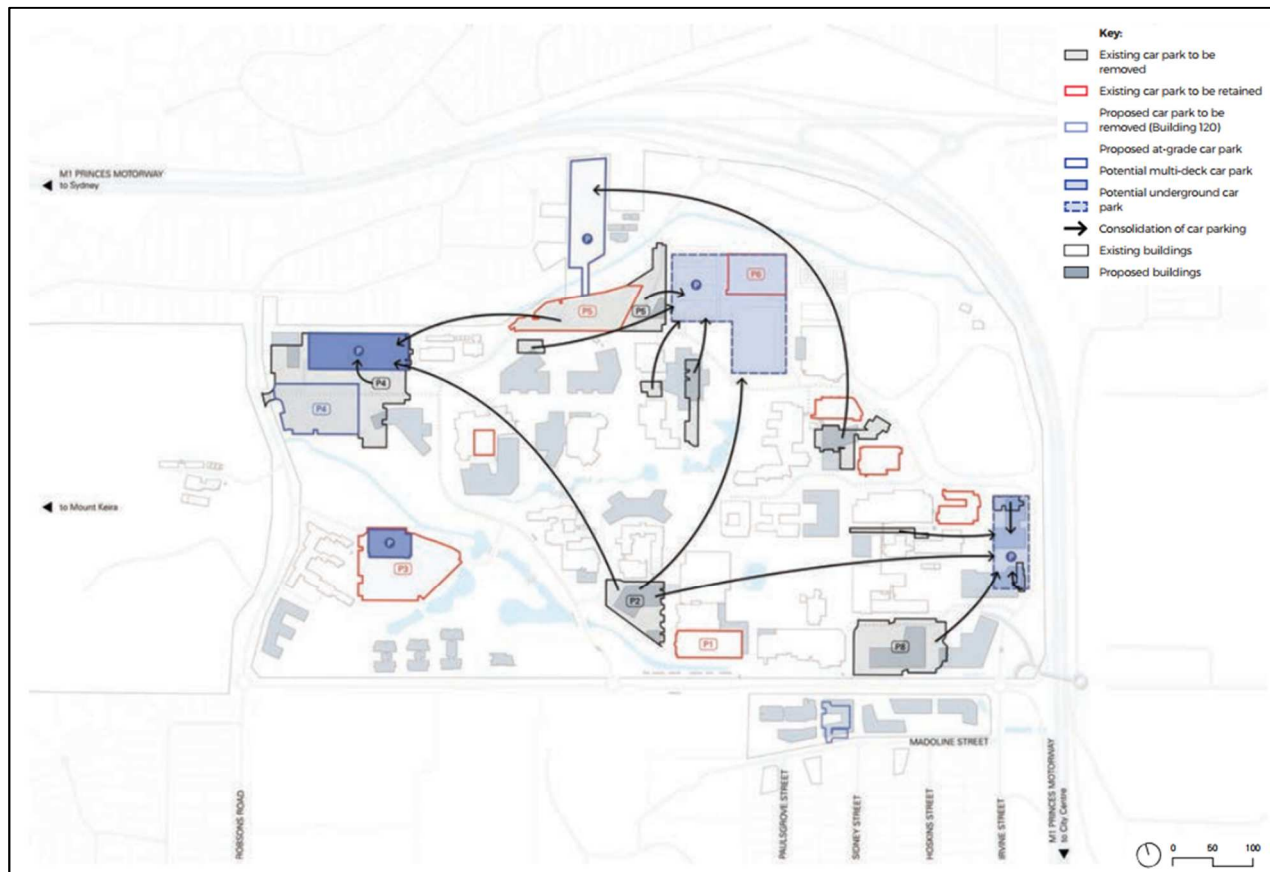


Figure 9: Existing and proposed campus car parking (Source: UOW Master Plan)

Using the weighted 62.7 percent private vehicle modal split of staff as outlined in the Applicant's TIA, the proposal would generate an additional daily demand of approximately 47 car parking spaces (based on an estimated 75 new staff working within the MLS Building on a typical weekday, factoring in annual leave on a total new staff number of 81). As the proposed new MLS Building will displace 82 parking spaces currently provided in the P7 carpark, a total of 129 spaces is therefore required as a consequence of the development.

The TIA details that, once constructed, the 129 car parking spaces will be provided within the P5 carpark extension (which is subject to a separate development application currently under assessment by Council). The P5 carpark extension is expected to be in operation by the end of 2018.

During the exhibition of the proposal, RMS requested further clarification as to how the potential loss of 50 car parking spaces in the P5 carpark extension as a result of the development of the Mount Ousley Interchange would be accommodated. RMS also sought information on how reallocation of staff will be managed and stated the need for a Campus wide parking assessment. The Applicant responded to RMS concerns in the RtS as follows:

- UOW have secured a lease with TAFE NSW for approximately 150 car parking spaces to make up for any short-term loss as a result of the proposed development of the MLS Building and the future interchange. This leasing arrangement will provide for an interim solution until the UOW proceed with the planned continued car parking strategy as outlined in the UOW Master Plan
- UOW has worked, and will continue to work, closely with RMS on the detailed design of the interchange, which has resulted in a redesign to minimise the impact on loss of parking
- a Campus wide parking assessment was undertaken as part of the development of the Master Plan and the results have been incorporated into UOW strategies and policy.

The Applicant is also committed to implementing the UOW Transport Strategy, which proposes to:

- improve walking, cycling and public transport options
- include car and bike sharing facilities on Campus
- encourage car-pooling with priority parking
- introduce new car parking pricing methods.

These initiatives are addressed in further detail below under *Sustainable transport initiatives*. While the car will continue to play a significant role for those who have limited mode choices based on their home location, the University will continue reviewing intervention options that reduce demand for private vehicle parking (particularly for those that have viable alternatives). As part of the commitment to the implementation of the Transport Strategy, UOW are aiming to offer more viable transport options by 2036 to enable a reduction in the reliance on private vehicle travel to the Campus, consequently reducing the overall demand for on-site and on-street car parking.

Council raised no objection to traffic and parking impacts, provided the proposed development met its parking demand on-site.

The Department has considered the Applicant's TIA and RtS, along with the comments of RMS and Council and is of the opinion that the strategy for the proposed delivery of car parking associated with the proposed development is acceptable as:

- provision of car parking on the development site itself would limit the efficient use of the site and result in a poor design outcome for the MLS Building and loss of landscaping and public domain
- adequate Campus car parking will be provided within close proximity to the proposed MLS Building (i.e. temporary use of TAFE parking facilities and eventual construction of P5 carpark extension)
- limiting the provision of car parking will assist in encouraging the use of other, more sustainable modes of transport, such as walking, cycling and public transport
- appropriate pedestrian, bicycle and end-of-trip facilities will be provided, with the opportunity to expand
- the Applicant is committed to the implementation and review of the UOW Transport Strategy.

Council has also requested that all car parking spaces be made available prior to the construction of the proposed MLS Building (and the closure of the P7 carpark). The Department has included a recommended condition in the development consent accordingly. The TAFE parking solution is required to be in place prior to works commencing on the subject site.

Subject to the recommended conditions, the Department's assessment concludes that the proposed development will not adversely impact on car parking demand or provision.

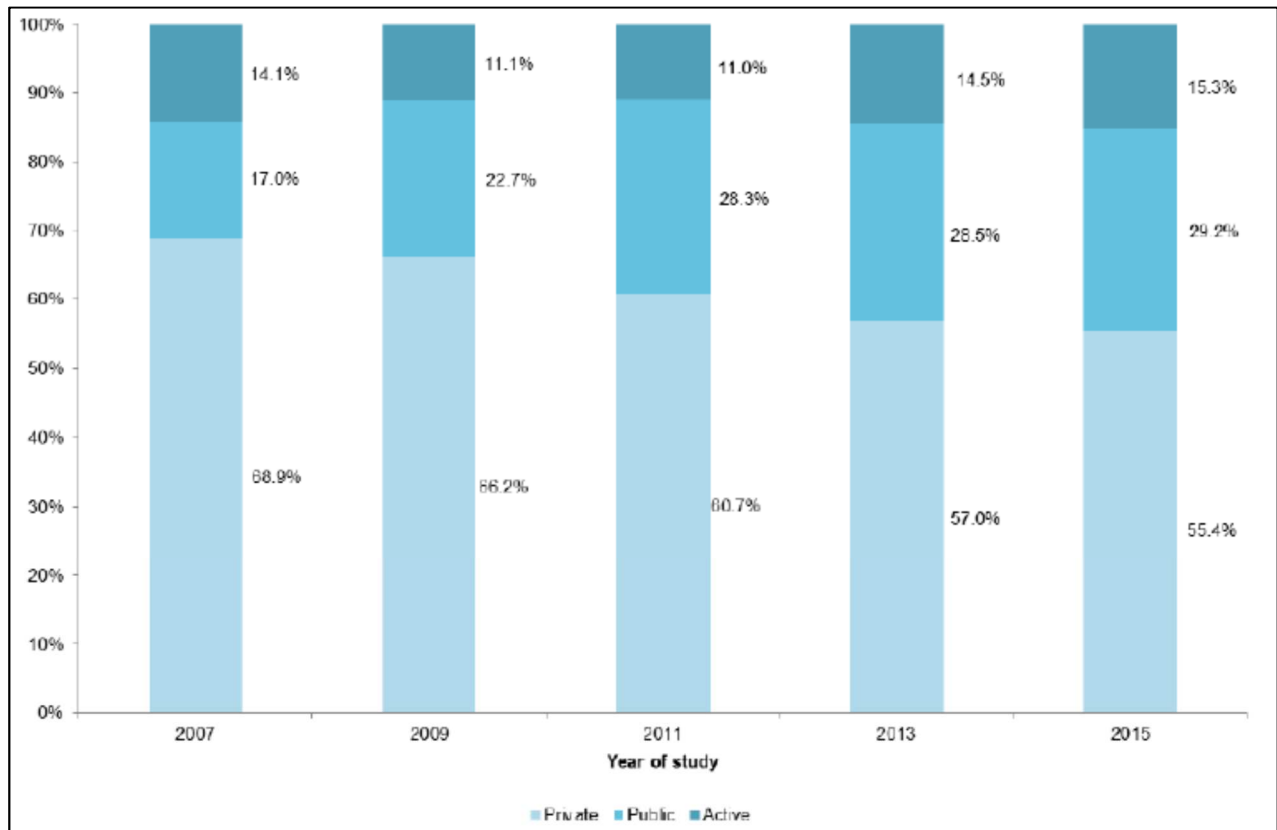
Sustainable transport initiatives

The Department requested the Applicant submit a Green Travel Plan as part of the RtS, addressing:

- sustainable transport initiatives
- actions and targets to be implemented during operation to reduce vehicle dependency
- outline any future expansion to the UOW sustainable practices and how they will be applied to the operation of the proposal.

The Applicant provided the Transport Survey and Strategy 2015 prepared by AECOM. The Strategy established the overall mode share for the Campus as: private vehicle 55 percent, public transport 29 percent and active transport 15 percent. The survey results have shown a trend in the uptake of active transport since 2007 (see **Table 8**). It is important to note that the mode share for staff is significantly higher than the campus average. The Applicant's TIA has estimated that 62.7 percent of staff currently drive to the Campus.

Table 8: Mode share trends from 2007 to 2015 (staff/students combined) (Source: Applicant's RtS)



The Strategy includes the following recommendations:

- Private Transport
 - o undertake comprehensive parking strategy
 - o work in partnership with car share company to trial a car share service on campus
 - o investigate options for charging spaces for privately owned electric vehicles
 - o encourage purchases for new UOW fleet vehicles with good fuel efficiency and green credentials or electric vehicles
- Public Transport
 - o further investigate introducing a southern shuttle bus servicing Figtree and Mangerton/West Wollongong
 - o work in partnership with bus operators, TfNSW to devise an integrated transport ticket for staff and students subsidised by the UOW
 - o continue to seek an increased frequency of Gong shuttle at peak times
 - o consider upgrading all bus stops on Campus to include shelter, seating, lighting, UOW branding, fare and route information
 - o encourage Council and TfNSW to upgrade all major bus stops en-route to the Campus to include the UOW logo, shelter, seating, timetable, fare and route information
- Active Transport
 - o develop a prominent cycle 'end of trip' facility including hire facilities and maintenance workshop on Campus
 - o lobby Council to construct proposed network of regional and local cycle routes starting with the completion of UOW to CBD routes
 - o extend the footbridge over the freeway to bring pedestrians and cyclists right over the eastern entrance
 - o construct a shared bridge over Northfields Avenue
 - o encourage Council and TfNSW to provide secure cycle parking options for passengers at North Wollongong and Fairy Meadow stations.

It is noted that end-of-trip facilities are readily available on Campus, located within close proximity to the MLS Building in the adjacent Building 32 *Illawarra Health and Medical Research Institute* (IHMRI) as well as secure bicycle storage facilities at Buildings 32 and 43. The Campus currently has approximately 1,000 bicycle racks and the Applicant has estimated that less than 50 percent are used during peak periods.

In addition, the proposed MLS Building includes provision of five bicycle racks (capacity for 10 bicycles) accessed from Sciences Road, and end-of-trip facilities would be shared with the currently underutilised facilities in Building 32.

Both TfNSW and the Department support all measures that will achieve a reduction in private vehicle usage through the uptake of more sustainable modes of transport, such as public transport, walking and cycling.

The Department recognises the efforts the UOW has undertaken to date in encouraging sustainable transport initiatives and setting further targets to reduce private vehicle usage.

The Department is satisfied the implementation and ongoing review of the UOW Transport Strategy will ensure the ongoing shift in transport behaviour on Campus.

Operational traffic

The proposed development will increase the population on Campus by an additional 81 staff members. **Table 10** provides a summary of the expected traffic generation associated with the increase in staff numbers.

Table 10: Traffic generation (Source: Applicant's EIS)

Travel mode	Estimated mode share (%)	Estimated number of trips
Car as driver	62.7	47
Car pool/passenger	7.5 (included above)	6
Bus	15.1	11
Cycle	6.7	5
Walk/other	8.0	6

The TIA notes that based on the traffic generation, the proposed development is likely to generate a total peak vehicle travel demand of 94 vehicles per day (am and pm). This is considered to be a marginal increase in activity and unlikely to have a detrimental impact on the performance of the local road network or intersections.

The TIA states that the traffic impacts are not significant enough to warrant road works or intersection upgrades, including the Mount Ousley Interchange.

Council and RMS did not raise any concerns with regards to traffic generation or local traffic impacts. The Department is satisfied the proposed development, will not adversely impact on the existing road network conditions.

Construction traffic

The Department requested that the Applicant undertake further assessment of construction traffic impacts as part of the RtS, including the potential impact of construction vehicles on key intersections, outside of the Campus along the proposed construction routes.

The Applicant's supplementary construction traffic impact analysis provided in the RtS anticipates a maximum of 40 construction vehicle movements per day to/from the site. While no on-site car parking for construction workers is available, the site is well serviced by public transport and workers will be discouraged from driving as part of the induction process.

The main options with respect to heavy vehicle routes into the MLS Building site are shown in **Figure 10** below. The preferred route is via Mount Ousley Road connecting with Northfields Avenue on the eastern side of the Campus (green route). Using this route will mean construction vehicles will avoid residential roads where practical. The additional modelling provided in the RtS concluded that during the construction period the intersections along this route will continue to operate similarly to existing conditions. Construction traffic will therefore have little or no detrimental impact on the operation of the road network.

The Department notes that no objections were raised by Council, RMS or TfNSW in relation to construction traffic impacts. However, TfNSW recommended that a Construction Pedestrian and Traffic Management Plan (CPTMP) be prepared prior to commencement of construction. The Department considers this request to be reasonable as it will any potential impacts associated with construction traffic can be adequately managed. The Department has recommended a condition in the development consent accordingly.

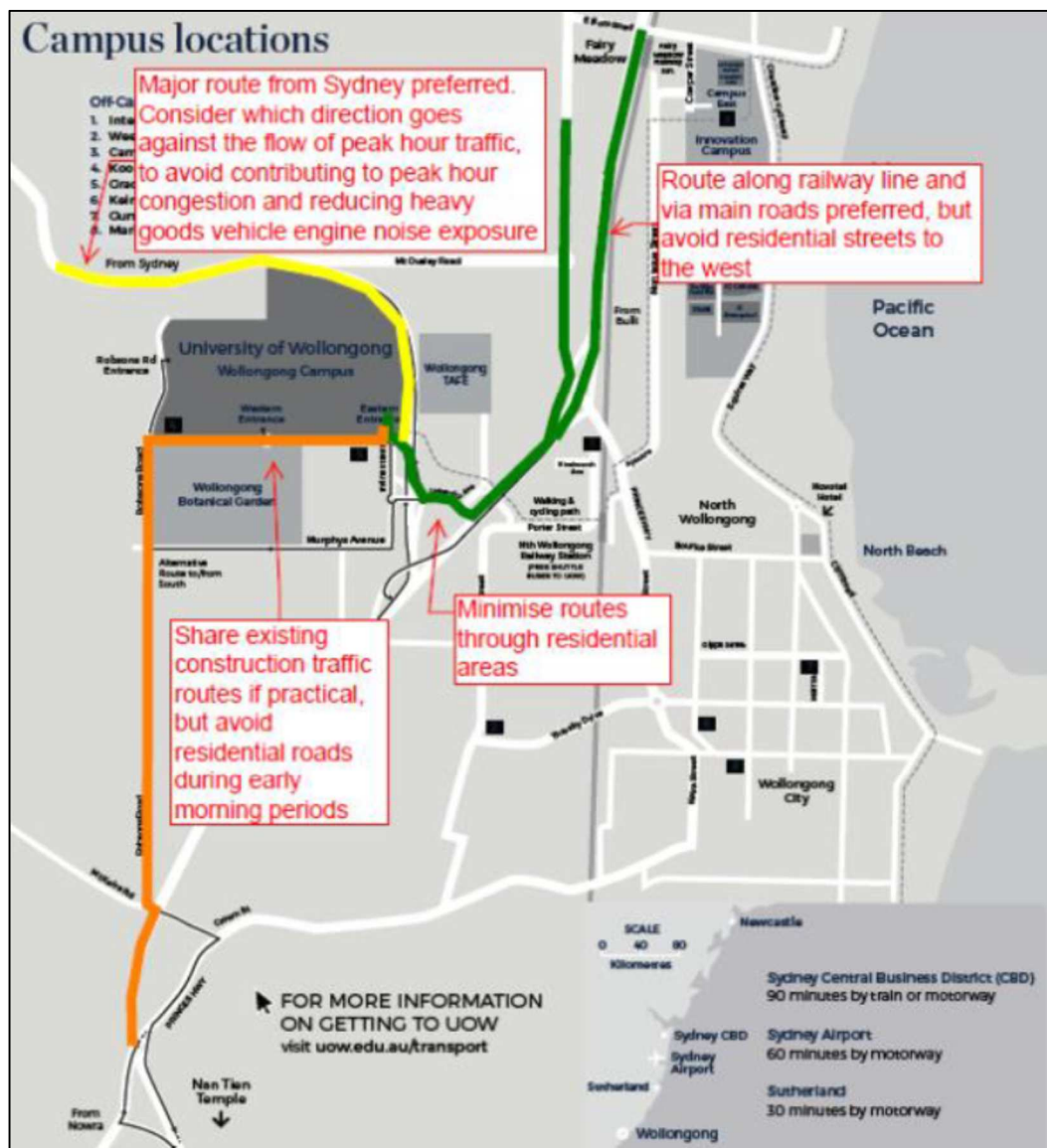


Figure 10: External traffic considerations and proposed construction routes (Source: Applicant's RtS)

5.2.2 Noise and vibration impacts

An updated Acoustic Report (AR) was submitted as part of the Applicant's RtS, which includes an assessment of the existing background noise levels, the potential impacts of construction and operational noise associated with the proposed development.

The AR considered the nearest potentially affected noise sensitive receivers to be educational facilities and residences. Short-term monitoring was undertaken at five locations considered to be representative of all noise sensitive receivers to validate the long-term background and ambient noise levels.

Monitoring locations included two on-site and three off-site locations (see **Figure 11**):

- S1 Building Sciences Teaching Facility – eastern side
- S2 Building 35 Biology/Information Sciences
- S3 Graduate House – approximately 300 m south
- S4 13 Ashcroft Place – approximately 500m north-west
- S5 18 Gowan Brae Avenue – approximately 400 m east.

The Department considers the locations of noise sensitive receivers adopted for the purpose of the noise assessment to be appropriate.



Figure 11: The site and nearby sensitive receivers (Base source: Applicant's Acoustic Report)

The short-term noise monitoring results are outlined in **Table 11** and long-term in **Table 12**. The long-term background and ambient noise levels have been used to establish the limiting criteria for noise emitted from the proposed development.

The existing acoustic environment on the Campus is dominated by mechanical plant noise from the surrounding educational buildings. The surrounding suburban area's acoustic environment is dominated by road traffic noise, particularly on the Princes Motorway with the short-term monitoring measuring an individual event of 57 dB(A).

Table 11: Short-term background and ambient levels (Source: Applicant's Acoustic Report)

Location	Time	Ambient Noise dB(a) L_{eq} 15 min	Background Noise dB(a) L_{90} 15 min
S1	12 – 1 pm	53	52
S2	12 – 1 pm	57	51
S3	2 – 3 pm	58	52
S4	2 – 3 pm	52	50
S5	3 – 4 pm	48	44

Table 12: Long-term background and ambient noise levels around the proposed MLS Building (Source: Applicant's Acoustic Report)

Location	RBL (L_{90}) Background noise levels, dB(A)			L_{eq} Ambient noise levels, dB(A)		
	Day	Evening	Night	Day	Evening	Night
	7 am – 6pm	6 pm – 10 pm	10 pm – 7am	7 am – 6pm	6 pm – 10 pm	10 pm – 7am
L1	50	48	47	56	54	53

The AR references the appropriate guidelines, policies and standards including:

- NSW Industrial Noise Policy 2000 (INP)
- NSW Road Noise Policy 2011 (RNP)
- Interim Construction Noise Guideline 2009 (ICNG)
- Assessing vibration: a technical guideline 2006 (AVATG).

The potential noise and vibration impacts associated with the proposed MLS building are addressed in further detail below under *Construction noise impacts* and *Operational noise impacts*.

Construction noise impacts

Earthworks, basement and above ground works, traffic, plant and machinery has the potential to impact on the surrounding sensitive receivers. The Applicant is proposing the following construction hours:

- 7 am to 6 pm Monday to Friday
- 7:30 am to 3:30 pm on Saturday
- no work on Sunday or public holidays.

Works outside of standard construction hours are proposed, being Saturday 7:30 am start (noting 8 am is the EPA's recommended standard) and 1:00 pm to 3:30 pm. The Applicant states these works would reduce the overall construction time, limit disruption to educational receivers and minimise the impacts to sensitive residential receivers.

The Applicant's AR confirms the proposed works would require the use of a broad range of typical construction plant and equipment, including loaders, rollers, cranes, excavators, backhoes, concrete agitators/pumps/saws, dozers, trucks, scrapers/graders, piling rigs, forklifts, earthmoving equipment and welders.

The AR concludes that in all construction scenarios including works outside of standard hours, proposed activities are expected to comply with the residential noise criteria and therefore not result in adverse noise disturbance. **Table 13** establishes the maximum allowable construction noise levels at the site boundary.

Table 13: Maximum allowable construction noise levels (Source: Applicant's Acoustic Report)

Receiver	Noise criteria	Distance from nearest site boundary (m)	Maximum sound pressure level (L _{Aeq} 15 min) at the site boundary to meet noise criterion
Residences (external noise level)	61 (weekday standard) 58 (Saturday standard) 52 to 54 (Saturday out of hours)	> 300 m	110 107 101
Educational buildings	65 (external – window closed) 55 (external – window open) 45 (internal)	> 20 m	91 (windows open) 81 (windows open)

The AR states that “there will be times/situations when external demolition and construction works are likely to exceed stated criteria for educational receivers”. These activities may include rock/concrete cutting, piling, jack hammering, drilling and tipping material. For these instances, the AR proposes the following noise controls:

- vibration monitoring at nearest sensitive receivers prior to commencement of construction
- hoarding is to be erected prior to commencement of construction, particularly if required to protect pedestrian walkways from excessive noise
- truck movements to be minimised to avoid unnecessary idling and reversing
- use of noise curtains around loud equipment, such as jack hammer or concrete saws
- consider low noise and vibration piling
- consider quieter methods for compacting and tipping fill
- keep windows closed during internal works.

In addition, the AR concludes that the vibration levels are expected to comply with the human comfort continuous vibration criteria at all sensitive receivers for all likely construction scenarios.

The Department notes that the EPA raised no objection to the proposed hours of construction, including works outside of standard construction hours (to enable an estimated 20-month construction period).

The Department has carefully considered the findings of the Applicant's AR as well as agency submissions and is satisfied the extended construction hours would be acceptable in this instance for the following reasons:

- the Applicant's AR demonstrates that the proposed construction works would not impact on residential receivers beyond the set limits
- the extended construction hours are generally outside of the normal operating hours of the UOW therefore unlikely to impact on the closest sensitive educational receivers
- the extended hours would reduce the length of the construction period, which would reduce the duration of any impacts on sensitive receivers.

In light of the above, the Department recommends conditions requiring:

- the preparation of an out-of-Hours work protocol, including a detailed assessment of any works outside of standard construction hours, mitigation measures and notification/complaints arrangements as part of the required Construction Noise and Vibration Management Plan
- the exclusion of activities resulting in high-impact noise (including impulsive or tonal noise emissions) from the works outside of standard hours of construction
- that all construction activities comply with best practice vibration management criteria to ensure no adverse impact to existing buildings or structures
- carry out noise management measures in accordance with the AR noise controls (listed above).

Subject to the recommended conditions, the Department's assessment concludes the noise and vibration impacts generated during construction of the development can be appropriately managed and mitigated.

Operational noise impacts

The key source of operational noise associated with the MLS Building would be the mechanical plant and equipment including the cooling towers, general heating plant (boilers, pumps etc.), exhaust fans and condenser units. The Department notes that the nearest sensitive receiver is the IHMRI Building, which also has an operational rooftop mechanical plant.

The Applicant's AR assessed the potential noise impacts from the future use of the rooftop mechanical plant and provided the following comments based on sound level data provided by the manufacturer:

- based on the location of the mechanical plant room, the most restrictive criteria is 50dBA at sensitive educational receivers throughout the day, evening and night (assuming windows are open)
- compliance with the most restrictive criteria for sensitive educational receivers, will result in compliance with the criteria for sensitive residential receivers (being 55 dBA during the day, 45 dBA in evening and 40dBA at night)
- considering the distance between the location of the mechanical plant room and the nearest sensitive receiver, the IHMRI building noise emissions from the mechanical plant room should be limited to 80dBA at one metre from the plant room boundary.

In order to minimise operational noise from plant and equipment, the Applicant's AR recommends careful consideration be given to the final location of the mechanical plant to ensure the cumulative noise contribution at the receiver boundary can be readily achieved. In addition, the following noise control measures were recommended, as required:

- noise enclosures
- noise barriers
- acoustic louvres
- in-duct attenuation
- in-built attenuation for noisy equipment
- sound absorptive panels
- acoustic plinths
- vibration isolation mounts.

In addition, ground floor plant equipment is likely to require acoustic louvres or screens to meet the applicant's noise targets for pedestrians walking past the building.

The Department notes that no objections were raised by Council or the EPA in relation to operational noise impacts.

The final details of the specific mechanical plant and equipment to be installed on the rooftop are not yet available. To ensure that operational noise from the mechanical plant and equipment is minimised, the Department recommends a condition requiring the Applicant to limit the emission of noise from the mechanical plant and equipment to a maximum of the background noise level plus 5 dBA, in accordance with the Industrial Noise Policy.

The Department considers, that subject to the implementation of recommended conditions the operational noise impacts generated by the proposal will be acceptable.

5.2.3 Built form and urban design

The proposed MLS Building will be five storeys in height with a maximum building height of RL 55.2 and total GFA of 5,382 sqm.

The Applicant states that the proposed built form and massing is consistent with adjacent and surrounding educational buildings on Campus. The built form is broken into two distinct wings: the south wing will accommodate the main vertical circulation, break-out and building amenities and the north wing includes the CRYO-EM microscopy suite, laboratories and office space.

The Applicant notes that due to the sensitivity of the CRYO-EM microscopy suite the overall structure is broken into four main elements, comprising of:

- First element:
 - o the CRYO-EM microscopy suite is on separate footings and slab to reduce any vibration interference from the surrounding environment
 - o supporting offices and labs specific to the CRYO-EM suite are arranged around the suite within a glass sleeve
- Second element:
 - o comprises of five levels of office, labs, break-out spaces, animal house and stairs for vertical circulation
 - o the northern component sits on top of the CRYO-EM suite suspended on a timber clad column
- Third element:
 - o comprises of the primary access and circulation area including goods and passenger lifts, meeting rooms and offices
 - o this component is separated from to remove potential vibration opportunities as well as electromagnetic interference
- Fourth element:
 - o comprises two levels on the northern wing and a single level on the south wing
 - o the mechanical plant and equipment will be located on the southern wing, which also includes an atmospheric chemistry platform and lift overrun.

Figure 12 illustrates the four elements of the building.

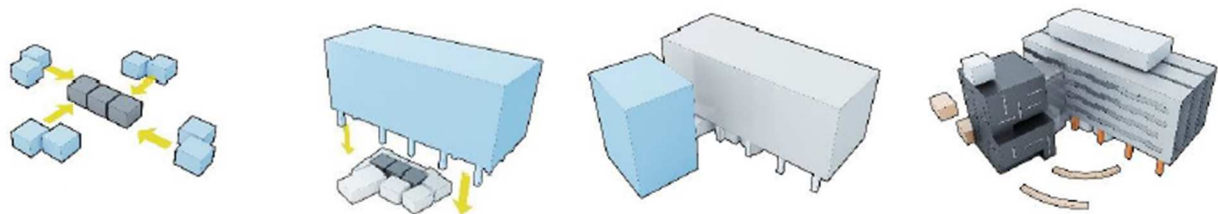


Figure 12: The MLS Building components (Source: Applicant's RtS)

The Applicant proposes to clad the building in a range of materials and finishes including:

- glass and timber elements to create a welcoming transparent environment
- a primarily grey colour will be used for building identification symbols, such as that proposed on the cladding of the lift overrun.

The Department has recommended a condition in the development consent requiring that any proposed cladding material meets the requirements on the National Construction Code in terms of fire resistance.

The proposed building elevations are shown in **Figures 13 to 16**.



Figure 13: MLS Building north wing north elevation (Source: Applicant's RtS)



Figure 14: MLS Building north wing south elevation (Source: Applicant's RtS)



Figure 15: MLS Building north wing east and west elevation (Source: Applicant's RtS)

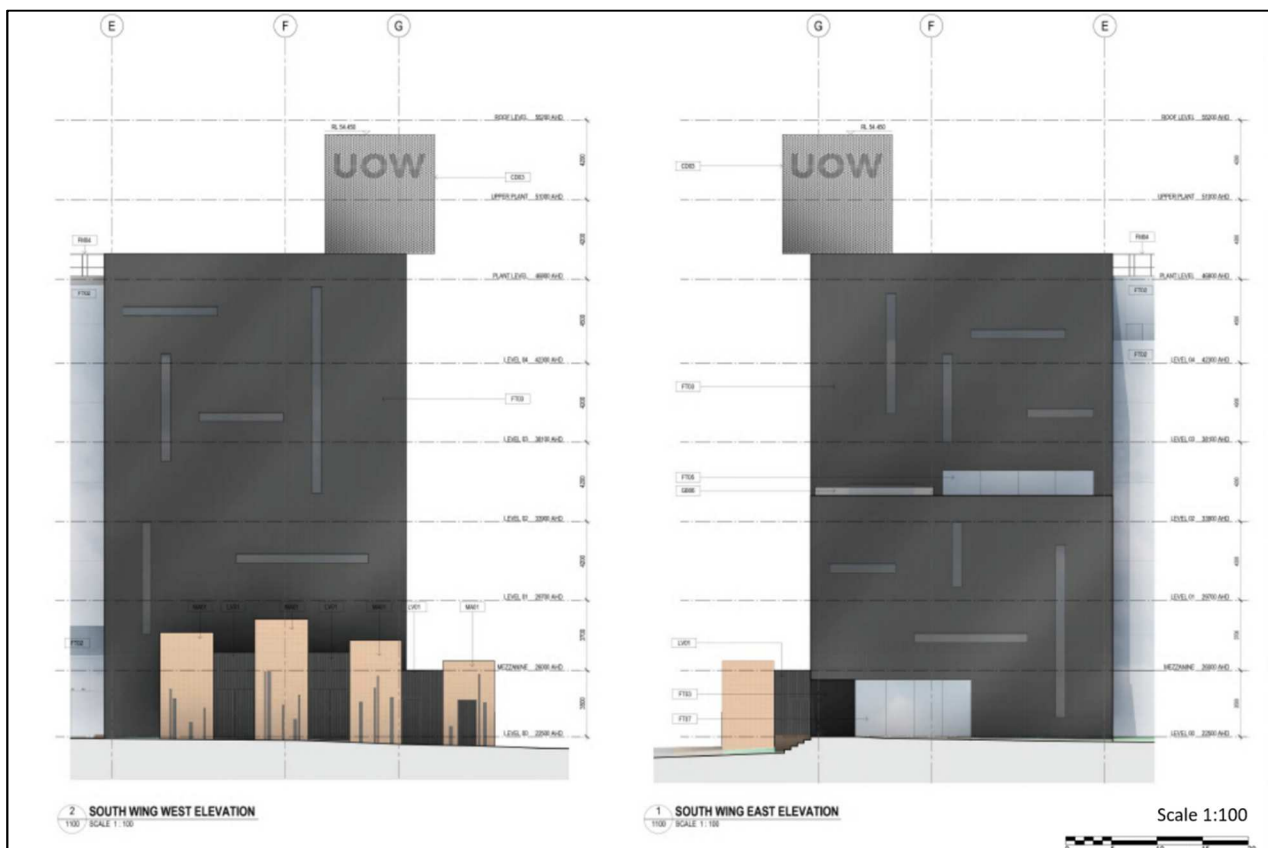


Figure 16: MLS Building south wing east and west elevation (Source: Applicant's RtS)

The proposed height of the MLS Building will generate minor additional overshadowing of Buildings 41 in the morning and Building 43 in the afternoon on the winter solstice (see Figure 17 and 18).

The MLS Building will result in morning impacts to the eastern façade solar access of Building 41 as well as afternoon impacts on the direct solar access of the northern façade of Building 43 at the winter solstice.

The lower levels of Building 41 (south wing adjacent to Sciences Road) are impacted by the MLS Building for half an hour from 9:30 am with no change to solar access beyond this short period. Most windows on the southern wing of Building 41 maintain at least two hours of solar access, which is consistent with the existing conditions.

Solar access to the northern façade of Building 43 is impacted in the afternoon from 2:30 pm onwards. The entire northern façade of Building 43 maintains solar access throughout the day.

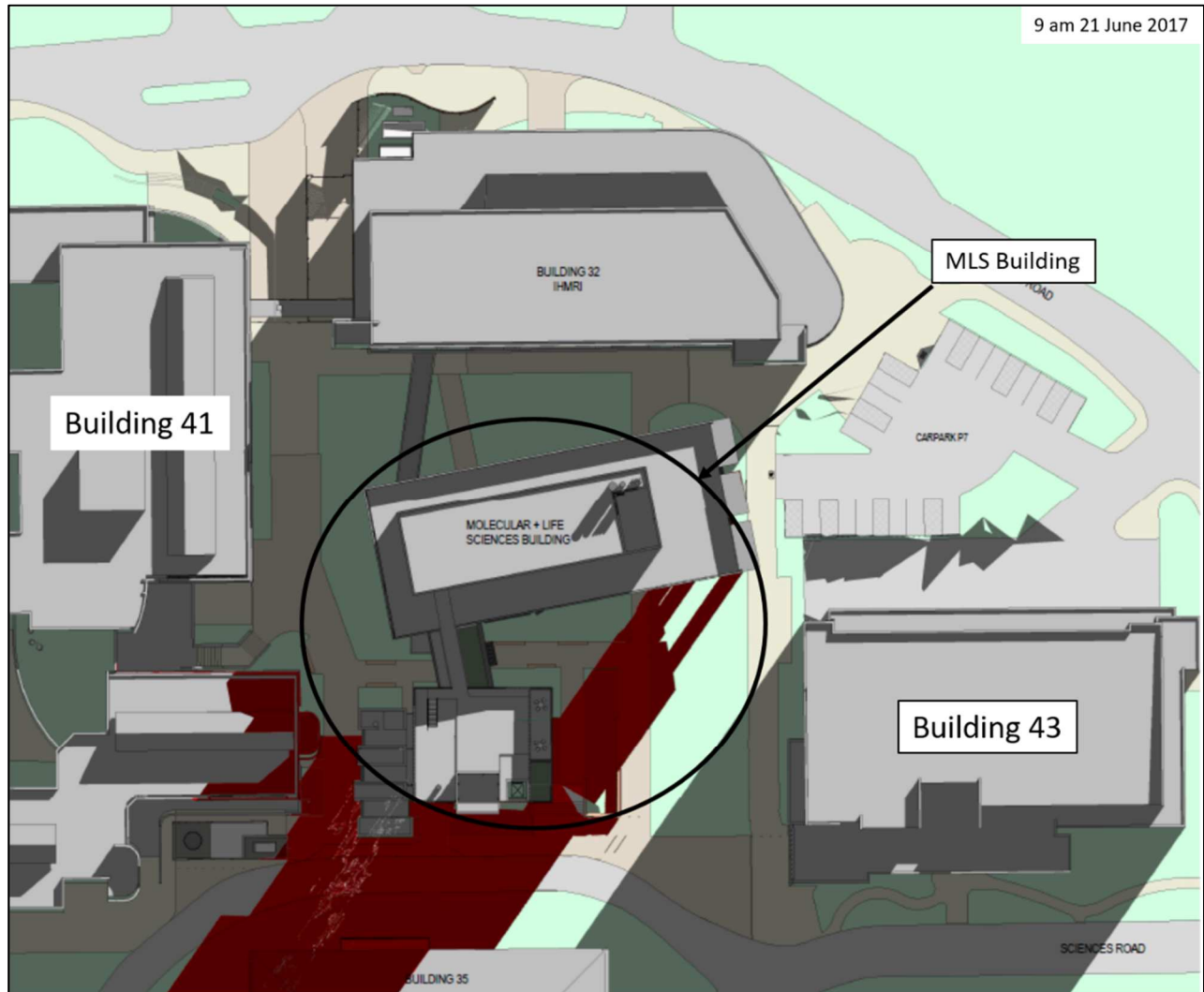


Figure 17: Shadow diagram 9 am 21 June 2017 (Source: Applicant's RtS)

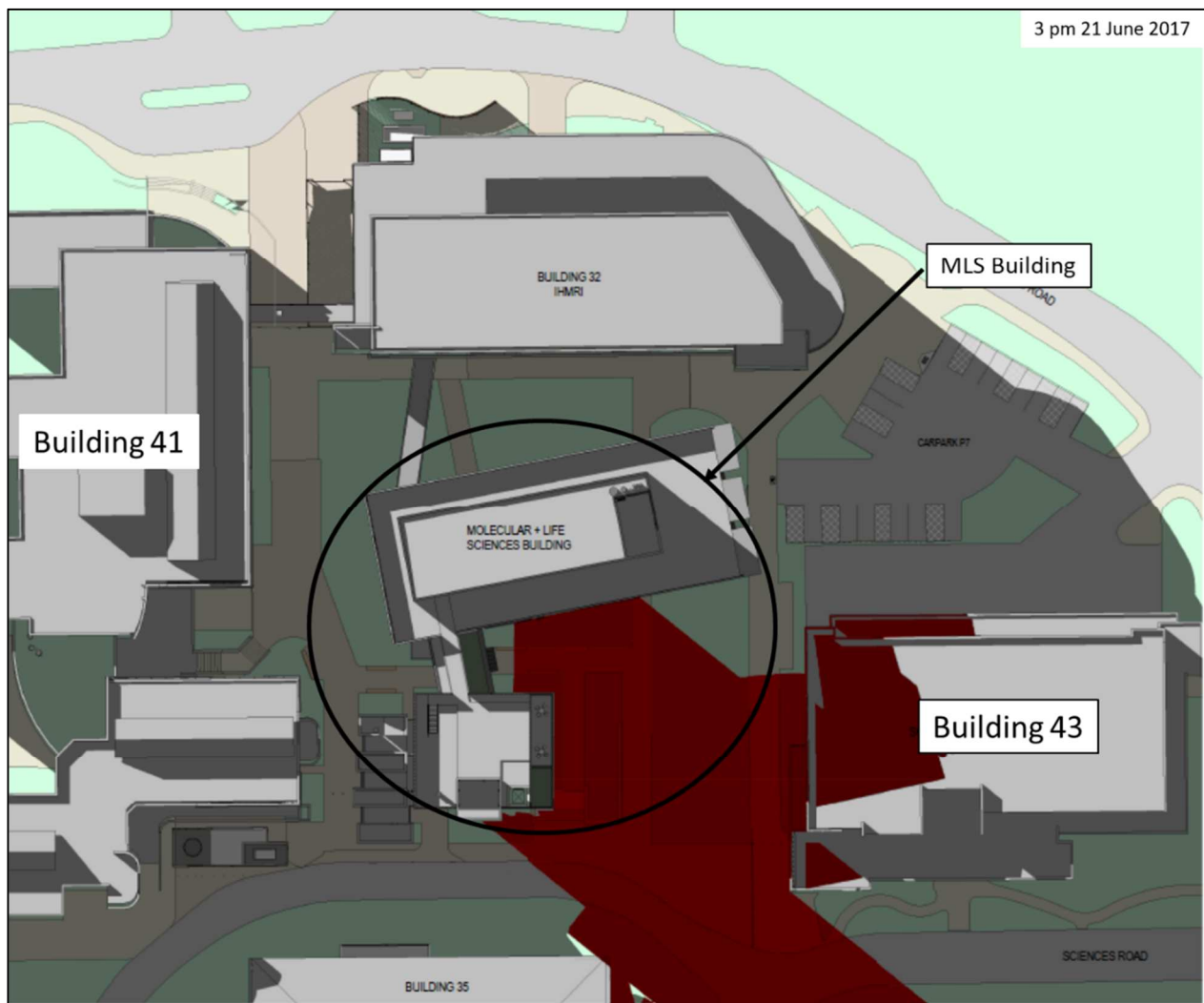


Figure 18: Shadow diagram 3pm 21 June 2017 (Source: Applicant's RtS)

The Department considers the proposed built form and massing is acceptable and appropriate for the following reasons:

- the proposed building is consistent in scale and character with the existing university Campus, with the proposed building creating a central focus for the precinct
- design and layout is an efficient use of the site
- the design is consistent with the UOW Master Plan and UOW design standards
- the design is consistent with CPTED principles
- the design has regard for best practice ESD including energy efficiency in building fabric, services and systems
- the design responds to the future context of the Campus, creating a positive relationship between the MLS Building, adjacent educational buildings, the public domain of the eastern precinct and the broader Campus
- the proposal will not result in an adverse impact on the environment or amenity of the surrounding area and will not overshadow significant areas of open space or public domain.

It is also noted that Council raised no objection or significant concerns with the proposed built form of the proposal. The height, bulk and scale of the proposal will provide for optimum use of the site and the best design outcome, as such the proposed maximum building height is considered appropriate for the site.

5.2.4 Landscaping and public domain

The Applicant's updated Landscape Plan states that the existing landscape character of the Campus is defined by its unique setting at the base of the Illawarra escarpment and adjacent Botanic Gardens.

The updated Plan has selected a plant palette that is primarily from species that naturally occur in the Illawarra region and have been selected for their durability and low maintenance attributes. Many of these plant selections are currently used throughout the Campus and are consistent with Council's plant species list.

Council commented that the Applicant should make a compensatory provision for the trees required to be removed as a result of the development and requested that 20 mature trees be placed throughout the development site. The Applicant's updated Landscape Plan was able to accommodate 12 advanced species on site with an additional eight to be compensated elsewhere on the campus due to spatial requirements. Council's has accepted this approach.

The landscape design will strengthen connectivity and accessibility of the precinct, through the provision of improved or new pedestrian links. **Figures 19** and **20** illustrates the access opportunities across the site and landscape design.

The Department considers the landscape plan is acceptable as the proposed landscaping and design will:

- improve the amenity and maximise the amount of open space within the eastern precinct
- soften the appearance of the built form, scale and massing of the educational buildings
- assist with formalising pedestrian access and circulation throughout the eastern precinct and adjoining precincts
- mitigate potential wind impacts (i.e. tunnelling between buildings).

It is also noted that Council raised no objection or concerns with the proposed landscape plan. However, Council requested a number of standard conditions in relation to tree protection and removal, irrigation, certification and final design.

The Department supports the Council's suggested recommendations, as it will ensure consistency with tree protection, removal and selection of plant species. The Department has included a condition in the recommended development consent accordingly to ensure clarity and consistency with landscaping across the Campus that is reflective of the natural environment but also protects any significant trees.

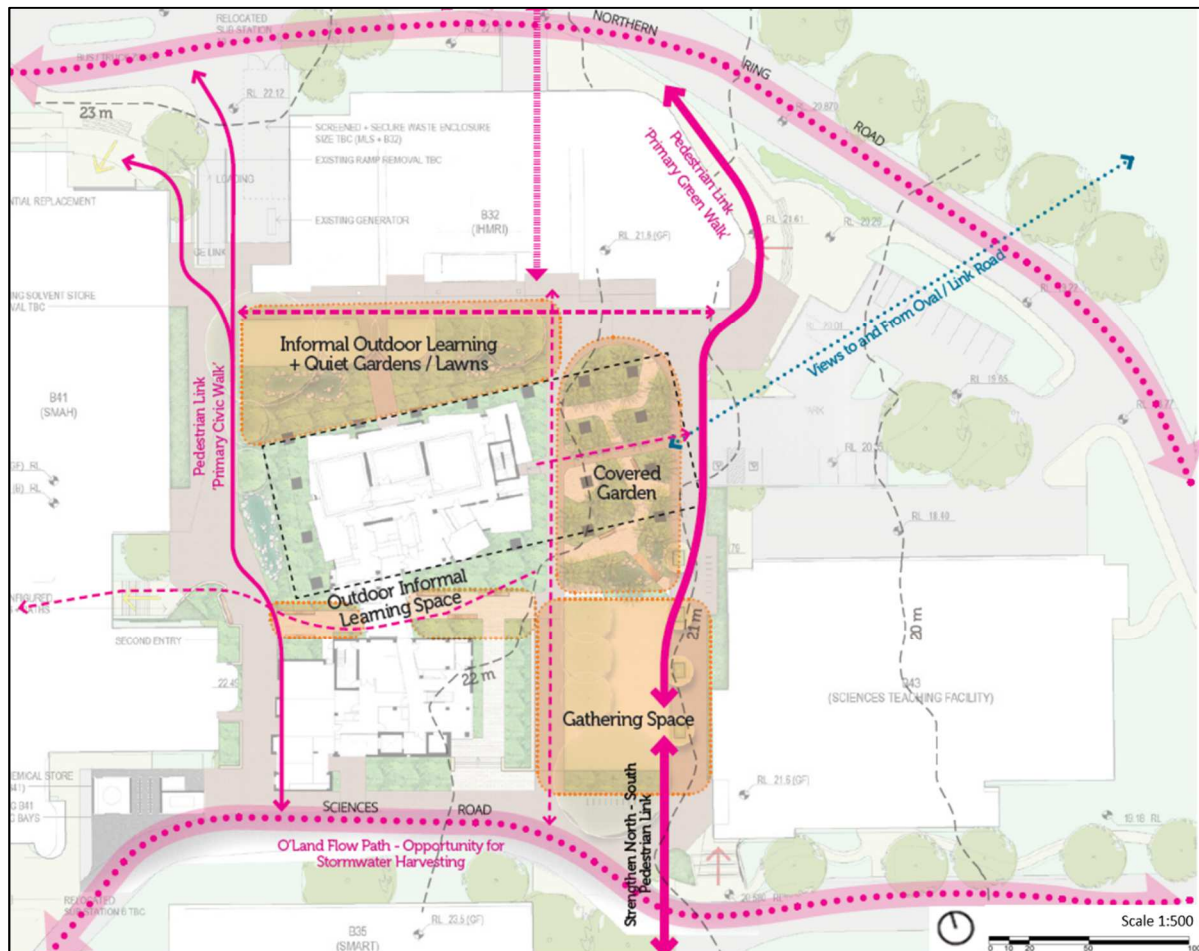


Figure 19: Landscape access opportunities (Source: Applicant's RtS)



Figure 20: Proposed landscape plan (Source: Applicant's RtS)

5.3. Other issues

The Department's consideration of other issues is provided at **Table 14**.

Table 14: Department's assessment of other issues

Issue	Consideration	Recommendation
Contamination	- Site history information indicates that the site has been used as an educational facility since the early 1970's. Prior to this time, iron, steel making and a coal mining company owned the land. Aerial photographs indicate prior to the 1970's the site was undeveloped and generally unused. - Eleven sampling locations and one groundwater monitoring were used to assess three AECs identified at the site. The AECs were: - AEC 1: Potential weathering of hazardous building materials and pesticide use - AEC 2: Former printery and landscaping compound including the storage and usage of associated chemicals - AEC 3: Fill of unknown origin and quality. - The Applicant's Contamination Assessment concludes that the site has a low likelihood for being affected by contamination that would pose an unacceptable risk to human health or the environment under the proposed development scenario. No further investigation or remediation is considered to be warranted at this stage. - Concern was raised by EPA that the assessment and management of ASS should be in accordance with the <i>NSW Acid Sulphate Soil Manual 1998</i>. - The Applicant's RtS confirms that: - the location of the MLS Building is mapped as an area of 'no known occurrence' of ASS - site investigations carried out did not identify the presence of ASS across the site. - Consequently, the Applicant's Contamination Report concludes no further assessment or management of ASS is necessary. - The Department considers that, subject to conditions, hazards and risk associated with construction and operation can be managed and mitigated. - The Department notes that no objections were raised to the findings and recommendations of the Contamination Assessment. - To provide an additional level of protection, the Department recommends the Applicant prepare an Unexpected Finds Management Plan. - The Department is satisfied that the Applicant has adequately addressed clause 7 of SEPP 55 and that the site can be made suitable for its intended use.	The Department has recommended a condition requiring the preparation of an 'Unexpected Finds Management Plan'.
Stormwater and drainage	- In response to the exhibition of the proposal, Council recommended a number of standard conditions relating to stormwater, overflow paths, habitable floor levels. - The Applicant's flood modelling shows that flooding occurs to the north and south of the site as overland flow. The proposed MLS Building pad is not affected by the 100 year ARI event. In addition, overland flows will occur adjacent to the proposed MLS Building in the PMF event but the building will remain flood free. - The Applicant's RtS agreed to all the conditions, with the exception of flood compatible materials and structural	The Department considers no additional conditions or amendments are necessary.

Issue	Consideration	Recommendation
	soundness. The Applicant provided the following comments: - o the proposed conditions in relation to the two matters above are considered to be inappropriate as the pre-development flood model shows that the 1 in 100-year storm flood hazard is low, indicating sufficiently shallow and slow-moving water that an adult could reasonably wade through - o as such the risk of damage to be building caused by floating debris is minimal - o the post-development flood model indicates minimal change to the flood characteristics and therefore does not need to be considered in the structural design. • The Department notes that Council was satisfied with the Applicant's response and acceptance of proposed standard conditions. • The Department has considered the Applicant's flood modelling and RtS and is satisfied that the proposal will not result in an adverse flood impact to surrounding buildings or public thoroughfares.	
Utilities	• Endeavour Energy raised a number of issues in relation to connection, load capacity, easement and substation. • The Applicant's RtS confirmed a <i>Dial Before You Dig</i> has been completed. In addition, subsurface utility location surveys have been undertaken across the development site and all utilities are shown on the site survey. • The Applicant's RtS is also accompanied by a letter from Endeavour Energy providing in principle agreement for the MLS Building to be built over electrical easement. • The Department notes the Applicant accepts Sydney Waters conditions. • The Department is satisfied that the site will be adequately serviced. The Department notes the extent of the easement across the development site is being finalised as part of a Level 3 ASP design under a separate agreement with Endeavour Energy.	The Department has recommended a condition of consent requiring the Applicant to comply with all Endeavour Energy requirements.
Development contributions	• One public submission commented that consideration should be given to making an appropriate development contribution. • The Applicant's EIS and RtS argue for an exemption on the payment of s94 contributions on the basis that: - o the UOW is a tertiary education provider - o the MLS Building is required as a direct function of the UOW as a research facility - o the development will have an overall benefit to the community in its contribution by way of highly advanced research that may feed into the medical system as well as increase Australia's research skills and capabilities - o UOW facilities include a library, extensive publicly accessible sporting and recreation facilities, open space, child care and many other services that are available to the broader community. • The Department notes no contribution has been requested by Council. • The Department is satisfied that the proposed development meets the criteria established under Part 13 for gaining an exemption from the payment of contributions under the <i>Wollongong Section 94A Development Contribution Plan 2016</i>.	The Department considers no conditions or amendments are necessary.

5.4. Public interest

The proposal is in the public interest as it will improve research and education functions of the UOW, increase opportunities for students and researchers in the region, enhance the role of the Campus within the Wollongong education precinct as part of the 'University City'.

It is also consistent with the objects of the EP&A Act (including ecologically sustainable development), State priorities, Illawarra Shoalhaven Regional Plan and UOW Master Plan.

The proposal will also have a positive economic and social impact, including direct investment of \$47 million, the creation of up to 77 construction jobs and 81 operational jobs.

6. CONCLUSION

The proposal seeks approval for the construction of a new educational establishment accommodating up to 150 researchers. The MLS Building is proposed to be five storeys in height and includes office and administration space, research and chemistry laboratories, animal house, informal learning spaces, astronomy and chemistry roof platform, conference facilities, meeting rooms and associated landscape works.

The key issues raised in the submissions include traffic, car parking and noise. The predominate issues related to the displacement of on-site car parking and the impact of the potential future Mount Ousley Interchange.

Council and RMS raised concerns with how on-site car parking will be impacted and accommodated. The Department considers the future provision of a minimum of 129 car parking spaces is acceptable and would cater for the future demand predicated to be generated by the proposal, subject to recommended **conditions** to ensure appropriate provision and shift in travel behaviour.

The Department has assessed the merits of the proposal and determined the key issues to be: transport and parking and built form and urban design. The Department is satisfied that the impacts of the proposal have been addressed in the Environmental Impact Statement and RtS and can be adequately managed through the recommended conditions.

The Department has reviewed the EIS and RtS and assessed the merits of the proposal, taking into consideration advice from public authorities, including Council. Issues raised in the public submission have been considered and all environmental issues associated with the proposal have been thoroughly addressed.

The Department considers the proposal is consistent with the objects of EP&A Act (including ecologically sustainable development), State priorities, *Illawarra-Shoalhaven Regional Plan 2015* and UOW Master Plan. The Department is satisfied the subject site is suitable for the proposed MLS Building and will provide an uplift in design quality of the surrounding built form.

The Department therefore concludes the proposal is in the public interest and recommends that the application be approved subject to conditions.

7. RECOMMENDATION

In accordance with section 89E of the *Environmental Planning and Assessment Act 1979*, it is recommended that the Executive Director, Priority Projects Assessments, as delegate of the Minister for Planning:

- **consider** the findings and recommendations of this report
- **approve** the State significant development application for SSD 8096
- **sign** the attached development consent and recommended conditions of consent (**Appendix C**).

Recommended by:



David Gibson
Team Leader, Social Infrastructure Assessments

Decision

Approved by:



David Gainsford
Executive Director, Priority Projects Assessments
as delegate of the Minister for Planning

19/12/17.

APPENDIX A RELEVANT SUPPORTING INFORMATION

The following supporting documents and supporting information to this assessment report can be found on the Department of Planning and Environment's website as follows.

1. Environmental Impact Statement
http://www.majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8096
2. Submissions
http://www.majorprojects.planning.nsw.gov.au/?action=list_submissions&job_id=8096&title=EIS%20-%20Website%20Submissions&type=6
3. Applicant's Response to Submissions
http://www.majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8096

APPENDIX B CONSIDERATION OF ENVIRONMENTAL PLANNING INSTRUMENT(S)

ENVIRONMENTAL PLANNING INSTRUMENTS (EPIs)

To satisfy the requirements of section 79C(a)(i) of the EP&A Act, this report includes references to the provisions of the EPIs that govern the carrying out of the project and have been taken into consideration in the Department's environmental assessment.

Controls considered as part of the assessment of the proposal are:

- *State Environmental Planning Policy (State & Regional Development) 2011 (SRD SEPP)*
- *State Environmental Planning Policy (Infrastructure) 2007 (ISEPP)*
- *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 (Education SEPP)*
- *State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55)*
- *State Environmental Planning Policy No. 64 – Advertising Structures and Signage (SEPP 64)*
- *Wollongong Local Environmental Plan (WLEP) 2009.*

COMPLIANCE WITH CONTROLS

State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP)

Table 15: SRD SEPP compliance table

Relevant Sections	Consideration and Comments	Complies?
3 Aims of Policy The aims of this Policy are as follows: (a) to identify development that is State significant development,	The proposed development is identified as SSD.	Yes
8 Declaration of State significant development: section 89C (1) Development is declared to be State significant development for the purposes of the Act if: (a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and (b) the development is specified in Schedule 1 or 2.	The proposed development is permissible with development consent. The site is specified in Schedule 1.	Yes
Schedule 1 State significant development —general (Clause 8 (1)) 15 Educational establishments Development for the purpose of educational establishment (including associated research facilities) that has a capital investment value of more than \$30 million.	The proposed development is for the construction of educational building comprising of research facilities and has a CIV in excess of \$30 million.	Yes

State Environmental Planning Policy (Infrastructure) 2007

The Infrastructure SEPP (ISEPP) aims to facilitate the effective delivery of infrastructure across the State by improving regulatory certainty and efficiency, identifying matters to be considered in the assessment of development adjacent to particular types of infrastructure development, and providing for consultation with relevant public authorities about certain development during the assessment process.

The development constitutes traffic generating development in accordance with clause 104 of the ISEPP and therefore must be RMS for comment. The application was referred to RMS and TfNSW their comments are summarised in **Section 4** of this report.

The proposal is considered to be consistent with the ISEPP given the consultation and consideration of the comments raised has been undertaken in the Department's assessment in **Section 5** of this report.

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 (Education SEPP)

The aim of the Education SEPP which allows TAFEs and universities to expand and adapt their facilities in response to the growing number of people seeking tertiary qualifications, and to maintain our reputation for providing world class tertiary education.

The SEPP expands existing provisions applying to tertiary institutions to make it easier to improve and expand existing campuses and provide the services that students need, such educational premises, cafes, bookshops and recreational facilities.

Pursuant to the savings and transitional provisions of Schedule 5 of the Educational SEPP, this policy does not apply to the proposal, as the time of the lodgement of the SSD application under Part 4 of the EP&A Act on 27 February 2017, the Education SEPP had not been gazetted or commenced.

Notwithstanding, the Department is satisfied that the proposed development of the MLS Building is consistent with the intent of the SEPP playing an integral role is the delivery of the UOW Wollongong Campus Master Plan.

State Environmental Planning Policy No. 55 – Remediation of Land

SEPP 55 aims to ensure that potential contamination issues are considered in the determination of a development application. The EIS includes a contamination assessment for the site which concludes the site has a low likelihood for being affected by contamination that would pose an unacceptable risk to human health or the environment under the proposed development scenario.

There is potential for unexpected finds to be encountered during construction as a result of:

- exact details of the former printery operations are limited, including the storage locations and waste disposal characteristics, which generates a minor potential for unknown contaminants to exist
- residual contamination may also exist along underground services networks, such as sewers.

The UOW Wollongong Campus is identified as having Class 5 Acid Sulfate Soils (ASS) in accordance with WLEP 2009. However, the MLS Building is located in an area mapped as having 'no known occurrence' of ASS. As ASS may be encountered the Contamination Assessment has identified suitable mitigation measures to alleviate the impact of the new building on the environment.

It is noted there is also the potential for accidental spills or leaks during construction. Mitigation measures have been anticipated and would be implemented during construction including regular checks of plant and equipment, and spill kits are to be kept on site.

The Department is satisfied that, in accordance with clause 7 of the SEPP 55, the proposal has demonstrated that the site can be made suitable for its use upon any necessary remediation of the site.

The Department recommends conditions relating to ensure measures are in place should any unanticipated contamination be found during works. In addition, a condition is recommended requiring the preparation of a detailed acid sulphate soils management plan to address any acid sulphate soils encountered within soils beneath the site.

State Environmental Planning Policy No. 64 – Advertising and Signage

State Environmental Planning Policy No 64- Advertising and Signage (SEPP 64) applies to all signage that under an EPI can be displayed with or without development consent and is visible from any public place or public reserve.

The development includes two business identification sign, comprising of the universities initials i.e. UOW and will be located on the cladding of the lift over run on the rooftop of the MLS Building.

The Department considers in accordance with clause 3 of SEPP 64, the signage proposed is compatible with the desired amenity and visual character of the area, provides effective communication, and is of a high-quality design and finish.

Wollongong Local Environmental Plan (WLEP) 2009

The WLEP 2009 aims to encourage the development of housing, employment, infrastructure and community services to meet the needs of the existing and future residents of the Wollongong LGA. The WLEP 2009 also aims to conserve and protect natural resources and foster economic, environmental and social well-being.

No maximum heights or gross floor area provisions apply to the subject building under the provision of the WLEP 2009. Clauses of the WLEP 2009 that are applicable to the subject development are described in Table 5.1.

Table 16: WLEP 2009 compliance table

Relevant clause	Consideration and Comments	Complies?
Clause 5.10 Heritage conservation	The proposal is consistent with the objectives of this clause. The western portion of the UOW Wollongong Campus is mapped as heritage conservation. The proposed location of the MLS Building does not contain any mapped heritage items and does not form part of a conservation areas.	Yes
Clause 7.1 Public utility infrastructure	The proposal is consistent with the objectives of this clause. It is noted that public utility infrastructure is available in this location and capacity is to be further confirmed with the relevant authorities.	Yes

Relevant clause	Consideration and Comments	Complies?
Clause 7.2 Natural resource sensitivity - biodiversity	The proposal is consistent with the objectives of this clause. The UOW Wollongong Campus is within areas mapped as Illawarra escarpment, Natural resource sensitivity – biodiversity and Riparian land. However, the location of the MLS Building does not contain any of these three defined areas.	Yes
Clause 7.3 Flood planning	The proposal is consistent with the objectives of this clause. Flood modelling was undertaken as part of the UOW Wollongong Campus Master Plan. The modelling demonstrated that the proposal will not result in adverse flooding impacts on adjacent roads, public thoroughfares and adjoining properties.	Yes
Clause 7.5 Acid sulfate soils	The proposal is consistent with the objective of this clause to ensure that development does not disturb, expose or drain ASS and cause environmental damage. Class 5 ASS are present across the UOW Wollongong Campus, however, the proposed MLS Building is not affected by class 5 ASS.	Yes
Clause 7.6 Earthworks	The proposal is consistent with the objectives of this clause ensuring that any earthworks will not have a detrimental impact on environmental functions and processes, neighbouring uses or heritage items and features surrounding land. It is proposed that fill will be used across the site of the existing car park to raise the building to the required 500 mm freeboard from the Probable Maximum Flood.	Yes

The Department has consulted with Council throughout the assessment process and has considered all relevant provisions of the WLEP 2009 and those matters raised by Council in its assessment of the development (refer to **Section 5**). The Department concludes the development is consistent with the relevant provisions of the WLEP 2009.

Other Policies

In accordance with Clause 11 of the State & Regional Development SEPP, Development Control Plans do not apply to State significant development.

APPENDIX C RECOMMENDED CONDITIONS OF CONSENT
